# Charles University in Prague

Faculty of Social Sciences
Institute of Economic Studies


MASTER'S THESIS

# Lobbying: Microeconomic Evidence


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# Declaration of Authorship

The author hereby declares that he compiled this thesis independently, using only the listed resources and literature, and the thesis has not been used to obtain a different or the same degree.

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Prague, July 29, 2016

Signature

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# Abstract

The present thesis is an empirical analysis of lobbying in the United States. First, it analyses an added value of lobbyists' specialisation and connections to congressmen using a method of matching. Second, it extends the analysis by studying the impact of competition for access to congressmen on the added value of lobbyists. Third, it analyses lobbying from the point of view of congressmen by studying the impact of their specialisation on committee assignments on the amount of campaign financing they obtain from lobbyists. The analysis is done using data about lobbying reports as well as committee assignments of congressmen and campaign contributions they obtain from lobbyists in the 106$^{th}$ to 110$^{th}$ congress, corresponding to years 1999-2008. The present thesis also provides a brief summary of related literature analysing different aspects of lobbying.



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| **JEL Classification** | D72, D82 |
| **Keywords** | lobbying, connections, expertise, specialisation, competition |



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# Abstrakt

Diplomová práce se zabývá empirickou analýzou lobbyingu ve Spojených státech. Práce analyzuje pomocí metody matchingu, jaká je přidaná hodnota lobbistů v jejich specializaci na vybraná témata a jaká je přidaná hodnota v jejich konexích na politiky. Následně je tato analýza rozšířena o dopad konkurence mezi lobbisty v získání přístupu k politikům na přidanou hodnotu lobbistů. Závěrem se práce zabývá lobbyingem z pohledu politiků a analyzuje, jak souvisí množství obdržených příspěvků na kampaně od lobbistů na počtu komisí, ve kterých je politik členem. Analýzy jsou prováděny za použití dat o lobbyingových zprávách, přidělení politiků do komisí a datech o darovaných finančních prostředích lobbistů politikům v období od 106-tého do 110-tého kongresu, což odpovídá letům 1999-2008. Práce také krátce shrnuje související literaturu, která se zabývá lobbyingem z různých pohledů.

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| **Klasifikace** | D72, D82 |
| **Klíčová slova** | lobbying, konexe, expertíza, specializace, konkurence |

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# Acronyms

**CPI** Competition index

**FE** Fixed effects

**FEC** Federal Election Committee

**GRI** Grosewart index

**HHI** Herfindahl index

**LDA** Lobbying Disclosure Act

**OLS** Ordinary Least Squares

**PAC** Political Action Committee

**RE** Random effects

**SOPR** Senate Office of Public Reports

**USD** United states dollars

# Master's Thesis Proposal


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**Proposed Topic:**

Lobbying: Microeconomic Evidence

**Topic Characteristics:**

In many developed western countries, lobbying represents one of the means by which private entities can petition policymakers. However, in most of the countries, there are no available data detailed enough that would enable the analysis of lobbying. Therefore, large share of literature focuses on studying lobbying in the U.S. where disclosure of certain information from the lobbying process is prescribed by law.

In the United States, lobbying represents, together with campaign contributions, one of the most important means of petitioning policy makers. According to Figueiredo and Richter (2014) $3.5 billion was spent annually in the U.S. for expenditures on lobbying based on 2012 numbers. This represents five times more than what is spent by interest groups on campaign contributions. Understanding of the lobbying process is, therefore, relevant for regulators as well as for private entities that wish to promote their interests.

One of the fundamental questions about lobbying that have been studied is whether the value added of lobbyists is in provision of their expert information to politicians or rather in provision of access to them. Blanes i Vidal et al. (2012) study importance of lobbyists' connections by focusing on lobbyists who are former employees in senators' offices. They find that income of lobbyist connected to a senator who exits Congress falls on average by 24 percent. Furthermore, the probability of senator's ex-employee to work as a lobbyist falls when the senator leaves the Capitol Hill. Bertrand et al. (2014) proxy level of connections by value of campaign contributions that lobbyists make to politicians and infer level of lobbyists' expertise from their concentration on specific lobbying issues. They analyze effects of both on the value of lobbying reports and conclude that reports with connected lobbyists are associated with higher above average values than those associated with expert lobbyist.

Figueiredo and Richter (2014) who make an overview of current literature on lobbying identify that the issue of relative importance of lobbyists' expertise to their connections is one of the areas that deserve further attention. The present thesis analyses the hypothesis studied by Bertrand et al. (2014) using a different

econometric approach. Furthermore, it extends the analysis of Bertrand et al. (2014) on this topic by focusing on the role of competition among lobbyists in the lobbying process. Finally, the thesis approaches the lobbying process from the point of view of congressmen and analyzes whether there is a monetary benefit in terms of obtained campaign contributions obtained from lobbyists if congressmen specialise on work in a limited amount of committees.

**Hypotheses:**

1. Value attributed to specialised lobbyists is larger than value of connected lobbyists.
2. Relative value of specialisation to value of connections increases with competition among lobbyists.
3. More specialised congressmen get more campaign contributions from lobbyists.

**Methodology:**

The present thesis uses a dataset collected by Bertrand et al. (2014) that contains information on lobbying reports, campaign contributions from lobbyist to congressmen and information about the topics that lobbyists were working on. The data cover the period from 1999 to 2008, which corresponds to 106th -110th congress of the U.S. The present thesis utilises methods of matching estimators and standard linear regression model for testing the following hypotheses.

The first hypothesis replicates a hypothesis of Bertrand et al. (2014) who compare the value of reports involving an expert lobbyist to reports with connected lobbyists. Unlike the authors who use a standard linear regression with dummy variables for the presence of expert and connected lobbyists, this thesis is going to use method of matching estimators. This alternative approach could better account for unobserved lobbyist's characteristics that could potentially be resulting in selection bias and underestimation of the effect of expertise or connection.

The second hypothesis is going to study whether competition among lobbyists for access to congressmen has an effect of the relative value of expertise and connections. The number of lobbyists providing campaign contributions per congressman covering a lobbying issue will proxy competition among lobbyists.

The third hypothesis aims at analyzing lobbying from the perspective of congressmen. Similarly as was done by Bertrand et al. (2014) for lobbyists, the present thesis analyses the relationship between specialisation and monetary rewards. Number of committee assignments and a Herfindahl index for congressmen will be constructed to proxy for their concentration on specific committees.

**Outline:**

1. Introduction: I am going to put the thesis in context of current research on lobbying and outline the main question I am going to focus on.
2. Review of literature: I am going to discuss the most influential papers and how do I relate to them in my research.

3. Data: I am going to explain how I am going to make use of latest datasets collected by several scholars.
4. Empirical specifications and results: I am going to present my results, relate them to findings of others and comment on their robustness.
5. Conclusion: I am going to put my findings into a broader picture of lobbying literature and outline their implications for our understanding of and future research on lobbying.

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**Author** **Supervisor**

# 1 Introduction

Lobbying is in literature defined as an activity whereby private entities engage in meetings with politicians in order to try to influence legislation. The private entities, denoted in literature as interest groups, who can be either represented by their own lobbyists, referred to in literature as “”in-house” lobbyists, or by commercial lobbying firms form one side of the lobbying market. Congressmen, who are on the other side of the market, have the ability to influence the policy. Among congressmen’s principal objectives is to get re-elected for which they need to secure enough sources for campaign and achieve the objectives set out in their political programs, which they can achieve better with policy relevant information. In a simplified model of market for lobbying, congressmen enable lobbyists to communicate to them preferences of their clients regarding legislation, furthermore, they provide “access” to them in exchange for information and campaign contributions.

Literature analysing lobbying has been focusing on the United States since this lobbying market is among the best documented ones. This is because of a legal requirement for interest groups to report their lobbying activities, as well as a requirement for congressmen to report the sources of their political campaign financing. It has been documented by literature that the U.S. market of lobbying has been growing in terms of money spent on commercial lobbying over the past years. One explanation for this growth is proposed by Groll and Ellis (2016) who point out that congressmen need to spend more and more time in securing their campaign financing over time and therefore they are getting more time constrained. In such a situation, a direct access of an interest party to congressmen becomes more difficult. Therefore, lobbyists from professional lobbying firms that might focus on building relationships with politicians become more successful and demanded on the market.

One of the questions related to commercial lobbying which has been studied by literature is concerned with understanding of the added value of lobbyists. Empirical studies (Bertrand et al. (2014), Blanes i Vidal et al. (2012)) analysing this question have been focusing on comparing the value of an ability of lobbyists to provide congressmen with relevant information to their ability to provide an access to them. Relying on the available data, the studies have identified two distinctive groups of lobbyists. The first group consists of lobbyists who have focused in their career on a

selected group of issues and are therefore are assumed to have acquired an expertise in the issues - so called "expert lobbyists". The second group consists of lobbyists who have established relationships with congressmen, for example by serving in an office of a congressmen in the past or lobbyists who are assumed to have established a relationship with a congressman since they have provided them with campaign contributions - so called "connected lobbyists". Such a classification is a simplification since both of the identified characteristics could be to an extent interconnected. Lobbyists working in an issue for an extended period of time could have established some relationships in the covered issues. At the same time, connected lobbyists need to have reliable source of information relevant for a congressman in order to provide an added value to congressmen in the relationship. The value of connected or expert lobbyists has been analysed by the studies using the data about money spent by clients on lobbying cases including lobbyists classified as members of one of the groups.

The present thesis is an empirical study of the lobbying industry in the U.S. providing further insight on this topic. First, it replicates the analysis of value of lobbyist of Bertrand et al. (2014) using a different econometric approach. It uses the method of matching which might be more suitable for direct comparison of lobbyists with similar characteristics but for their classification as connected or specialised lobbyists. (Rather than expert lobbyists, the present thesis abstracts of the direct assumption of expertise and calls the group "specialised lobbyists"). The analysis identifies similar results as Bertrand et al. (2014) who conclude that there is a premium of approximately 4% for reports that include a specialised lobbyist ("specialised report") and the premium paid for reports with connected lobbyists ("connected report¨) are 9%. The present thesis is using matching estimators to directly estimate the difference between the two premia. It finds that the premium of reports with connected lobbyists is on average by 5% larger than the premium of reports with specialised lobbyists – a result similar to Bertrand et al. (2014). The results, therefore, suggest that the access of lobbyists to congressmen is more valued by interest groups than their expertise.

Second, the present thesis extends the analysis of added value of lobbyists by analysing the impact of competition for an access to congressmen in different issues on the value of a lobbying report. The analysis is based on a notion that in case of an increased competition among lobbyists for an access to congressmen, congressmen might value more a piece of advice from a specialised lobbyist rather than a connected lobbyist. The used measure of competition is based on the number of lobbyists who are providing campaign contributions to congressmen working in

different committees. The results show that on average a report value increases with competition and there is a premium for connected reports. The premium for connected reports increases with competition until a certain level but then starts to decrease again for the issues relating to the most competitive committees. The reason for this might be that in the most competitive committees, an access to a politician is limited given a large number of lobbyists who try to establish an access to the politician and given a time constraint of a politician. In this case, specialised lobbyist might be more valued by congressmen since they are more easily identifiable as those who are able to provide congressmen with relevant information. It should be noted, however, that there is still a premium of connected reports over specialised reports. The results also show that the premium of both specialised and connected reports is increasing with attractiveness of covered issues, measured by Grosewart index, which is measuring subjective attractiveness of different committees as perceived by congressmen. Furthermore, there is an extra premium for connected reports. The results suggest that in the most attractive committees, access to politician is a more valued asset of lobbyists than their specialisation.

Third, the present thesis analyses lobbying from the point of view of congressmen. In contrast to the first two analyses, which were done on lobbying report level, this analysis is done on a congressmen level. Campaign contributions in this case are not used for the purpose of identifying connections, but they serve as a measure of congressmen's income. The analysis examines the role of congressmen's specialisation on membership in a limited amount of committees on congressmen's income. The analysis uses the panel structure of the data to account for the individual specific unobservable characteristics of congressmen. The specialisation is measured using the number of committees a congressman is member of. The results show that the obtained campaign contributions on average increase with growing number of served committees in a congress until the level of three committees and then start to decline again. This might suggest that lobbyists view too large a number of served committees as a sign that a congressman can devote only a limited attention to each of the committees. The results also show that obtained campaign contributions increase with the attractiveness of served committees, again measured by the Grosewart index, but for the most attractive committees, the obtained campaign contributions decline. A reason for that might be that congressmen in the most prominent committees do not maximise the campaign contributions since they have an established positions among their constituents. Alternatively, an access to the congressmen serving the most prominent committees might not be secured that effectively by providing them with campaign contributions.

The rest of the present thesis is organised as follows. The second chapter summarises literature which focuses upon lobbying and discusses its various aspects. The third chapter provides a summary statistics of the used data. The fourth chapter explains an empirical approach to the studied questions and discusses results. The fifth chapter provides the overall conclusion.

# 2 Review of literature

This chapter summarizes the main findings about lobbying in the literature. The first section defines lobbying, its role in the political process and its economic importance. The next three sections discuss the market for lobbying. The second section analyses the role of lobbyists as matchmakers between policymakers and interest groups. The third section discusses how lobbyists choose congressmen to lobby. The third and final section discusses the value of lobbyists' characteristics, focusing upon the specialisation or connections.

## 2.1 Role of lobbying in the political process

Lobbying is defined by Figueiredo and Richter (2013) as a process whereby entities interested in affecting a policy outcome exchange messages with policy makers or their agents in private meetings. Those messages might represent any information in form of analyses, arguments, recommendations or signals. Figueiredo and Richter (2013) explain that an increasing interest in petitioning of policymakers gives rise to creation of specialist interest groups that organize citizens and companies in order to influence policymakers on their behalf. This is what literature calls indirect or commercial lobbying. The exchange of messages can be also carried out by the interest groups themselves, which is called in literature direct or in-house lobbying.

Potential channels of influence as described by Figueiredo and Richter (2013) include lobbying, campaign contributions or endorsements. The authors point out that in the process of lobbying itself no money is being transferred to politicians. Nevertheless, this does not mean that no money is being spent on lobbying. According to the authors, $3.5 billion was spent annually in the U.S. for expenditures on lobbying in 2012. This was five times more than what was spent by interest groups on campaign contributions. The authors also mention that an overall number of interest organisations is correlated with the number of topics discussed by legislature and with the size of the economy. At the same time, lobbying expenditures increase in periods when the federal budget is being discussed and

Figueiredo and Richter (2013) point out that companies and trade associations spend the largest share of the lobbying expenditures in the U.S. They also recall a finding in

literature that the probability to lobby as well as lobby on its own increases with the size of a company. The decision of companies to hire a lobbyist firm is related to company's transaction costs. Figueiredo and Kim (2004) explain that a firm is more likely to hire in-house lobbyists when there is a possibility of leakage of firm-specific information or when this information is hard to explain to an external lobbyist. Figueiredo and Richter (2013) summarize that smaller firms are less likely to lobby either because of lack of resources, because their interests are discussed limitedly, or because they might want to free ride. On the other hand, the authors point out that smaller companies may lobby collectively through trade organisations. Figueiredo and Richter (2013) also show that there is a high persistence in decision to lobby throughout years and that business groups represent a majority of interest groups involved in lobbying.

Friedrich (2010) summarizes the legislature on lobbying in the U.S. In 1995, the Lobbying Disclosure Act (LDA) was passed, which defined a lobbyist as "any individual who (1) receives compensation of USD 5,000 or more per six-month period, or makes expenditures of USD 20,000 or more per six-month period for lobbying, (2) who makes more than one lobbying contact, and (3) who spends 20 percent or more of their time over a six-month period on lobbying activities for an organization or a particular client." The LDA requires that lobbying entities register at the Senate Office of Public Records (SOPR) and report their activities on a half year basis. Lobbying firms are required to declare their lobbying revenues, companies employing in-house lobbyists should declare a good faith estimate of their lobbying expenditures.

### 2.1.1 Size and structure of the lobbying industry

Baumgartner et al. (2011) show that the number of interest groups is increasing over time. They explain that one of the reasons might be that government involvement is enlarging to new areas and interest groups establish themselves in response to the new activities of government either to encourage new government activities or to protect previously present status. The authors mention that the mechanics might work in the opposite direction as well and government might get involved in areas where new interest groups emerge. They call the first case a demand effect and find an evidence for mobilisation of interest groups in response to increased government activity. They point out that new developments in society also might affect interest groups involvement. Leech et al. (2005) have a similar finding while they analyze the growth of government activity, measured by number of congressional hearings and lobbying reports from 1996 to 2000. They conclude that involvement of government

in new issues sparks reactions of both supporters and opponents of this involvement from private sector.

The structure of lobbying industry was analysed by Baumgartner and Leech (2001) who studied the distribution of number of lobbying groups on a random sample of 137 lobbying issues discussed in December 1996. They found a large skewness and kurtosis in the distribution. While there were several issues on which a large number of groups were participating, the majority of issues only attracted interest of a small amount of groups. From a sample of 10,434 cases of interest group involvement in a an issue, with some interest groups being involved repeatedly, 4 out of 137 issues represented 34% from the total interest group activity and 26 issues accounted for 81% of total activity. The authors conclude that in majority of issues only very few interest groups were involved. While more than 300 interest groups were involved in 8 most attractive issues, the median involvement was 15 groups. In percentage terms, the authors find that more than 50% of all interest groups were involved in the 5% of the top issues, while the less attractive 50% of all issues involved only 3% of all the interest groups.

Baumgartner and Leech (2001) break down the composition of interest groups to direct lobbyists and clients of lobbying firms. They find that there are approximately 2.5 times more entities using lobbying firms than direct lobbyists. In both of the categories, businesses represent nearly 41% and 44% of all entities respectively, followed by trade associations with 22% and 14%, non-profit and citizen groups with 17% and 14% and professional organisations with 9% and 4%. A breakdown of the total number of lobbying reports based on the origin of interest groups is in line with the previous finding since businesses are responsible for the majority of lobbying activity. A subsequent analysis of Leech et al. (2005) find in a sample of 45,000 lobbying reports from 1996 to 2006 that a majority of interest groups were active in budget or appropriation issues. The authors also classify reports by policy issues, finding that issues with the largest number of interest group activity were health issues and medicare, taxation, environment and trade.

Baumgartner and Leech (2001) show that among groups that maintained their own (in-house) lobbyists, businesses accounted for 56% of all expenditures with more than 30% higher average expenditures compared to other groups. Baumgartner and Leech (2001) point out that the information obtained from lobbying reports, mostly the amount of money being spent, does not account for the activity related to lobbying such as media coverage or social events. Based on the previous two findings, it is likely that in large part of issues the only interest groups who are

lobbying are businesses or trade organisations which shows that points of view of unions, non-profit organisations and citizen groups might be considered limitedly by politicians.

### 2.1.2 Lobbying and corruption

Harstad and Svensson (2011) analyze how firms respond to regulation. According to their analysis, firms have an option to comply with regulation, bribe the regulator or try to change a law through lobbying. They point out that bribes are a short term solution as bureaucrats might ask for further bribes in the future. On the contrary, when a firm manages to change a law through lobbying, it is more probable that the effect will last longer. One of the predictions of their model is that small firms prefer bribes. With growing size, however, a firm has to pay larger bribes and it becomes more profitable for it to engage in lobbying. They note that this pattern has been documented in empirical literature as well. Campos and Giovannoni (2007) analyze the relation between corruption and lobbying on firm data from 25 countries. They explain that both lobbying and bribes are acts of exchange of favours between government and private entities. They point out that lobbying is different from bribing since it is mainly focused on policymakers, rather than bureaucrats, where policy makers can both make change in policy and the rules that determine how difficult bribing will become. The authors find that lobbying was considered by companies as a more important determinant of perceived firm political influence.

### 2.1.3 Costs and benefits of lobbying for the society

Cotton and Dellis (2014) question the findings in literature that lobbying leads to better decision making of politicians. They define lobbying as gathering of information and forwarding it in an undistorted way to politicians (“informational” lobbying). Even under the assumptions that lobbying is the only available means of influence of politicians, that the information provided by the lobbyists provide is not distorted or partially not reported and that politicians dispose with the same searching capabilities as the interest groups, they find that still lobbying can lead to worse outcome for the constituents. Cotton and Dellis (2014) explain that interest groups are not necessarily lobbying in areas that are the most important for a legislator’s constituents. Therefore, lobbying can shift the politician’s attention to less important issues for their constituents. As the politician has got limited abilities to address all policy issues, they need to focus only on particular issues. Cotton and Dellis (2014) further argue that policymakers can search for information themselves and that in this

case they might choose to search for different information than those presented by lobbyists. On the other hand, politician also faces costs of searching for information, and thus they might search less than his constituents would want him to do or rely on information from lobbying groups.

Contrary to this view, Groll and Ellis (2016) suggest that thanks to both monetary and information support provided by lobbyists to politicians, politicians might be able to address more of their constituents' interests. Figueiredo et al. (2009) note that lobbyists that have the same political preferences with a politician might them to make decrease cost of gathering of information and thus are beneficial for the interests of the politician's constituents. Hall and Deardorff (2006) explain that even though it may seem that politicians act on behalf of interest groups, in fact, politicians can promote their own interest more efficiently thanks to the information provided by interest groups. They mention that this could be supported empirically since interest groups give the most campaign contributions to politicians whom they already share common goals with. On the other hand they agree with Cotton and Dellis (2014) that since businesses have more resources to spend on lobbying/ providing support to policymakers, politicians focus more on interests of those entities and other groups might be underrepresented.

Bennedsen and Feldmann (2006) compare the effectiveness of monetary incentives in form of campaign contributions and acquisition and provision of relevant information to policymakers as means of influence. They explain that a decision of policymaker is uncertain and therefore interest groups try to provide the politician with gathered information and try to decrease the uncertainty related to their decision. The authors mention that the interest group will gather and transmit only such information that will support their point of view. On the other hand, the policymaker may realise that the information provided to him were preselected and based on that asses how trustworthy an interest group might be. This is a negative externality of the search for information for the interest group. The same point is made by Groll and Ellis (2016) who inform that based on finding of poll among lobbyists, verifying of the provided information to congressmen is very important to lobbyists. As an alternative to information provision Bennedsen and Feldmann (2006) argue that an interest group may choose to gain support of the policymaker through campaign contributions. They argue that an accepted view on competition among interest groups claiming that higher competition among lobbyists increases the truthfulness of provided information does not hold when lobbyist have campaign contributions at their hand as an alternative means of gaining politician's attention. The authors argue that there exists a rent in not providing detailed information, because the negative externality of

information search may decrease the effectiveness of already provided campaign contributions. The authors mention that previous literature which analysed campaign contributions and information provision separately suggests that contributions serve the purpose of gaining access, especially when the preference of an interest groups are not in line with those of the politician. Bennedsen and Feldmann (2006) conclude that as a result of the negative externality, incentive of collecting and providing information is reduced and it is substituted by campaign contributions.

## 2.2 Lobbying and access to politicians

Stratmann (2005) summarizes the finding accepted by literature - that stating that campaign contributions are given to politicians who are likely to win, who have the same position on certain issue as the donor or who are likely to change their position. He also points out that campaign contributions size varies with the position politician represents in committees and with the politicians' experience. He recalls that the motive behind campaign contributions could be an investment to long-term relationships but admits that providing campaign contributions might be consistent both with a hypothesis of buying access to politicians as well as buying policy outcomes. Hall and Deardoff (2006) cast doubts about the policy outcome hypothesis given that the amount spent in campaign contributions is rather small.

Some of the findings summarised by Stratmann (2005) were tested by Ansolabehere et al. (2003). The first prediction for which they find empirical justification is that an interest group will donate more to politicians who have a position of power such as committee membership, the more the group is oriented towards lobbying. A second hypothesis for which the authors find empirical evidence predicts that when the election result is expected to be closer, interest groups prefer contributions to incumbents. They also find that interest groups that are involved in lobbying spread their contributions across the political spectrum while the other contributors support primarily partisans. This finding is in contrast to proposition of Hall and Deardoff (2006) who find that lobbyists contribute primarily to politicians with aligned political party preference.

Additional analysis relating to the topic of access is by Groll and Ellis (2016). The authors stress an importance of relationship building between lobbyists and politicians where a key according to them is a repeated interaction. They define the market of lobbying as a two sided market with citizens who pay professional lobbyists for intermediation of their interests on one side. The other side is

represented by congressmen, who have limited time and need to secure funding for campaign and obtain policy relevant information establish a market for access to them. They provide access in exchange for campaign contributions and information they can rely on as verified by a lobbyists. Besides the information and campaign contributions, the authors mention that the relationship building also comprises providing congressmen with electoral supports or a career support.

Relying primarily on the time constraint of congressmen, the authors explain the growth in the commercial lobbying industry over the past years. They point out that the time spent on securing funding for campaign has grown significantly and represents up to 70% of congressman's time. With much higher time constrained congressmen, a direct access of an interest party to them becomes more difficult. Therefore, professional lobbying firms that focus on building relationships with politicians become more important and successful. Besides the relationships, professional lobbying firms can use economies of scale and knowledge of the political process or legislative environment to carry out the lobbying more effectively.

Kang and You (2015) analyse the role of lobbyists using data from Foreign Agent Registration Act. They find that lobbyists serve as matchmakers between congressmen and interest groups. They document this finding by showing that lobbying firms are addressing different politicians based on the characteristics of their client. Kang and You (2015) relate the matching to the amount of lobbying fees paid by an interest party and campaign contributions provided by a lobbyist to congressmen. They find that the lobbying fee paid by an interest group increases with how much an interest group values political access proxied by an interest group's own attempts to address politicians. The amount of fees also reflects the number of realised meetings organised between a congressmen and an interest group. The authors also found that the number of matches achieved by lobbyists increases with the amount of donated campaign contributions to congressmen in a situation when politicians have negative benefits from making contacts with an interest party represented by the lobbyist.

Benz et al. (2011) who analyse lobbying and government activity mention that literature finds little relation between political action committees (PAC) activity and legislative outcomes. Therefore, campaign contributions of interest groups became to be accepted as a means of access to politicians. The authors, however, mention that not all interest groups get involved in contributing to PAC and not all of those that contribute are interest groups. Ansolabehere et al. (2003) find empirical justification

for the access hypothesis when they conclude that there is a significant relationship between donated campaign contributions and spent lobbying expenditures of interest groups. Ansolabehere et al. (2003) find that even though PAC that were also registered as lobbying groups represented only about one fifth of their sample, they were responsible for 70% of all interest groups expenditures and donated 86% of all campaign contributions. Benz et al. (2011) conclude that taking into account the size of contributions justifies the relation between PAC and lobbying groups. The authors find that number of PAC is positively related to number of lobbying groups. On the other hand, they do not find significant connection between importance of discussed issues and size of campaign contributions in contrast to other literature. Nevertheless, they acknowledge that those results were obtained on analysis of health sector only.

Regarding the PAC and their connection with businesses, Stratmann (2005) mentions literature which finds that size of a firm as well as whether it is subject to government regulation explains an increased probability of a firm of forming a PAC. Milyo and Groseclose (2000) points out that even though PAC contributions are largely portrayed by media as means through which businesses buy legislation, more money is being spent by companies on lobbying or philanthropic purposes.

## 2.3 Targeting lobbying

Figueiredo and Richter (2013) mention two opposing views on who are the targets of lobbyists. The first strand of literature argues that lobbyists target both allied legislators as well as the opposite party ones, where they try to counteract lobbying efforts of lobbyists representing opposing views. The second strand, on the contrary, argues that lobbyists approach mainly the allied legislators or agenda setters. Both of the views agree, however, that lobbyists target marginal legislators, trying to persuade them for their side. This is in line with Heberlig (2005) who suggests that lobbyists target moderate politicians. He describes that lobbyists have two goals. The first one is, to convey information to politicians in order to influence their decisions. The second one is that, to obtain information about the politicians' position on the agenda of the interest group the lobbyist is representing. This enables the lobbyist to learn about potential of formation of coalition and willingness to cooperate with an interest group. Heberlig (2005) describes that targets of lobbying differ based on the phase of legislative process. First, when legislation is being prepared, lobbyists cooperate with legislators with similar preferences on how to best construct the legislation in order to suit the interest group's preferences. Second, when legislation is being voted on, to convince politicians to vote in accordance with interest group's

preferences is a different task. In this case lobbyists would try to create uncertainty among moderate politicians so that they can take advantage of their lobbyists' persuasive power to form coalitions. Heberlig (2005) finds that lobbyists target the group of politicians about whose position they have the least information. In a specific lobbying issue that he is analysing the author finds no evidence that lobbyist would first target politicians with whom they would later cooperate. He concludes that in the second phase lobbyists target those politicians to whom they need to convey information related to a specific issue.

The importance of creating lobbying coalitions suggested by Heberlig (2005) is also studied by Nelson and Yackee (2012). They find empirical evidence that forming coalitions leads to better policy outcomes and point out that consensus among groups as well as size of the coalitions determines the success. They argue in line with Heberlig (2005) that lobbying is more effective when it is done during the early phase of creating a new law as lobbyists can embed their point of view on the problem in politicians' minds from the beginning.

### 2.3.1 Competition among lobbyists

Figueiredo and Richter (2013) recall that literature finds that influential legislators are more likely to be approached by lobbyists, especially if they are sponsors of a bill, or if they are part of committees such as Appropriations, Budget or Finance. Holyoke (2003) analyzes decision of interest groups about places where they lobby, such as different committees. He points out that the choice of venue throughout lobbying for a certain law is more complex than a place where an interest group has got connections. He argues that given the expected competition with other groups in a venue, interest group allocates resources and selects fields in order to maximize its expected influence. Bennedsen and Feldmann (2006) analyze the effect of competition on choice of campaign contributions or information provision as means of influencing of a politician. They conclude that more informed decision maker is harder to influence by campaign contributions, and therefore the incentive to provide campaign decreases with higher competition among interest groups, as more groups means more information to policymaker and decreased effectiveness of campaign contributions. Those results hold under assumptions that information can be withheld, but not manipulated as it is costless for congressmen to verify it.

## 2.4 Lobbyists' expertise and connections

Figueiredo and Richter (2013) note that literature studying whether lobbyists' value is in their expertise or their connections has not answered the question satisfactorily yet. They point out that there exist lobbyists as well as lobbyist groups that specialize in topics. As the authors point out, legislation does not require lobbyist to report what legislators they approach, the literature analyzing this question is therefore relying on surveys or expenditure data. The two closest papers related to the hypotheses studied in the present thesis are Bertrand et al. (2014) and Blanes i Vidal et al. (2012).

Bertrand et al. (2014) analyze what is an added value of lobbyists who provide information specific to and lobbyists who provide access to congressman. They outline that the value of lobbyists attributed to expertise is in provision of expert information to politicians who do not have time capacity to study the area of each bill they vote on in detail. Interest groups are in a similar situation, since they might not have enough time or skills to understand the technical nature of a related bill. According to this view, lobbyists play a role of experts who enable both interest groups and politicians achieve their goals effectively. On the other hand, the authors refer to Boehner (2006) who claims that politicians need to understand which lobbyists they can trust to provide them with correct information. Politicians would thus make relationships with lobbyists whom they can trust. In contrary to the first view, the second view is that lobbyists are not source of the information, but rather enable the flow of information from interest groups to politicians through their personal connections. Bertrand et al. (2014) infer the expertise of lobbyists using data from lobbying reports and analysing the breadth of topics lobbyists were involved. Based on that the authors assume that a lobbyist who specialises in certain issues over time acquires expertise in the issue. In order to establish a degree of connection, the authors use data about campaign contributions of lobbyists to politicians. They argue that such contributions are not comparable to campaign contributions of interest groups, but they represent proximity of lobbyist to politician and thus also mean access to him. They make several checks of this measure and conclude that even though it might be noisy, it correlates well with the true connections between politicians and lobbyists.

Bertrand et al. (2014) find evidence in support of the hypothesis that connections of lobbyists are the more valued asset by interest groups. The authors show that a topic lobbyists work on is related to the topic of legislator to whom the lobbyist is connected through campaign contributions and show that lobbyists tend to switch issues in the same manner as their connections switch committees. The authors also

find an added value of expertise. They also show that specialised lobbyists give campaign contributions to both parties more than connected lobbyists. The authors admit that connection might be complement to expertise since the connection gives a chance to an expert lobbyist convey information to congressman whose schedule is tight. This would be in line with the view that politicians need to know whom they can trust in order to save time and costs.

Finally, the authors compare the premium related to connections and expertise by analysing the value of lobbying reports. They find out that reports that include a lobbyist classified as connected to a congressman who is covering the same issue as the report have on average a premium of 8 to 9 percent compared to reports without connected or specialised lobbyists. On the other hand, reports with lobbyists classified as having expertise in the same issue as the report is covering, are on average connected with a premium of 3 to 5 percent compared to reports without an specialised connected lobbyists. The premium paid for connection is thus between 3 to 5 percentage points.

Blanes i Vidal et al. (2012) study the importance of lobbyists former experience in federal services. They mention that more than one half of lobbying revenues of lobbying firms in the years 1998-2008 were from cases with involvement of lobbyists with an experience in the federal government. The authors mention two points of view on the involvement of lobbyists with former experience in the congress, which they call "revolving door" phenomenon. The first one is that lobbyists with experience in the government services might use contacts on their former colleagues in their lobbying career. The second one is that lobbyists with experience in the government know how the political process works and have therefore valuable knowledge for the interest groups. They assess the two cases by studying the impact of prominence of contacts of lobbyists on their revenue. They find that revenue of lobbyists who have previous contacts with a congressmen drop by 24 percent after the congressman leaves the office and that this drop is very persistent. At the same time the authors find that the probability of an ex-staffer to work in the lobbying industry decreases after the congressman with whom they had contact leaves the office. Those findings should be interpreted as ceteris paribus effects, holding the personal traits of lobbyists constant.

# 3 Description of data

The present thesis analyses lobbying reports and campaign contributions in the United States in the period from1999 to 2008, which corresponds to the 106th -110th Congress. The study takes advantage of a dataset prepared in a recent paper by Bertrand et al. (2014). The authors built a unique dataset comprising lobbying reports using lobbying registration information from the Senate Office of Public Records (SOPR) and campaign contributions of lobbyists from the Federal Election Commission (FEC). Furthermore, the authors complement the data with additional information about some of the lobbyists from a website www.lobbyists.info. Apart from the data collected by the authors, the present thesis uses data about assignments of congressmen into committees from Stewart and Woon (2009) and biographical information available from the United States Congressional Biographical Data Series for some of the congressmen.

This section is organised as follows. First, approaches used to measure connection and expertise of lobbyists is explained. Second, the dataset is described using various summary statistics. Finally, construction of dataset for analysis from the point of view of congressmen is described and related descriptive statistics are presented.

## 3.1 Lobbyists' connections

Following Bertrand et al. (2014), the present thesis uses data about campaign contributions of lobbyists to congressmen in order to proxy for connections between the two groups. In each congress, the data about campaign contribution records provide information about the number of contributions of each of the lobbyists, amount of contributions and the recipient congressmen. The authors argue that while an interest group's contribution represents an attempt to influence a politician, campaign contributions from a lobbyist represent pre-existing ties and therefore access of the lobbyists to the politician. All lobbyists who gave at least one campaign contribution to a congressman over the studied period are considered connected to that politician ("Connected lobbyists").

The authors carried out three checks for such measure of connection. First, they checked 127 lobbyists whose family members were serving in Congress and found

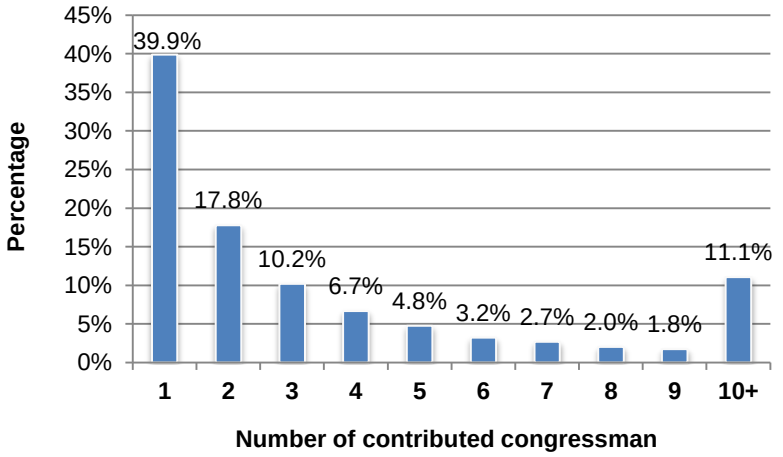
that 38% of them made campaign contributions to their family members. Second, the authors tried to recover connections of 21 lobbyists that they knew about using the campaign contribution data and achieved to recover half of the connections. Furthermore, the authors compared the connections identified using campaign contributions to connections identified by Blanes i Vidal (2012) who classify a lobbyist as connected if they were working in an office of a senator in the past. The measure proposed by Bertrand et al. (2014) was able to recover 40% of the connections of Blanes i Vidal (2012). Therefore, even though using campaign contributions as a proxy for connections is not perfect, connections proxied in this way correlate well with existing connections. The authors also checked whether campaign contributions were systematically related to prominence of a politician measured by a Grosewart index of a committee portfolio a congressman is working on. The Grosewart index measures the desire of politicians to serve a congressional committee. The index is constructed based on requests of congressmen for transfer to different committee at the beginning of a new congress session. Assuming that the requests represent revealed preferences, Stewart (2012) estimates values of desirability of individual committees by fitting a likelihood function explaining probabilities of transfer among committees. Using this measure, Bertrand et al. (2014) find that campaign contributions were not systematically related to prominence of a politician. The authors also examined an election motive in election years, however, they did not find any significant effect on the amount of campaign contributions obtained. Based on the checks, it seems reasonable to use the classification of connected lobbyists following the authors.

For the purpose of the analysis, the present thesis follows Bertrand et al. (2014) and constructs a dummy variable that equals one when at least one of the lobbyists working on a report is identified to be a Connected lobbyist to a politician who is working in a given congress in at least one of the issues covered by the lobbying report (“Connected report”). A congressman is said to be active in an issue when they are working in a committee that covers that issue. A committee usually relates to more than one lobbying issues. Therefore it is assumed that a congressman working in a committee is involved in all of the issues. This assumption is probably far from being realistic in case of for example the committee for Trade and Transport that covers 28 issues. On the other hand, for most of the committees the number of issues is approximately 3 and the probability that a congressman is truly covering an issue is much higher.

## 3.2 Campaign contributions

This section presents various summary statistics related to campaign contributions of lobbyists to congressmen. Out of the 36,982 individual lobbyists identified in the studied period of 5 congresses, 12,804 of them gave at least one campaign contribution to one of the 812 identified individual congressmen. Figure 3.1 shows the distribution of the number of contributions a lobbyist makes in a congress. It can be seen that more than one half of lobbyists that give some campaign contributions do so to one or two congressmen. Given such a low number, the contributions could be considered a decent measure of proximity of a lobbyist and a congressman.

**Figure 3.1: Distribution of number of contributions made**

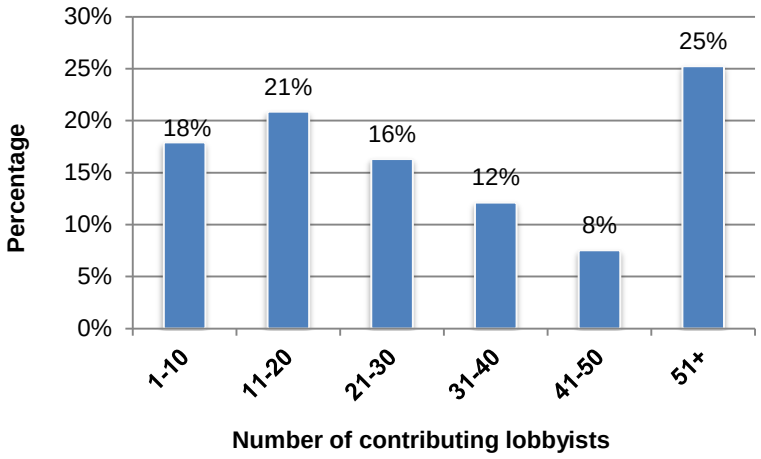



| | |
|---|---|
| Observations | 32,863 |
| Mean | 4.2 |
| Std. Dev. | 5.7 |
| Median | 2 |
| Min | 1 |
| Max | 67 |

*Notes:* This figure shows the distribution of an average number of congressmen to whom lobbyists provided campaign contribution in a congress. Horizontal axis is the number of congressmen to whom a lobbyist contributed. 10+ means contributing to ten or more congressmen. Vertical axis is the share of the total contributing lobbyists. The table on right hand side presents related descriptive statistics.

Considering the campaign contributions from the point of view of congressmen, 95% of the congressmen on average get at least one campaign contribution from a lobbyist in each congress. Figure 3.2 shows that a congressman gets on average campaign contributions from 48 lobbyists in a congress. While more than one half of the congressmen get campaign contributions from less than 30 lobbyists, about 25% of congressmen get contributions from more than 50 lobbyists. The right tail of the distribution is slowly decreasing until 300 contributions, then some 30 larger values appear. There exist congressmen who get contributions from more than 2,000 lobbyists.

**Figure 3.2: Distribution of number of obtained contributions**




| | |
|---|---|
| Observations | 2,910 |
| Mean | 47 |
| Std. Dev. | 93 |
| Median | 28 |
| Min | 1 |
| Max | 2397 |

*Notes:* The figure shows the distribution of an average number of lobbyists from whom a congressman obtains campaign contribution in a congress. Horizontal axis is the contributing lobbyists. 51+ means 51 or more lobbyists contributing. Vertical axis is the share of the total congressmen. The table on right hand side presents related descriptive statistics. The 2,5910 observations correspond to up to 1 observation for each of the congressman active in each of the 5 studied congresses.

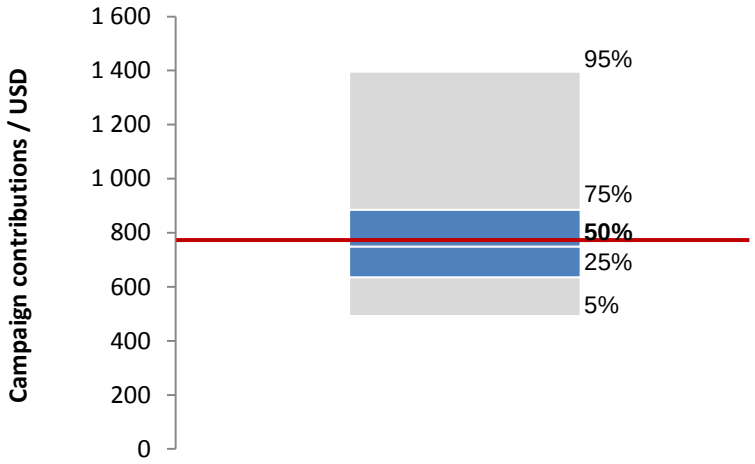
The distribution of number of contributions a lobbyist makes remains similar over time, however, the total number of contributing lobbyists is growing significantly over the sample. In the 106 congress there were 4,980 lobbyists making at least one contribution, in the 110 congress it was already 8,578. Given that the number of congressmen is approximately constant in the sample, an average number of contributions a congressman obtains from lobbyists increases throughout the time significantly as well. While in the 106 congress a congressmen on average obtained contributions from 35 lobbyists, in 110 it was already 62.

It was not only the number of contributions that increased, but also the size of average contribution a congressman obtained from a lobbyist. While in the congress 106 the median contribution was USD 714 per lobbyist and congress, in congress 110 it was already USD 758.[1] The growth in the size of campaign contribution alongside the growth in number of lobbyists might indicate an increased "competition" for congressmen´s attention. On the other hand, an increase in a median campaign contribution is not so economically significant. Relating to the previous discussion, the size of the contribution is so small (only USD 782 on average), that it is

[1] Campaign contributions are in constant 2015 prices. The average year CPI from http://www.usinflationcalculator.com/inflation/consumer-price-index-and-annual-percent-changes-from-1913-to-2008/ was used for calculation.

improbable, that it could serve as a means of buying access to a politician. Figure 3.3 shows the distribution of average amount of campaign contributions obtained by a congressman throughout the sample. Even though the mean or median contribution is not that economically significant, some of the largest values of campaign contributions already seem to be relevant to enable a congressman devote time to other things than securing campaign financing. It has to be also taken into account that on average a congressman gets contributions from 47 lobbyists. This means that on average a congressman obtains nearly USD 37 thousand for their campaign.

**Figure 3.3: Distribution of obtained campaign contributions**




| | |
|---|---|
| Observations | 2,910 |
| **Mean** | 782 |
| Std. Dev. | 289 |
| Max | 6168 |
| 95% | 1124 |
| 75% | 885 |
| **Median** | 749 |
| 25% | 636 |
| 5% | 492 |
| Min | 133 |

*Notes:* This figure shows the distribution of reported lobbying expenditures per reports in the sample of all available congressman contribution data. The figure shows different quantiles of the distribution together with the mean represented by the horizontal line. Related value of campaign contributions are summarised in the descriptive statistics in the right part of the figure. The values are in 2015 USD.

## 3.3 Congressmen

The data about committee assignments cover all of the 100 senators and 435 representatives throughout the studied congresses. As part of this data related variables covering basic information related to the work in the congress are available. Some additional biographical information is available for a limited share of observations from the United States Congressional Biographical Data Series is available. This data is available until the 104$^{th}$ congress. Therefore, some of the variables are extrapolated to the sample of the present thesis (106$^{th}$ -110$^{th}$ congress), some of the data such as previous working experience before joining the congress are taken constant. The share of congressmen for whom the biographical data are

available is decreasing over the sample from 33% in congress 106 to 20% in congress 110 as new congressmen enter the sample and some of the former leave.

**Table 3.1: Congressmen summary statistics**

| | Obs. | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Dummy variables for: | | | | | |
| House representative | 2699 | 0.816 | 0.388 | 0 | 1 |
| Serving a party with majority in the chamber | 2699 | 0.526 | 0.499 | 0 | 1 |
| Committee chair | 2699 | 0.078 | 0.268 | 0 | 1 |
| Committee vice chair | 2699 | 0.005 | 0.072 | 0 | 1 |
| Ranking member (minority) | 2699 | 0.074 | 0.261 | 0 | 1 |
| Leader of the majority party | 2699 | 0.003 | 0.054 | 0 | 1 |
| Leader of the minority party | 2699 | 0.002 | 0.047 | 0 | 1 |
| Majority whip | 2699 | 0.004 | 0.061 | 0 | 1 |
| Minority whip | 2699 | 0.004 | 0.064 | 0 | 1 |
| Leader of House | 2699 | 0.004 | 0.061 | 0 | 1 |
| Leader of Senate | 2699 | 0.008 | 0.088 | 0 | 1 |
| *Biographical information* | | | | | |
| Age | 668 | 59.635 | 8.123 | 45 | 98 |
| Experience in senates | 673 | 3.627 | 5.552 | 0 | 24 |
| Experience in houses | 673 | 7.557 | 5.094 | 0 | 26 |
| Dummy variable for: | | | | | |
| Male | 673 | 0.941 | 0.237 | 0 | 1 |
| College graduate | 668 | 0.985 | 0.122 | 0 | 1 |
| Ivy league college | 668 | 0.147 | 0.354 | 0 | 1 |
| Experience in federal government | 668 | 0.177 | 0.382 | 0 | 1 |
| Experience as state officer | 668 | 0.555 | 0.497 | 0 | 1 |
| Experience as county officer | 668 | 0.144 | 0.351 | 0 | 1 |
| Experience as municipality officer | 668 | 0.199 | 0.400 | 0 | 1 |
| Military experience | 665 | 0.460 | 0.499 | 0 | 1 |
| Military experience as officer | 665 | 0.129 | 0.336 | 0 | 1 |
| Previous experience as businessman | 668 | 0.132 | 0.338 | 0 | 1 |
| Previous experience as lawyer | 668 | 0.413 | 0.493 | 0 | 1 |

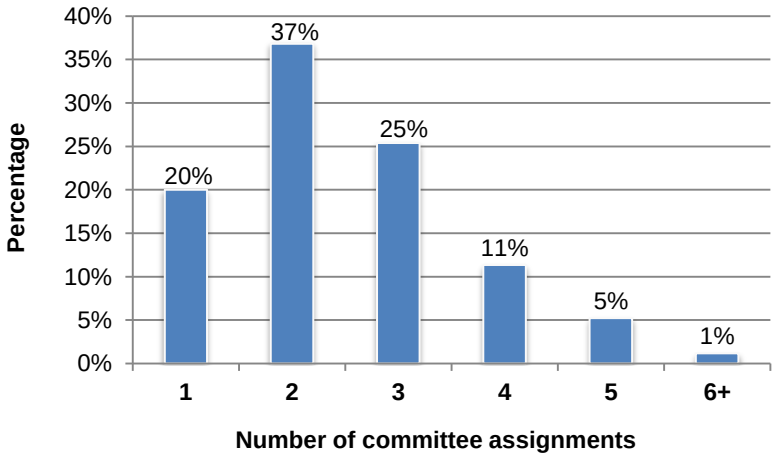
*Notes:* This table depicts summary statistics of congressmen that appear in the sample. Some basic congress work related variables are summarised in the first part of the table. The second part summarises some additional biographical information, which is available on average for 25% of identified congressmen.

Table 3.1 shows summary statistics for congressmen characteristics. The biographical information is summarised in the second half of the table. This information is

available on average only for 25% of the total sample and therefore the summary is not a full representation of the congress. The average age of a congressman is 60 years. Senators have on average experience in 3-4 Congresses, while Representatives have nearly twice as long past experience of 7-8 congress sessions. The majority of congressmen are men and they have college education (94 and 98%, respectively) 15% of congressmen for whom the data exist have graduated from an Ivy League college and quite significant shares of senators have some former experience on a lower level of government. In terms of previous occupation, nearly one half of congressmen have former military experience, nearly one half have experience as lawyers while 13% have experience in business.

Regarding the occupation of congressmen, an analysis of committee assignments follows. Figure 3.4 shows the distribution of number of committees a congressman serves in. On average, a congressman serves in between two and three committees in a congress session. Congressmen serving one committee represent 20% of the sample and congressmen serving two or three committees represent 62% of the sample. Only one percent of all of the congressmen serve six committees or more at a time.

**Figure 3.4: Number of committee assignments**




| | |
|---|---|
| Observations | 2,699 |
| Mean | 2.5 |
| Std. Dev. | 1.2 |
| Median | 2 |
| Min | 1 |
| Max | 7 |

*Notes:* The figure shows the distribution of number of committee assignments in a congress. Horizontal axis is the number of committee assignments. 6+ means six or seven assignments. Vertical axis is the share of the total congressmen. The table on right hand side presents related descriptive statistics.

There are 20 committees in the Senate, 26 committees in the House and 4 joint committees of House and Senate. Each committee covers one or more issues. On average the committee in House covers between 2 and 3 issues, in the Senate

between 4 and 5. The committee with the largest number of issues in the House is Energy and Commerce covering 28 issues and Commerce Science and Transportation in the Senate covering 23 issues. Among committees with only one covered issues are in both chambers for examples Budget, Appropriations, Rules, Small Businesses or Veterans issues. The list of committees and the issues involved can be found in Table A.1 and A.2 in the Appendix.

## 3.4 Lobbyists' issue expertise

Following Bertrand et al. (2014), the present thesis uses data about lobbying reports in order to infer the expertise of lobbyists. It is assumed that lobbyists who specialise in several issues for an extended period of time gain an issue specific expertise. Each lobbying report contains information about the names of lobbyists involved in a lobbying case and a list of covered issues based on unified classification of issues into 76 categories $i = \{1, \dots, 76\}$ [2] and a value of lobbying expenditures spent on the case. Based on this information, lobbyists can be classified according to their specialization on certain issues. Consider a report $(r)$ in year $(y)$ which covers $I_{ry}$ issues, involves $L_{ry}$ lobbysists and is associated with a value $V_{ry}$. It is assumed that all lobbyists reported in a lobbying case covered by a report were remunerated by an equal amount and spent the same effort on the case on all of the reported issues. A share of lobbying expenditures spent on average on a lobbyist $(l)$ and an issue $(i)$ for a report $(r)$ in a year *(y)* – $V_{yril}$ is then calculated as:

$$V_{yril} = V_{ry} * \frac{1}{I_{ry}} * \frac{1}{L_{ry}}$$

Second, for each of the lobbyists a sum of expenditures related to coverage of individual issues in each of their active years is

$$V_{yil} = \sum_r V_{yril}.$$

Third, a sum of expenditures spent on a lobbyist in all of their covered issues is computed for each of their active years as:

$$V_{yl} = \sum_r V_{yil}.$$

[2] Individual categories are listed in the Appendix in Table A.1.

Bertrand et al. (2014) a lobbyist is classified as "Specialised" in an issue when more than one quarter of expenditures spent on his involvement in all reports in a given year are associated with a single issues for all of his active years:

$$\exists i \, \forall \, y : \frac{V_{yil}}{V_{yl}} \geq 0.25$$

This measure of specialization of a lobbyist is used as a proxy for their expertise. Unfortunately, there is no available check that would assess the quality of this construction. By working on several issues repeatedly, some knowledge might be naturally gained. This does not mean, however, that lobbyists who are not classified as Specialised do not have issue specific knowledge. On the contrary, lobbyists with higher innate abilities might be capable to work and gain expertise in more issues, but would not be classified as Specialised by the measure. In addition to that, the authors mention that because of a limited length of the sample, some of the lobbyists might be mistakenly classified as specialised since they covered only some of the portfolio of their issues in the time frame.

The level of 0.25 is chosen arbitrarily and Bertrand et al. (2014) do not provide any explanation why this might be a suitable level for considering a lobbyists Specialised. It would be interesting to do some robustness checks on this level, but since the purpose of the present thesis is to replicate the hypothesis of the authors using a different methodology, and it is also considered suitable to have a comparable measure for the other hypothesis, the same level as proposed by the authors is taken without further analysis. Following Bertrand et al. (2014), for the purpose of analysis a dummy variable is constructed such that it equals one when at least one of the lobbyists working on a report is classified as Specialised in at least one of the issues covered by the lobbying report ("Specialised report").

## 3.5 Report level analysis

The sample contains 36,982 lobbyists who appear on 191,240 lobbying reports throughout the studied period from 1999 to 2008, corresponding to the 106$^{th}$ -110$^{th}$ Congress.[3] Information about each report contains the names of lobbyists who were involved in a lobbying case, list of issues the case was covering based on unified classification of issues counting 76 in total, quarter of the filing of the report and

[3] The original dataset of all reports counts 249,766 reports, however, some of them do not include basic characteristics needed for the analysis, such as the amount of lobbying expenditures or the covered issues and therefore cannot be used.

value of lobbying expenditures spent on the case. Information about lobbyists contains their experience as lobbyists, number of years they appeared on a report in the sample and number of reports each lobbyist appeared on in each year[4]. Additional information is available for 13,720 lobbyists from the www.lobbyists.info. Extracted variables include political party reference of lobbyists (and their past experience in the Congress – directly as representatives or indirectly as aides, clerks or counsels. This data is available for 165,885 reports. Table 3.2 summarises the above mentioned variables throughout the sample. All of the variables on the level of reports are calculated as a simple average of characteristics of the involved lobbyists.

**Table 3.2: Summary statistics of reports characteristics**

| Statistic | Obs. | Mean | SD | Min | Max |
|---|---|---|---|---|---|
| Tenure | 191,240 | 3.91 | 2.45 | 0 | 9 |
| Number of active years | 191,240 | 7.69 | 2.10 | 1 | 11 |
| Number of lobbying records / year | 191,240 | 32.41 | 36.35 | 1 | 741 |
| Former member of Congress | 165,885 | 3.77% | 15.17% | 0 | 1 |
| Republican | 165,885 | 26.72% | 35.76% | 0 | 1 |
| Democrat | 165,885 | 22.09% | 33.34% | 0 | 1 |
| Past experience in / as: | | | | | |
| House (not representative) | 165,885 | 4.92% | 17.58% | 0 | 1 |
| Senate (not senator) | 165,885 | 27.14% | 35.96% | 0 | 1 |
| White House | 165,885 | 5.39% | 17.97% | 0 | 1 |
| Aide | 165,885 | 26.80% | 35.49% | 0 | 1 |
| Clerk | 165,885 | 2.20% | 12.23% | 0 | 1 |
| Counsel | 165,885 | 17.12% | 30.74% | 0 | 1 |

*Notes*: This table shows the summary statistics of reports, calculated as simple average of values attributed to individual lobbyists figuring on the reports.

The first three variables are available for all of the reports since they are constructed using the data from the lobbying reports. Tenure means average number of years of experience. It is assumed that the lobbyists do not have prior experience, since it cannot be observed. When a lobbyist appears only once in the sample, they have zero years of experience. The maximum possible experience is limited by and equals the length of the sample period. Lobbyists who appear repeatedly on lobbying reports throughout the covered years gradually gain experience. The experience is calculated

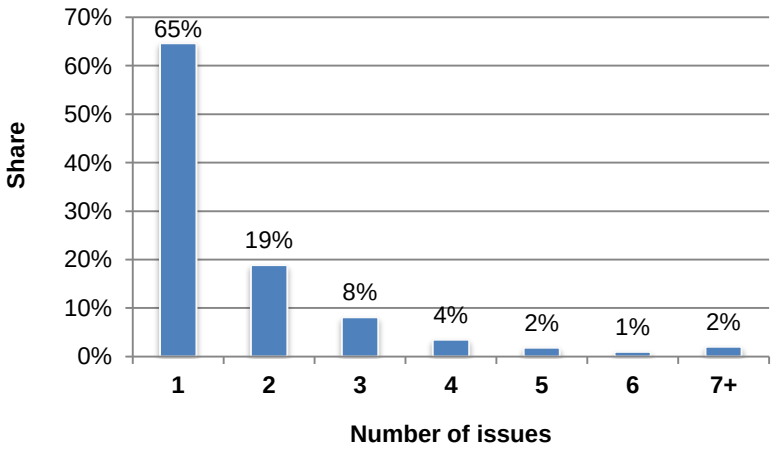
[4] This is counted using the data about lobbying reports itself. Therefore, the information is limited to maximum of 10 years of experience.

to the year when the lobbyists first enter the dataset. The lobbyists in the dataset have on average 4 years of experience, however, the distribution is wide as can be seen from the standard deviation. Number of active years shows the number of years in which a lobbyist appeared on lobbying reports in the dataset. The average report involved lobbyists with an average of 7.7 years of activity from the sample span of 10 years.

The next variables are available only for a limited amount of lobbyists and therefore also reports. There exists a non-negligible share of lobbyists who had some former experience in the Congress. This experience refers to functioning either directly as congressmen (3.7%) or in different roles, mostly in the Senate and as aides. It is also worth noticing that more lobbyists have expressed preference to the Republican party, than to the Democratic party. This might be due to the fact that during most of the sample Republican party had a majority in both the Senate and House of Representatives.

Figure 3.5 presents the distribution of characteristics of reports in terms of number of covered issues by a report. It shows that nearly two thirds of the reports cover only one issue and 95% of the reports cover less than 5 issues. There are very little reports that cover more issues, even though the maximum number is 42, as it can be seen from the table of related summary statistics in the right part of the figure.

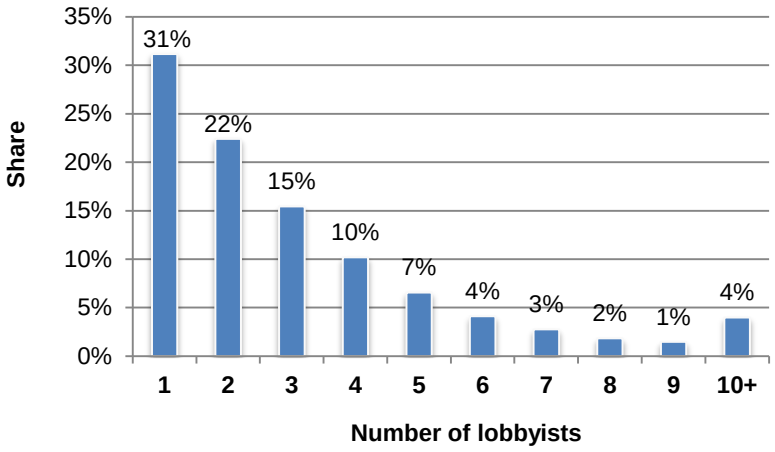
**Figure 3.5: Distribution of number of issues covered by a report**




| | |
|---|---|
| Observations | 191,240 |
| Mean | 1.8 |
| Std. Dev. | 1.7 |
| Median | 1 |
| Min | 1 |
| Max | 42 |

*Notes:* The figure shows the distribution of number of issues covered by the reports in the sample. Number of issues is on the horizontal axis. 7+ means seven or more issues. Vertical axis is the share of the total reports. The table on right hand side presents related descriptive statistics.

**Figure 3.6: Distribution of number of lobbyists**

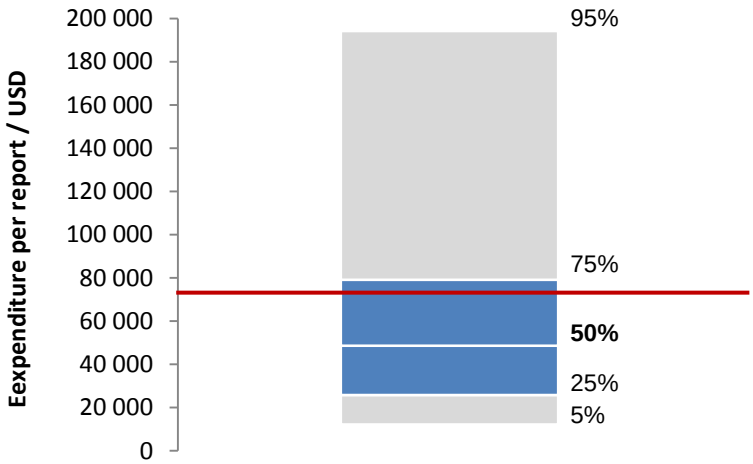



| | |
|---|---|
| Observations | 191,240 |
| Mean | 3.3 |
| Std. Dev. | 3.4 |
| Median | 2 |
| Min | 1 |
| Max | 101 |

*Notes:* The figure shows the distribution of number of lobbyists listed by reports throughout the sample. Number of lobbyists is on the horizontal axis. 10+ means ten or more lobbyists. Vertical axis is the share of the total reports. The table on right hand side presents related descriptive statistics.

Figure 3.6 present number of involved lobbyists on a report. It shows that nearly one third of all the reports filed involve only one lobbyist. More than two thirds of the reports are filed with less than 4 lobbyists. Still, there exist some potentially outlying reports that involve up to 101 lobbyists. Figure 3.7 shows distribution of the lobbying reports expenditures.

**Figure 3.7: Distribution of lobbying report expenditures**



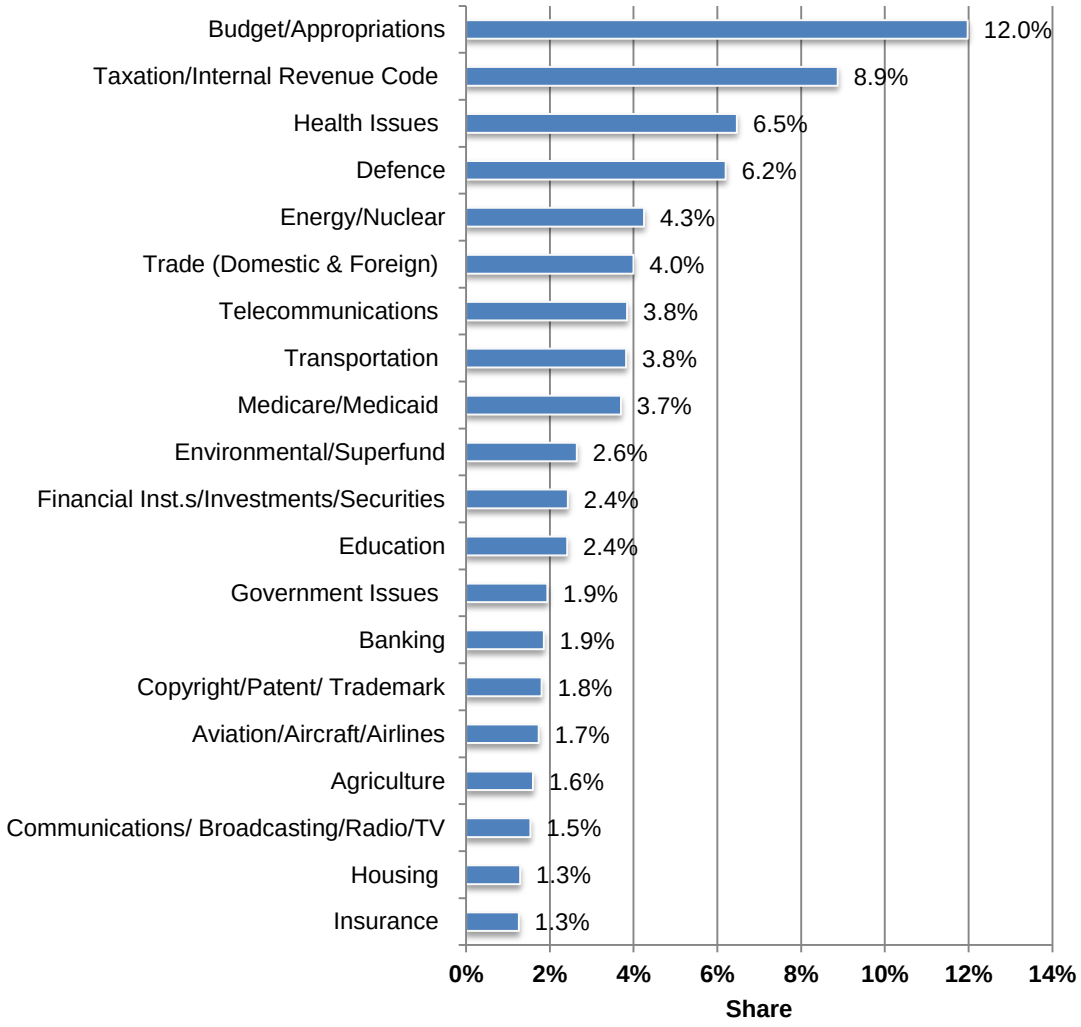

| | |
|---|---|
| Observations | 191,240 |
| **Mean** | **77,312** |
| Std. Dev. | 346,744 |
| Max | 1.18E+18 |
| 95% | 194,176 |
| 75% | 79,049 |
| **Median** | **48,544** |
| 25% | 25,762 |
| 5% | 12,135 |
| Min | 25 |

*Notes:* This figure shows the distribution of reported lobbying expenditures per reports in the sample of 191,240 reports. The figure shows different quantiles of the distribution together with the mean represented by the horizontal line. Related report values are summarised in the descriptive statistics in the right part of the figure. The values are in 2015 USD.

The figure shows different quantiles of the distribution together with the mean represented by the horizontal line. Related report values are summarised in the descriptive statistics in the right part of the figure. It can be seen that the distribution is skewed to the right and that there is a large number of reports with extreme values. This is also shown on the average value of USD 77,312 which is more than 50% higher compared to the median value of USD 48,544.

Next, an analysis of aggregate expenditures on individual issues follows.

**Figure 3.8: Top 20 lobbying issues by lobbying expenditures**

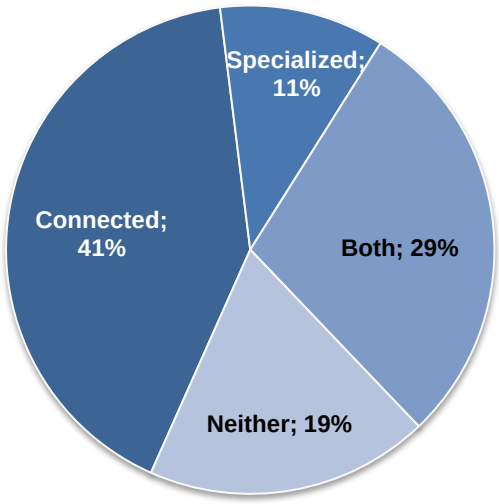



*Notes:* This figure shows distribution of expenditures on issues covered by the reports. Individual issues are depicted on the vertical axis. The horizontal axis represents share of the lobbying expenditures calculated as an average of shares on the total lobbying expenditures in of each of the congresses.

The expenditures spent on the individual lobbying issues can be extrapolated from the total value of lobbying reports, assuming that the value is equally divided among the issues covered by the report. Recalling Figure 3.5, this approach shall not make a significant distortion to the reality since most of the reports cover only one issue. For the purpose of analysis, values of the lobbying expenditures are discounted to values of 2015 dollars[5]. 20 issues with the largest reported lobbying expenditures are depicted in Figure 3.8. From a total of 76 lobbying issues, more than one fifth of all expenditures are spent on reports covering budget and tax related issues. Among the top five issues that account for more than one third of all expenditures also rank health issues, defence and energy. Top ten issues then account for more than one half of all of the expenditures. The lobbying industry is therefore quite concentrated. This corresponds to the findings in the literature (Leech et al. (2005)).

An analysis of reports based on whether they include lobbyists classified solely as Connected, solely as Specialised, both or neither is presented in Figure 3.9.

**Figure 3.9: Distribution of number of reports based on their classification**




*Notes:* This figure shows distribution of classification of reports in the sample of 191,240 observations. The individual categories always include only the reports with that characteristic. "Connected" means reports including at least one lobbyist who is classified as being connected, but do not include reports that could be at the same time classified as Specialised. "Specialised" means reports including at least one lobbyist who is classified as being Specialised but no Connected lobbyists. "Both" means reports including at least one lobbyist who is classified as being Specialised and at least one lobbyist who is classified as Connected. "Neither" means reports that are including neither Connected nor Specialised lobbyists.

[5] The average year CPI from http://www.usinflationcalculator.com/inflation/consumer-price-index-and-annual-percent-changes-from-1913-to-2008/ is used.

Reports including at least one lobbyist classified as Connected represent the largest share of the sample (41%), followed by both Specialised and Connected (29%), no classification (19%) and the least is of reports classified as involving specialised lobbyist (11%). There are nearly four times more reports having a connected lobbyist than reports with specialised lobbyists. Nearly one third of the reports are classified as having both connected and specialised lobbyists. This might already indicate that connection is a more valued asset. Nevertheless, the shares are dependent on the approach of their classification. For example, lobbyists might be switching issues and therefore they do not classify as specialists following the used measure. Given that a large part of the reports are classified to have both type of lobbyists, those two types of assets might be complements as it was also indicated by Bertrand et al. (2014).

In order to provide more insight on the potential difference in characteristics of Specialised and Connected reports, Table 3.3 shows summary statistics of the reports as a breakdown of the report classification.

**Table 3.3: Comparative summary statistics based on reports classification**

| | *Specialised* | | *Connected* | | *Unpaired t-test* | |
|---|---|---|---|---|---|---|
| Statistic | Obs. | Mean | Obs. | Mean | Difference | SD |
| Tenure | 20,923 | 3.33 | 79,078 | 4.17 | -0.84*** | 0.02 |
| Number of active years | 20,923 | 6.71 | 79,078 | 8.05 | -1.34*** | 0.02 |
| Number of lobbying records / year | 20,923 | 15.38 | 79,078 | 33.75 | -18.37*** | 0.16 |
| Former member of Congress | 14,680 | 1.61% | 73,283 | 4.67% | -3.06%*** | 0.11% |
| Republican | 14,680 | 14.31% | 73,283 | 30.59% | -16.28%*** | 0.29% |
| Democrat | 14,680 | 11.49% | 73,283 | 26.62% | -15.13%*** | 0.27% |
| Past experience in / as: | | | | | | |
| House (not representative) | 14,680 | 3.61% | 73,283 | 5.52% | -1.91%*** | 0.15% |
| Senate (not senator) | 14,680 | 13.94% | 73,283 | 31.17% | -17.23%*** | 0.29% |
| White House | 14,680 | 4.18% | 73,283 | 7.45% | -3.26%*** | 0.17% |
| Aide | 14,680 | 19.83% | 73,283 | 30.10% | -10.27%*** | 0.32% |
| Clerk | 14,680 | 2.31% | 73,283 | 1.79% | 0.53%*** | 0.12% |
| Counsel | 14,680 | 12.53% | 73,283 | 18.69% | -6.16%*** | 0.27% |

*Notes*: This table shows the summary statistics of reports, calculated as simple average of values attributed to individual lobbyists figuring on the reports, for reports classified as specialised and connected. The unpaired t-test provided on the right part compares means of individual variables between the two groups. *** signifies statistical significance of the difference at less than 0.1%. The t-test accounts for differing variance between the two groups.

The table shows that reports involving lobbyists classified as Connected have on average nearly one year more of tenure. They also involve nearly three times more former members of Congress and also much more former other experience in the Congress. The summary also shows that connected lobbyists tend to work on more cases than the specialised lobbyists. All of the differences are statistically significant on a level lower than one percent based on an unpaired t-test assuming unequal variances. The last two findings point in an intuitive direction and thus show that the classification to Specialised and Connected lobbyists as it was done by Bertrand et al. (2014) sorts the reports in an expected way. The differences in the values of observed variables show that the comparison of lobbying expenditures on Connected and Specialised lobbyists is not that straightforward.

# 4 Empirical specifications and results

The present thesis analyses three hypotheses. The first one utilises a replication of the hypothesis of Bertrand et al. (2014) discussing whether the value of lobbyists lies in their connections or specialisation. This hypothesis is analysed using a different estimation approach compared to the authors. Second hypothesis examines whether the lobbyists' value of specialisation relative to value of connections is larger in lobbying issues with higher competition for access to congressmen. The third hypothesis of the present thesis analyses lobbying from the point of view of congressmen. It studies whether congressmen that specialize in their committee assignments get more campaign contributions from lobbyists.

This chapter is organised as follows. Each of the three hypotheses is discussed in a separate subchapter in the order as presented above. Each of the subchapters first explains the empirical specification and then presents estimation results and some robustness checks.

## 4.1 Connections vs. specialisation

The first hypothesis replicates an analysis of Bertrand et al. (2014) who compare value attributed to lobbyists' specialisation and lobbyists' connections using data from lobbying reports, assuming that the value paid by an interest group for a lobbying report reflects the added value of the lobbyists that are working on the report. A lobbying report is classified as "Connected report" when it involves at least one Connected lobbyist and it is classified as "Specialised report" when at least one the lobbyists working on the report is Specialised. Detailed description of the classification and construction of variables used to identify specialisation and connection is described in Chapter 3.

**Hypothesis 1:**

*Value attributed to Specialised reports is larger than value of Connected reports.*

This subchapter is organised as follows. First, an empirical specification is briefly described. Second, estimation results are presented. Third, more detailed description of the identification technique of matching estimators is explained.

### 4.1.1 Empirical specification

Unlike the authors, who use a regression approach, this study uses the method of matching estimators to study the presented hypothesis. This approach has the advantage over regression that it directly compares values of lobbying reports that have similar characteristics and does not rely on estimation of effects of variables. If the matching succeeds, the matched groups of compared reports (Connected versus Specialised) have on average similar values of other report characteristics, which means that the method of matching enables to identify a premium related to connection or specialisation more directly than regression. The matching approach does not consider reports that are classified both as Specialised and Connected since for such reports it cannot distinguish between premium associated with Specialised and Connected lobbyists.

The similarity of reports is assessed using an algorithm which is identifying the best pairs of Connected and Specialised reports.[6] First, the matching algorithm selects the most comparable reports by minimising an Euclidean distance between the reports from the two groups. The distance is calculated based on the difference of values of related variables of each of the reports. The variables used to find similar reports are those used by Bertrand et al. (2014) to explain value of lobbying reports in their regressions. The variables are summarised in Chapter 3 and include average tenure, average number of active years of involved lobbyists, average number of reports per lobbyists and type of the report (quarterly, annual, semi-annual). In addition, some of the variables used for finding a match are required to be exactly the same for the matched reports. Number of lobbyists involved in a report, year of the report and controls for the composition of covered issues are required to be exactly the same between the compared reports. The same number of lobbyists is required so that the lobbying expenditure is compared between the same sizes of lobbing teams. The same year is required because even though the reported lobbying expenditures are in constant prices, the same lobbying issues might be more attractive in certain years, and thus the price paid for the same report in two years might differ. The same composition of issues of the compared reports is required since some of the issues are more attractive than the others as discussed in Chapter 3. An additional tool used in the matching procedure to ensure that only reports with close enough values of variables are taken into account is to use a so called “calliper” to limit the acceptable

[6] The matching is constructed such that the treatment group are reports involving specialised lobbyists and the control group are reports involving connected lobbyists. The matching is done using one nearest neighbour in order to minimise the bias in the comparison. In case there are more reports in the control group with the same characteristics, an average lobbying expenditure of those reports is taken for a control observation.

difference of variables. In a baseline case, the maximum acceptable difference between the reports is 0.25 standard deviations in terms of related variables (caliper equal to 0.25). If this is not achieved for any of the matching variables, the match is dropped from the analysis. In the second step of the algorithm, a difference in lobbying expenditures between the identified matches of Specialised and Connected reports is calculated. This is called a treatment effect. Finally, an average treatment effect from all of the constructed matches is calculated as a premium of Specialised reports over Connected reports.

When utilising the method of matching, it is essential that resulting matched samples of Connected and Specialised reports have a "balance" in terms of distribution of the variables used for the matching (variables used to calculate the Euclidean distance). For the analysis of balance, first moments of the distribution are calculated and compared using a two sample t-test. When the means are not statistically different from each other, the matching is said to have succeeded. In the opposite case, the estimated treatment effect is not correct, since it might be reflecting the different composition of the report characteristics rather than the treatment effect.

### 4.1.2 Empirical results

Estimation results are presented in Table 4.1. The table shows three specifications following Bertrand et al. (2014)[7]. The first specification uses the full sample of reports. The second specification is restricting the sample to lobbyists for whom personal characteristics are available but does not includes the characteristics and serves as a bridge to the third specification, which includes the personal characteristics as matching variables. The table presents directly the premium of reports involving Specialised lobbyists over the reports involving Connected lobbyist, contrary to Bertrand et al. (2014) who estimate premia of both types of reports over reports without Specialised or Connected lobbyists. The variables used for matching are denoted by "Yes" in case that matching is done using the variable and denoted by "Exact" in case that the same value is required. The second column for each of the specifications (specification "-B") replicates the specification of Bertrand et al. (2014) using regression as estimation approach on the sample resulting from the matching procedure in order to facilitate comparison between the two approaches. Given that the sample includes only Specialised and Connected reports for the reason discussed above, the specifications "B" also estimate directly the difference in premia between Specialised and Connected reports. The only difference of the "B"

[7] See Table 8 in Bertrand et al. (2014).

specifications to the matching is that the premium is not calculated report wise but estimated using a dummy variable an effect of control variables. In these specifications, the "Yes" for a variable means that related control dummy variables are used.

The comparison is also presented to compare the effects of control variables on the resulting sample, since it is much smaller than the original sample based on which Bertrand et al. (2014) achieved their results. The first reason for a much smaller sample resulting from the matching procedure is that only reports classified as Specialised or Connected are used in the matching. This means directly omitting nearly one half of the sample of reports that are classified either as both Connected and Specialised or neither of these. The second reason for a much smaller sample is the selection of comparable reports by the matching procedure. Here applies that more precise matching results in a smaller matched sample. For example, some of the reports very specific in their characteristics or reports covering less frequent lobbying issues might not find a good match. Consequently, some of the issues might not be represented in the matched samples.

The results presented in Table 4.1 show that in all of the specifications estimated with the method of matching, comparable results were achieved. Specifically, reports involving a Specialised lobbyists have on average by 5 percent lower value than reports with Connected lobbyists. The size of the premium of Connected reports over Specialised reports is comparable to the results of Bertrand et al. (2014) who found that the premium of Specialised reports is approximately 4 percent whereas the premium of Connected reports is on average 9 percent (baseline specification).

All of the specifications 1, 2 and 3 achieved satisfactory balance of the matching variables. In the specifications 1 and 2, means of all of the variables but for average number of covered reports, were not statistically different from each other at one percent level. The number of reports were marginally economically different from each other in all of the threes specifications. In the specification 3, the matched sample balanced well also the newly included variables. Despite that the share of reports with lobbyists having former experience in Senate, and the shares of democrats and republicans differed, the matched sample is considered to be well balanced. The tables with results of balancing are presented in Figures A.1-A.3 in the Appendix.

The "B" specifications using regression approach do not identify statistically significant difference between values of Specialised and Connected reports. The sign and magnitude of other control variables is similar to results of the authors. The

insignificance compared to Bertrand et al. (2014) might be due to a much smaller size of the sample which results in insignificance because of including many control dummy variables. It therefore seems, that regression of the authors could achieve similar results as the matching thanks to including large number of control dummy variables which was possible thanks to the large size of the original sample.

The studied hypothesis that Specialised reports are associated on average with larger lobbying expenditures than Connected reports can be rejected. The concern that the premium of Connected reports in the analysis of Bertrand et al. (2014) might have been related to other observable characteristics rather than to connection was not confirmed. The results of the matching are qualitatively similar to those of Bertrand et al. (2014) and suggest that connections to politicians are more valued assets of lobbyists than their specialisation on certain issues. Assuming that the pricing reflects the relative importance of connections and expertise for successful execution of the lobbying profession and achieving to influence policymakers, it seems that the valued role of lobbyist is in providing access to politicians rather than providing expert information.

Referring back to literature, the lobbyist's connection to politicians may serve the purpose of credibility of the lobbyist, enabling them to access politicians, and therefore provide them with necessary condition for transferring the message from the interest groups. Following the reasoning of credibility, given that a lobbyist classified as Specialised is covering an issue for a long time, they might not need to give campaign contributions to politicians in order to assure access to them, since they might expect, that the politicians will see their opinion as credible given their experience in the issue. Even if this was the case, based on the results of the analysis, it would still be a less effective way of conveying the message compared to establishing direct contact with politicians.

**Table 4.1: Estimation results - Connection vs. Specialisation**

| log (report value) | (1) | (1-B) | (2) | (2-B) | (3) | (3-B) |
|---|---|---|---|---|---|---|
| Premium for Specialist compared to Connected | -0.051 *** | -0.034 * | -0.046 *** | -0.025 | -0.051 *** | -0.012 |
| | [0.013] | [0.014] | [0.016] | [0.017] | [0.026] | [0.029] |
| Tenure | Yes | -0.012 | Yes | 0.01 | Yes | 0.081 |
| | | [0.011] | | [0.027] | | [0.055] |
| Number of active years | Yes | 0.026 ** | Yes | 0.025 | Yes | -0.050 |
| | | [0.01] | | [0.026] | | [0.054] |
| Number of lobbying records / year | | -0.005 *** | Yes | -0.006 *** | Yes | -0.005 |
| | | [-0.001] | | [-0.001] | | [0.002] |
| Dummy variable for: Former member of Congress | - | - | - | - | Yes | 1.108 |
| | | | | | | [0.814] |
| Share Republicans | - | - | - | - | Yes | 0.144 |
| | | | | | | [0.092] |
| Share Democrats | - | - | - | - | Yes | 0.069 |
| | | | | | | [0.086] |
| Share with past experience: | | - | - | - | | |
| Senate (but not senator) | - | - | - | - | Yes | -0.282 |
| | | | | | | [1.404] |
| House (but not representative) | - | - | - | - | Yes | 0.218 |
| | | | | | | [0.095] |
| White House | - | - | - | - | Yes | 0.315 |
| | | | | | | [0.347] |
| Aide | - | - | - | - | Yes | -0.125 |
| | | | | | | [0.084] |
| Clerk | - | - | - | - | Yes | - |
| | | | | | | - |
| Counsel | - | - | - | - | Yes | 0.123 |
| | | | | | | [0.111] |
| Exact matching on/ Dummy variable for | | | | | | |
| Report type | Yes | Yes | Yes | Yes | Yes | Yes |
| Number of lobbyists | Exact | Yes | Exact | Yes | Exact | Yes |
| Covered issues | Exact | Yes | Exact | Yes | Exact | Yes |
| Year of report | Exact | Yes | Exact | Yes | Exact | Yes |
| Caliper | 0.25 | - | 0.25 | - | 0.25 | - |
| Only Lobbyists.info sample | No | No | Yes | Yes | Yes | Yes |
| Original # of obs. | 100,001 | - | 87,963 | - | 87,963 | - |
| Original # of treated obs. | 20,923 | - | 14,680 | - | 14,680 | - |
| Matched number of obs. | 5,002 | - | 3,304 | - | 1,314 | - |
| Number of obs. | - | 8,452 | - | 5,685 | - | 2,239 |
| R2 | - | 0.19 | - | 0.204 | - | 0.257 |

*Notes*: The table shows estimation results for the first hypothesis. Parentheses present robust standard errors. *** means statistical significance at 1 percent level,** at 5 percent level and * at 10 percent level. The unit of observation is a lobbying report. The dependent variable (or in terminology the outcome variable) is measured in logarithm a dollar value associated with a report in 2015 USD. The specifications numbered 1, 2 and 3 follow the specifications of Bertrand et al. (2014) using the estimation approach of matching estimators. The specifications 1-B, 2-B

and 3-B present results of the same estimation approach and the specifications used by the authors, but on the sample resulting from the matching procedure of the specification on the left. The B-specifications includes fixed effects for the last four variables (denoted by "Yes". The software used for estimation was R.

### 4.1.3 Robustness check

The results of robustness check are summarized separately for each of the baseline specifications in Tables A.3-A.5 in the Appendix. As a first robustness check, a lower value of calliper is used. This means, that there is a stricter condition on the similarity of matched reports. Caliper of 0.1 standard deviations instead of 0.25 achieved slightly better balance in terms of tenure, number of active years and number of reports and the same level of balance for the composition of report issues. On the other hand, this level of caliper results in 3,123 matched pairs, compared to 5,002 in the baseline results. Therefore, the result might be more precise, however, it might be less representative. For the baseline specification a caliper of 0.1 standard deviations did not lead to significant change in the premium. Using caliper 0.05 the coefficient was statistically insignificant and for 0.01 the matching did not achieve to find a balance, therefore the coefficient is not relevant. The level of caliper 0.1 was also applied to the second and third specification, but it lead to statistically insignificant results because of the small sample size.

As a second robustness check, some outlying observations were dropped from the sample. The question of what to consider as an outlier is a difficult one. One approach used in literature is to trim off a selected share of observations from the sample with the smallest and largest report values. This thesis uses values of 1, 5 and 10 percent. No robustness is done on the number of neighbours, since (see somewhere) the variance is small enough and therefore it is the best to use as close observations as possible. The results show that in neither of the specifications 1, 2 and 3 the trimming off lead to significant change in the premium.

Combinations of calipers and trimming were not carried out since the resulting estimates would have fewer observations and therefore lower statistical significance of coefficient anyway, since they were already insignificant for the caliper 0.1 without trimming the sample.

## 4.2 The role of competition among lobbyists

The second hypothesis analyses the impact of lobbyists' competition for congressmen's attention on the premium of Connected and Specialised lobbying reports. The competition is proxied using a number of lobbyists who are providing campaign contributions to congressmen working in a committee. This hypothesis is based on a notion that in case of an increased competition for congressman's attention, congressmen might value more a piece of advice from a Specialised lobbyist rather than a Connected lobbyist and therefore Specialised reports might get a higher premium compared to Connected reports.

**Hypothesis 2:**

*The premium attributed to Specialised reports relative to Connected reports increases with the competition in lobbying issues covered by a report.*

This section is organised as follows. First, the construction of the competition measure is explained and related summary statistics are presented. Second, the estimation results are discussed. Finally some robustness checks are carried out.

### 4.2.1 Measures of competition

The competition measure ("CPI") is calculated using data about congressmen's committee assignments and data about campaign contributions that congressmen obtain from lobbyists. The CPI shows how many lobbyists on average contribute to a congressmen working in a committee. The measure is constructed as:

$$CPI_{c,t} = \frac{\sum_p number\ of\ lobbyists_{p,c,t}}{number\ of\ congressmen_{c,t}}$$

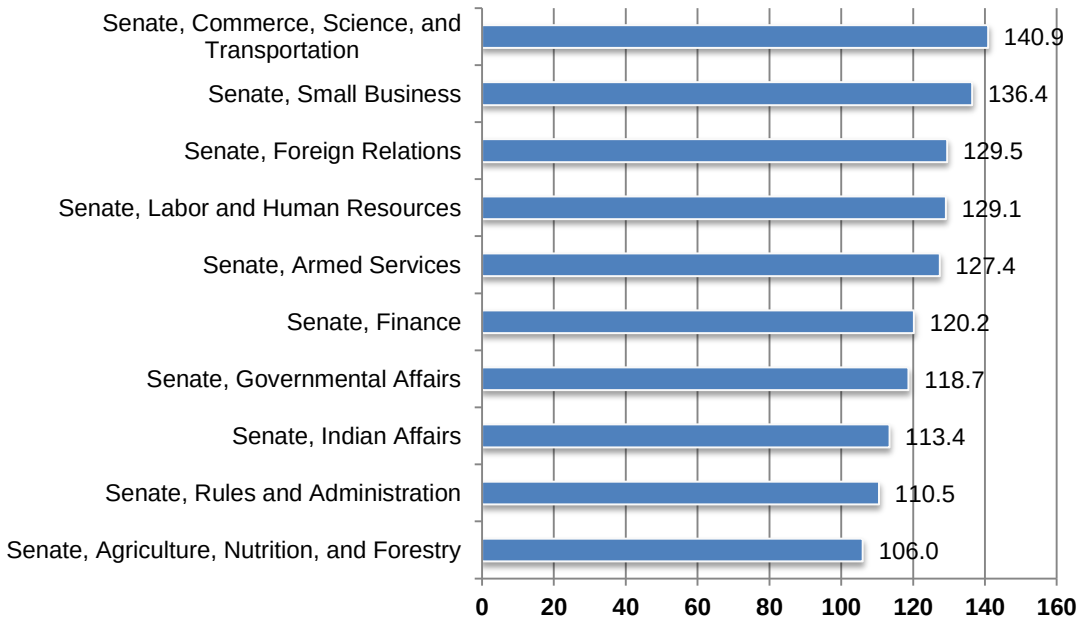
where $p$ denotes a politician $p \in \{1, \dots, 782\}$, $c$ denotes a committee $c \in \{1, \dots, 47\}$ and $t$ denotes a congress $t \in \{1, \dots, 5\}$. The $number\ of\ lobbyists_{p,c,t}$ is a number of contributing lobbyists to congressman $p$ with an assignment in committee $c$ in a congress $t$. The $number\ of\ congressmen_{c,t}$ in the denominator is a number of congressmen working in a committee $c$ in a congress $t$.

In case that a congressman is working in more than one committee, the number of lobbyists contributing to them enters the CPI of each of the committees they are members of – no weighting is applied.

By the nature of construction, CPI might suggest how difficult it is for a lobbyist to address a politician working in a committee given an interest of other lobbyists to have an access to a politician. This relates to the hypothesis discussed by literature that lobbyists provide campaign contributions to congressmen in order to establish an access to them. On the other hand, from the point of view congressmen, CPI shows how difficult it might be to orientate themselves among all the lobbyists that would like to establish access to them by providing them with campaign contributions.

Based on the values of CPI, a ranking of committees is established. The most competitive committees, when the measure is aggregated across all congresses, are presented in the following two figures. Given that there are approximately three times more contributing lobbyists per congressman in the Senate than in the House, the graphical analysis is also split by the chamber. Figure 4.1 presents overview of 10 committees with the highest number of contributing lobbyist per congressmen ratio in the Senate.

**Figure 4.1: Top 10 committees by number of contributing lobbyists (Senate)**

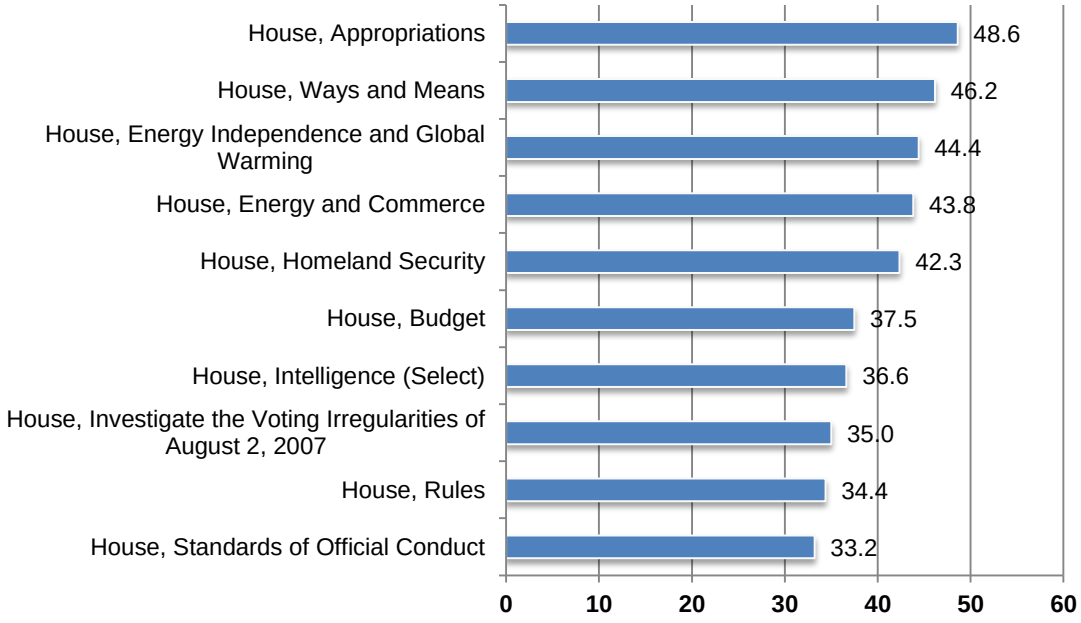



*Notes:* The figure shows committees with the largest average number of contributing lobbyists per congressmen. Individual committees are depicted on the vertical axis. The horizontal axis represents share of the lobbying expenditures calculated as an average of shares on the total lobbying expenditures in of each of the congresses.

The committee with the largest average number of contributors is Commerce, Science and Transportation with on average 141 lobbyists per a single senator.

Referring back to Figure 3.2, this is nearly four times more than an average over the Congress. Among other top committees rank Small Businesses, foreign relations or Labour issues. Figure 4.2 presents the results for the House. The committee with the highest average number of lobbyists per senator is Appropriations, followed by Ways and Means and Energy. The committees are in general focusing on similar issues as the most competitive committees in the Senate.

**Figure 4.2: Top 10 committees by number of contributing lobbyists (House)**

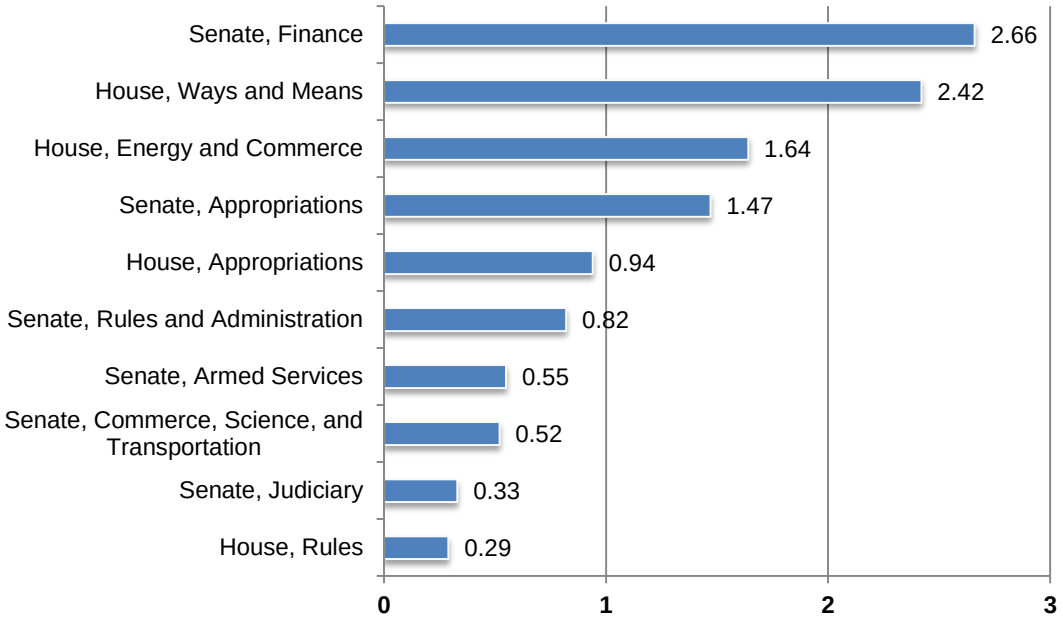



*Notes:* The figure shows committees with the largest average number of contributing lobbyists per congressmen. Individual committees are depicted on the vertical axis. The horizontal axis represents share of the lobbying expenditures calculated as an average of shares on the total lobbying expenditures in of each of the congresses.

The analysis of the discussed hypothesis attempts to associate characteristics of lobbyists involved in a report to characteristics of congressmen whom the lobbyists might address in connection with the lobbying issue covered by the report. Unfortunately, no data that would allow such a direct link are available. The only available means of linking a congressman to a lobbyist is a set of lobbying issues covered by a report. This link is indirect since from one side the lobbyists' characteristics are aggregated in the data about reports. From the other side, the lobbying issues a congressman involved in are available only through their committee assignment.

In addition to this indirect possibility to link a lobbyist and congressman through report and committee, there is also a difficulty in linking reports to committees themselves. The problem emerges because committees are not uniquely identifiable by the lobbying issues. Some of the issues characterising a committees might be included also in a characterisation of other committees. First example of this problem is that Senate and House have committees dealing with similar topics and, therefore, characterised by similar set of issues. Second example is that some of the issues relate to more than one committee since the issue classification is not as detailed to distinguish between the committees' assignments. As a result, for each of the reports the level of competition related to that report has to be calculated as an average of CPI in the committees to which the issues covered by the report might relate. ("Report competition index", "Report CPI") Consequently, the link between the report and the committee might be rather weak.

**Figure 4.3: Top 10 committees by the GRI**




*Notes:* The figure shows committees with the largest Grosewart index as was estimated by Stewart (2012). Individual committees are depicted on the vertical axis. The horizontal axis represents the estimated coefficients of committee values. The coefficients have cardinal interpretation. Therefore, the highest ranking committee is approximately 9 times more desired than the committee ranking on the 10 th place.

Besides the CPI, a Grosewart index of committee attractiveness is used in the analysis to explain the report value. The Grosewart index was already briefly introduced in the section 3.1. It measures a desire of politicians to serve a

congressional committee and therefore serves as a measure of committee prominence. The data are from Stewart III (2012) who estimates the values representing an attractiveness of each committee for 104th-110th congress. The estimates are available for most of the 47 committees. Missing are only committees that have been set up for special purpose, committees that were established in the 110 congress and for the joint committees. The resulting committee values enable to compare the cardinal values of attractiveness of committee assignments. Moreover, when the value of a committee is negative, it means that a congressman is willing to leave a committee even without exchanging it for another committee assignment. Figure 4.3 shows the most desired committees according to the GRI index.

Among the most desired committees in the Senate are Finance, Rules and Administration or Appropriation and in the House these are Ways and Means or House Energy and Commerce. Given that a report might relate to more committees, an average GRI of the potential committees is constructed ("Report GRI)" in a similar same way as the Report CPI. Table 4.2 shows basic summary statistics of the Report CPI and Report GRI.

**Table 4.2: Summary statistics of the competition measure**

| | Obs. | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Report CPI | 191,240 | 77.641 | 27.798 | 17.167 | 174.065 |
| Report GRI | 191,240 | 0.531 | 0.513 | -0.660 | 2.540 |

*Notes:* This table presents resulting summary statistics of the competition measure and attractiveness measure, when applied on the reports using the approach described in the paragraph above.

The present hypothesis is analysed using two approaches. The first approach uses a dummy variable for reports potentially linked to the highest ranking committees. The variable is constructed such that it equals one when an issue covered by a report potentially relates to one of the highest ranking committees ("Competitive report", "Competitive issue", "Competitive committee") in a congress, zero otherwise ("Competitive dummy"). In a baseline specification the dummy variable reflects only reports relating to the highest ranking committee. In two alternative specifications three and five highest ranking committees based on the competition measure are classified by captured by the dummy variable as Competitive. Table 4.3 shows a share of Competitive reports on all reports in the sample as well as shares of Connected and Specialised reports within the subsamples of Competitive reports using one three and five most competitive committees, respectively.

**Table 4.3: Share of reports covering a competitive issue**

| Dummy variable | CPI(1) | CPI(3) | CPI(5) |
|---|---|---|---|
| Share of Competitive reports | 0.204 | 0.340 | 0.416 |
| share of Specialised reports | 0.368 | 0.398 | 0.390 |
| share of Connected reports | 0.744 | 0.739 | 0.737 |

*Notes:* This table presents shares of Competitive reports and shares of Connected and Specialised reports within the Competitive reports. The shares are averages across all of the 106-110 congresses. A report classified as Specialised can be at the same time classified as Connected as well.

Table 4.3 shows that 20% of the reports in the sample are involved with an issue covered by the most Competitive committee ("CPI(1)"), 34 % of the reports in the sample are involved with issues covered by the three most Competitive committees ("CPI(3)") and nearly one half of the reports with five most Competitive committees ("CPI(5)"). The share of Specialised reports is slightly lower among the most Competitive reports CPI(1) than the average 40 % in the whole sample (see Figure 3.9). On the contrary, the share of Connected reports is slightly higher (74% compared to 70% in the whole sample). For CPI(3) and CPI(5) the share of Specialised is similar to the whole sample and the share of Connected approaches it from above. This shows that even though the competition measure was constructed based on the information about campaign contributions – the same information which is used for the classification of Connected reports – the share of Specialised and Connected reports is similar as in the whole sample. This suggests that the measure of competition should not be significantly biased towards identifying only the Connected reports as Competitive. An alternative approach to the above described dummy variables uses directly a value of Report CPI to explain a change in value of a report.

### 4.2.2 Empirical results

The estimation is carried out using three specifications – two specifications utilising dummy variables and one employing directly the Report CPI. Each of the specifications includes the explanatory variables and a full set of dummies for a type of report, year, number of lobbyists on the report and dummy variables for issues which were used by Bertrand et al. (2014). Estimation results are presented in table 4.4. Based on the results we cannot reject the hypothesis that the relative value of Specialised reports to Connected reports increases with competition among lobbyists. Even though there is a premium of Connected reports and it is increasing for most of

the reports, the premium of Connected reports starts to decline for the most competitive issues and thus the relative value of Specialised reports increases compared to those Connected. At the same time, the results show that the premium of Specialised and Connected reports is increasing with the attractiveness of the covered issues.

In the first specification, summarised in the column (1), additional dummy variables compared to the first hypothesis are included in order to proxy for a difference in the premium of a Competitive Connected and Competitive Specialised report. The baseline Connected and Specialised dummy variables lead to very similar results to those of Bertrand et al. (2014). The premium for Specialised reports is 3.1% while for Connected it is 7.2%. The dummy variable for Competitive Connected reports is statistically significant and suggests that there is an additional premium for Connected Competitive reports of on average 3.6%. On the contrary, there is no statistically significant change in the premium of Specialised reports. Coefficients of the control variables are similar to those of Bertrand et al. (2014). The results of the first specification therefore suggest that the hypothesis should be rejected.

In the second specification, summarised in the column (2), an effect of attractiveness of committees to which a report relates (Report GRI) is included. The coefficient for Report GRI is negative, which shows that a report value is on average decreasing with the prominence of covered issues. On average, the report value decreases by 0.6% with an increase of GRI by 0.1. When including Report GRI as well as interactions with the four dummy variables used in the previous specification, the premium of Specialised reports decreases to 1.1%, Connected to 6.3% and the premia for the most competitive reports become statistically insignificant. On the other hand, the interaction terms of the dummy variables with the Report GRI are statistically significant. There is a premium for a Specialised report of 0.38% when the Report GRI increases by 0.1. For an average Report GRI value of 0.53 this means a premium of additional 2%. There is also a premium for Connected reports of on average 0.19% when the Report GRI increases by 0.1. For an average Report GRI this means a premium of additional 1%. The marginal effect is larger for Specialised reports, however, there is an additional premium for Connected Competitive reports of 0.58% when the Report GRI increases by 0.1. For an average report, this means a premium of additional 3.1% when covering a Competitive issue. There is no additional premium for the Specialised Competitive reports. Coefficients of the control variables are similar to those of Bertrand et al. (2014).

The results show that the premium of Specialised and Connected reports is increasing with the attractiveness of the covered issues measured by Report GRI. Besides, there is an additional premium for Connected reports covering the issues of the most Competitive committee. The results suggest that the hypothesis could be rejected.

The third specification complements the first two specifications by directly analysing the relationship between the level of competition measured by Report CPI and the report value. For this, Report CPI variable is included in the regression in second order polynomial form. In this specification also the Report GRI is included in the second order form as opposed to linear for in the previous specification. To measure change in premia for Connected and Specialised reports, interaction terms of the Report competition variable and its square and the Connected and Specialised dummy variables are included in the regression. In addition, to measure the effect of Report GRI, interaction terms of the Report GRI and its square with the Connected and Specialised dummy variables are also included in the regression. The additional variables explain the relationship between the Report CPI or Report GRI and a report premium for both for the Specialised and Connected reports.

The effect of GRI is negative, similarly to the previous specification. At the mean value of Report GRI a report value decreases on average by 0.5% with an increase in the Report GRI by 0.1. Furthermore, the magnitude of the effect is increasing with Report GRI. Also, the interaction terms of GRI and the dummy variables suggest an increase in report value of both Specialised and Connected reports, similarly to the results of the previous specification.

The effect of CPI is positive. At the mean value of CPI, an increase by 10% leads to an increase of a report value on average by 0.7%. Moreover, a report value increases by additional 0.3% with 10% increase in Report CPI when classified as Connected. This effect is inverse hum-shaped having a peak at 101 contributing lobbyists. This suggests that the premium of Connected reports starts to decline with Report CPI exceeding the level of 50 contributing lobbyists per congressmen. Therefore, a relative premium of Specialised reports to Connected reports increases with competition from CPI of 50 and higher. The reason for this might be that among the most committees the potential access lobbyists might have to a politician is very limited given the other lobbyists who also try to establish access by providing a congressman with campaign contributions and also given a time constraint of a politician. Therefore, a Specialised lobbyist might have a better position if a congressman assumes that they have relevant information that might be useful for the congressmen. Consequently, reports with Connected lobbyists start to be less valued.

**Table 4.4: Estimation results - CPI**

| log (report value) | (1) | (2) | (3) |
|---|---|---|---|
| Specialised | 0.031 | 0.011 | -0.031 |
| | [0.004]*** | [0.006]** | [0.025] |
| Specialised*Competitive | 0.072 | -0.004 | |
| | [0.004]*** | [0.014] | |
| Connected | 0.012 | 0.063 | -0.007 |
| | [0.008] | [0.005]*** | [0.024] |
| Connected*Competitive | 0.036 | 0.004 | |
| | [0.006]*** | [0.010] | |
| Report GRI | - | -0.062 | 0.005 |
| | | [0.008]*** | [0.018] |
| Report GRI (squared) | - | - | -0.045 |
| | | | [0.010]*** |
| Specialised*GRI | - | 0.038 | -0.009 |
| | | [0.007]*** | [0.017] |
| Specialised*GRI (squared) | - | - | 0.028 |
| | | | [0.009]*** |
| Connected*GRI | - | 0.019 | -0.010 |
| | | [0.007]*** | [0.017] |
| Connected*GRI (squared) | - | - | 0.020 |
| | | | [0.009]** |
| Specialised*Competitive*GRI | - | 0.026 | - |
| | | [0.020] | |
| Connected*Competitive*GRI | - | 0.059 | - |
| | | [0.014]*** | |
| Report CPI | - | - | 0.001 |
| | | | [0.001]** |
| Report CPI (squared) | - | - | -0.000 |
| | | | [0.000] |
| Specialised*CPI | - | - | 0.001 |
| | | | [0.001]* |
| Specialised*CPI (squared) | - | - | -0.000 |
| | | | [0.000] |
| Connected*CPI | - | - | 0.002 |
| | | | [0.001]*** |
| Connected*CPI (squared) | - | - | -9.85e-06 |
| | | | [0.000]*** |
| Average tenure | 0.001 | 0.001 | 0.002 |
| | [0.001] | [0.002] | [0.002] |
| Average number of active years | 0.008 | 0.008 | 0.007 |
| | [0.001]*** | [0.001]*** | [0.001]*** |
| Average number of reports per lobbyist | -0.001 | -0.001 | -0.001 |
| | [0.000]*** | [0.000]*** | [0.000]*** |
| Dummy variables for | | | |
| Report type | Yes | Yes | Yes |
| Number of lobbyists | Yes | Yes | Yes |
| Year | Yes | Yes | Yes |
| Issue | Yes | Yes | Yes |
| R2 | 0.245 | 0.246 | 0.246 |
| Observations | 191,240 | 191,240 | 191,240 |

*Notes*: The table shows estimation results for the measure of competition among lobbyists related to the hypothesis analysing the effect of competition on the lobbying report value. The CPI is based on the number of lobbyists per congressman. Parentheses present robust standard errors. *** means statistical significance at 1 percent level,** at 5 percent level and * at 10 percent level. The unit of observation is a lobbying report. The dependent variable is measured in logarithm of dollar value of the report in 2015 USD levels. The software used for estimation was Stata. The method used was Ordinary Least Squares.

### 4.2.3 Robustness check

Robustness check is carried out for the first specifications 1 and 2 – the specifications using a group of top ranking committee issues for construction of a dummy variable. The robustness check concerns increasing the number of committees taken into account for the dummy variable construction. Compared to the baseline 1 top ranking committee, specifications 1 and 2 are repeated with dummy variables constructed using top 3 and top 5 committees.

Regarding the specification 1, results with higher number of the most competitive committees and therefore issues included in the dummy variable are similar for CPI with 1 committee. Results of specification with 3 committees show very similar results to baseline specification. Results of specification with 5 committees shows an increase in premium for Specialised reports and a decrease for Connected Competitive. This might be because with more of the committees in the dummy variable, the larger share of the sample covered and therefore the CPI specific premia approach the average premia. The same pattern can be seen for the specification 2. The results are nearly unchanged to the baseline specification using only the top ranking committee. It shows that with increasing number of committees, which means a lower competition, the premium of specialised is increasing while the premium from Connected remains approximately unchanged Therefore in fact, with declining level of competition, relative premium of Specialised to Connected reports increases and vice versa. This finding supports the previous results from the baseline specification that we could reject the second hypothesis.

**Table 4.5:Robustness check - CPI**

| | Top 3 committees | | Top 5 committees | |
|---|---|---|---|---|
| log (report value) | (1) | (2) | (1) | (2) |
| Specialised | 0.032 | 0.014 | 0.037 | 0.016 |
| | [0.004]*** | [0.006]** | [0.004]*** | [0.006]** |
| Specialised*Competitive | 0.003 | -0.013 | -0.008 | -0.012 |
| | [0.007] | [0.010] | [0.006] | [0.010] |
| Connected | 0.072 | 0.062 | 0.072 | 0.067 |
| | [0.004]*** | [0.006]*** | [0.004]*** | [0.006]*** |
| Connected*Competitive | 0.023 | 0.014 | 0.019 | -0.004 |
| | [0.005]*** | [0.008]* | [0.005]*** | [0.007] |
| GRI | -0.034 | -0.063 | -0.034 | -0.063 |
| | [0.007]*** | [0.008]*** | [0.007]*** | [0.008]*** |
| Specialised*GRI | | 0.034 | | 0.039 |
| | | [0.008]*** | | [0.008]*** |
| Connected*GRI | | 0.021 | | 0.013 |
| | | [0.008]*** | | [0.008]* |
| Specialised*Competitive*GRI | | 0.025 | | 0.006 |
| | | [0.014]* | | [0.014] |
| Connected*Competitive*GRI | | 0.015 | | 0.043 |
| | | [0.011] | | [0.010]*** |
| Average tenure | 0.001 | 0.001 | 0.001 | 0.001 |
| | [0.002] | [0.002] | [0.002] | [0.002] |
| Average number of active years | 0.008 | 0.008 | 0.008 | 0.008 |
| | [0.001]*** | [0.001]*** | [0.001]*** | [0.001]*** |
| Average number of reports per lobbyist | -0.001 | -0.001 | -0.001 | -0.001 |
| | [0.000]*** | [0.000]*** | [0.000]*** | [0.000]*** |
| Dummy variables for | | | | |
| Report type | Yes | Yes | Yes | Yes |
| Number of lobbyists | Yes | Yes | Yes | Yes |
| Year | Yes | Yes | Yes | Yes |
| Issue | Yes | Yes | Yes | Yes |
| R2 | 0.245 | 0.246 | 0.246 | 0.246 |
| Observations | 191,240 | 191,240 | 191,240 | 191,242 |

*Notes*: The table shows estimation results for the measure of competition among lobbyists related to the hypothesis analysing the effect of competition on the lobbying report value. The CPI is based on the number of lobbyists per congressman. This Table shows alternative specification of the dummy variables. See explanation at the beginning of the section 4.2.3 and 4.2.1. Parentheses present robust standard errors. *** means statistical significance at 1 percent level,** at 5 percent level and * at 10 percent level. The unit of observation is a lobbying report. The dependent variable is measured in logarithm of dollar value of the report in 2015 USD levels. The software used for estimation was Stata. The method used was Ordinary Least Squares.

## 4.3 Specialisation of congressmen

The third hypothesis analyses the lobbying process from the point of view of congressmen. In contrast to the first two hypotheses, which were done on lobbying report level, the third hypothesis is analysed on a congressmen level. Therefore, use and interpretation of the variables is different from the previous hypotheses. Campaign contributions in this case are not used for the purpose of identifying connection, but they are used as a measure of congressmen's income. Campaign financing is one of the variables that congressmen maximize, since they need to secure sources for their re-election. The third hypothesis analyses the role of congressmen's specialisation on membership in committees on their income measured by a sum of campaign contributions obtained from lobbyists. Since the measure captures only campaign contributions from lobbyists, the campaign contributions might also show lobbyists' desire to establish an access to a politician using the same intuition as was presented in the previous hypotheses. It could be assumed that the more a congressman is interesting for lobbyists, the more campaign contributions they might obtain since more lobbyists would like to secure access to them.

**Hypothesis 3:**

*More specialised congressmen get more campaign contributions from lobbyists.*

Specialisation of a congressman is measured by two alternative approaches ("Specialisation measure") that are based on the congressmen's committees assignments. This section is organised as follows. First, a construction of Specialisation measures is explained. Second, related estimation results are presented. Finally, several robustness checks are carried out.

### 4.3.1 Empirical specification

This hypothesis uses the data about campaign contributions of congressmen and their committee assignments in the five congresses $106^{th}$-$110^{th}$. The dataset of congressmen has in total 2,699 observations and includes 782 individual congressmen. The data about committee assignments can be described as follows. Define membership in a committee for a congressman in a congress as:

$$m_{p,c,t}\ , m \in \{0,1\}$$

where $p$ denotes a politician $p \in \{1, \dots, 782\}$, $c$ denotes a committee $c \in \{1, \dots, 47\}$ and $t$ denotes a congress $t \in \{1, \dots, 5\}$.

Then the number of committees a congressman is serving in a congress is:

$$n_{p,t} = \sum_{c} m_{p,c,t} \ , \qquad n_{p,t} \in \{1, \dots, 47\}$$

The number of committees $n_{p,t}$ is used as the first measure of specialisation of congressmen ("Number of committees"). This measure has a panel data nature and fits the panel structure of the dataset where the panel variable is a congressman and the time variable is a congress.

The measure Number of committees is calculated separately for each congress and therefore it cannot account for an overall behaviour of a congressman during the sample. The second measure of specialisation takes into account the time dimension and is constructed such that the lower is the number of committees a congressman is member of over the sample, the higher is their level of specialisation. The measure is constructed as a pseudo HHI index ("HHI") which is as an aggregation of number of served committees over time for each congressman calculated as follows:

$$HHI_p = \sum_{c} \frac{(np_{p,c})\text{^}2}{(N_p)\text{^}2}$$

Where

$$np_{p,c} = \sum_{t} m_{p,c,t} \ , np_{p,c} \in \{0,5\}$$

is the number of periods in which a congressman was member of a committee and

$$N_p = \sum_{t} n_{p,t} \ , N_p \in \{1, \dots, 235\}$$

is the sum of number of committees in which a congressman was active over the sample of the 5 congresses. Observations for all five congresses are available for 322 congressmen, accounting for 60% of the observations. When including also congressmen for whom observations are available in the last 4 congresses (additional 46 congressmen), 66% of the data can be used. The measure HHI will be, therefore, calculated for the congressmen with observations in at least 4 last congresses. Given the aggregation over time, the HHI has a cross section nature. Assuming that the measure captures a long term behaviour of congressmen, it is used as an explanatory

variable in an analysis of congressmen's income on the cross-section of congressmen in last identified congress. It should not a problem that the measure is established using the last congress where it is, at the same time, used as explanatory variable since the committee membership is established at the beginning of a congress (the explanatory variable) while the campaign contributions are a sum obtained over the period of a congress (the dependent variable).

In all specifications, the dependent variable is a logarithm of the sum of campaign contributions a congressman obtains from lobbyists in a congress. The explanatory variable of key interest is the specialization of congressmen. Additional used explanatory variable is a Grosewart index, which was already introduced in sections 3.1 and 4.2. Given that congressmen serve on average more than one committee, a variable used in the regression ("GRI") will be the Grosewart index of congressmen's committee assignment which has the highest value of the index (the most desired committee from the congressman's committee portfolio). Summary statistic of the key variables in the hypothesis 3 is presented in Table 4.6.

**Table 4.6: Descriptive statistics**

| | Obs. | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Number of committees served | 2,699 | 2.487 | 1.159 | 1 | 7 |
| HHI of specialization to issues overall | 1,990 | 0.409 | 0.225 | 0.112 | 1 |
| Maximum Grosewart index of the served committees | 2,699 | 0.703 | 0.876 | -0.91 | 2.660 |

*Notes:* This table shows summary statistics of key variables for the analysis of the specialisation of congressmen. There are fewer observations for HHI because of the way the measure is constructed.

Furthermore, some other professional and biographical variables, which were summarised in the section 3.3 are used. Among them is for example the number of contributing lobbyists, the chamber served, being part of majority party in a given chamber, special functions in the congress as well as congress session dummy variables. For a limited group of congressman several biographical information such as the political history, age or whether there a congressman has a relative who is serving in the congress are available. The fact that biographical variables are included results in a much smaller sample of only 619 observations (less than one quarter of the original dataset).

### 4.3.2 Empirical results

Four specifications are estimated. The four specifications represent combinations of linear and quadratic terms for both GRI and the Specialisation measure. First, specialisation and GRI are both in linear form. Second, square of GRI is included. Third, square of the Specialisation measure is included and finally squares of both variables are used. The estimation using Number of committees is done with the method o fixed effects (FE), which turned out to be preferred over random effects (RE) or ordinary least squares (OLS). Estimation results are presented in Table 4.7.

**Table 4.7: Estimation results – Number of committees**

| log (campaign contributions) | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Number of committees | -0.017 | -0.014 | 0.220 | 0.242 |
| | [0.038] | [0.038] | [0.113]* | [0.109]** |
| Number of committees (squared) | | | -0.040 | -0.043 |
| | | | [0.020]** | [0.020]** |
| GRI | 0.076 | 0.490 | 0.093 | 0.537 |
| | [0.076] | [0.202]** | [0.078] | [0.201]*** |
| GRI (squared) | | -0.189 | | -0.202 |
| | | [0.099]* | | [0.100]** |
| Number of contributing lobbyists | 0.005 | 0.005 | 0.005 | 0.005 |
| | [0.001]*** | [0.001]*** | [0.001]*** | [0.001]*** |
| Dummy for congresses | Yes | Yes | Yes | Yes |
| Number of observations | 1,441 | 1,441 | 1,441 | 1,441 |
| R2 | 0.309 | 0.313 | 0.313 | 0.318 |

*Notes*: The table shows estimation results for the first measure of specialisation related to the hypothesis analysing the effect of specialisation on the campaign contributions obtained by congressmen. Parentheses present robust standard errors. *** means statistical significance at 1 percent level,** at 5 percent level and * at 10 percent level. The unit of observation is a congressman. The dependent variable is measured in logarithm of dollar value obtained from all lobbyists in a congress in 2015 USD levels. The software used for estimation was Stata. The estimation method is FE, which showed to be preferred over RE since the Hausman test leads to rejection of the null hypothesis of no correlation of the error term with explanatory variables. FE is also preferred over OLS since one third of variation could be explained by individual specific fixed effect. A Wald test for heteroskedasticity leads to rejection of a homoscedastic standard errors, therefore a robust version using a Huber/White sandwich estimator are calculated. An F-test for time fixed effect failed to reject the null hypothesis of joint insignificance of congresses, therefore the time effects are also included in the specification. The outputs of the tests can be found in the Appendix in Figure A.4-A.11.

The most statistically significant results are achieved by the fourth specification where both Number of committees and GRI are in a quadratic form. In this specification the obtained campaign contributions on average increase with growing number of served committees until the level of 3 committees and then on average start to decline again with additional committees. This means that in order for a congressman to maximize their campaign contributions, they should cover on average 3 committees – a slightly higher number than what is observed as an average in the sample (2.5 committees). The identified marginal effects are as follows. Adding one more committee assignment results on average in an increase in obtained campaign contributions by 11% when it is from 1 to 2 covered committees, an increase by 3% when it is from 2 to 3 committees, a decrease by 6% at from 3 to 4 committees, decrease by 15% when it is from 4 to 5 committees and 23% when it is from 5 to 6 committees. This shows that the effect of specialisation of congressmen can be identified using the available data. On the other hand, there is also an effect of decreasing marginal effect of covering more committees, which on average turns from positive to negative at the service in 3 committees.

Committee attractiveness which is measured by the GRI also demonstrates a hump shape of the marginal effect. Obtained campaign contributions increase with prominence of served committees until the level GRI level of 1.3 and then decrease again. At the mean value of GRI of 0.74 an increase of 10% in the index is on average associated with increase in campaign contributions by 1.7%. The decrease in campaign contributions with higher GRI concerns congressmen covering one of the four most prominent committees for which the GRI is larger than 1.33 (see Figure 4.3) This might suggest that congressmen in the most prominent committees do not maximize the campaign contributions since they have an established positions among their constituents. An alternative explanation could be that an access to the congressmen serving the most prominent committees cannot be secured (that effectively) by providing them with campaign contributions. The biographical and experience related variables turned out to be insignificant and were therefore excluded from the regression, without changing the presented coefficients significantly.

The second measure of specialisation (HHI) estimated on a cross section of congressmen in the last sample turned out to be statistically insignificant, with the coefficient estimates of GRI comparable to the specification with Number of congresses. One of the reasons might be the limited sample or not accounting for congressman specific fixed effect. Another reasons might potentially be that the past committee membership is not that important for lobbyists. Also, taking into account

the results using Number of committees, which showed that the number of committees held has an impact on the amount of campaign contributions obtained, congressmen who hold a committee portfolio of one committee and a portfolio of 3 committees the whole sample, would have the same level of HHI, while obtaining a different amount of campaign contributions. This could be overcome by including both HHI and Number of committees variables in a regression, which however turned out to be insignificant. Another reason might be that congressmen cover on average a similar number of committees, leading to low variation in the HHI.

### 4.3.3 Robustness check

Neither of the specialisation measures can distinguish whether a congressman is specialising on the same subset of committees over time or whether they are switching the committees between congresses and each time are members of different committees. The HHI captures only whether a congressman in aggregation specialises on a limited number of committees in a congress but cannot distinguish the committees as such. Switching of committees might be an important signal for lobbyists since it could suggest whether the campaign contribution a lobbyist invest in establishing an access to a congressman might potentially bring some long term benefit related to predictable coverage of issues. Also, when a congressman keeps switching committees, they might not be able to gain that deep experience or establish needed contacts in the covered issues. Therefore, even if a congressman specialises in a limited number of committees, but the committees are each congress different, it might be assumed that such a congressman will be less attractive for lobbyists. In order to capture the switching of committees a third specialisation measure is established. Recalling the assumption about possible motivation of lobbyists, this measure is designed to capture only when a congressman drops or switches a committee membership, while it is important for the measure that a certain committee membership was dropped, since the committee assignments changed compared to expectations of lobbyists who contributed to their campaign last congress. Moreover, the measure does not capture when a congressman takes on an additional committee, without leaving the previous memberships. Even though that becoming a member of an additional committee might bring a potential drawback for a lobbyist since it might result in dilution of the congressman’s attention to the previously served committees, it might bring some benefits to the lobbyist as well. Lobbyists could in this way potentially extend the scope of covered issues for the new committee of a congressman to whom they have tried to establish an access. The

measure is constructed as a share of the number of terminated committee assignments on the number of committees served in the preceding congress:

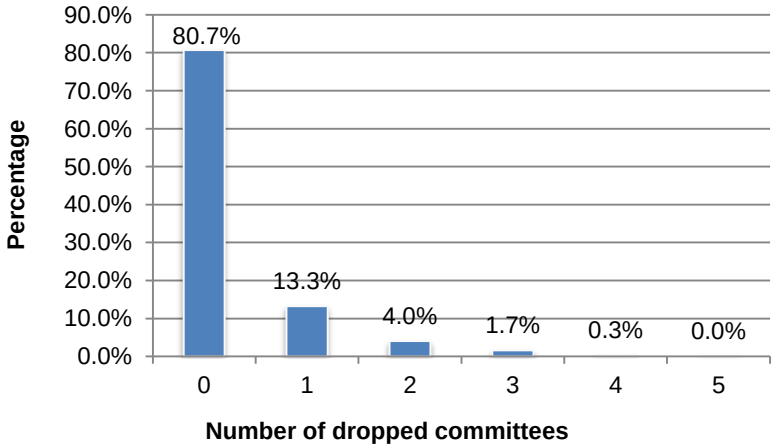
$$Switched_{p,t} = \frac{ns_{p,t}}{n_{p,t-1}}$$

Where $n_{p,t-1}$ is the number of served committees as defined in the first Specialisation measure and

$$ns_{p,t} = \sum_{c} (m_{p,c,t-1} - m_{p,c,t}) * m_{p,c,t-1}, ns_{p,t} \in \{0,47\}$$

is the number of committees a congressman gave up or switched for another committee. When a congressman served a committee at time *t*- then, $m_{p,c,t-1} = 1$. When they dropped that committee at time *t*, $m_{p,c,t} = 0$. The difference is therefore equal to 1. The interaction with $m_{p,c,t-1}$ is included for the purpose of the opposite case when a congressman took a membership in a new committee. The difference would be equal -1 but it should be equal zero, since this case should not be captured by the measure. This is achieved by the interaction term since $m_{p,c,t-1} = 0$ in this case. In case that a congressman covers a committee in both congresses or in neither, the difference is equal zero – no switching took place. Figure 4.4 summarises the number of committees a congressman switched on average committees in a congress.

**Figure 4.4: Number of dropped committees**




| | |
|---|---|
| Observations | 2,699 |
| Mean | 0.279 |
| Std. Dev. | 0.656 |
| Median | 0 |
| Min | 0 |
| Max | 5 |

*Notes:* The figure shows distribution of the ns variable – number of committees a congressman dropped from one congress to another. Related summary statistics are presented in the right part of the figure.

The results presented in Figure 4.4 clearly indicate that most of the congressmen keep their committee assignments from a congress to another one. Therefore, the concern of switching of committees seems might not be relevant.

The constructed variable "Switched" was included as an additional variable in the specification with Number of committees, but it turned out to be statistically insignificant, both in linear or quadratic form. Also, the Switched variable was used as an alternative measure of specialisation instead of the Number of committees, in otherwise the same specifications, but it did not turn out to be statistically significant. For the estimation using HHI, an aggregate Switched measure was constructed as:

$$agrSwitched_p = \frac{\sum_t ns_{p,t}}{N_p}$$

where the numerator is an overall number of dropped committees over the sample and the denominator is an overall number of covered committees during the sample – a variable defined while constructing the HHI. When including such a measure as an additional variable in the HHI specification, it turns out to be statistically insignificant as well. Neither the variables used separately in the same specification as HHI turned out to be significant. Therefore it seems that there is not a systematic relationship between switching committees and the amount of campaign contributions obtained.

# 5 Conclusions

The present thesis provided an empirical analysis of lobbying, using data about lobbying in the United States. It focused on three particular questions. First, it contributed to an empirical literature analysing the added value of lobbyists. Similarly to the results in literature, the present thesis found that there is a larger premium associated with lobbyists that have contacts with congressmen compared to lobbyists who specialise in a limited set of issues and therefore could be expected to have gained an expertise in the issues. Second, the present thesis analysed the role of competition for access to congressmen on the added value of lobbyists. The competition was measured as the number of lobbyists who attempt to establish an access to a congressman by providing them with campaign contributions. The results showed that the premium of connected lobbyists increases with competition, however, only until a certain level of competition. In the issues with the highest competition, the premium decreases. This might suggest that it is not possible to assure an access to the most prominent congressmen that effectively by providing them with campaign contributions. Third, the lobbying was analysed from the point of view of congressmen. The analysis used the available data to examine the role of congressmen's specialisation on committee assignments on the amount of campaign contributions they obtain from lobbyists. The results showed that the amount of contributions first on average increases with the number of served committees in a congress until three committee assignments and then start to decrease again. This might suggest that lobbyists target the campaign contributions to congressmen based on their assignments and perceive that a dispersed attention of congressmen decreases their ability to effectively influence policy. The second two analyses provide an alternative view on the process of lobbying which to the best knowledge of the author has not been analysed in an empirical literature using similar data or a similar setting.

Even though the data used from the United States are probably the most complex on such a large scale covering the whole lobbying industry, they still do not cover enough details needed for the analysis. Consequently, many assumptions or approximations had to be made in construction of the dataset and in subsequent estimation, mostly in the analysis of competition. Therefore, the results of the present thesis have to be taken only as an indication of possible patterns in the market for lobbying. In order to be able to carry out the analysis more precisely, it would be

helpful to have at disposal data about which lobbyists held meetings with which congressman in relation to individual lobbying cases. Further empirical research, therefore, depends crucially on the data availability. Further research could for instance examine more in detail the relation between connections and specialisation or expertise of congressmen. The analysis could focus on the extent of knowledge of the policy relevant information a lobbyist needs to have to be able to establish a relationship with a congressman and to what extent a lobbyist might rely on other experts from the commercial lobbying firm as a source of the information. This might subsequently lead to the better understanding of the role of information and personal connections in the process of lobbying.

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# Appendix

**Table A.1: Lobbying Report Issue List**

| | |
|---|---|
| ACC Accounting | HCR Health Issues |
| ADV Advertising | HOU Housing |
| AER Aerospace | IMM Immigration |
| AGR Agriculture | IND Indian/Native American Affairs |
| ALC Alcohol & Drug Abuse | INS Insurance |
| ANI Animals | LBR Labour Issues/Antitrust/ Workplace |
| APP Apparel/Clothing Industry/Textiles | LAW Law Enforcement/Crime/ Criminal Justice |
| ART Arts/Entertainment | MAN Manufacturing |
| AUT Automotive Industry | MAR Marine/Maritime/ Boating/Fisheries |
| AVI Aviation/Aircraft/Airlines | MIA Media (Information/ Publishing) |
| BAN Banking | MED Medical/Disease Research/ Clinical Labs |
| BNK Bankruptcy | MMM Medicare/Medicaid |
| BEV Beverage Industry | MON Minting/Money/ Gold Standard |
| BUD Budget/Appropriations | NAT Natural Resources |
| CHM Chemicals/Chemical Industry | PHA Pharmacy |
| CIV Civil Rights/Civil Liberties | POS Postal |
| CAW Clean Air & Water (Quality) | RRR Railroads |
| CDT Commodities (Big Ticket) | RES Real Estate/Land Use/Conservation |
| COM Communications/ Broadcasting/Radio/TV | REL Religion |
| CPI Computer Industry | RET Retirement |
| CSP Consumer Issues/Safety/ Protection | ROD Roads/Highway |
| CON Constitution | SCI Science/Technology |
| CPT Copyright/Patent/ Trademark | SMB Small Business |
| DEF Defence | SPO Sports/Athletics |
| DOC District of Columbia | TAX Taxation/Internal Revenue Code |
| DIS Disaster Planning/Emergencies | TEC Telecommunications |
| ECN Economics/Economic Development | TOB Tobacco |
| EDU Education | TOR Torts |
| ENG Energy/Nuclear | TRD Trade (Domestic & Foreign) |
| ENV Environmental/Superfund | TRA Transportation |
| FAM Family Issues/Abortion/ Adoption | TOU Travel/Tourism |
| FIR Firearms/Guns/ Ammunition | TRU Trucking/Shipping |
| FIN Financial Inst./Investments/Securities | URB Urban Development/ Municipalities |
| FOO Food Industry (Safety, Labelling, etc.) | UNM Unemployment |
| FOR Foreign Relations | UTI Utilities |
| FUE Fuel/Gas/Oil | VET Veterans |
| GAM Gaming/Gambling/ Casino | WAS Waste (hazard/solid/interstate/nuclear) |
| GOV Government Issues | WEL Welfare |

*Notes:* The table summarises lobbying issue classification used by FEC.

**Table A.2: List of committees and related issues**

House, Agriculture: AGR, FOO, TOB, ANI, CDT

House, Appropriations: BUD

House, Armed Services: AER, DEF, HOM, INT

House, Financial Services: HOU, FIN, INS, RES, WED, BAN, BNK, URB, GAM

House, Budget: BUD

House, Education and Labour: EDU, FAM, LBR, RET, ALC, WEL, REL, ART

House, Energy and Commerce: ACC, CSP, ENG, TEC, FOO, FUE, ALC, MMM, MED, ENV, SPO, TRD, TOU, HCR, CAW, WAS, UTI, PHA, MAN, ADV, MIA, CPI, COM, CDT, CHM, BEV, AUT, APP

House, Foreign Affairs: FOR, ECN, REL

House, Oversight and Government Reform: GOV, POS, DOC

House, House Administration: GOV

House, Judiciary: LAW, CON, CPT, IMM, CIV, TOR, FIR

House, Natural Resources: MAR, NAT, IND, RES, GAM, CDT

House, Transportation and Infrastructure: APR, RRR, ROD, TRA, TRU, DIS

House, Rules: GOV

House, Science and Technology: ENG, SCI, AER, AVI, CPI

House, Small Business: SMB

House, Standards of Official Conduct: GOV

House, Veterans Affairs: VET

House, Ways and Means: UNM, TRD, TAX, WEL, RET

House, Intelligence (Select): INT, HOM

House, Homeland Security: HOM

House, Energy Independence and Global Warming (Select, 110th): ENG, FUE, CDT, CAW, ENV

House, Investigate the Voting Irregularities of August 2, 2007 (Select, 110th): GOV

Senate, Agriculture, Nutrition, and Forestry: AGR, FOO, TOB, ANI, CDT

Senate, Appropriations: BUD

Senate, Armed Services: AER, DEF, HOM, INT

Senate, Banking, Housing, and Urban Affairs: HOU, URB, INS, RES, GAM, BAN, CDT, FIN, TRD, ECN, MON, BNK, ACC

Senate, Budget: BUD

Senate, Commerce, Science, and Transportation: AVI, ADV, AER, APP, AUT, COM, CPI, CSP, MAN, MAR, MIA, RRR, ROD, SCI, TEC, SPO, PHA, TRD, TRA, TOU, TRU, CHM, BEV

Senate, Energy and Natural Resources: ENG, NAT, FUE, WAS, CDT, UTI

Senate, Environment and Public Works: ENV, DIS, CAW, ROD, ECN, WAS

Senate, Finance: UNM, TRD, TAX, WEL, RET, MMM

Senate, Foreign Relations: FOR, ECN, REL

Senate, Homeland Security and Governmental Affairs: GOV, HOM, INT, POS

Senate, Judiciary: LAW, CON, CPT, IMM, CIV, TOR, FIR

Senate, Health, Education, Labour, and Pensions: EDU, FAM, LBR, RET, ALC, WEL, REL, ART, HCR, MED

Senate, Rules and Administration: GOV

Senate, Small Business and Entrepreneurship: SMB

Senate, Veterans Affairs: VET

Senate, Aging (Special): RET, HCR

Senate, Intelligence (Select): INT, HOM

Senate, Ethics (Select): GOV

Senate, Indian Affairs (Select): IND, GAM

| |
|---|
| Joint, Library: GOV |
| Joint, Printing: GOV |
| Joint, Taxation: TAX |
| Joint, Economic: ECN |

*Notes:* The tables summarises the lobbying committees in the 110th congress and presents lobbying issues that are related to work of the committees. The "Select" means that the committee has been established for a special purpose.

## Figure A.1: Balancing results H1 – Specification 1

***** (V1) ACC *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00133824 | 0 |
| mean control..... | 0.00452718 | 0 |
| std mean diff..... | -8.72286 | 0 |
| mean raw eQQ diff..... | 0.00320222 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00159447 | 0 |
| med eCDF diff..... | 0.00159447 | 0 |
| max eCDF diff..... | 0.00318894 | 0 |
| var ratio (Tr/Co)..... | 0.296559 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V2) ADV *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.000143383 | 0 |
| mean control..... | 0.00548825 | 0 |
| std mean diff..... | -44.6385 | 0 |
| mean raw eQQ diff..... | 0.00535296 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00267243 | 0 |
| med eCDF diff..... | 0.00267243 | 0 |
| max eCDF diff..... | 0.00534487 | 0 |
| var ratio (Tr/Co)..... | 0.0262667 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V3) AER *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00243751 | 0.00079968 |
| mean control..... | 0.0066896 | 0.00079968 |
| std mean diff..... | -8.62281 | 0 |
| mean raw eQQ diff..... | 0.00425369 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00212604 | 0 |
| med eCDF diff..... | 0.00212604 | 0 |
| max eCDF diff..... | 0.00425209 | 0 |
| var ratio (Tr/Co)..... | 0.365946 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V4) AGR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0452612 | 0.032587 |
| mean control..... | 0.0324616 | 0.032587 |
| std mean diff..... | 6.15715 | 0 |
| mean raw eQQ diff..... | 0.0128089 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00639979 | 0 |
| med eCDF diff..... | 0.00639979 | 0 |
| max eCDF diff..... | 0.0127996 | 0 |
| var ratio (Tr/Co)..... | 1.3759 | 1 |
| T-test p-value..... | 4.44089e-16 | 1 |

***** (V5) ALC *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00138603 | 0 |
| mean control..... | 0.00410987 | 0 |
| std mean diff..... | -7.32123 | 0 |
| mean raw eQQ diff..... | 0.00272427 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00136192 | 0 |
| med eCDF diff..... | 0.00136192 | 0 |
| max eCDF diff..... | 0.00272383 | 0 |
| var ratio (Tr/Co)..... | 0.33818 | NaN |
| T-test p-value..... | 2.22045e-15 | 1 |

***** (V6) ANI *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00219854 | 0.00039984 |
| mean control..... | 0.00503301 | 0.00039984 |
| std mean diff..... | -6.05163 | 0 |
| mean raw eQQ diff..... | 0.00286766 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00141723 | 0 |
| med eCDF diff..... | 0.00141723 | 0 |
| max eCDF diff..... | 0.00283447 | 0 |
| var ratio (Tr/Co)..... | 0.438084 | 1 |
| T-test p-value..... | 4.8459e-12 | 1 |

***** (V7) APP *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00358457 | 0.00079968 |
| mean control..... | 0.00212448 | 0.00079968 |
| std mean diff..... | 2.44303 | 0 |
| mean raw eQQ diff..... | 0.00143383 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000730044 | 0 |
| med eCDF diff..... | 0.000730044 | 0 |
| max eCDF diff..... | 0.00146009 | 0 |
| var ratio (Tr/Co)..... | 1.68486 | 1 |
| T-test p-value..... | 0.0010202 | 1 |

***** (V8) ART *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00172059 | 0.00059976 |
| mean control..... | 0.00667695 | 0.00059976 |
| std mean diff..... | -11.9588 | 0 |
| mean raw eQQ diff..... | 0.00497061 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00247818 | 0 |
| med eCDF diff..... | 0.00247818 | 0 |
| max eCDF diff..... | 0.00495636 | 0 |
| var ratio (Tr/Co)..... | 0.258987 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V9) AUT *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00277207 | 0.00019992 |

mean control..... 0.00648727 0.00019992
std mean diff..... -7.06598 0

mean raw eQQ diff..... 0.00372795 0
med raw eQQ diff..... 0 0
max raw eQQ diff..... 1 0

mean eCDF diff..... 0.0018576 0
med eCDF diff..... 0.0018576 0
max eCDF diff..... 0.0037152 0

var ratio (Tr/Co)..... 0.428922 1
T-test p-value..... 8.88178e-16 1

***** (V10) AVI *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0243273 | 0.022591 |
| mean control..... | 0.031804 | 0.022591 |
| std mean diff..... | -4.85292 | 0 |
| mean raw eQQ diff..... | 0.0075037 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00373837 | 0 |
| med eCDF diff..... | 0.00373837 | 0 |
| max eCDF diff..... | 0.00747675 | 0 |
| var ratio (Tr/Co)..... | 0.770846 | 1 |
| T-test p-value..... | 1.40269e-09 | 1 |

***** (V11) BAN *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0140515 | 0.00419832 |
| mean control..... | 0.0316902 | 0.00419832 |
| std mean diff..... | -14.9854 | 0 |
| mean raw eQQ diff..... | 0.0176361 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00881935 | 0 |
| med eCDF diff..... | 0.00881935 | 0 |
| max eCDF diff..... | 0.0176387 | 0 |
| var ratio (Tr/Co)..... | 0.451495 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V12) BNK *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00344119 | 0 |
| mean control..... | 0.00900377 | 0 |
| std mean diff..... | -9.49861 | 0 |
| mean raw eQQ diff..... | 0.00559193 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00278129 | 0 |
| med eCDF diff..... | 0.00278129 | 0 |
| max eCDF diff..... | 0.00556258 | 0 |
| var ratio (Tr/Co)..... | 0.384353 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V13) BEV *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00119486 | 0 |
| mean control..... | 0.0043122 | 0 |
| std mean diff..... | -9.02351 | 0 |
| mean raw eQQ diff..... | 0.00310663 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00155867 | 0 |
| med eCDF diff..... | 0.00155867 | 0 |
| max eCDF diff..... | 0.00311734 | 0 |
| var ratio (Tr/Co)..... | 0.277965 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V14) BUD *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.204225 | 0.241303 |
| mean control..... | 0.22254 | 0.241303 |
| std mean diff..... | -4.54298 | 0 |
| mean raw eQQ diff..... | 0.0183052 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00915738 | 0 |
| med eCDF diff..... | 0.00915738 | 0 |
| max eCDF diff..... | 0.0183148 | 0 |
| var ratio (Tr/Co)..... | 0.939353 | 1 |
| T-test p-value..... | 6.51352e-09 | 1 |

***** (V15) CHM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00315442 | 0 |
| mean control..... | 0.00491919 | 0 |
| std mean diff..... | -3.14705 | 0 |
| mean raw eQQ diff..... | 0.00176839 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000882385 | 0 |
| med eCDF diff..... | 0.000882385 | 0 |
| max eCDF diff..... | 0.00176477 | 0 |
| var ratio (Tr/Co)..... | 0.642408 | NaN |
| T-test p-value..... | 0.000127788 | 1 |

***** (V16) CIV *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0025331 | 0 |
| mean control..... | 0.00364197 | 0 |
| std mean diff..... | -2.20596 | 0 |
| mean raw eQQ diff..... | 0.00109927 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000554438 | 0 |
| med eCDF diff..... | 0.000554438 | 0 |
| max eCDF diff..... | 0.00110888 | 0 |
| var ratio (Tr/Co)..... | 0.696327 | NaN |
| T-test p-value..... | 0.00660505 | 1 |

***** (V17) CAW *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0179707 | 0.0147941 |
| mean control..... | 0.0251144 | 0.0147941 |
| std mean diff..... | -5.37742 | 0 |
| mean raw eQQ diff..... | 0.00716914 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00357189 | 0 |
| med eCDF diff..... | 0.00357189 | 0 |
| max eCDF diff..... | 0.00714379 | 0 |
| var ratio (Tr/Co)..... | 0.720819 | 1 |
| T-test p-value..... | 2.91878e-11 | 1 |

***** (V18) CDT *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.000143383 | 0 |
| mean control..... | 0.00128987 | 0 |
| std mean diff..... | -9.57502 | 0 |

mean raw eQQ diff..... 0.00114706 0
med raw eQQ diff..... 0 0
max raw eQQ diff..... 1 0

mean eCDF diff..... 0.000573241 0
med eCDF diff..... 0.000573241 0
max eCDF diff..... 0.00114648 0

var ratio (Tr/Co)..... 0.111293 NaN
T-test p-value..... 4.88498e-14 1

***** (V19) COM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00712135 | 0.00159936 |
| mean control..... | 0.029806 | 0.00159936 |
| std mean diff..... | -26.9769 | 0 |

mean raw eQQ diff..... 0.0227023 0
med raw eQQ diff..... 0 0
max raw eQQ diff..... 1 0

mean eCDF diff..... 0.0113423 0
med eCDF diff..... 0.0113423 0
max eCDF diff..... 0.0226847 0

var ratio (Tr/Co)..... 0.244518 1
T-test p-value..... < 2.22e-16 1

***** (V20) CPI *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00401472 | 0.00019992 |
| mean control..... | 0.0158957 | 0.00019992 |
| std mean diff..... | -18.7883 | 0 |

mean raw eQQ diff..... 0.0119008 0
med raw eQQ diff..... 0 0
max raw eQQ diff..... 1 0

mean eCDF diff..... 0.00594049 0
med eCDF diff..... 0.00594049 0
max eCDF diff..... 0.011881 0

var ratio (Tr/Co)..... 0.255625 1
T-test p-value..... < 2.22e-16 1

***** (V21) CON *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00129045 | 0 |
| mean control..... | 0.00233946 | 0 |
| std mean diff..... | -2.92201 | 0 |

mean raw eQQ diff..... 0.00105147 0
med raw eQQ diff..... 0 0
max raw eQQ diff..... 1 0

mean eCDF diff..... 0.000524508 0
med eCDF diff..... 0.000524508 0
max eCDF diff..... 0.00104902 0

var ratio (Tr/Co)..... 0.552199 NaN
T-test p-value..... 0.000510848 1

***** (V22) CSP *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00511399 | 0.00019992 |
| mean control..... | 0.0204102 | 0.00019992 |
| std mean diff..... | -21.4441 | 0 |

mean raw eQQ diff..... 0.0152942 0
med raw eQQ diff..... 0 0
max raw eQQ diff..... 1 0

mean eCDF diff..... 0.00764812 0
med eCDF diff..... 0.00764812 0
max eCDF diff..... 0.0152962 0

var ratio (Tr/Co)..... 0.254482 1
T-test p-value..... < 2.22e-16 1

***** (V23) CPT *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0162979 | 0.0151939 |
| mean control..... | 0.0339665 | 0.0151939 |
| std mean diff..... | -13.9539 | 0 |

mean raw eQQ diff..... 0.0176839 0
med raw eQQ diff..... 0 0
max raw eQQ diff..... 1 0

mean eCDF diff..... 0.0088343 0
med eCDF diff..... 0.0088343 0
max eCDF diff..... 0.0176686 0

var ratio (Tr/Co)..... 0.488615 1
T-test p-value..... < 2.22e-16 1

***** (V24) DEF *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.129857 | 0.129148 |
| mean control..... | 0.0749134 | 0.129148 |
| std mean diff..... | 16.3448 | 0 |

mean raw eQQ diff..... 0.0549156 0
med raw eQQ diff..... 0 0
max raw eQQ diff..... 1 0

mean eCDF diff..... 0.0274719 0
med eCDF diff..... 0.0274719 0
max eCDF diff..... 0.0549437 0

var ratio (Tr/Co)..... 1.63053 1
T-test p-value..... < 2.22e-16 1

***** (V25) DIS *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00329781 | 0 |
| mean control..... | 0.0104201 | 0 |
| std mean diff..... | -12.4226 | 0 |

mean raw eQQ diff..... 0.00712135 0
med raw eQQ diff..... 0 0
max raw eQQ diff..... 1 0

mean eCDF diff..... 0.00356114 0
med eCDF diff..... 0.00356114 0
max eCDF diff..... 0.00712229 0

var ratio (Tr/Co)..... 0.318774 NaN
T-test p-value..... < 2.22e-16 1

***** (V26) DOC *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.000525737 | 0 |
| mean control..... | 0.00136574 | 0 |
| std mean diff..... | -3.66438 | 0 |

mean raw eQQ diff..... 0.000860297 0
med raw eQQ diff..... 0 0
max raw eQQ diff..... 1 0

mean eCDF diff..... 0.000420001 0
med eCDF diff..... 0.000420001 0
max eCDF diff..... 0.000840003 0

var ratio (Tr/Co)..... 0.385284 NaN
T-test p-value..... 4.4867e-05 1

***** (V27) ECN *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00850738 | 0.00519792 |
| mean control..... | 0.0219151 | 0.00519792 |
| std mean diff..... | -14.5982 | 0 |

mean raw eQQ diff..... 0.0134302 0
med raw eQQ diff..... 0 0
max raw eQQ diff..... 1 0

| | |
|---|---|
| mean eCDF diff..... | 0.00670384 0 |
| med eCDF diff..... | 0.00670384 0 |
| max eCDF diff..... | 0.0134077 0 |
| var ratio (Tr/Co)..... | 0.393533 1 |
| T-test p-value..... | < 2.22e-16 1 |

***** (V28) EDU *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0595995 | 0.062575 |
| mean control..... | 0.0524166 | 0.062575 |
| std mean diff..... | 3.03397 | 0 |
| mean raw eQQ diff..... | 0.00716914 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00359144 | 0 |
| med eCDF diff..... | 0.00359144 | 0 |
| max eCDF diff..... | 0.00718288 | 0 |
| var ratio (Tr/Co)..... | 1.12846 | 1 |
| T-test p-value..... | 7.83644e-05 | 1 |

***** (V29) ENG *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0573054 | 0.0429828 |
| mean control..... | 0.082817 | 0.0429828 |
| std mean diff..... | -10.976 | 0 |
| mean raw eQQ diff..... | 0.0255222 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0127558 | 0 |
| med eCDF diff..... | 0.0127558 | 0 |
| max eCDF diff..... | 0.0255116 | 0 |
| var ratio (Tr/Co)..... | 0.711224 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V30) ENV *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0431105 | 0.0295882 |
| mean control..... | 0.0620527 | 0.0295882 |
| std mean diff..... | -9.32605 | 0 |
| mean raw eQQ diff..... | 0.0189743 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0094711 | 0 |
| med eCDF diff..... | 0.0094711 | 0 |
| max eCDF diff..... | 0.0189422 | 0 |
| var ratio (Tr/Co)..... | 0.708795 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V31) FAM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00277207 | 0 |
| mean control..... | 0.00203596 | 0 |
| std mean diff..... | 1.40001 | 0 |
| mean raw eQQ diff..... | 0.000716914 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000368052 | 0 |
| med eCDF diff..... | 0.000368052 | 0 |
| max eCDF diff..... | 0.000736105 | 0 |
| var ratio (Tr/Co)..... | 1.36059 | NaN |
| T-test p-value..... | 0.0639046 | 1 |

***** (V32) FIN *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0112317 | 0.00559776 |
| mean control..... | 0.0445762 | 0.00559776 |
| std mean diff..... | -31.6407 | 0 |
| mean raw eQQ diff..... | 0.0333604 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0166723 | 0 |
| med eCDF diff..... | 0.0166723 | 0 |
| max eCDF diff..... | 0.0333446 | 0 |
| var ratio (Tr/Co)..... | 0.260768 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V33) FIR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0024853 | 0 |
| mean control..... | 0.00151749 | 0 |
| std mean diff..... | 1.94371 | 0 |
| mean raw eQQ diff..... | 0.000955886 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000483907 | 0 |
| med eCDF diff..... | 0.000483907 | 0 |
| max eCDF diff..... | 0.000967814 | 0 |
| var ratio (Tr/Co)..... | 1.63624 | NaN |
| T-test p-value..... | 0.00909792 | 1 |

***** (V34) FOO *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00305883 | 0 |
| mean control..... | 0.0151496 | 0 |
| std mean diff..... | -21.8943 | 0 |
| mean raw eQQ diff..... | 0.012092 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00604538 | 0 |
| med eCDF diff..... | 0.00604538 | 0 |
| max eCDF diff..... | 0.0120908 | 0 |
| var ratio (Tr/Co)..... | 0.204395 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V35) FOR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0134302 | 0.00379848 |
| mean control..... | 0.0152381 | 0.00379848 |
| std mean diff..... | -1.5706 | 0 |
| mean raw eQQ diff..... | 0.00181618 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000903961 | 0 |
| med eCDF diff..... | 0.000903961 | 0 |
| max eCDF diff..... | 0.00180792 | 0 |
| var ratio (Tr/Co)..... | 0.883004 | 1 |
| T-test p-value..... | 0.046291 | 1 |

***** (V36) FUE *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00602208 | 0.00039984 |
| mean control..... | 0.0152255 | 0.00039984 |
| std mean diff..... | -11.8953 | 0 |
| mean raw eQQ diff..... | 0.0092243 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0046017 | 0 |
| med eCDF diff..... | 0.0046017 | 0 |

max eCDF diff..... 0.00920339 0

var ratio (Tr/Co)..... 0.399237 1
T-test p-value..... < 2.22e-16 1

***** (V37) GAM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00449266 | 0 |
| mean control..... | 0.0137459 | 0 |
| std mean diff..... | -13.836 | 0 |
| mean raw eQQ diff..... | 0.00927209 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00462663 | 0 |
| med eCDF diff..... | 0.00462663 | 0 |
| max eCDF diff..... | 0.00925326 | 0 |

var ratio (Tr/Co)..... 0.329914 NaN
T-test p-value..... < 2.22e-16 1

***** (V38) GOV *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0172059 | 0.00379848 |
| mean control..... | 0.0411366 | 0.00379848 |
| std mean diff..... | -18.4024 | 0 |
| mean raw eQQ diff..... | 0.0239449 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0119653 | 0 |
| med eCDF diff..... | 0.0119653 | 0 |
| max eCDF diff..... | 0.0239307 | 0 |

var ratio (Tr/Co)..... 0.428717 1
T-test p-value..... < 2.22e-16 1

***** (V39) HCR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0887062 | 0.0813675 |
| mean control..... | 0.117315 | 0.0813675 |
| std mean diff..... | -10.0618 | 0 |
| mean raw eQQ diff..... | 0.0286288 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0143042 | 0 |
| med eCDF diff..... | 0.0143042 | 0 |
| max eCDF diff..... | 0.0286083 | 0 |

var ratio (Tr/Co)..... 0.780674 1
T-test p-value..... < 2.22e-16 1

***** (V40) HOU *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0136214 | 0.00719712 |
| mean control..... | 0.0278333 | 0.00719712 |
| std mean diff..... | -12.2605 | 0 |
| mean raw eQQ diff..... | 0.0142427 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00710595 | 0 |
| med eCDF diff..... | 0.00710595 | 0 |
| max eCDF diff..... | 0.0142119 | 0 |

var ratio (Tr/Co)..... 0.496563 1
T-test p-value..... < 2.22e-16 1

***** (V41) IMM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00654782 | 0.00079968 |
| mean control..... | 0.0165027 | 0.00079968 |
| std mean diff..... | -12.3425 | 0 |
| mean raw eQQ diff..... | 0.00998901 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00497744 | 0 |
| med eCDF diff..... | 0.00497744 | 0 |
| max eCDF diff..... | 0.00995488 | 0 |

var ratio (Tr/Co)..... 0.400803 1
T-test p-value..... < 2.22e-16 1

***** (V42) IND *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0236104 | 0.00619752 |
| mean control..... | 0.0164774 | 0.00619752 |
| std mean diff..... | 4.69783 | 0 |
| mean raw eQQ diff..... | 0.00712135 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00356649 | 0 |
| med eCDF diff..... | 0.00356649 | 0 |
| max eCDF diff..... | 0.00713298 | 0 |

var ratio (Tr/Co)..... 1.42255 1
T-test p-value..... 4.44253e-10 1

***** (V43) INS *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0120442 | 0.00019992 |
| mean control..... | 0.0230532 | 0.00019992 |
| std mean diff..... | -10.0921 | 0 |
| mean raw eQQ diff..... | 0.0110405 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00550451 | 0 |
| med eCDF diff..... | 0.00550451 | 0 |
| max eCDF diff..... | 0.011009 | 0 |

var ratio (Tr/Co)..... 0.528357 1
T-test p-value..... < 2.22e-16 1

***** (V44) LBR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0142905 | 0.00119952 |
| mean control..... | 0.0293128 | 0.00119952 |
| std mean diff..... | -12.6569 | 0 |
| mean raw eQQ diff..... | 0.0150552 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00751117 | 0 |
| med eCDF diff..... | 0.00751117 | 0 |
| max eCDF diff..... | 0.0150223 | 0 |

var ratio (Tr/Co)..... 0.495079 1
T-test p-value..... < 2.22e-16 1

***** (V45) LAW *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00970224 | 0.0029988 |
| mean control..... | 0.0261135 | 0.0029988 |
| std mean diff..... | -16.7422 | 0 |
| mean raw eQQ diff..... | 0.0164412 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00820561 | 0 |
| med eCDF diff..... | 0.00820561 | 0 |
| max eCDF diff..... | 0.0164112 | 0 |

var ratio (Tr/Co)..... 0.377816 1

T-test p-value..... < 2.22e-16 1

***** (V46) MAN *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00353678 | 0.00039984 |
| mean control..... | 0.00639875 | 0.00039984 |
| std mean diff..... | -4.82081 | 0 |
| mean raw eQQ diff..... | 0.00286766 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00143098 | 0 |
| med eCDF diff..... | 0.00143098 | 0 |
| max eCDF diff..... | 0.00286197 | 0 |
| var ratio (Tr/Co)..... | 0.554341 | 1 |
| T-test p-value..... | 9.69165e-09 | 1 |

***** (V47) MAR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00640444 | 0.00039984 |
| mean control..... | 0.0214978 | 0.00039984 |
| std mean diff..... | -18.9204 | 0 |
| mean raw eQQ diff..... | 0.015103 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00754666 | 0 |
| med eCDF diff..... | 0.00754666 | 0 |
| max eCDF diff..... | 0.0150933 | 0 |
| var ratio (Tr/Co)..... | 0.302518 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V48) MIA *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00181618 | 0 |
| mean control..... | 0.00302233 | 0 |
| std mean diff..... | -2.83273 | 0 |
| mean raw eQQ diff..... | 0.00119486 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000603075 | 0 |
| med eCDF diff..... | 0.000603075 | 0 |
| max eCDF diff..... | 0.00120615 | 0 |
| var ratio (Tr/Co)..... | 0.601669 | NaN |
| T-test p-value..... | 0.000638755 | 1 |

***** (V49) MED *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0092243 | 0.00279888 |
| mean control..... | 0.0207896 | 0.00279888 |
| std mean diff..... | -12.0974 | 0 |
| mean raw eQQ diff..... | 0.0115662 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00578265 | 0 |
| med eCDF diff..... | 0.00578265 | 0 |
| max eCDF diff..... | 0.0115653 | 0 |
| var ratio (Tr/Co)..... | 0.448954 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V50) MMM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0681069 | 0.0405838 |
| mean control..... | 0.0601052 | 0.0405838 |
| std mean diff..... | 3.17608 | 0 |
| mean raw eQQ diff..... | 0.00798165 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00400083 | 0 |
| med eCDF diff..... | 0.00400083 | 0 |
| max eCDF diff..... | 0.00800166 | 0 |
| var ratio (Tr/Co)..... | 1.12352 | 1 |
| T-test p-value..... | 3.5874e-05 | 1 |

***** (V51) MON *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.000191177 | 0 |
| mean control..... | 0.00192215 | 0 |
| std mean diff..... | -12.52 | 0 |
| mean raw eQQ diff..... | 0.00172059 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000865488 | 0 |
| med eCDF diff..... | 0.000865488 | 0 |
| max eCDF diff..... | 0.00173098 | 0 |
| var ratio (Tr/Co)..... | 0.0996359 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V52) NAT *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0227023 | 0.0261895 |
| mean control..... | 0.0299325 | 0.0261895 |
| std mean diff..... | -4.8539 | 0 |
| mean raw eQQ diff..... | 0.00721694 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00361509 | 0 |
| med eCDF diff..... | 0.00361509 | 0 |
| max eCDF diff..... | 0.00723018 | 0 |
| var ratio (Tr/Co)..... | 0.76413 | 1 |
| T-test p-value..... | 1.45199e-09 | 1 |

***** (V53) PHA *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00678679 | 0.00039984 |
| mean control..... | 0.0164395 | 0.00039984 |
| std mean diff..... | -11.7567 | 0 |
| mean raw eQQ diff..... | 0.00965445 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00482634 | 0 |
| med eCDF diff..... | 0.00482634 | 0 |
| max eCDF diff..... | 0.00965268 | 0 |
| var ratio (Tr/Co)..... | 0.416901 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V54) POS *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00363237 | 0 |
| mean control..... | 0.00730924 | 0 |
| std mean diff..... | -6.11172 | 0 |
| mean raw eQQ diff..... | 0.00368016 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00183844 | 0 |
| med eCDF diff..... | 0.00183844 | 0 |
| max eCDF diff..... | 0.00367687 | 0 |
| var ratio (Tr/Co)..... | 0.498814 | NaN |
| T-test p-value..... | 9.06164e-13 | 1 |

***** (V55) RRR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment | 0.00382354 | 0.00019992 |
| mean control | 0.0117732 | 0.00019992 |
| std mean diff | -12.8806 | 0 |
| mean raw eQQ diff | 0.00798165 | 0 |
| med raw eQQ diff | 0 | 0 |
| max raw eQQ diff | 1 | 0 |
| mean eCDF diff | 0.00397482 | 0 |
| med eCDF diff | 0.00397482 | 0 |
| max eCDF diff | 0.00794964 | 0 |
| var ratio (Tr/Co) | 0.327391 | 1 |
| T-test p-value | < 2.22e-16 | 1 |

***** (V56) RES *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment | 0.00740812 | 0.00079968 |
| mean control | 0.0132527 | 0.00079968 |
| std mean diff | -6.81564 | 0 |
| mean raw eQQ diff | 0.0058787 | 0 |
| med raw eQQ diff | 0 | 0 |
| max raw eQQ diff | 1 | 0 |
| mean eCDF diff | 0.00292231 | 0 |
| med eCDF diff | 0.00292231 | 0 |
| max eCDF diff | 0.00584462 | 0 |
| var ratio (Tr/Co) | 0.562318 | 1 |
| T-test p-value | 4.44089e-16 | 1 |

***** (V57) REL *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment | 0 | 0 |
| mean control | 0.000303498 | 0 |
| std mean diff | -Inf | 0 |
| mean raw eQQ diff | 0.00033456 | 0 |
| med raw eQQ diff | 0 | 0 |
| max raw eQQ diff | 1 | 0 |
| mean eCDF diff | 0.000151749 | 0 |
| med eCDF diff | 0.000151749 | 0 |
| max eCDF diff | 0.000303498 | 0 |
| var ratio (Tr/Co) | 0 | NaN |
| T-test p-value | 9.61764e-07 | 1 |

***** (V58) RET *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment | 0.00344119 | 0.00019992 |
| mean control | 0.0154405 | 0.00019992 |
| std mean diff | -20.4898 | 0 |
| mean raw eQQ diff | 0.0119964 | 0 |
| med raw eQQ diff | 0 | 0 |
| max raw eQQ diff | 1 | 0 |
| mean eCDF diff | 0.00599963 | 0 |
| med eCDF diff | 0.00599963 | 0 |
| max eCDF diff | 0.0119993 | 0 |
| var ratio (Tr/Co) | 0.225593 | 1 |
| T-test p-value | < 2.22e-16 | 1 |

***** (V59) ROD *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment | 0.00382354 | 0 |
| mean control | 0.0125193 | 0 |
| std mean diff | -14.0895 | 0 |
| mean raw eQQ diff | 0.00869856 | 0 |
| med raw eQQ diff | 0 | 0 |
| max raw eQQ diff | 1 | 0 |
| mean eCDF diff | 0.00434787 | 0 |
| med eCDF diff | 0.00434787 | 0 |
| max eCDF diff | 0.00869574 | 0 |
| var ratio (Tr/Co) | 0.308113 | NaN |
| T-test p-value | < 2.22e-16 | 1 |

***** (V60) SCI *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment | 0.0120442 | 0.00419832 |
| mean control | 0.0228129 | 0.00419832 |
| std mean diff | -9.87184 | 0 |
| mean raw eQQ diff | 0.0108015 | 0 |
| med raw eQQ diff | 0 | 0 |
| max raw eQQ diff | 1 | 0 |
| mean eCDF diff | 0.00538438 | 0 |
| med eCDF diff | 0.00538438 | 0 |
| max eCDF diff | 0.0107688 | 0 |
| var ratio (Tr/Co) | 0.53379 | 1 |
| T-test p-value | < 2.22e-16 | 1 |

***** (V61) SMB *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment | 0.00822062 | 0.00139944 |
| mean control | 0.00686664 | 0.00139944 |
| std mean diff | 1.49949 | 0 |
| mean raw eQQ diff | 0.00133824 | 0 |
| med raw eQQ diff | 0 | 0 |
| max raw eQQ diff | 1 | 0 |
| mean eCDF diff | 0.00067699 | 0 |
| med eCDF diff | 0.00067699 | 0 |
| max eCDF diff | 0.00135398 | 0 |
| var ratio (Tr/Co) | 1.19559 | 1 |
| T-test p-value | 0.0496959 | 1 |

***** (V62) SPO *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment | 0.000382354 | 0 |
| mean control | 0.00161865 | 0 |
| std mean diff | -6.32359 | 0 |
| mean raw eQQ diff | 0.00124265 | 0 |
| med raw eQQ diff | 0 | 0 |
| max raw eQQ diff | 1 | 0 |
| mean eCDF diff | 0.00061815 | 0 |
| med eCDF diff | 0.00061815 | 0 |
| max eCDF diff | 0.0012363 | 0 |
| var ratio (Tr/Co) | 0.236518 | NaN |
| T-test p-value | 3.31661e-10 | 1 |

***** (V63) TAX *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment | 0.0644745 | 0.0503798 |
| mean control | 0.125471 | 0.0503798 |
| std mean diff | -24.8355 | 0 |
| mean raw eQQ diff | 0.0609855 | 0 |
| med raw eQQ diff | 0 | 0 |
| max raw eQQ diff | 1 | 0 |
| mean eCDF diff | 0.0304983 | 0 |
| med eCDF diff | 0.0304983 | 0 |
| max eCDF diff | 0.0609966 | 0 |
| var ratio (Tr/Co) | 0.54972 | 1 |
| T-test p-value | < 2.22e-16 | 1 |

***** (V64) TEC *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment | 0.0380443 | 0.0601759 |

mean control..... 0.0580945 0.0601759
std mean diff..... -10.4806 0

mean raw eQQ diff..... 0.0200736 0
med raw eQQ diff..... 0 0
max raw eQQ diff..... 1 0

mean eCDF diff..... 0.0100251 0
med eCDF diff..... 0.0100251 0
max eCDF diff..... 0.0200503 0

var ratio (Tr/Co)..... 0.668832 1
T-test p-value..... < 2.22e-16 1

***** (V65) TOB *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00597429 | 0.00139944 |
| mean control..... | 0.00980045 | 0.00139944 |
| std mean diff..... | -4.96491 | 0 |
| mean raw eQQ diff..... | 0.00382354 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00191308 | 0 |
| med eCDF diff..... | 0.00191308 | 0 |
| max eCDF diff..... | 0.00382616 | 0 |
| var ratio (Tr/Co)..... | 0.61197 | 1 |
| T-test p-value..... | 1.98178e-09 | 1 |

***** (V66) TOR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00258089 | 0.00019992 |
| mean control..... | 0.0125066 | 0.00019992 |
| std mean diff..... | -19.5627 | 0 |
| mean raw eQQ diff..... | 0.00994121 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00496287 | 0 |
| med eCDF diff..... | 0.00496287 | 0 |
| max eCDF diff..... | 0.00992575 | 0 |
| var ratio (Tr/Co)..... | 0.208443 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V67) TRD *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0640444 | 0.0485806 |
| mean control..... | 0.0611042 | 0.0485806 |
| std mean diff..... | 1.20085 | 0 |
| mean raw eQQ diff..... | 0.00291545 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00147006 | 0 |
| med eCDF diff..... | 0.00147006 | 0 |
| max eCDF diff..... | 0.00294013 | 0 |
| var ratio (Tr/Co)..... | 1.04487 | 1 |
| T-test p-value..... | 0.120763 | 1 |

***** (V68) TRA *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0560627 | 0.0635746 |
| mean control..... | 0.0927692 | 0.0635746 |
| std mean diff..... | -15.956 | 0 |
| mean raw eQQ diff..... | 0.036706 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0183532 | 0 |
| med eCDF diff..... | 0.0183532 | 0 |
| max eCDF diff..... | 0.0367065 | 0 |
| var ratio (Tr/Co)..... | 0.628798 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V69) TOU *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.000764709 | 0 |
| mean control..... | 0.00571588 | 0 |
| std mean diff..... | -17.9108 | 0 |
| mean raw eQQ diff..... | 0.00497061 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00247558 | 0 |
| med eCDF diff..... | 0.00247558 | 0 |
| max eCDF diff..... | 0.00495117 | 0 |
| var ratio (Tr/Co)..... | 0.134458 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V70) TRU *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00152942 | 0.00039984 |
| mean control..... | 0.00282 | 0.00039984 |
| std mean diff..... | -3.30252 | 0 |
| mean raw eQQ diff..... | 0.00129045 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000645292 | 0 |
| med eCDF diff..... | 0.000645292 | 0 |
| max eCDF diff..... | 0.00129058 | 0 |
| var ratio (Tr/Co)..... | 0.543068 | 1 |
| T-test p-value..... | 8.97358e-05 | 1 |

***** (V71) UNM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0 | 0 |
| mean control..... | 0.000569058 | 0 |
| std mean diff..... | -Inf | 0 |
| mean raw eQQ diff..... | 0.000573532 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000284529 | 0 |
| med eCDF diff..... | 0.000284529 | 0 |
| max eCDF diff..... | 0.000569058 | 0 |
| var ratio (Tr/Co)..... | 0 | NaN |
| T-test p-value..... | 1.95834e-11 | 1 |

***** (V72) URB *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00382354 | 0.00019992 |
| mean control..... | 0.0136321 | 0.00019992 |
| std mean diff..... | -15.8926 | 0 |
| mean raw eQQ diff..... | 0.00979783 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00490428 | 0 |
| med eCDF diff..... | 0.00490428 | 0 |
| max eCDF diff..... | 0.00980857 | 0 |
| var ratio (Tr/Co)..... | 0.28328 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V73) UTI *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0161545 | 0.00619752 |
| mean control..... | 0.0159589 | 0.00619752 |
| std mean diff..... | 0.155105 | 0 |

mean raw eQQ diff..... 0.000191177 0
med raw eQQ diff..... 0 0
max raw eQQ diff..... 1 0

mean eCDF diff..... 9.77723e-05 0
med eCDF diff..... 9.77723e-05 0
max eCDF diff..... 0.000195545 0

var ratio (Tr/Co)..... 1.01209 1
T-test p-value..... 0.84167 1

***** (V74) VET *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00473164 | 0.00059976 |
| mean control..... | 0.00632287 | 0.00059976 |
| std mean diff..... | -2.31872 | 0 |
| mean raw eQQ diff..... | 0.00162501 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000795618 | 0 |
| med eCDF diff..... | 0.000795618 | 0 |
| max eCDF diff..... | 0.00159124 | 0 |
| var ratio (Tr/Co)..... | 0.749561 | 1 |
| T-test p-value..... | 0.00393564 | 1 |

***** (V75) WAS *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00329781 | 0.00039984 |
| mean control..... | 0.0104201 | 0.00039984 |
| std mean diff..... | -12.4226 | 0 |
| mean raw eQQ diff..... | 0.00712135 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00356114 | 0 |
| med eCDF diff..... | 0.00356114 | 0 |
| max eCDF diff..... | 0.00712229 | 0 |
| var ratio (Tr/Co)..... | 0.318774 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V76) WEL *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00143383 | 0 |
| mean control..... | 0.00361668 | 0 |
| std mean diff..... | -5.76869 | 0 |
| mean raw eQQ diff..... | 0.00219854 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00109143 | 0 |
| med eCDF diff..... | 0.00109143 | 0 |
| max eCDF diff..... | 0.00218285 | 0 |
| var ratio (Tr/Co)..... | 0.397331 | NaN |
| T-test p-value..... | 1.02246e-10 | 1 |

***** (V77) HOM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0108971 | 0.00219912 |
| mean control..... | 0.0322972 | 0.00219912 |
| std mean diff..... | -20.6125 | 0 |
| mean raw eQQ diff..... | 0.0214118 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0107001 | 0 |
| med eCDF diff..... | 0.0107001 | 0 |
| max eCDF diff..... | 0.0214001 | 0 |
| var ratio (Tr/Co)..... | 0.344874 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V78) INT *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 9.55886e-05 | 0 |
| mean control..... | 0.000733453 | 0 |
| std mean diff..... | -6.52433 | 0 |
| mean raw eQQ diff..... | 0.00066912 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000318932 | 0 |
| med eCDF diff..... | 0.000318932 | 0 |
| max eCDF diff..... | 0.000637864 | 0 |
| var ratio (Tr/Co)..... | 0.130415 | NaN |
| T-test p-value..... | 5.88699e-08 | 1 |

***** (V79) n_reports *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 15.383 | 16.5994 |
| mean control..... | 33.753 | 16.8875 |
| std mean diff..... | -101.085 | -2.31394 |
| mean raw eQQ diff..... | 18.3857 | 0.50598 |
| med raw eQQ diff..... | 16.5 | 0.333333 |
| max raw eQQ diff..... | 579.5 | 8.66667 |
| mean eCDF diff..... | 0.173761 | 0.00843823 |
| med eCDF diff..... | 0.150386 | 0.0072324 |
| max eCDF diff..... | 0.395747 | 0.0224204 |
| var ratio (Tr/Co)..... | 0.389509 | 0.991397 |
| T-test p-value..... | < 2.22e-16 | 4.61853e-14 |
| KS Bootstrap p-value.. | < 2.22e-16 | 0.014 |
| KS Naive p-value..... | < 2.22e-16 | 0.0308981 |
| KS Statistic..... | 0.395747 | 0.0224204 |

***** (V80) nyears *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 6.71137 | 8.6188 |
| mean control..... | 8.04776 | 8.62354 |
| std mean diff..... | -49.1171 | -0.225923 |
| mean raw eQQ diff..... | 1.33864 | 0.0210365 |
| med raw eQQ diff..... | 1.4 | 0 |
| max raw eQQ diff..... | 3 | 0.5 |
| mean eCDF diff..... | 0.179295 | 0.00306016 |
| med eCDF diff..... | 0.190493 | 0.00108486 |
| max eCDF diff..... | 0.258932 | 0.015188 |
| var ratio (Tr/Co)..... | 2.26376 | 1.00928 |
| T-test p-value..... | < 2.22e-16 | 0.0241209 |
| KS Bootstrap p-value.. | < 2.22e-16 | 0.071 |
| KS Naive p-value..... | < 2.22e-16 | 0.294145 |
| KS Statistic..... | 0.258932 | 0.015188 |

***** (V81) tenure *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 3.33023 | 4.66887 |
| mean control..... | 4.17278 | 4.67241 |
| std mean diff..... | -33.6594 | -0.135284 |
| mean raw eQQ diff..... | 0.842504 | 0.0115776 |
| med raw eQQ diff..... | 1 | 0 |
| max raw eQQ diff..... | 1.5 | 0.5 |
| mean eCDF diff..... | 0.112499 | 0.00138621 |
| med eCDF diff..... | 0.127523 | 0.00102459 |
| max eCDF diff..... | 0.164066 | 0.00566538 |
| var ratio (Tr/Co)..... | 1.06155 | 0.996001 |
| T-test p-value..... | < 2.22e-16 | 0.0495176 |
| KS Bootstrap p-value.. | < 2.22e-16 | 0.96 |
| KS Naive p-value..... | < 2.22e-16 | 0.999351 |
| KS Statistic..... | 0.164066 | 0.00566538 |

***** (V82) n_lobbyists *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 2.18324 | 1.5076 |
| mean control..... | 3.59995 | 1.5076 |
| std mean diff..... | -79.8897 | 0 |
| mean raw eQQ diff..... | 1.41853 | 0 |
| med raw eQQ diff..... | 1 | 0 |
| max raw eQQ diff..... | 70 | 0 |
| mean eCDF diff..... | 0.0239751 | 0 |
| med eCDF diff..... | 0.00068287 | 0 |
| max eCDF diff..... | 0.227757 | 0 |
| var ratio (Tr/Co)..... | 0.269778 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |
| KS Bootstrap p-value.. | < 2.22e-16 | 1 |
| KS Naive p-value..... | < 2.22e-16 | 1 |
| KS Statistic..... | 0.227757 | 2.71051e-20 |

***** (V83) factor(typer)2 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.000573532 | 0 |
| mean control..... | 0.000189686 | 0 |
| std mean diff..... | 1.60322 | 0 |
| mean raw eQQ diff..... | 0.000382354 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000191923 | 0 |
| med eCDF diff..... | 0.000191923 | 0 |
| max eCDF diff..... | 0.000383845 | 0 |
| var ratio (Tr/Co)..... | 3.02253 | NaN |
| T-test p-value..... | 0.0261758 | 1 |

***** (V84) factor(typer)3 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.392343 | 0.365454 |
| mean control..... | 0.407762 | 0.365454 |
| std mean diff..... | -3.15771 | 0 |
| mean raw eQQ diff..... | 0.0154376 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0077093 | 0 |
| med eCDF diff..... | 0.0077093 | 0 |
| max eCDF diff..... | 0.0154186 | 0 |
| var ratio (Tr/Co)..... | 0.987272 | 1 |
| T-test p-value..... | 4.99807e-05 | 1 |

***** (V85) factor(typer)4 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0718826 | 0.0827669 |
| mean control..... | 0.0634816 | 0.0827669 |
| std mean diff..... | 3.25242 | 0 |
| mean raw eQQ diff..... | 0.0084118 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0042005 | 0 |
| med eCDF diff..... | 0.0042005 | 0 |
| max eCDF diff..... | 0.00840099 | 0 |
| var ratio (Tr/Co)..... | 1.12222 | 1 |
| T-test p-value..... | 2.32237e-05 | 1 |

***** (V86) factor(typer)5 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0700664 | 0.0759696 |
| mean control..... | 0.0610284 | 0.0759696 |
| std mean diff..... | 3.54067 | 0 |
| mean raw eQQ diff..... | 0.00903312 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00451904 | 0 |
| med eCDF diff..... | 0.00451904 | 0 |
| max eCDF diff..... | 0.00903808 | 0 |
| var ratio (Tr/Co)..... | 1.13709 | 1 |
| T-test p-value..... | 3.98736e-06 | 1 |

***** (V87) factor(typer)6 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.39588 | 0.396042 |
| mean control..... | 0.406282 | 0.396042 |
| std mean diff..... | -2.12703 | 0 |
| mean raw eQQ diff..... | 0.0104192 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00520114 | 0 |
| med eCDF diff..... | 0.00520114 | 0 |
| max eCDF diff..... | 0.0104023 | 0 |
| var ratio (Tr/Co)..... | 0.991503 | 1 |
| T-test p-value..... | 0.00626937 | 1 |

***** (V88) factor(Year)2000 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0631841 | 0.0531787 |
| mean control..... | 0.058398 | 0.0531787 |
| std mean diff..... | 1.96713 | 0 |
| mean raw eQQ diff..... | 0.00477943 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00239301 | 0 |
| med eCDF diff..... | 0.00239301 | 0 |
| max eCDF diff..... | 0.00478602 | 0 |
| var ratio (Tr/Co)..... | 1.07649 | 1 |
| T-test p-value..... | 0.0107981 | 1 |

***** (V89) factor(Year)2001 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0703532 | 0.0657737 |
| mean control..... | 0.0671236 | 0.0657737 |
| std mean diff..... | 1.26281 | 0 |
| mean raw eQQ diff..... | 0.00320222 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0016148 | 0 |
| med eCDF diff..... | 0.0016148 | 0 |
| max eCDF diff..... | 0.0032296 | 0 |
| var ratio (Tr/Co)..... | 1.04452 | 1 |
| T-test p-value..... | 0.102768 | 1 |

***** (V90) factor(Year)2002 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0803422 | 0.0679728 |
| mean control..... | 0.0735476 | 0.0679728 |
| std mean diff..... | 2.49958 | 0 |
| mean raw eQQ diff..... | 0.00678679 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00339729 | 0 |
| med eCDF diff..... | 0.00339729 | 0 |
| max eCDF diff..... | 0.00679457 | 0 |
| var ratio (Tr/Co)..... | 1.08441 | 1 |
| T-test p-value..... | 0.0011895 | 1 |

***** (V91) factor(Year)2003 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0727429 | 0.0669732 |
| mean control..... | 0.0952857 | 0.0669732 |
| std mean diff..... | -8.67963 | 0 |
| mean raw eQQ diff..... | 0.0225589 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0112714 | 0 |
| med eCDF diff..... | 0.0112714 | 0 |
| max eCDF diff..... | 0.0225428 | 0 |
| var ratio (Tr/Co)..... | 0.782469 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V92) factor(Year)2004 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0783826 | 0.0811675 |
| mean control..... | 0.102013 | 0.0811675 |
| std mean diff..... | -8.79181 | 0 |
| mean raw eQQ diff..... | 0.0236582 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0118153 | 0 |
| med eCDF diff..... | 0.0118153 | 0 |
| max eCDF diff..... | 0.0236306 | 0 |
| var ratio (Tr/Co)..... | 0.788605 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V93) factor(Year)2005 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0985996 | 0.111156 |
| mean control..... | 0.117138 | 0.111156 |
| std mean diff..... | -6.21804 | 0 |
| mean raw eQQ diff..... | 0.0185442 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00926894 | 0 |
| med eCDF diff..... | 0.00926894 | 0 |
| max eCDF diff..... | 0.0185379 | 0 |
| var ratio (Tr/Co)..... | 0.859447 | 1 |
| T-test p-value..... | 3.77476e-15 | 1 |

***** (V94) factor(Year)2006 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.116427 | 0.127149 |
| mean control..... | 0.115595 | 0.127149 |
| std mean diff..... | 0.25945 | 0 |
| mean raw eQQ diff..... | 0.000812503 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000416085 | 0 |
| med eCDF diff..... | 0.000416085 | 0 |
| max eCDF diff..... | 0.000832169 | 0 |
| var ratio (Tr/Co)..... | 1.00629 | 1 |
| T-test p-value..... | 0.738423 | 1 |

***** (V95) factor(Year)2007 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.137552 | 0.139544 |
| mean control..... | 0.129859 | 0.139544 |
| std mean diff..... | 2.23345 | 0 |
| mean raw eQQ diff..... | 0.00769488 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00384642 | 0 |
| med eCDF diff..... | 0.00384642 | 0 |
| max eCDF diff..... | 0.00769285 | 0 |
| var ratio (Tr/Co)..... | 1.04991 | 1 |
| T-test p-value..... | 0.00388876 | 1 |

***** (V96) factor(Year)2008 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.21192 | 0.238505 |
| mean control..... | 0.186069 | 0.238505 |
| std mean diff..... | 6.32538 | 0 |
| mean raw eQQ diff..... | 0.0258567 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0129252 | 0 |
| med eCDF diff..... | 0.0129252 | 0 |
| max eCDF diff..... | 0.0258504 | 0 |
| var ratio (Tr/Co)..... | 1.1028 | 1 |
| T-test p-value..... | 2.22045e-16 | 1 |

*Notes:* The figure shows balancing results for the first specification of hypothesis 1, summarised in Table 4.1. The figure includes all matching variables which include the covered issues, denoted by their codes (see Table A.1) and other variables summarised in Table 4.1.

## Figure A.2: Balancing results H1 – Specification 2

***** (V1) ACC *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00115804 | 0 |
| mean control..... | 0.00477601 | 0 |
| std mean diff..... | -10.6375 | 0 |
| mean raw eQQ diff..... | 0.00361035 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00180898 | 0 |
| med eCDF diff..... | 0.00180898 | 0 |
| max eCDF diff..... | 0.00361797 | 0 |
| var ratio (Tr/Co)..... | 0.243365 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V2) ADV *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00013624 | 0 |
| mean control..... | 0.00406643 | 0 |
| std mean diff..... | -33.6726 | 0 |
| mean raw eQQ diff..... | 0.00395095 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00196509 | 0 |
| med eCDF diff..... | 0.00196509 | 0 |
| max eCDF diff..... | 0.00393019 | 0 |
| var ratio (Tr/Co)..... | 0.0336376 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V3) AER *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0013624 | 0.000605327 |
| mean control..... | 0.00593589 | 0.000605327 |
| std mean diff..... | -12.3987 | 0 |
| mean raw eQQ diff..... | 0.00456403 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00228675 | 0 |
| med eCDF diff..... | 0.00228675 | 0 |
| max eCDF diff..... | 0.00457349 | 0 |
| var ratio (Tr/Co)..... | 0.230587 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V4) AGR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0432561 | 0.0360169 |
| mean control..... | 0.0325996 | 0.0360169 |
| std mean diff..... | 5.23814 | 0 |
| mean raw eQQ diff..... | 0.0106267 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00532824 | 0 |
| med eCDF diff..... | 0.00532824 | 0 |
| max eCDF diff..... | 0.0106565 | 0 |
| var ratio (Tr/Co)..... | 1.31234 | 1 |
| T-test p-value..... | 3.44809e-09 | 1 |

***** (V5) ALC *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00156676 | 0 |
| mean control..... | 0.00379351 | 0 |
| std mean diff..... | -5.62986 | 0 |
| mean raw eQQ diff..... | 0.00224796 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00111338 | 0 |
| med eCDF diff..... | 0.00111338 | 0 |
| max eCDF diff..... | 0.00222676 | 0 |
| var ratio (Tr/Co)..... | 0.413955 | NaN |
| T-test p-value..... | 2.16691e-08 | 1 |

***** (V6) ANI *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00279292 | 0.000605327 |
| mean control..... | 0.0052809 | 0.000605327 |
| std mean diff..... | -4.71423 | 0 |
| mean raw eQQ diff..... | 0.00252044 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00124399 | 0 |
| med eCDF diff..... | 0.00124399 | 0 |
| max eCDF diff..... | 0.00248798 | 0 |
| var ratio (Tr/Co)..... | 0.530223 | 1 |
| T-test p-value..... | 1.14465e-06 | 1 |

***** (V7) APP *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00497275 | 0.00121065 |
| mean control..... | 0.00219696 | 0.00121065 |
| std mean diff..... | 3.94599 | 0 |
| mean raw eQQ diff..... | 0.0027248 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00138789 | 0 |
| med eCDF diff..... | 0.00138789 | 0 |
| max eCDF diff..... | 0.00277579 | 0 |
| var ratio (Tr/Co)..... | 2.25729 | 1 |
| T-test p-value..... | 4.63728e-06 | 1 |

***** (V8) ART *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00245232 | 0.000605327 |
| mean control..... | 0.00660453 | 0.000605327 |
| std mean diff..... | -8.3948 | 0 |
| mean raw eQQ diff..... | 0.00415531 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00207611 | 0 |

med eCDF diff..... 0.00207611 0
max eCDF diff..... 0.00415222 0

var ratio (Tr/Co)..... 0.37288 1
T-test p-value..... 2.22045e-16 1

***** (V9) AUT *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00252044 | 0.000302663 |
| mean control..... | 0.00654995 | 0.000302663 |
| std mean diff..... | -8.03615 | 0 |
| mean raw eQQ diff..... | 0.00401907 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00201476 | 0 |
| med eCDF diff..... | 0.00201476 | 0 |
| max eCDF diff..... | 0.00402951 | 0 |
| var ratio (Tr/Co)..... | 0.386384 | 1 |
| T-test p-value..... | 2.88658e-15 | 1 |

***** (V10) AVI *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0265668 | 0.0329903 |
| mean control..... | 0.0325996 | 0.0329903 |
| std mean diff..... | -3.75136 | 0 |
| mean raw eQQ diff..... | 0.00606267 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00301645 | 0 |
| med eCDF diff..... | 0.00301645 | 0 |
| max eCDF diff..... | 0.00603289 | 0 |
| var ratio (Tr/Co)..... | 0.820067 | 1 |
| T-test p-value..... | 4.62357e-05 | 1 |

***** (V11) BAN *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0114441 | 0.00151332 |
| mean control..... | 0.0313852 | 0.00151332 |
| std mean diff..... | -18.7474 | 0 |
| mean raw eQQ diff..... | 0.0199591 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00997052 | 0 |
| med eCDF diff..... | 0.00997052 | 0 |
| max eCDF diff..... | 0.019941 | 0 |
| var ratio (Tr/Co)..... | 0.372162 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V12) BNK *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00231608 | 0 |
| mean control..... | 0.00921087 | 0 |
| std mean diff..... | -14.3428 | 0 |
| mean raw eQQ diff..... | 0.00694823 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0034474 | 0 |
| med eCDF diff..... | 0.0034474 | 0 |
| max eCDF diff..... | 0.00689479 | 0 |
| var ratio (Tr/Co)..... | 0.253214 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V13) BEV *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00163488 | 0 |
| mean control..... | 0.00438028 | 0 |
| std mean diff..... | -6.79522 | 0 |
| mean raw eQQ diff..... | 0.00279292 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0013727 | 0 |
| med eCDF diff..... | 0.0013727 | 0 |
| max eCDF diff..... | 0.0027454 | 0 |
| var ratio (Tr/Co)..... | 0.374285 | NaN |
| T-test p-value..... | 3.08331e-11 | 1 |

***** (V14) BUD *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.202657 | 0.252421 |
| mean control..... | 0.223094 | 0.252421 |
| std mean diff..... | -5.08401 | 0 |
| mean raw eQQ diff..... | 0.020436 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0102187 | 0 |
| med eCDF diff..... | 0.0102187 | 0 |
| max eCDF diff..... | 0.0204374 | 0 |
| var ratio (Tr/Co)..... | 0.932338 | 1 |
| T-test p-value..... | 2.31614e-08 | 1 |

***** (V15) CHM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00320163 | 0 |
| mean control..... | 0.00515809 | 0 |
| std mean diff..... | -3.4631 | 0 |
| mean raw eQQ diff..... | 0.00197548 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000978225 | 0 |
| med eCDF diff..... | 0.000978225 | 0 |
| max eCDF diff..... | 0.00195645 | 0 |
| var ratio (Tr/Co)..... | 0.621957 | NaN |
| T-test p-value..... | 0.00026358 | 1 |

***** (V16) CIV *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00326975 | 0 |
| mean control..... | 0.0038481 | 0 |
| std mean diff..... | -1.01303 | 0 |
| mean raw eQQ diff..... | 0.000613079 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00028917 | 0 |
| med eCDF diff..... | 0.00028917 | 0 |
| max eCDF diff..... | 0.000578341 | 0 |
| var ratio (Tr/Co)..... | 0.850247 | NaN |
| T-test p-value..... | 0.26952 | 1 |

***** (V17) CAW *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0237057 | 0.0184625 |
| mean control..... | 0.0241802 | 0.0184625 |
| std mean diff..... | -0.311899 | 0 |
| mean raw eQQ diff..... | 0.000476839 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000237255 | 0 |
| med eCDF diff..... | 0.000237255 | 0 |
| max eCDF diff..... | 0.000474511 | 0 |

var ratio (Tr/Co)..... 0.980906 1
T-test p-value..... 0.730572 1

***** (V18) CDT *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0 | 0 |
| mean control..... | 0.00126905 | 0 |
| std mean diff..... | -Inf | 0 |
| mean raw eQQ diff..... | 0.00129428 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000634526 | 0 |
| med eCDF diff..... | 0.000634526 | 0 |
| max eCDF diff..... | 0.00126905 | 0 |
| var ratio (Tr/Co)..... | 0 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V19) COM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00606267 | 0.00181598 |
| mean control..... | 0.030853 | 0.00181598 |
| std mean diff..... | -31.9342 | 0 |
| mean raw eQQ diff..... | 0.0247956 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0123952 | 0 |
| med eCDF diff..... | 0.0123952 | 0 |
| max eCDF diff..... | 0.0247903 | 0 |
| var ratio (Tr/Co)..... | 0.201539 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V20) CPI *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00299728 | 0.000302663 |
| mean control..... | 0.0159655 | 0.000302663 |
| std mean diff..... | -23.7222 | 0 |
| mean raw eQQ diff..... | 0.0130109 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00648411 | 0 |
| med eCDF diff..... | 0.00648411 | 0 |
| max eCDF diff..... | 0.0129682 | 0 |
| var ratio (Tr/Co)..... | 0.190219 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V21) CON *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.000749319 | 0 |
| mean control..... | 0.00252446 | 0 |
| std mean diff..... | -6.48705 | 0 |
| mean raw eQQ diff..... | 0.00177112 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000887571 | 0 |
| med eCDF diff..... | 0.000887571 | 0 |
| max eCDF diff..... | 0.00177514 | 0 |
| var ratio (Tr/Co)..... | 0.297368 | NaN |
| T-test p-value..... | 1.24812e-09 | 1 |

***** (V22) CSP *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00517711 | 0 |
| mean control..... | 0.0207688 | 0 |
| std mean diff..... | -21.7251 | 0 |
| mean raw eQQ diff..... | 0.0155995 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00779584 | 0 |
| med eCDF diff..... | 0.00779584 | 0 |
| max eCDF diff..... | 0.0155917 | 0 |
| var ratio (Tr/Co)..... | 0.253256 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V23) CPT *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0115804 | 0.00484262 |
| mean control..... | 0.0347693 | 0.00484262 |
| std mean diff..... | -21.6737 | 0 |
| mean raw eQQ diff..... | 0.0232289 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0115945 | 0 |
| med eCDF diff..... | 0.0115945 | 0 |
| max eCDF diff..... | 0.0231889 | 0 |
| var ratio (Tr/Co)..... | 0.341083 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V24) DEF *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.10579 | 0.0959443 |
| mean control..... | 0.072759 | 0.0959443 |
| std mean diff..... | 10.7391 | 0 |
| mean raw eQQ diff..... | 0.0330381 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0165156 | 0 |
| med eCDF diff..... | 0.0165156 | 0 |
| max eCDF diff..... | 0.0330312 | 0 |
| var ratio (Tr/Co)..... | 1.40226 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V25) DIS *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00367847 | 0 |
| mean control..... | 0.00979763 | 0 |
| std mean diff..... | -10.1075 | 0 |
| mean raw eQQ diff..... | 0.00613079 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00305958 | 0 |
| med eCDF diff..... | 0.00305958 | 0 |
| max eCDF diff..... | 0.00611916 | 0 |
| var ratio (Tr/Co)..... | 0.377786 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V26) DOC *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.000681199 | 0 |
| mean control..... | 0.0014328 | 0 |
| std mean diff..... | -2.88061 | 0 |
| mean raw eQQ diff..... | 0.000749319 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000375801 | 0 |
| med eCDF diff..... | 0.000375801 | 0 |
| max eCDF diff..... | 0.000751603 | 0 |
| var ratio (Tr/Co)..... | 0.475815 | NaN |
| T-test p-value..... | 0.00341573 | 1 |

***** (V27) ECN *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment | 0.0099455 | 0.00786925 |
| mean control | 0.0210963 | 0.00786925 |
| std mean diff | -11.2369 | 0 |
| mean raw eQQ diff | 0.0111717 | 0 |
| med raw eQQ diff | 0 | 0 |
| max raw eQQ diff | 1 | 0 |
| mean eCDF diff | 0.0055754 | 0 |
| med eCDF diff | 0.0055754 | 0 |
| max eCDF diff | 0.0111508 | 0 |
| var ratio (Tr/Co) | 0.47683 | 1 |
| T-test p-value | < 2.22e-16 | 1 |

***** (V28) EDU *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment | 0.0628065 | 0.0750605 |
| mean control | 0.0526043 | 0.0750605 |
| std mean diff | 4.20498 | 0 |
| mean raw eQQ diff | 0.010218 | 0 |
| med raw eQQ diff | 0 | 0 |
| max raw eQQ diff | 1 | 0 |
| mean eCDF diff | 0.00510113 | 0 |
| med eCDF diff | 0.00510113 | 0 |
| max eCDF diff | 0.0102023 | 0 |
| var ratio (Tr/Co) | 1.18115 | 1 |
| T-test p-value | 2.48216e-06 | 1 |

***** (V29) ENG *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment | 0.0629428 | 0.0535714 |
| mean control | 0.0838394 | 0.0535714 |
| std mean diff | -8.60408 | 0 |
| mean raw eQQ diff | 0.0209128 | 0 |
| med raw eQQ diff | 0 | 0 |
| max raw eQQ diff | 1 | 0 |
| mean eCDF diff | 0.0104483 | 0 |
| med eCDF diff | 0.0104483 | 0 |
| max eCDF diff | 0.0208966 | 0 |
| var ratio (Tr/Co) | 0.76792 | 1 |
| T-test p-value | < 2.22e-16 | 1 |

***** (V30) ENV *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment | 0.0449591 | 0.0390436 |
| mean control | 0.0634526 | 0.0390436 |
| std mean diff | -8.92452 | 0 |
| mean raw eQQ diff | 0.0185286 | 0 |
| med raw eQQ diff | 0 | 0 |
| max raw eQQ diff | 1 | 0 |
| mean eCDF diff | 0.00924676 | 0 |
| med eCDF diff | 0.00924676 | 0 |
| max eCDF diff | 0.0184935 | 0 |
| var ratio (Tr/Co) | 0.722577 | 1 |
| T-test p-value | < 2.22e-16 | 1 |

***** (V31) FAM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment | 0.00374659 | 0 |
| mean control | 0.00181488 | 0 |
| std mean diff | 3.16173 | 0 |
| mean raw eQQ diff | 0.00190736 | 0 |
| med raw eQQ diff | 0 | 0 |
| max raw eQQ diff | 1 | 0 |
| mean eCDF diff | 0.000965856 | 0 |
| med eCDF diff | 0.000965856 | 0 |
| max eCDF diff | 0.00193171 | 0 |
| var ratio (Tr/Co) | 2.06049 | NaN |
| T-test p-value | 0.000255795 | 1 |

***** (V32) FIN *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment | 0.0117166 | 0.00544794 |
| mean control | 0.0448126 | 0.00544794 |
| std mean diff | -30.7552 | 0 |
| mean raw eQQ diff | 0.0331063 | 0 |
| med raw eQQ diff | 0 | 0 |
| max raw eQQ diff | 1 | 0 |
| mean eCDF diff | 0.016548 | 0 |
| med eCDF diff | 0.016548 | 0 |
| max eCDF diff | 0.033096 | 0 |
| var ratio (Tr/Co) | 0.270532 | 1 |
| T-test p-value | < 2.22e-16 | 1 |

***** (V33) FIR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment | 0.0023842 | 0 |
| mean control | 0.00163749 | 0 |
| std mean diff | 1.53103 | 0 |
| mean raw eQQ diff | 0.000749319 | 0 |
| med raw eQQ diff | 0 | 0 |
| max raw eQQ diff | 1 | 0 |
| mean eCDF diff | 0.000373354 | 0 |
| med eCDF diff | 0.000373354 | 0 |
| max eCDF diff | 0.000746709 | 0 |
| var ratio (Tr/Co) | 1.455 | NaN |
| T-test p-value | 0.0820244 | 1 |

***** (V34) FOO *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment | 0.00367847 | 0 |
| mean control | 0.0156107 | 0 |
| std mean diff | -19.7094 | 0 |
| mean raw eQQ diff | 0.011921 | 0 |
| med raw eQQ diff | 0 | 0 |
| max raw eQQ diff | 1 | 0 |
| mean eCDF diff | 0.00596612 | 0 |
| med eCDF diff | 0.00596612 | 0 |
| max eCDF diff | 0.0119322 | 0 |
| var ratio (Tr/Co) | 0.238507 | NaN |
| T-test p-value | < 2.22e-16 | 1 |

***** (V35) FOR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment | 0.0145777 | 0.00363196 |
| mean control | 0.0156517 | 0.00363196 |
| std mean diff | -0.89605 | 0 |
| mean raw eQQ diff | 0.00108992 | 0 |
| med raw eQQ diff | 0 | 0 |
| max raw eQQ diff | 1 | 0 |
| mean eCDF diff | 0.000536998 | 0 |
| med eCDF diff | 0.000536998 | 0 |
| max eCDF diff | 0.001074 | 0 |
| var ratio (Tr/Co) | 0.932448 | 1 |
| T-test p-value | 0.324634 | 1 |

***** (V36) FUE *****

| | Before Matching | After Matching |
|---|---|---|

| | | |
|---|---|---|
| mean treatment..... | 0.00715259 | 0.000605327 |
| mean control..... | 0.0156653 | 0.000605327 |
| std mean diff..... | -10.1014 | 0 |
| mean raw eQQ diff..... | 0.00851499 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00425635 | 0 |
| med eCDF diff..... | 0.00425635 | 0 |
| max eCDF diff..... | 0.00851271 | 0 |
| var ratio (Tr/Co)..... | 0.460562 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V37) GAM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00381471 | 0 |
| mean control..... | 0.0134001 | 0 |
| std mean diff..... | -15.5487 | 0 |
| mean raw eQQ diff..... | 0.0096049 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0047927 | 0 |
| med eCDF diff..... | 0.0047927 | 0 |
| max eCDF diff..... | 0.00958539 | 0 |
| var ratio (Tr/Co)..... | 0.287459 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V38) GOV *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0196185 | 0.00544794 |
| mean control..... | 0.0417696 | 0.00544794 |
| std mean diff..... | -15.9716 | 0 |
| mean raw eQQ diff..... | 0.022139 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0110755 | 0 |
| med eCDF diff..... | 0.0110755 | 0 |
| max eCDF diff..... | 0.022151 | 0 |
| var ratio (Tr/Co)..... | 0.480568 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V39) HCR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.101226 | 0.100787 |
| mean control..... | 0.119318 | 0.100787 |
| std mean diff..... | -5.99795 | 0 |
| mean raw eQQ diff..... | 0.0181199 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00904605 | 0 |
| med eCDF diff..... | 0.00904605 | 0 |
| max eCDF diff..... | 0.0180921 | 0 |
| var ratio (Tr/Co)..... | 0.865847 | 1 |
| T-test p-value..... | 5.92089e-11 | 1 |

***** (V40) HOU *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0161444 | 0.0108959 |
| mean control..... | 0.0273597 | 0.0108959 |
| std mean diff..... | -8.89853 | 0 |
| mean raw eQQ diff..... | 0.0112398 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00560764 | 0 |
| med eCDF diff..... | 0.00560764 | 0 |
| max eCDF diff..... | 0.0112153 | 0 |
| var ratio (Tr/Co)..... | 0.596917 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V41) IMM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00728883 | 0.00121065 |
| mean control..... | 0.0164022 | 0.00121065 |
| std mean diff..... | -10.7133 | 0 |
| mean raw eQQ diff..... | 0.00912807 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00455667 | 0 |
| med eCDF diff..... | 0.00455667 | 0 |
| max eCDF diff..... | 0.00911334 | 0 |
| var ratio (Tr/Co)..... | 0.448524 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V42) IND *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0247275 | 0.00393462 |
| mean control..... | 0.0163339 | 0.00393462 |
| std mean diff..... | 5.4048 | 0 |
| mean raw eQQ diff..... | 0.00837875 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00419679 | 0 |
| med eCDF diff..... | 0.00419679 | 0 |
| max eCDF diff..... | 0.00839358 | 0 |
| var ratio (Tr/Co)..... | 1.50104 | 1 |
| T-test p-value..... | 7.85898e-10 | 1 |

***** (V43) INS *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0130109 | 0.000302663 |
| mean control..... | 0.0234161 | 0.000302663 |
| std mean diff..... | -9.18173 | 0 |
| mean raw eQQ diff..... | 0.0104223 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00520259 | 0 |
| med eCDF diff..... | 0.00520259 | 0 |
| max eCDF diff..... | 0.0104052 | 0 |
| var ratio (Tr/Co)..... | 0.56159 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V44) LBR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0140327 | 0.000302663 |
| mean control..... | 0.0289426 | 0.000302663 |
| std mean diff..... | -12.6753 | 0 |
| mean raw eQQ diff..... | 0.0149183 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00745495 | 0 |
| med eCDF diff..... | 0.00745495 | 0 |
| max eCDF diff..... | 0.0149099 | 0 |
| var ratio (Tr/Co)..... | 0.492317 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V45) LAW *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0108992 | 0.00363196 |
| mean control..... | 0.0259951 | 0.00363196 |
| std mean diff..... | -14.5388 | 0 |

mean raw eQQ diff..... 0.0151226 0
med raw eQQ diff..... 0 0
max raw eQQ diff..... 1 0

mean eCDF diff..... 0.00754797 0
med eCDF diff..... 0.00754797 0
max eCDF diff..... 0.0150959 0

var ratio (Tr/Co)..... 0.4258 1
T-test p-value..... < 2.22e-16 1

***** (V46) MAN *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00258856 | 0 |
| mean control..... | 0.00616787 | 0 |
| std mean diff..... | -7.044 | 0 |
| mean raw eQQ diff..... | 0.00361035 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00178966 | 0 |
| med eCDF diff..... | 0.00178966 | 0 |
| max eCDF diff..... | 0.00357931 | 0 |
| var ratio (Tr/Co)..... | 0.421218 | NaN |
| T-test p-value..... | 2.17137e-12 | 1 |

***** (V47) MAR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00572207 | 0.000605327 |
| mean control..... | 0.0215603 | 0.000605327 |
| std mean diff..... | -20.9971 | 0 |
| mean raw eQQ diff..... | 0.0158719 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00791909 | 0 |
| med eCDF diff..... | 0.00791909 | 0 |
| max eCDF diff..... | 0.0158382 | 0 |
| var ratio (Tr/Co)..... | 0.26971 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V48) MIA *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0010218 | 0 |
| mean control..... | 0.00315216 | 0 |
| std mean diff..... | -6.66774 | 0 |
| mean raw eQQ diff..... | 0.00217984 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00106518 | 0 |
| med eCDF diff..... | 0.00106518 | 0 |
| max eCDF diff..... | 0.00213037 | 0 |
| var ratio (Tr/Co)..... | 0.324868 | NaN |
| T-test p-value..... | 2.125e-10 | 1 |

***** (V49) MED *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0106267 | 0.00423729 |
| mean control..... | 0.0206051 | 0.00423729 |
| std mean diff..... | -9.73116 | 0 |
| mean raw eQQ diff..... | 0.0100136 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00498917 | 0 |
| med eCDF diff..... | 0.00498917 | 0 |
| max eCDF diff..... | 0.00997835 | 0 |
| var ratio (Tr/Co)..... | 0.521016 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V50) MMM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0863079 | 0.0559927 |
| mean control..... | 0.0618288 | 0.0559927 |
| std mean diff..... | 8.71677 | 0 |
| mean raw eQQ diff..... | 0.024455 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0122396 | 0 |
| med eCDF diff..... | 0.0122396 | 0 |
| max eCDF diff..... | 0.0244791 | 0 |
| var ratio (Tr/Co)..... | 1.35957 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V51) MON *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00013624 | 0 |
| mean control..... | 0.00199228 | 0 |
| std mean diff..... | -15.9019 | 0 |
| mean raw eQQ diff..... | 0.00190736 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000928018 | 0 |
| med eCDF diff..... | 0.000928018 | 0 |
| max eCDF diff..... | 0.00185604 | 0 |
| var ratio (Tr/Co)..... | 0.0685149 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V52) NAT *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0224114 | 0.0169492 |
| mean control..... | 0.0294884 | 0.0169492 |
| std mean diff..... | -4.78101 | 0 |
| mean raw eQQ diff..... | 0.00708447 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00353849 | 0 |
| med eCDF diff..... | 0.00353849 | 0 |
| max eCDF diff..... | 0.00707698 | 0 |
| var ratio (Tr/Co)..... | 0.765592 | 1 |
| T-test p-value..... | 2.52756e-07 | 1 |

***** (V53) PHA *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00701635 | 0 |
| mean control..... | 0.0168388 | 0 |
| std mean diff..... | -11.7674 | 0 |
| mean raw eQQ diff..... | 0.00980926 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00491124 | 0 |
| med eCDF diff..... | 0.00491124 | 0 |
| max eCDF diff..... | 0.00982248 | 0 |
| var ratio (Tr/Co)..... | 0.420863 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V54) POS *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00252044 | 0 |
| mean control..... | 0.00750515 | 0 |
| std mean diff..... | -9.94113 | 0 |
| mean raw eQQ diff..... | 0.00497275 | 0 |
| med raw eQQ diff..... | 0 | 0 |

max raw eQQ diff..... 1 0

mean eCDF diff..... 0.00249236 0
med eCDF diff..... 0.00249236 0
max eCDF diff..... 0.00498472 0

var ratio (Tr/Co)..... 0.337533 NaN
T-test p-value..... < 2.22e-16 1

***** (V55) RRR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00429155 | 0.000302663 |
| mean control..... | 0.0115306 | 0.000302663 |
| std mean diff..... | -11.0738 | 0 |
| mean raw eQQ diff..... | 0.00728883 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00361954 | 0 |
| med eCDF diff..... | 0.00361954 | 0 |
| max eCDF diff..... | 0.00723909 | 0 |
| var ratio (Tr/Co)..... | 0.374933 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V56) RES *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00885559 | 0.000605327 |
| mean control..... | 0.0133728 | 0.000605327 |
| std mean diff..... | -4.82148 | 0 |
| mean raw eQQ diff..... | 0.00456403 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00225861 | 0 |
| med eCDF diff..... | 0.00225861 | 0 |
| max eCDF diff..... | 0.00451723 | 0 |
| var ratio (Tr/Co)..... | 0.665276 | 1 |
| T-test p-value..... | 3.05618e-07 | 1 |

***** (V57) REL *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0 | 0 |
| mean control..... | 0.000272915 | 0 |
| std mean diff..... | -Inf | 0 |
| mean raw eQQ diff..... | 0.00027248 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000136457 | 0 |
| med eCDF diff..... | 0.000136457 | 0 |
| max eCDF diff..... | 0.000272915 | 0 |
| var ratio (Tr/Co)..... | 0 | NaN |
| T-test p-value..... | 7.73483e-06 | 1 |

***** (V58) RET *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00265668 | 0.000302663 |
| mean control..... | 0.0160883 | 0.000302663 |
| std mean diff..... | -26.0929 | 0 |
| mean raw eQQ diff..... | 0.0134196 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00671582 | 0 |
| med eCDF diff..... | 0.00671582 | 0 |
| max eCDF diff..... | 0.0134316 | 0 |
| var ratio (Tr/Co)..... | 0.167394 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V59) ROD *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00408719 | 0 |
| mean control..... | 0.012595 | 0 |
| std mean diff..... | -13.3346 | 0 |
| mean raw eQQ diff..... | 0.00851499 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00425391 | 0 |
| med eCDF diff..... | 0.00425391 | 0 |
| max eCDF diff..... | 0.00850781 | 0 |
| var ratio (Tr/Co)..... | 0.327323 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V60) SCI *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00926431 | 0.00514528 |
| mean control..... | 0.0221197 | 0.00514528 |
| std mean diff..... | -13.418 | 0 |
| mean raw eQQ diff..... | 0.0128747 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00642771 | 0 |
| med eCDF diff..... | 0.00642771 | 0 |
| max eCDF diff..... | 0.0128554 | 0 |
| var ratio (Tr/Co)..... | 0.424355 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V61) SMB *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00919619 | 0.00211864 |
| mean control..... | 0.00675464 | 0.00211864 |
| std mean diff..... | 2.55772 | 0 |
| mean raw eQQ diff..... | 0.00245232 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00122077 | 0 |
| med eCDF diff..... | 0.00122077 | 0 |
| max eCDF diff..... | 0.00244155 | 0 |
| var ratio (Tr/Co)..... | 1.35819 | 1 |
| T-test p-value..... | 0.00382065 | 1 |

***** (V62) SPO *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 6.81199e-05 | 0 |
| mean control..... | 0.00159655 | 0 |
| std mean diff..... | -18.5186 | 0 |
| mean raw eQQ diff..... | 0.00156676 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000764215 | 0 |
| med eCDF diff..... | 0.000764215 | 0 |
| max eCDF diff..... | 0.00152843 | 0 |
| var ratio (Tr/Co)..... | 0.0427346 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V63) TAX *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0634877 | 0.0469128 |
| mean control..... | 0.124012 | 0.0469128 |
| std mean diff..... | -24.8208 | 0 |
| mean raw eQQ diff..... | 0.0605586 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0302623 | 0 |

med eCDF diff..... 0.0302623 0
max eCDF diff..... 0.0605247 0

var ratio (Tr/Co)..... 0.547349 1
T-test p-value..... < 2.22e-16 1

***** (V64) TEC *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0300409 | 0.0441889 |
| mean control..... | 0.0576532 | 0.0441889 |
| std mean diff..... | -16.1754 | 0 |
| mean raw eQQ diff..... | 0.0276567 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0138062 | 0 |
| med eCDF diff..... | 0.0138062 | 0 |
| max eCDF diff..... | 0.0276123 | 0 |
| var ratio (Tr/Co)..... | 0.536359 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V65) TOB *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00749319 | 0.00151332 |
| mean control..... | 0.0100705 | 0.00151332 |
| std mean diff..... | -2.98855 | 0 |
| mean raw eQQ diff..... | 0.00258856 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00128868 | 0 |
| med eCDF diff..... | 0.00128868 | 0 |
| max eCDF diff..... | 0.00257736 | 0 |
| var ratio (Tr/Co)..... | 0.746047 | 1 |
| T-test p-value..... | 0.00130636 | 1 |

***** (V66) TOR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00197548 | 0 |
| mean control..... | 0.0125677 | 0 |
| std mean diff..... | -23.8543 | 0 |
| mean raw eQQ diff..... | 0.0106267 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00529612 | 0 |
| med eCDF diff..... | 0.00529612 | 0 |
| max eCDF diff..... | 0.0105922 | 0 |
| var ratio (Tr/Co)..... | 0.158881 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V67) TRD *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0748638 | 0.0420702 |
| mean control..... | 0.0618288 | 0.0420702 |
| std mean diff..... | 4.95286 | 0 |
| mean raw eQQ diff..... | 0.0130109 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00651748 | 0 |
| med eCDF diff..... | 0.00651748 | 0 |
| max eCDF diff..... | 0.013035 | 0 |
| var ratio (Tr/Co)..... | 1.19407 | 1 |
| T-test p-value..... | 2.84098e-08 | 1 |

***** (V68) TRA *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0484332 | 0.0478208 |
| mean control..... | 0.0925317 | 0.0478208 |
| std mean diff..... | -20.5408 | 0 |
| mean raw eQQ diff..... | 0.0441417 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0220492 | 0 |
| med eCDF diff..... | 0.0220492 | 0 |
| max eCDF diff..... | 0.0440984 | 0 |
| var ratio (Tr/Co)..... | 0.548889 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V69) TOU *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.000681199 | 0 |
| mean control..... | 0.00588131 | 0 |
| std mean diff..... | -19.9301 | 0 |
| mean raw eQQ diff..... | 0.00524523 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00260006 | 0 |
| med eCDF diff..... | 0.00260006 | 0 |
| max eCDF diff..... | 0.00520011 | 0 |
| var ratio (Tr/Co)..... | 0.116437 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V70) TRU *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00149864 | 0.000605327 |
| mean control..... | 0.00274279 | 0.000605327 |
| std mean diff..... | -3.21615 | 0 |
| mean raw eQQ diff..... | 0.00129428 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000622077 | 0 |
| med eCDF diff..... | 0.000622077 | 0 |
| max eCDF diff..... | 0.00124415 | 0 |
| var ratio (Tr/Co)..... | 0.547103 | 1 |
| T-test p-value..... | 0.000857571 | 1 |

***** (V71) UNM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0 | 0 |
| mean control..... | 0.000463955 | 0 |
| std mean diff..... | -Inf | 0 |
| mean raw eQQ diff..... | 0.000476839 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000231977 | 0 |
| med eCDF diff..... | 0.000231977 | 0 |
| max eCDF diff..... | 0.000463955 | 0 |
| var ratio (Tr/Co)..... | 0 | NaN |
| T-test p-value..... | 5.49087e-09 | 1 |

***** (V72) URB *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00354223 | 0.000302663 |
| mean control..... | 0.0136457 | 0.000302663 |
| std mean diff..... | -17.0055 | 0 |
| mean raw eQQ diff..... | 0.0101499 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00505175 | 0 |
| med eCDF diff..... | 0.00505175 | 0 |
| max eCDF diff..... | 0.0101035 | 0 |

var ratio (Tr/Co)..... 0.262259 1
T-test p-value..... < 2.22e-16 1

***** (V73) UTI *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.010218 | 0.00121065 |
| mean control..... | 0.0156926 | 0.00121065 |
| std mean diff..... | -5.44359 | 0 |
| mean raw eQQ diff..... | 0.00551771 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0027373 | 0 |
| med eCDF diff..... | 0.0027373 | 0 |
| max eCDF diff..... | 0.00547461 | 0 |
| var ratio (Tr/Co)..... | 0.654792 | 1 |
| T-test p-value..... | 7.95114e-09 | 1 |

***** (V74) VET *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00538147 | 0 |
| mean control..... | 0.00616787 | 0 |
| std mean diff..... | -1.07485 | 0 |
| mean raw eQQ diff..... | 0.000817439 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000393199 | 0 |
| med eCDF diff..... | 0.000393199 | 0 |
| max eCDF diff..... | 0.000786398 | 0 |
| var ratio (Tr/Co)..... | 0.873239 | NaN |
| T-test p-value..... | 0.240194 | 1 |

***** (V75) WAS *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00429155 | 0.000605327 |
| mean control..... | 0.0106437 | 0.000605327 |
| std mean diff..... | -9.71696 | 0 |
| mean raw eQQ diff..... | 0.00640327 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00317606 | 0 |
| med eCDF diff..... | 0.00317606 | 0 |
| max eCDF diff..... | 0.00635212 | 0 |
| var ratio (Tr/Co)..... | 0.405813 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V76) WEL *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.001703 | 0 |
| mean control..... | 0.00347966 | 0 |
| std mean diff..... | -4.30877 | 0 |
| mean raw eQQ diff..... | 0.00177112 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000888332 | 0 |
| med eCDF diff..... | 0.000888332 | 0 |
| max eCDF diff..... | 0.00177666 | 0 |
| var ratio (Tr/Co)..... | 0.490314 | NaN |
| T-test p-value..... | 1.09271e-05 | 1 |

***** (V77) HOM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00974114 | 0.00181598 |
| mean control..... | 0.0322858 | 0.00181598 |
| std mean diff..... | -22.9535 | 0 |
| mean raw eQQ diff..... | 0.0225477 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0112723 | 0 |
| med eCDF diff..... | 0.0112723 | 0 |
| max eCDF diff..... | 0.0225447 | 0 |
| var ratio (Tr/Co)..... | 0.308762 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V78) INT *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 6.81199e-05 | 0 |
| mean control..... | 0.000777807 | 0 |
| std mean diff..... | -8.59864 | 0 |
| mean raw eQQ diff..... | 0.000749319 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000354843 | 0 |
| med eCDF diff..... | 0.000354843 | 0 |
| max eCDF diff..... | 0.000709687 | 0 |
| var ratio (Tr/Co)..... | 0.0876465 | NaN |
| T-test p-value..... | 9.08368e-09 | 1 |

***** (V79) n_reports *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 16.5657 | 17.4476 |
| mean control..... | 34.8071 | 17.7823 |
| std mean diff..... | -91.7258 | -2.57149 |
| mean raw eQQ diff..... | 18.2689 | 0.612358 |
| med raw eQQ diff..... | 16.25 | 0.5 |
| max raw eQQ diff..... | 579.5 | 8.66667 |
| mean eCDF diff..... | 0.173124 | 0.0104554 |
| med eCDF diff..... | 0.154215 | 0.00926436 |
| max eCDF diff..... | 0.400373 | 0.0280682 |
| var ratio (Tr/Co)..... | 0.451037 | 0.99143 |
| T-test p-value..... | < 2.22e-16 | 3.95142e-11 |
| KS Bootstrap p-value.. | < 2.22e-16 | 0.018 |
| KS Naive p-value..... | < 2.22e-16 | 0.0272883 |
| KS Statistic..... | 0.400373 | 0.0280682 |

***** (V80) nyears *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 6.91139 | 8.66888 |
| mean control..... | 8.04438 | 8.67233 |
| std mean diff..... | -44.0762 | -0.17005 |
| mean raw eQQ diff..... | 1.13957 | 0.025852 |
| med raw eQQ diff..... | 1.25 | 0 |
| max raw eQQ diff..... | 2.84615 | 0.5 |
| mean eCDF diff..... | 0.157673 | 0.00389689 |
| med eCDF diff..... | 0.174166 | 0.00110072 |
| max eCDF diff..... | 0.237855 | 0.023115 |
| var ratio (Tr/Co)..... | 2.08511 | 1.00828 |
| T-test p-value..... | < 2.22e-16 | 0.208548 |
| KS Bootstrap p-value.. | < 2.22e-16 | 0.02 |
| KS Naive p-value..... | < 2.22e-16 | 0.108663 |
| KS Statistic..... | 0.237855 | 0.023115 |

***** (V81) tenure *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 3.48648 | 4.75112 |
| mean control..... | 4.17956 | 4.75329 |
| std mean diff..... | -28.5042 | -0.0863297 |
| mean raw eQQ diff..... | 0.693026 | 0.0141599 |
| med raw eQQ diff..... | 0.75 | 0 |
| max raw eQQ diff..... | 1 | 0.5 |
| mean eCDF diff..... | 0.0932091 | 0.00172445 |

med eCDF diff..... 0.103987 0.00146762
max eCDF diff..... 0.131927 0.00715465

var ratio (Tr/Co)..... 1.02694 0.994895
T-test p-value..... < 2.22e-16 0.377067
KS Bootstrap p-value.. < 2.22e-16 0.95
KS Naive p-value..... < 2.22e-16 0.999031
KS Statistic..... 0.131927 0.00715465

***** (V82) n_lobbyists *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 2.50409 | 1.64316 |
| mean control..... | 3.77113 | 1.64316 |
| std mean diff..... | -65.7645 | 0 |
| mean raw eQQ diff..... | 1.2701 | 0 |
| med raw eQQ diff..... | 1 | 0 |
| max raw eQQ diff..... | 70 | 0 |
| mean eCDF diff..... | 0.0214356 | 0 |
| med eCDF diff..... | 0.000723332 | 0 |
| max eCDF diff..... | 0.183295 | 0 |
| var ratio (Tr/Co)..... | 0.306087 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |
| KS Bootstrap p-value.. | < 2.22e-16 | 1 |
| KS Naive p-value..... | < 2.22e-16 | 1 |
| KS Statistic..... | 0.183295 | 0 |

***** (V83) factor(typer)2 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.000613079 | 0 |
| mean control..... | 0.000177394 | 0 |
| std mean diff..... | 1.76008 | 0 |
| mean raw eQQ diff..... | 0.000408719 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000217842 | 0 |
| med eCDF diff..... | 0.000217842 | 0 |
| max eCDF diff..... | 0.000435685 | 0 |
| var ratio (Tr/Co)..... | 3.4547 | NaN |
| T-test p-value..... | 0.0381628 | 1 |

***** (V84) factor(typer)3 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.377589 | 0.362591 |
| mean control..... | 0.405224 | 0.362591 |
| std mean diff..... | -5.70029 | 0 |
| mean raw eQQ diff..... | 0.0276567 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0138175 | 0 |
| med eCDF diff..... | 0.0138175 | 0 |
| max eCDF diff..... | 0.027635 | 0 |
| var ratio (Tr/Co)..... | 0.97515 | 1 |
| T-test p-value..... | 3.225e-10 | 1 |

***** (V85) factor(typer)4 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0774523 | 0.0850484 |
| mean control..... | 0.0648854 | 0.0850484 |
| std mean diff..... | 4.70111 | 0 |
| mean raw eQQ diff..... | 0.0125341 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00628344 | 0 |
| med eCDF diff..... | 0.00628344 | 0 |
| max eCDF diff..... | 0.0125669 | 0 |
| var ratio (Tr/Co)..... | 1.1777 | 1 |
| T-test p-value..... | 1.41125e-07 | 1 |

***** (V86) factor(typer)5 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0773161 | 0.0783898 |
| mean control..... | 0.0625657 | 0.0783898 |
| std mean diff..... | 5.5224 | 0 |
| mean raw eQQ diff..... | 0.0147139 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0073752 | 0 |
| med eCDF diff..... | 0.0073752 | 0 |
| max eCDF diff..... | 0.0147504 | 0 |
| var ratio (Tr/Co)..... | 1.21638 | 1 |
| T-test p-value..... | 5.76064e-10 | 1 |

***** (V87) factor(typer)6 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.392234 | 0.390133 |
| mean control..... | 0.40476 | 0.390133 |
| std mean diff..... | -2.56527 | 0 |
| mean raw eQQ diff..... | 0.0125341 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00626265 | 0 |
| med eCDF diff..... | 0.00626265 | 0 |
| max eCDF diff..... | 0.0125253 | 0 |
| var ratio (Tr/Co)..... | 0.9895 | 1 |
| T-test p-value..... | 0.0045954 | 1 |

***** (V88) factor(Year)2000 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0597411 | 0.0538741 |
| mean control..... | 0.0564387 | 0.0538741 |
| std mean diff..... | 1.39333 | 0 |
| mean raw eQQ diff..... | 0.00326975 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0016512 | 0 |
| med eCDF diff..... | 0.0016512 | 0 |
| max eCDF diff..... | 0.00330241 | 0 |
| var ratio (Tr/Co)..... | 1.05487 | 1 |
| T-test p-value..... | 0.12173 | 1 |

***** (V89) factor(Year)2001 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0668937 | 0.0578087 |
| mean control..... | 0.0658679 | 0.0578087 |
| std mean diff..... | 0.410571 | 0 |
| mean raw eQQ diff..... | 0.0010218 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000512898 | 0 |
| med eCDF diff..... | 0.000512898 | 0 |
| max eCDF diff..... | 0.0010258 | 0 |
| var ratio (Tr/Co)..... | 1.01451 | 1 |
| T-test p-value..... | 0.649408 | 1 |

***** (V90) factor(Year)2002 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0767711 | 0.0662833 |
| mean control..... | 0.0730319 | 0.0662833 |
| std mean diff..... | 1.40445 | 0 |
| mean raw eQQ diff..... | 0.00374659 | 0 |
| med raw eQQ diff..... | 0 | 0 |

| | | |
|---|---|---|
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00186959 | 0 |
| med eCDF diff..... | 0.00186959 | 0 |
| max eCDF diff..... | 0.00373917 | 0 |
| var ratio (Tr/Co)..... | 1.04702 | 1 |
| T-test p-value..... | 0.119004 | 1 |

***** (V91) factor(Year)2003 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.068188 | 0.0705206 |
| mean control..... | 0.0939645 | 0.0705206 |
| std mean diff..... | -10.2256 | 0 |
| mean raw eQQ diff..... | 0.0258174 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0128882 | 0 |
| med eCDF diff..... | 0.0128882 | 0 |
| max eCDF diff..... | 0.0257765 | 0 |
| var ratio (Tr/Co)..... | 0.746365 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V92) factor(Year)2004 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0737057 | 0.0865617 |
| mean control..... | 0.101088 | 0.0865617 |
| std mean diff..... | -10.4791 | 0 |
| mean raw eQQ diff..... | 0.0273842 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0136909 | 0 |
| med eCDF diff..... | 0.0136909 | 0 |
| max eCDF diff..... | 0.0273818 | 0 |
| var ratio (Tr/Co)..... | 0.751378 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V93) factor(Year)2005 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0958447 | 0.103208 |
| mean control..... | 0.117653 | 0.103208 |
| std mean diff..... | -7.40818 | 0 |
| mean raw eQQ diff..... | 0.0217984 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0109044 | 0 |
| med eCDF diff..... | 0.0109044 | 0 |
| max eCDF diff..... | 0.0218088 | 0 |
| var ratio (Tr/Co)..... | 0.834816 | 1 |
| T-test p-value..... | 8.88178e-16 | 1 |

***** (V94) factor(Year)2006 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.119414 | 0.118644 |
| mean control..... | 0.116644 | 0.118644 |
| std mean diff..... | 0.854329 | 0 |
| mean raw eQQ diff..... | 0.0027248 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00138524 | 0 |
| med eCDF diff..... | 0.00138524 | 0 |
| max eCDF diff..... | 0.00277047 | 0 |
| var ratio (Tr/Co)..... | 1.0206 | 1 |
| T-test p-value..... | 0.343958 | 1 |

***** (V95) factor(Year)2007 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.150477 | 0.154964 |
| mean control..... | 0.132159 | 0.154964 |
| std mean diff..... | 5.12318 | 0 |
| mean raw eQQ diff..... | 0.0183243 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00915897 | 0 |
| med eCDF diff..... | 0.00915897 | 0 |
| max eCDF diff..... | 0.0183179 | 0 |
| var ratio (Tr/Co)..... | 1.11463 | 1 |
| T-test p-value..... | 1.11265e-08 | 1 |

***** (V96) factor(Year)2008 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.230245 | 0.247276 |
| mean control..... | 0.19014 | 0.247276 |
| std mean diff..... | 9.52619 | 0 |
| mean raw eQQ diff..... | 0.0401226 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0200528 | 0 |
| med eCDF diff..... | 0.0200528 | 0 |
| max eCDF diff..... | 0.0401056 | 0 |
| var ratio (Tr/Co)..... | 1.15102 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

*Notes:* The figure shows balancing results for the second specification of hypothesis 1, summarised in Table 4.1. The figure includes all matching variables which include the covered issues, denoted by their codes (see Table A.1) and other variables summarised in Table 4.1.

## Figure A.3: Balancing results H1 – Specification 3

***** (V1) ACC *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00115804 | 0 |
| mean control..... | 0.00477601 | 0 |
| std mean diff..... | -10.6375 | 0 |
| mean raw eQQ diff..... | 0.00361035 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00180898 | 0 |
| med eCDF diff..... | 0.00180898 | 0 |
| max eCDF diff..... | 0.00361797 | 0 |
| var ratio (Tr/Co)..... | 0.243365 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V2) ADV *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00013624 | 0 |
| mean control..... | 0.00406643 | 0 |
| std mean diff..... | -33.6726 | 0 |
| mean raw eQQ diff..... | 0.00395095 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00196509 | 0 |
| med eCDF diff..... | 0.00196509 | 0 |
| max eCDF diff..... | 0.00393019 | 0 |
| var ratio (Tr/Co)..... | 0.0336376 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V3) AER *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0013624 | 0 |
| mean control..... | 0.00593589 | 0 |
| std mean diff..... | -12.3987 | 0 |
| mean raw eQQ diff..... | 0.00456403 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00228675 | 0 |
| med eCDF diff..... | 0.00228675 | 0 |
| max eCDF diff..... | 0.00457349 | 0 |
| var ratio (Tr/Co)..... | 0.230587 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V4) AGR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0432561 | 0.0471842 |
| mean control..... | 0.0325996 | 0.0471842 |
| std mean diff..... | 5.23814 | 0 |
| mean raw eQQ diff..... | 0.0106267 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00532824 | 0 |
| med eCDF diff..... | 0.00532824 | 0 |
| max eCDF diff..... | 0.0106565 | 0 |
| var ratio (Tr/Co)..... | 1.31234 | 1 |
| T-test p-value..... | 3.44809e-09 | 1 |

***** (V5) ALC *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00156676 | 0 |
| mean control..... | 0.00379351 | 0 |
| std mean diff..... | -5.62986 | 0 |
| mean raw eQQ diff..... | 0.00224796 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00111338 | 0 |
| med eCDF diff..... | 0.00111338 | 0 |
| max eCDF diff..... | 0.00222676 | 0 |
| var ratio (Tr/Co)..... | 0.413955 | NaN |
| T-test p-value..... | 2.16691e-08 | 1 |

***** (V6) ANI *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00279292 | 0 |
| mean control..... | 0.0052809 | 0 |
| std mean diff..... | -4.71423 | 0 |
| mean raw eQQ diff..... | 0.00252044 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00124399 | 0 |
| med eCDF diff..... | 0.00124399 | 0 |
| max eCDF diff..... | 0.00248798 | 0 |
| var ratio (Tr/Co)..... | 0.530223 | NaN |
| T-test p-value..... | 1.14465e-06 | 1 |

***** (V7) APP *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00497275 | 0.00304414 |
| mean control..... | 0.00219696 | 0.00304414 |
| std mean diff..... | 3.94599 | 0 |
| mean raw eQQ diff..... | 0.0027248 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00138789 | 0 |
| med eCDF diff..... | 0.00138789 | 0 |
| max eCDF diff..... | 0.00277579 | 0 |
| var ratio (Tr/Co)..... | 2.25729 | 1 |
| T-test p-value..... | 4.63728e-06 | 1 |

***** (V8) ART *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00245232 | 0 |
| mean control..... | 0.00660453 | 0 |
| std mean diff..... | -8.3948 | 0 |
| mean raw eQQ diff..... | 0.00415531 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00207611 | 0 |
| med eCDF diff..... | 0.00207611 | 0 |
| max eCDF diff..... | 0.00415222 | 0 |
| var ratio (Tr/Co)..... | 0.37288 | NaN |

T-test p-value..... 2.22045e-16 1

***** (V9) AUT *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00252044 | 0 |
| mean control..... | 0.00654995 | 0 |
| std mean diff..... | -8.03615 | 0 |
| mean raw eQQ diff..... | 0.00401907 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00201476 | 0 |
| med eCDF diff..... | 0.00201476 | 0 |
| max eCDF diff..... | 0.00402951 | 0 |
| var ratio (Tr/Co)..... | 0.386384 | NaN |
| T-test p-value..... | 2.88658e-15 | 1 |

***** (V10) AVI *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0265668 | 0.0197869 |
| mean control..... | 0.0325996 | 0.0197869 |
| std mean diff..... | -3.75136 | 0 |
| mean raw eQQ diff..... | 0.00606267 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00301645 | 0 |
| med eCDF diff..... | 0.00301645 | 0 |
| max eCDF diff..... | 0.00603289 | 0 |
| var ratio (Tr/Co)..... | 0.820067 | 1 |
| T-test p-value..... | 4.62357e-05 | 1 |

***** (V11) BAN *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0114441 | 0.00228311 |
| mean control..... | 0.0313852 | 0.00228311 |
| std mean diff..... | -18.7474 | 0 |
| mean raw eQQ diff..... | 0.0199591 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00997052 | 0 |
| med eCDF diff..... | 0.00997052 | 0 |
| max eCDF diff..... | 0.019941 | 0 |
| var ratio (Tr/Co)..... | 0.372162 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V12) BNK *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00231608 | 0 |
| mean control..... | 0.00921087 | 0 |
| std mean diff..... | -14.3428 | 0 |
| mean raw eQQ diff..... | 0.00694823 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0034474 | 0 |
| med eCDF diff..... | 0.0034474 | 0 |
| max eCDF diff..... | 0.00689479 | 0 |
| var ratio (Tr/Co)..... | 0.253214 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V13) BEV *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00163488 | 0 |
| mean control..... | 0.00438028 | 0 |
| std mean diff..... | -6.79522 | 0 |
| mean raw eQQ diff..... | 0.00279292 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0013727 | 0 |
| med eCDF diff..... | 0.0013727 | 0 |
| max eCDF diff..... | 0.0027454 | 0 |
| var ratio (Tr/Co)..... | 0.374285 | NaN |
| T-test p-value..... | 3.08331e-11 | 1 |

***** (V14) BUD *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.202657 | 0.284627 |
| mean control..... | 0.223094 | 0.284627 |
| std mean diff..... | -5.08401 | 0 |
| mean raw eQQ diff..... | 0.020436 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0102187 | 0 |
| med eCDF diff..... | 0.0102187 | 0 |
| max eCDF diff..... | 0.0204374 | 0 |
| var ratio (Tr/Co)..... | 0.932338 | 1 |
| T-test p-value..... | 2.31614e-08 | 1 |

***** (V15) CHM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00320163 | 0 |
| mean control..... | 0.00515809 | 0 |
| std mean diff..... | -3.4631 | 0 |
| mean raw eQQ diff..... | 0.00197548 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000978225 | 0 |
| med eCDF diff..... | 0.000978225 | 0 |
| max eCDF diff..... | 0.00195645 | 0 |
| var ratio (Tr/Co)..... | 0.621957 | NaN |
| T-test p-value..... | 0.00026358 | 1 |

***** (V16) CIV *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00326975 | 0 |
| mean control..... | 0.0038481 | 0 |
| std mean diff..... | -1.01303 | 0 |
| mean raw eQQ diff..... | 0.000613079 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00028917 | 0 |
| med eCDF diff..... | 0.00028917 | 0 |
| max eCDF diff..... | 0.000578341 | 0 |
| var ratio (Tr/Co)..... | 0.850247 | NaN |
| T-test p-value..... | 0.26952 | 1 |

***** (V17) CAW *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0237057 | 0.0205479 |
| mean control..... | 0.0241802 | 0.0205479 |
| std mean diff..... | -0.311899 | 0 |
| mean raw eQQ diff..... | 0.000476839 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000237255 | 0 |
| med eCDF diff..... | 0.000237255 | 0 |
| max eCDF diff..... | 0.000474511 | 0 |
| var ratio (Tr/Co)..... | 0.980906 | 1 |
| T-test p-value..... | 0.730572 | 1 |

***** (V18) CDT *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0 | 0 |
| mean control..... | 0.00126905 | 0 |
| std mean diff..... | -Inf | 0 |
| mean raw eQQ diff..... | 0.00129428 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000634526 | 0 |
| med eCDF diff..... | 0.000634526 | 0 |
| max eCDF diff..... | 0.00126905 | 0 |
| var ratio (Tr/Co)..... | 0 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V19) COM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00606267 | 0 |
| mean control..... | 0.030853 | 0 |
| std mean diff..... | -31.9342 | 0 |
| mean raw eQQ diff..... | 0.0247956 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0123952 | 0 |
| med eCDF diff..... | 0.0123952 | 0 |
| max eCDF diff..... | 0.0247903 | 0 |
| var ratio (Tr/Co)..... | 0.201539 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V20) CPI *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00299728 | 0.000761035 |
| mean control..... | 0.0159655 | 0.000761035 |
| std mean diff..... | -23.7222 | 0 |
| mean raw eQQ diff..... | 0.0130109 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00648411 | 0 |
| med eCDF diff..... | 0.00648411 | 0 |
| max eCDF diff..... | 0.0129682 | 0 |
| var ratio (Tr/Co)..... | 0.190219 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V21) CON *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.000749319 | 0 |
| mean control..... | 0.00252446 | 0 |
| std mean diff..... | -6.48705 | 0 |
| mean raw eQQ diff..... | 0.00177112 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000887571 | 0 |
| med eCDF diff..... | 0.000887571 | 0 |
| max eCDF diff..... | 0.00177514 | 0 |
| var ratio (Tr/Co)..... | 0.297368 | NaN |
| T-test p-value..... | 1.24812e-09 | 1 |

***** (V22) CSP *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00517711 | 0 |
| mean control..... | 0.0207688 | 0 |
| std mean diff..... | -21.7251 | 0 |
| mean raw eQQ diff..... | 0.0155995 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00779584 | 0 |
| med eCDF diff..... | 0.00779584 | 0 |
| max eCDF diff..... | 0.0155917 | 0 |
| var ratio (Tr/Co)..... | 0.253256 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V23) CPT *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0115804 | 0.00228311 |
| mean control..... | 0.0347693 | 0.00228311 |
| std mean diff..... | -21.6737 | 0 |
| mean raw eQQ diff..... | 0.0232289 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0115945 | 0 |
| med eCDF diff..... | 0.0115945 | 0 |
| max eCDF diff..... | 0.0231889 | 0 |
| var ratio (Tr/Co)..... | 0.341083 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V24) DEF *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.10579 | 0.0981735 |
| mean control..... | 0.072759 | 0.0981735 |
| std mean diff..... | 10.7391 | 0 |
| mean raw eQQ diff..... | 0.0330381 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0165156 | 0 |
| med eCDF diff..... | 0.0165156 | 0 |
| max eCDF diff..... | 0.0330312 | 0 |
| var ratio (Tr/Co)..... | 1.40226 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V25) DIS *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00367847 | 0 |
| mean control..... | 0.00979763 | 0 |
| std mean diff..... | -10.1075 | 0 |
| mean raw eQQ diff..... | 0.00613079 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00305958 | 0 |
| med eCDF diff..... | 0.00305958 | 0 |
| max eCDF diff..... | 0.00611916 | 0 |
| var ratio (Tr/Co)..... | 0.377786 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V26) DOC *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.000681199 | 0 |
| mean control..... | 0.0014328 | 0 |
| std mean diff..... | -2.88061 | 0 |
| mean raw eQQ diff..... | 0.000749319 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000375801 | 0 |
| med eCDF diff..... | 0.000375801 | 0 |
| max eCDF diff..... | 0.000751603 | 0 |
| var ratio (Tr/Co)..... | 0.475815 | NaN |
| T-test p-value..... | 0.00341573 | 1 |

***** (V27) ECN *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0099455 | 0.00761035 |

mean control..... 0.0210963 0.00761035
std mean diff..... -11.2369 0

mean raw eQQ diff..... 0.0111717 0
med raw eQQ diff..... 0 0
max raw eQQ diff..... 1 0

mean eCDF diff..... 0.0055754 0
med eCDF diff..... 0.0055754 0
max eCDF diff..... 0.0111508 0

var ratio (Tr/Co)..... 0.47683 1
T-test p-value..... < 2.22e-16 1

***** (V28) EDU *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0628065 | 0.064688 |
| mean control..... | 0.0526043 | 0.064688 |
| std mean diff..... | 4.20498 | 0 |
| mean raw eQQ diff..... | 0.010218 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00510113 | 0 |
| med eCDF diff..... | 0.00510113 | 0 |
| max eCDF diff..... | 0.0102023 | 0 |
| var ratio (Tr/Co)..... | 1.18115 | 1 |
| T-test p-value..... | 2.48216e-06 | 1 |

***** (V29) ENG *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0629428 | 0.0129376 |
| mean control..... | 0.0838394 | 0.0129376 |
| std mean diff..... | -8.60408 | 0 |
| mean raw eQQ diff..... | 0.0209128 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0104483 | 0 |
| med eCDF diff..... | 0.0104483 | 0 |
| max eCDF diff..... | 0.0208966 | 0 |
| var ratio (Tr/Co)..... | 0.76792 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V30) ENV *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0449591 | 0.064688 |
| mean control..... | 0.0634526 | 0.064688 |
| std mean diff..... | -8.92452 | 0 |
| mean raw eQQ diff..... | 0.0185286 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00924676 | 0 |
| med eCDF diff..... | 0.00924676 | 0 |
| max eCDF diff..... | 0.0184935 | 0 |
| var ratio (Tr/Co)..... | 0.722577 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V31) FAM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00374659 | 0 |
| mean control..... | 0.00181488 | 0 |
| std mean diff..... | 3.16173 | 0 |
| mean raw eQQ diff..... | 0.00190736 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000965856 | 0 |
| med eCDF diff..... | 0.000965856 | 0 |
| max eCDF diff..... | 0.00193171 | 0 |
| var ratio (Tr/Co)..... | 2.06049 | NaN |
| T-test p-value..... | 0.000255795 | 1 |

***** (V32) FIN *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0117166 | 0 |
| mean control..... | 0.0448126 | 0 |
| std mean diff..... | -30.7552 | 0 |
| mean raw eQQ diff..... | 0.0331063 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.016548 | 0 |
| med eCDF diff..... | 0.016548 | 0 |
| max eCDF diff..... | 0.033096 | 0 |
| var ratio (Tr/Co)..... | 0.270532 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V33) FIR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0023842 | 0 |
| mean control..... | 0.00163749 | 0 |
| std mean diff..... | 1.53103 | 0 |
| mean raw eQQ diff..... | 0.000749319 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000373354 | 0 |
| med eCDF diff..... | 0.000373354 | 0 |
| max eCDF diff..... | 0.000746709 | 0 |
| var ratio (Tr/Co)..... | 1.455 | NaN |
| T-test p-value..... | 0.0820244 | 1 |

***** (V34) FOO *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00367847 | 0 |
| mean control..... | 0.0156107 | 0 |
| std mean diff..... | -19.7094 | 0 |
| mean raw eQQ diff..... | 0.011921 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00596612 | 0 |
| med eCDF diff..... | 0.00596612 | 0 |
| max eCDF diff..... | 0.0119322 | 0 |
| var ratio (Tr/Co)..... | 0.238507 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V35) FOR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0145777 | 0 |
| mean control..... | 0.0156517 | 0 |
| std mean diff..... | -0.89605 | 0 |
| mean raw eQQ diff..... | 0.00108992 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000536998 | 0 |
| med eCDF diff..... | 0.000536998 | 0 |
| max eCDF diff..... | 0.001074 | 0 |
| var ratio (Tr/Co)..... | 0.932448 | NaN |
| T-test p-value..... | 0.324634 | 1 |

***** (V36) FUE *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00715259 | 0 |
| mean control..... | 0.0156653 | 0 |
| std mean diff..... | -10.1014 | 0 |

mean raw eQQ diff..... 0.00851499 0
med raw eQQ diff..... 0 0
max raw eQQ diff..... 1 0

mean eCDF diff..... 0.00425635 0
med eCDF diff..... 0.00425635 0
max eCDF diff..... 0.00851271 0

var ratio (Tr/Co)..... 0.460562 NaN
T-test p-value..... < 2.22e-16 1

***** (V37) GAM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00381471 | 0 |
| mean control..... | 0.0134001 | 0 |
| std mean diff..... | -15.5487 | 0 |
| mean raw eQQ diff..... | 0.0096049 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0047927 | 0 |
| med eCDF diff..... | 0.0047927 | 0 |
| max eCDF diff..... | 0.00958539 | 0 |
| var ratio (Tr/Co)..... | 0.287459 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V38) GOV *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0196185 | 0.00684932 |
| mean control..... | 0.0417696 | 0.00684932 |
| std mean diff..... | -15.9716 | 0 |
| mean raw eQQ diff..... | 0.022139 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0110755 | 0 |
| med eCDF diff..... | 0.0110755 | 0 |
| max eCDF diff..... | 0.022151 | 0 |
| var ratio (Tr/Co)..... | 0.480568 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V39) HCR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.101226 | 0.113394 |
| mean control..... | 0.119318 | 0.113394 |
| std mean diff..... | -5.99795 | 0 |
| mean raw eQQ diff..... | 0.0181199 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00904605 | 0 |
| med eCDF diff..... | 0.00904605 | 0 |
| max eCDF diff..... | 0.0180921 | 0 |
| var ratio (Tr/Co)..... | 0.865847 | 1 |
| T-test p-value..... | 5.92089e-11 | 1 |

***** (V40) HOU *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0161444 | 0 |
| mean control..... | 0.0273597 | 0 |
| std mean diff..... | -8.89853 | 0 |
| mean raw eQQ diff..... | 0.0112398 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00560764 | 0 |
| med eCDF diff..... | 0.00560764 | 0 |
| max eCDF diff..... | 0.0112153 | 0 |
| var ratio (Tr/Co)..... | 0.596917 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V41) IMM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00728883 | 0.00228311 |
| mean control..... | 0.0164022 | 0.00228311 |
| std mean diff..... | -10.7133 | 0 |
| mean raw eQQ diff..... | 0.00912807 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00455667 | 0 |
| med eCDF diff..... | 0.00455667 | 0 |
| max eCDF diff..... | 0.00911334 | 0 |
| var ratio (Tr/Co)..... | 0.448524 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V42) IND *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0247275 | 0.00380518 |
| mean control..... | 0.0163339 | 0.00380518 |
| std mean diff..... | 5.4048 | 0 |
| mean raw eQQ diff..... | 0.00837875 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00419679 | 0 |
| med eCDF diff..... | 0.00419679 | 0 |
| max eCDF diff..... | 0.00839358 | 0 |
| var ratio (Tr/Co)..... | 1.50104 | 1 |
| T-test p-value..... | 7.85898e-10 | 1 |

***** (V43) INS *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0130109 | 0 |
| mean control..... | 0.0234161 | 0 |
| std mean diff..... | -9.18173 | 0 |
| mean raw eQQ diff..... | 0.0104223 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00520259 | 0 |
| med eCDF diff..... | 0.00520259 | 0 |
| max eCDF diff..... | 0.0104052 | 0 |
| var ratio (Tr/Co)..... | 0.56159 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V44) LBR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0140327 | 0.000761035 |
| mean control..... | 0.0289426 | 0.000761035 |
| std mean diff..... | -12.6753 | 0 |
| mean raw eQQ diff..... | 0.0149183 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00745495 | 0 |
| med eCDF diff..... | 0.00745495 | 0 |
| max eCDF diff..... | 0.0149099 | 0 |
| var ratio (Tr/Co)..... | 0.492317 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V45) LAW *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0108992 | 0.00532725 |
| mean control..... | 0.0259951 | 0.00532725 |
| std mean diff..... | -14.5388 | 0 |
| mean raw eQQ diff..... | 0.0151226 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |

mean eCDF diff..... 0.00754797 0
med eCDF diff..... 0.00754797 0
max eCDF diff..... 0.0150959 0

var ratio (Tr/Co)..... 0.4258 1
T-test p-value..... < 2.22e-16 1

***** (V46) MAN *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00258856 | 0 |
| mean control..... | 0.00616787 | 0 |
| std mean diff..... | -7.044 | 0 |
| mean raw eQQ diff..... | 0.00361035 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00178966 | 0 |
| med eCDF diff..... | 0.00178966 | 0 |
| max eCDF diff..... | 0.00357931 | 0 |
| var ratio (Tr/Co)..... | 0.421218 | NaN |
| T-test p-value..... | 2.17137e-12 | 1 |

***** (V47) MAR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00572207 | 0.000761035 |
| mean control..... | 0.0215603 | 0.000761035 |
| std mean diff..... | -20.9971 | 0 |
| mean raw eQQ diff..... | 0.0158719 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00791909 | 0 |
| med eCDF diff..... | 0.00791909 | 0 |
| max eCDF diff..... | 0.0158382 | 0 |
| var ratio (Tr/Co)..... | 0.26971 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V48) MIA *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0010218 | 0 |
| mean control..... | 0.00315216 | 0 |
| std mean diff..... | -6.66774 | 0 |
| mean raw eQQ diff..... | 0.00217984 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00106518 | 0 |
| med eCDF diff..... | 0.00106518 | 0 |
| max eCDF diff..... | 0.00213037 | 0 |
| var ratio (Tr/Co)..... | 0.324868 | NaN |
| T-test p-value..... | 2.125e-10 | 1 |

***** (V49) MED *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0106267 | 0.00989346 |
| mean control..... | 0.0206051 | 0.00989346 |
| std mean diff..... | -9.73116 | 0 |
| mean raw eQQ diff..... | 0.0100136 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00498917 | 0 |
| med eCDF diff..... | 0.00498917 | 0 |
| max eCDF diff..... | 0.00997835 | 0 |
| var ratio (Tr/Co)..... | 0.521016 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V50) MMM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0863079 | 0.0707763 |
| mean control..... | 0.0618288 | 0.0707763 |
| std mean diff..... | 8.71677 | 0 |
| mean raw eQQ diff..... | 0.024455 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0122396 | 0 |
| med eCDF diff..... | 0.0122396 | 0 |
| max eCDF diff..... | 0.0244791 | 0 |
| var ratio (Tr/Co)..... | 1.35957 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V51) MON *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00013624 | 0 |
| mean control..... | 0.00199228 | 0 |
| std mean diff..... | -15.9019 | 0 |
| mean raw eQQ diff..... | 0.00190736 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000928018 | 0 |
| med eCDF diff..... | 0.000928018 | 0 |
| max eCDF diff..... | 0.00185604 | 0 |
| var ratio (Tr/Co)..... | 0.0685149 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V52) NAT *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0224114 | 0.0205479 |
| mean control..... | 0.0294884 | 0.0205479 |
| std mean diff..... | -4.78101 | 0 |
| mean raw eQQ diff..... | 0.00708447 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00353849 | 0 |
| med eCDF diff..... | 0.00353849 | 0 |
| max eCDF diff..... | 0.00707698 | 0 |
| var ratio (Tr/Co)..... | 0.765592 | 1 |
| T-test p-value..... | 2.52756e-07 | 1 |

***** (V53) PHA *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00701635 | 0 |
| mean control..... | 0.0168388 | 0 |
| std mean diff..... | -11.7674 | 0 |
| mean raw eQQ diff..... | 0.00980926 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00491124 | 0 |
| med eCDF diff..... | 0.00491124 | 0 |
| max eCDF diff..... | 0.00982248 | 0 |
| var ratio (Tr/Co)..... | 0.420863 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V54) POS *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00252044 | 0 |
| mean control..... | 0.00750515 | 0 |
| std mean diff..... | -9.94113 | 0 |
| mean raw eQQ diff..... | 0.00497275 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00249236 | 0 |
| med eCDF diff..... | 0.00249236 | 0 |

max eCDF diff..... 0.00498472 0

var ratio (Tr/Co)..... 0.337533 NaN
T-test p-value..... < 2.22e-16 1

***** (V55) RRR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00429155 | 0 |
| mean control..... | 0.0115306 | 0 |
| std mean diff..... | -11.0738 | 0 |
| mean raw eQQ diff..... | 0.00728883 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00361954 | 0 |
| med eCDF diff..... | 0.00361954 | 0 |
| max eCDF diff..... | 0.00723909 | 0 |

var ratio (Tr/Co)..... 0.374933 NaN
T-test p-value..... < 2.22e-16 1

***** (V56) RES *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00885559 | 0 |
| mean control..... | 0.0133728 | 0 |
| std mean diff..... | -4.82148 | 0 |
| mean raw eQQ diff..... | 0.00456403 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00225861 | 0 |
| med eCDF diff..... | 0.00225861 | 0 |
| max eCDF diff..... | 0.00451723 | 0 |

var ratio (Tr/Co)..... 0.665276 NaN
T-test p-value..... 3.05618e-07 1

***** (V57) REL *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0 | 0 |
| mean control..... | 0.000272915 | 0 |
| std mean diff..... | -Inf | 0 |
| mean raw eQQ diff..... | 0.00027248 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000136457 | 0 |
| med eCDF diff..... | 0.000136457 | 0 |
| max eCDF diff..... | 0.000272915 | 0 |

var ratio (Tr/Co)..... 0 NaN
T-test p-value..... 7.73483e-06 1

***** (V58) RET *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00265668 | 0 |
| mean control..... | 0.0160883 | 0 |
| std mean diff..... | -26.0929 | 0 |
| mean raw eQQ diff..... | 0.0134196 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00671582 | 0 |
| med eCDF diff..... | 0.00671582 | 0 |
| max eCDF diff..... | 0.0134316 | 0 |

var ratio (Tr/Co)..... 0.167394 NaN
T-test p-value..... < 2.22e-16 1

***** (V59) ROD *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00408719 | 0 |
| mean control..... | 0.012595 | 0 |
| std mean diff..... | -13.3346 | 0 |
| mean raw eQQ diff..... | 0.00851499 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00425391 | 0 |
| med eCDF diff..... | 0.00425391 | 0 |
| max eCDF diff..... | 0.00850781 | 0 |

var ratio (Tr/Co)..... 0.327323 NaN
T-test p-value..... < 2.22e-16 1

***** (V60) SCI *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00926431 | 0 |
| mean control..... | 0.0221197 | 0 |
| std mean diff..... | -13.418 | 0 |
| mean raw eQQ diff..... | 0.0128747 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00642771 | 0 |
| med eCDF diff..... | 0.00642771 | 0 |
| max eCDF diff..... | 0.0128554 | 0 |

var ratio (Tr/Co)..... 0.424355 NaN
T-test p-value..... < 2.22e-16 1

***** (V61) SMB *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00919619 | 0.00532725 |
| mean control..... | 0.00675464 | 0.00532725 |
| std mean diff..... | 2.55772 | 0 |
| mean raw eQQ diff..... | 0.00245232 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00122077 | 0 |
| med eCDF diff..... | 0.00122077 | 0 |
| max eCDF diff..... | 0.00244155 | 0 |

var ratio (Tr/Co)..... 1.35819 1
T-test p-value..... 0.00382065 1

***** (V62) SPO *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 6.81199e-05 | 0 |
| mean control..... | 0.00159655 | 0 |
| std mean diff..... | -18.5186 | 0 |
| mean raw eQQ diff..... | 0.00156676 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000764215 | 0 |
| med eCDF diff..... | 0.000764215 | 0 |
| max eCDF diff..... | 0.00152843 | 0 |

var ratio (Tr/Co)..... 0.0427346 NaN
T-test p-value..... < 2.22e-16 1

***** (V63) TAX *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0634877 | 0.0197869 |
| mean control..... | 0.124012 | 0.0197869 |
| std mean diff..... | -24.8208 | 0 |
| mean raw eQQ diff..... | 0.0605586 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0302623 | 0 |
| med eCDF diff..... | 0.0302623 | 0 |
| max eCDF diff..... | 0.0605247 | 0 |

var ratio (Tr/Co)..... 0.547349 1

T-test p-value..... < 2.22e-16 1

***** (V64) TEC *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0300409 | 0.0114155 |
| mean control..... | 0.0576532 | 0.0114155 |
| std mean diff..... | -16.1754 | 0 |
| mean raw eQQ diff..... | 0.0276567 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0138062 | 0 |
| med eCDF diff..... | 0.0138062 | 0 |
| max eCDF diff..... | 0.0276123 | 0 |
| var ratio (Tr/Co)..... | 0.536359 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V65) TOB *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00749319 | 0 |
| mean control..... | 0.0100705 | 0 |
| std mean diff..... | -2.98855 | 0 |
| mean raw eQQ diff..... | 0.00258856 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00128868 | 0 |
| med eCDF diff..... | 0.00128868 | 0 |
| max eCDF diff..... | 0.00257736 | 0 |
| var ratio (Tr/Co)..... | 0.746047 | NaN |
| T-test p-value..... | 0.00130636 | 1 |

***** (V66) TOR *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00197548 | 0 |
| mean control..... | 0.0125677 | 0 |
| std mean diff..... | -23.8543 | 0 |
| mean raw eQQ diff..... | 0.0106267 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00529612 | 0 |
| med eCDF diff..... | 0.00529612 | 0 |
| max eCDF diff..... | 0.0105922 | 0 |
| var ratio (Tr/Co)..... | 0.158881 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V67) TRD *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0748638 | 0.0509893 |
| mean control..... | 0.0618288 | 0.0509893 |
| std mean diff..... | 4.95286 | 0 |
| mean raw eQQ diff..... | 0.0130109 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00651748 | 0 |
| med eCDF diff..... | 0.00651748 | 0 |
| max eCDF diff..... | 0.013035 | 0 |
| var ratio (Tr/Co)..... | 1.19407 | 1 |
| T-test p-value..... | 2.84098e-08 | 1 |

***** (V68) TRA *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0484332 | 0.06621 |
| mean control..... | 0.0925317 | 0.06621 |
| std mean diff..... | -20.5408 | 0 |
| mean raw eQQ diff..... | 0.0441417 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0220492 | 0 |
| med eCDF diff..... | 0.0220492 | 0 |
| max eCDF diff..... | 0.0440984 | 0 |
| var ratio (Tr/Co)..... | 0.548889 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V69) TOU *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.000681199 | 0 |
| mean control..... | 0.00588131 | 0 |
| std mean diff..... | -19.9301 | 0 |
| mean raw eQQ diff..... | 0.00524523 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00260006 | 0 |
| med eCDF diff..... | 0.00260006 | 0 |
| max eCDF diff..... | 0.00520011 | 0 |
| var ratio (Tr/Co)..... | 0.116437 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V70) TRU *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00149864 | 0 |
| mean control..... | 0.00274279 | 0 |
| std mean diff..... | -3.21615 | 0 |
| mean raw eQQ diff..... | 0.00129428 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000622077 | 0 |
| med eCDF diff..... | 0.000622077 | 0 |
| max eCDF diff..... | 0.00124415 | 0 |
| var ratio (Tr/Co)..... | 0.547103 | NaN |
| T-test p-value..... | 0.000857571 | 1 |

***** (V71) UNM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0 | 0 |
| mean control..... | 0.000463955 | 0 |
| std mean diff..... | -Inf | 0 |
| mean raw eQQ diff..... | 0.000476839 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000231977 | 0 |
| med eCDF diff..... | 0.000231977 | 0 |
| max eCDF diff..... | 0.000463955 | 0 |
| var ratio (Tr/Co)..... | 0 | NaN |
| T-test p-value..... | 5.49087e-09 | 1 |

***** (V72) URB *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00354223 | 0 |
| mean control..... | 0.0136457 | 0 |
| std mean diff..... | -17.0055 | 0 |
| mean raw eQQ diff..... | 0.0101499 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00505175 | 0 |
| med eCDF diff..... | 0.00505175 | 0 |
| max eCDF diff..... | 0.0101035 | 0 |
| var ratio (Tr/Co)..... | 0.262259 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V73) UTI *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.010218 | 0.00152207 |
| mean control..... | 0.0156926 | 0.00152207 |
| std mean diff..... | -5.44359 | 0 |
| mean raw eQQ diff..... | 0.00551771 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0027373 | 0 |
| med eCDF diff..... | 0.0027373 | 0 |
| max eCDF diff..... | 0.00547461 | 0 |
| var ratio (Tr/Co)..... | 0.654792 | 1 |
| T-test p-value..... | 7.95114e-09 | 1 |

***** (V74) VET *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00538147 | 0 |
| mean control..... | 0.00616787 | 0 |
| std mean diff..... | -1.07485 | 0 |
| mean raw eQQ diff..... | 0.000817439 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000393199 | 0 |
| med eCDF diff..... | 0.000393199 | 0 |
| max eCDF diff..... | 0.000786398 | 0 |
| var ratio (Tr/Co)..... | 0.873239 | NaN |
| T-test p-value..... | 0.240194 | 1 |

***** (V75) WAS *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00429155 | 0.00152207 |
| mean control..... | 0.0106437 | 0.00152207 |
| std mean diff..... | -9.71696 | 0 |
| mean raw eQQ diff..... | 0.00640327 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00317606 | 0 |
| med eCDF diff..... | 0.00317606 | 0 |
| max eCDF diff..... | 0.00635212 | 0 |
| var ratio (Tr/Co)..... | 0.405813 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V76) WEL *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.001703 | 0 |
| mean control..... | 0.00347966 | 0 |
| std mean diff..... | -4.30877 | 0 |
| mean raw eQQ diff..... | 0.00177112 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000888332 | 0 |
| med eCDF diff..... | 0.000888332 | 0 |
| max eCDF diff..... | 0.00177666 | 0 |
| var ratio (Tr/Co)..... | 0.490314 | NaN |
| T-test p-value..... | 1.09271e-05 | 1 |

***** (V77) HOM *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.00974114 | 0 |
| mean control..... | 0.0322858 | 0 |
| std mean diff..... | -22.9535 | 0 |
| mean raw eQQ diff..... | 0.0225477 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0112723 | 0 |
| med eCDF diff..... | 0.0112723 | 0 |
| max eCDF diff..... | 0.0225447 | 0 |
| var ratio (Tr/Co)..... | 0.308762 | NaN |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V78) INT *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 6.81199e-05 | 0 |
| mean control..... | 0.000777807 | 0 |
| std mean diff..... | -8.59864 | 0 |
| mean raw eQQ diff..... | 0.000749319 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000354843 | 0 |
| med eCDF diff..... | 0.000354843 | 0 |
| max eCDF diff..... | 0.000709687 | 0 |
| var ratio (Tr/Co)..... | 0.0876465 | NaN |
| T-test p-value..... | 9.08368e-09 | 1 |

***** (V79) n_reports *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 16.5657 | 16.6414 |
| mean control..... | 34.8071 | 16.9014 |
| std mean diff..... | -91.7258 | -2.09714 |
| mean raw eQQ diff..... | 18.2689 | 0.902095 |
| med raw eQQ diff..... | 16.25 | 0.666667 |
| max raw eQQ diff..... | 579.5 | 8.66667 |
| mean eCDF diff..... | 0.173124 | 0.0167417 |
| med eCDF diff..... | 0.154215 | 0.0140777 |
| max eCDF diff..... | 0.400373 | 0.101456 |
| var ratio (Tr/Co)..... | 0.451037 | 0.954752 |
| T-test p-value..... | < 2.22e-16 | 0.00563535 |
| KS Bootstrap p-value.. | < 2.22e-16 | < 2.22e-16 |
| KS Naive p-value..... | < 2.22e-16 | 1.2362e-09 |
| KS Statistic..... | 0.400373 | 0.101456 |

***** (V80) nyears *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 6.91139 | 8.69934 |
| mean control..... | 8.04438 | 8.70525 |
| std mean diff..... | -44.0762 | -0.290482 |
| mean raw eQQ diff..... | 1.13957 | 0.0606877 |
| med raw eQQ diff..... | 1.25 | 0 |
| max raw eQQ diff..... | 2.84615 | 0.5 |
| mean eCDF diff..... | 0.157673 | 0.00624133 |
| med eCDF diff..... | 0.174166 | 0.00291262 |
| max eCDF diff..... | 0.237855 | 0.0786408 |
| var ratio (Tr/Co)..... | 2.08511 | 1.0327 |
| T-test p-value..... | < 2.22e-16 | 0.284 |
| KS Bootstrap p-value.. | < 2.22e-16 | < 2.22e-16 |
| KS Naive p-value..... | < 2.22e-16 | 5.86412e-06 |
| KS Statistic..... | 0.237855 | 0.0786408 |

***** (V81) tenure *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 3.48648 | 4.95729 |
| mean control..... | 4.17956 | 4.94992 |
| std mean diff..... | -28.5042 | 0.290127 |
| mean raw eQQ diff..... | 0.693026 | 0.030534 |
| med raw eQQ diff..... | 0.75 | 0 |
| max raw eQQ diff..... | 1 | 0.5 |
| mean eCDF diff..... | 0.0932091 | 0.00391736 |
| med eCDF diff..... | 0.103987 | 0.00242718 |
| max eCDF diff..... | 0.131927 | 0.0194175 |
| var ratio (Tr/Co)..... | 1.02694 | 1.00139 |

| | |
|---|---|
| T-test p-value..... | < 2.22e-16 |
| KS Bootstrap p-value.. | < 2.22e-16 |
| KS Naive p-value..... | < 2.22e-16 |
| KS Statistic..... | 0.131927 |

| | |
|---|---|
| | 0.135413 |
| | 0.618 |
| | 0.832189 |
| | 0.0194175 |

***** (V82) n_lobbyists *****

| Before Matching | After Matching |
|---|---|
| mean treatment..... 2.50409 | 1.68417 |
| mean control..... 3.77113 | 1.68417 |
| std mean diff..... -65.7645 | 0 |
| mean raw eQQ diff..... 1.2701 | 0 |
| med raw eQQ diff..... 1 | 0 |
| max raw eQQ diff..... 70 | 0 |
| mean eCDF diff..... 0.0214356 | 0 |
| med eCDF diff..... 0.000723332 | 0 |
| max eCDF diff..... 0.183295 | 0 |
| var ratio (Tr/Co)..... 0.306087 | 1 |
| T-test p-value..... < 2.22e-16 | 1 |
| KS Bootstrap p-value.. < 2.22e-16 | 1 |
| KS Naive p-value..... < 2.22e-16 | 1 |
| KS Statistic..... 0.183295 | 0 |

***** (V83) typer *****

| Before Matching | After Matching |
|---|---|
| mean treatment..... 4.25858 | 4.19939 |
| mean control..... 4.27934 | 4.19939 |
| std mean diff..... -1.27936 | 0 |
| mean raw eQQ diff..... 0.0547684 | 0 |
| med raw eQQ diff..... 0 | 0 |
| max raw eQQ diff..... 2 | 0 |
| mean eCDF diff..... 0.00913213 | 0 |
| med eCDF diff..... 0.0124663 | 0 |
| max eCDF diff..... 0.014792 | 0 |
| var ratio (Tr/Co)..... 1.02401 | 1 |
| T-test p-value..... 0.156318 | 1 |
| KS Bootstrap p-value.. 0.003 | 1 |
| KS Naive p-value..... 0.00947782 | 1 |
| KS Statistic..... 0.014792 | 0 |

***** (V84) hon *****

| Before Matching | After Matching |
|---|---|
| mean treatment..... 0.0160844 | 0.000887874 |
| mean control..... 0.0466535 | 0.000951294 |
| std mean diff..... -28.0023 | -0.390572 |
| mean raw eQQ diff..... 0.030587 | 0.000283172 |
| med raw eQQ diff..... 0 | 0 |
| max raw eQQ diff..... 0.5 | 0.25 |
| mean eCDF diff..... 0.0550274 | 0.000364078 |
| med eCDF diff..... 0.063521 | 0.000242718 |
| max eCDF diff..... 0.083117 | 0.000970874 |
| var ratio (Tr/Co)..... 0.453756 | 0.616746 |
| T-test p-value..... < 2.22e-16 | 0.808399 |
| KS Bootstrap p-value.. < 2.22e-16 | 0.706 |
| KS Naive p-value..... < 2.22e-16 | 1 |
| KS Statistic..... 0.083117 | 0.000970874 |

***** (V85) republican *****

| Before Matching | After Matching |
|---|---|
| mean treatment..... 0.14313 | 0.0862506 |
| mean control..... 0.305882 | 0.107293 |
| std mean diff..... -53.5983 | -9.83661 |
| mean raw eQQ diff..... 0.162757 | 0.0160113 |
| med raw eQQ diff..... 0 | 0 |
| max raw eQQ diff..... 0.6 | 0.5 |
| mean eCDF diff..... 0.210442 | 0.0118662 |
| med eCDF diff..... 0.232261 | 0.00533981 |
| max eCDF diff..... 0.288416 | 0.0339806 |
| var ratio (Tr/Co)..... 0.682956 | 0.639483 |
| T-test p-value..... < 2.22e-16 | 4.69294e-05 |
| KS Bootstrap p-value.. < 2.22e-16 | 0.001 |
| KS Naive p-value..... < 2.22e-16 | 0.185205 |
| KS Statistic..... 0.288416 | 0.0339806 |

***** (V86) democrat *****

| Before Matching | After Matching |
|---|---|
| mean treatment..... 0.114921 | 0.0628742 |
| mean control..... 0.266241 | 0.0959919 |
| std mean diff..... -53.2933 | -16.7687 |
| mean raw eQQ diff..... 0.151321 | 0.0388026 |
| med raw eQQ diff..... 0 | 0 |
| max raw eQQ diff..... 0.666667 | 0.5 |
| mean eCDF diff..... 0.209771 | 0.038835 |
| med eCDF diff..... 0.224326 | 0.034466 |
| max eCDF diff..... 0.291031 | 0.0800971 |
| var ratio (Tr/Co)..... 0.653504 | 0.820738 |
| T-test p-value..... < 2.22e-16 | 2.89051e-10 |
| KS Bootstrap p-value.. < 2.22e-16 | < 2.22e-16 |
| KS Naive p-value..... < 2.22e-16 | 3.64238e-06 |
| KS Statistic..... 0.291031 | 0.0800971 |

***** (V87) house *****

| Before Matching | After Matching |
|---|---|
| mean treatment..... 0.0360674 | 0.00145865 |
| mean control..... 0.0551789 | 0.00120497 |
| std mean diff..... -11.4772 | 0.892942 |
| mean raw eQQ diff..... 0.0205655 | 0.000161812 |
| med raw eQQ diff..... 0 | 0 |
| max raw eQQ diff..... 0.5 | 0.166667 |
| mean eCDF diff..... 0.0451373 | 0.000194175 |
| med eCDF diff..... 0.0526829 | 0 |
| max eCDF diff..... 0.0721082 | 0.000970874 |
| var ratio (Tr/Co)..... 0.876876 | 1.57764 |
| T-test p-value..... < 2.22e-16 | 0.15722 |
| KS Bootstrap p-value.. < 2.22e-16 | 0.782 |
| KS Naive p-value..... < 2.22e-16 | 1 |
| KS Statistic..... 0.0721082 | 0.000970874 |

***** (V88) senat *****

| Before Matching | After Matching |
|---|---|
| mean treatment..... 0.13937 | 0.0707382 |
| mean control..... 0.311657 | 0.0715627 |
| std mean diff..... -56.4279 | -0.4197 |
| mean raw eQQ diff..... 0.172291 | 0.00679612 |
| med raw eQQ diff..... 0 | 0 |
| max raw eQQ diff..... 0.625 | 0.333333 |
| mean eCDF diff..... 0.212255 | 0.00528587 |
| med eCDF diff..... 0.21073 | 0.00485437 |
| max eCDF diff..... 0.308911 | 0.0135922 |
| var ratio (Tr/Co)..... 0.691904 | 0.936508 |
| T-test p-value..... < 2.22e-16 | 0.871458 |
| KS Bootstrap p-value.. < 2.22e-16 | 0.226 |
| KS Naive p-value..... < 2.22e-16 | 0.991215 |
| KS Statistic..... 0.308911 | 0.0135922 |

***** (V89) whitehouse *****

| Before Matching | After Matching |
|---|---|
| mean treatment..... 0.0418132 | 0.00310756 |
| mean control..... 0.0744623 | 0.00659564 |
| std mean diff..... -18.0282 | -9.57003 |
| mean raw eQQ diff..... 0.0344546 | 0.00190129 |
| med raw eQQ diff..... 0 | 0 |
| max raw eQQ diff..... 0.5 | 0.333333 |
| mean eCDF diff..... 0.0712823 | 0.00291262 |
| med eCDF diff..... 0.0805778 | 0.00291262 |

max  eCDF diff..... 0.110982 0.00582524

var ratio (Tr/Co)..... 0.814601 0.551097
T-test p-value..... < 2.22e-16 0.00197381
KS Bootstrap p-value.. < 2.22e-16 0.073
KS Naive p-value..... < 2.22e-16 1
KS Statistic..... 0.110982 0.00582524

***** (V90) aide *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.198325 | 0.107141 |
| mean control..... | 0.301016 | 0.101395 |
| std mean diff..... | -29.0148 | 2.2425 |
| mean raw eQQ diff..... | 0.102697 | 0.0134547 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 0.5 | 0.5 |
| mean eCDF diff..... | 0.140668 | 0.0092233 |
| med eCDF diff..... | 0.174908 | 0.00145631 |
| max eCDF diff..... | 0.22313 | 0.0271845 |
| var ratio (Tr/Co)..... | 0.977347 | 1.17609 |
| T-test p-value..... | < 2.22e-16 | 0.256022 |
| KS Bootstrap p-value.. | < 2.22e-16 | 0.02 |
| KS Naive p-value..... | < 2.22e-16 | 0.431875 |
| KS Statistic..... | 0.22313 | 0.0271845 |

***** (V91) clerk *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0231304 | 0 |
| mean control..... | 0.017862 | 0 |
| std mean diff..... | 3.85896 | 0 |
| mean raw eQQ diff..... | 0.00575306 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 0.5 | 0 |
| mean eCDF diff..... | 0.00300472 | 0 |
| med eCDF diff..... | 0.00255144 | 0 |
| max eCDF diff..... | 0.00775158 | 0 |
| var ratio (Tr/Co)..... | 1.51858 | NaN |
| T-test p-value..... | 1.11545e-05 | 1 |
| KS Bootstrap p-value.. | < 2.22e-16 | 1 |
| KS Naive p-value..... | 0.454381 | 1 |
| KS Statistic..... | 0.00775158 | 0 |

***** (V92) counsel *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.125315 | 0.0446474 |
| mean control..... | 0.186871 | 0.0324328 |
| std mean diff..... | -21.2299 | 8.3408 |
| mean raw eQQ diff..... | 0.0615646 | 0.0266828 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 0.5 | 0.5 |
| mean eCDF diff..... | 0.0934782 | 0.0332524 |
| med eCDF diff..... | 0.0857061 | 0.0519417 |
| max eCDF diff..... | 0.159935 | 0.0548544 |
| var ratio (Tr/Co)..... | 0.858355 | 1.29648 |
| T-test p-value..... | < 2.22e-16 | 0.00655233 |
| KS Bootstrap p-value.. | < 2.22e-16 | < 2.22e-16 |
| KS Naive p-value..... | < 2.22e-16 | 0.00406478 |
| KS Statistic..... | 0.159935 | 0.0548544 |

***** (V93) experience *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.954182 | 0.994673 |
| mean control..... | 0.96172 | 0.993544 |
| std mean diff..... | -4.02928 | 1.5502 |
| mean raw eQQ diff..... | 0.0112025 | 0.000720065 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 0.5 | 0.333333 |
| mean eCDF diff..... | 0.0107267 | 0.00106796 |
| med eCDF diff..... | 0.0121239 | 0.000485437 |
| max eCDF diff..... | 0.0139174 | 0.00291262 |
| var ratio (Tr/Co)..... | 1.42098 | 0.950691 |
| T-test p-value..... | 4.89894e-06 | 0.015826 |
| KS Bootstrap p-value.. | < 2.22e-16 | 0.276 |
| KS Naive p-value..... | 0.0175164 | 1 |
| KS Statistic..... | 0.0139174 | 0.00291262 |

***** (V94) factor(typer)2 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.000613079 | 0 |
| mean control..... | 0.000177394 | 0 |
| std mean diff..... | 1.76008 | 0 |
| mean raw eQQ diff..... | 0.000408719 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000217842 | 0 |
| med eCDF diff..... | 0.000217842 | 0 |
| max eCDF diff..... | 0.000435685 | 0 |
| var ratio (Tr/Co)..... | 3.4547 | NaN |
| T-test p-value..... | 0.0381628 | 1 |

***** (V95) factor(typer)3 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.377589 | 0.366819 |
| mean control..... | 0.405224 | 0.366819 |
| std mean diff..... | -5.70029 | 0 |
| mean raw eQQ diff..... | 0.0276567 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0138175 | 0 |
| med eCDF diff..... | 0.0138175 | 0 |
| max eCDF diff..... | 0.027635 | 0 |
| var ratio (Tr/Co)..... | 0.97515 | 1 |
| T-test p-value..... | 3.225e-10 | 1 |

***** (V96) factor(typer)4 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0774523 | 0.0890411 |
| mean control..... | 0.0648854 | 0.0890411 |
| std mean diff..... | 4.70111 | 0 |
| mean raw eQQ diff..... | 0.0125341 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00628344 | 0 |
| med eCDF diff..... | 0.00628344 | 0 |
| max eCDF diff..... | 0.0125669 | 0 |
| var ratio (Tr/Co)..... | 1.1777 | 1 |
| T-test p-value..... | 1.41125e-07 | 1 |

***** (V97) factor(typer)5 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0773161 | 0.0730594 |
| mean control..... | 0.0625657 | 0.0730594 |
| std mean diff..... | 5.5224 | 0 |
| mean raw eQQ diff..... | 0.0147139 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0073752 | 0 |
| med eCDF diff..... | 0.0073752 | 0 |
| max eCDF diff..... | 0.0147504 | 0 |
| var ratio (Tr/Co)..... | 1.21638 | 1 |
| T-test p-value..... | 5.76064e-10 | 1 |

***** (V98) factor(typer)6 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.392234 | 0.381279 |
| mean control..... | 0.40476 | 0.381279 |
| std mean diff..... | -2.56527 | 0 |
| mean raw eQQ diff..... | 0.0125341 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00626265 | 0 |
| med eCDF diff..... | 0.00626265 | 0 |
| max eCDF diff..... | 0.0125253 | 0 |
| var ratio (Tr/Co)..... | 0.9895 | 1 |
| T-test p-value..... | 0.0045954 | 1 |

***** (V99) factor(Year)2000 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0597411 | 0.0585997 |
| mean control..... | 0.0564387 | 0.0585997 |
| std mean diff..... | 1.39333 | 0 |
| mean raw eQQ diff..... | 0.00326975 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0016512 | 0 |
| med eCDF diff..... | 0.0016512 | 0 |
| max eCDF diff..... | 0.00330241 | 0 |
| var ratio (Tr/Co)..... | 1.05487 | 1 |
| T-test p-value..... | 0.12173 | 1 |

***** (V100) factor(Year)2001 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0668937 | 0.0532725 |
| mean control..... | 0.0658679 | 0.0532725 |
| std mean diff..... | 0.410571 | 0 |
| mean raw eQQ diff..... | 0.0010218 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.000512898 | 0 |
| med eCDF diff..... | 0.000512898 | 0 |
| max eCDF diff..... | 0.0010258 | 0 |
| var ratio (Tr/Co)..... | 1.01451 | 1 |
| T-test p-value..... | 0.649408 | 1 |

***** (V101) factor(Year)2002 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0767711 | 0.0487062 |
| mean control..... | 0.0730319 | 0.0487062 |
| std mean diff..... | 1.40445 | 0 |
| mean raw eQQ diff..... | 0.00374659 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00186959 | 0 |
| med eCDF diff..... | 0.00186959 | 0 |
| max eCDF diff..... | 0.00373917 | 0 |
| var ratio (Tr/Co)..... | 1.04702 | 1 |
| T-test p-value..... | 0.119004 | 1 |

***** (V102) factor(Year)2003 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.068188 | 0.064688 |
| mean control..... | 0.0939645 | 0.064688 |
| std mean diff..... | -10.2256 | 0 |
| mean raw eQQ diff..... | 0.0258174 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0128882 | 0 |
| med eCDF diff..... | 0.0128882 | 0 |
| max eCDF diff..... | 0.0257765 | 0 |
| var ratio (Tr/Co)..... | 0.746365 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V103) factor(Year)2004 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0737057 | 0.0936073 |
| mean control..... | 0.101088 | 0.0936073 |
| std mean diff..... | -10.4791 | 0 |
| mean raw eQQ diff..... | 0.0273842 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0136909 | 0 |
| med eCDF diff..... | 0.0136909 | 0 |
| max eCDF diff..... | 0.0273818 | 0 |
| var ratio (Tr/Co)..... | 0.751378 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

***** (V104) factor(Year)2005 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.0958447 | 0.114916 |
| mean control..... | 0.117653 | 0.114916 |
| std mean diff..... | -7.40818 | 0 |
| mean raw eQQ diff..... | 0.0217984 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0109044 | 0 |
| med eCDF diff..... | 0.0109044 | 0 |
| max eCDF diff..... | 0.0218088 | 0 |
| var ratio (Tr/Co)..... | 0.834816 | 1 |
| T-test p-value..... | 8.88178e-16 | 1 |

***** (V105) factor(Year)2006 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.119414 | 0.107306 |
| mean control..... | 0.116644 | 0.107306 |
| std mean diff..... | 0.854329 | 0 |
| mean raw eQQ diff..... | 0.0027248 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00138524 | 0 |
| med eCDF diff..... | 0.00138524 | 0 |
| max eCDF diff..... | 0.00277047 | 0 |
| var ratio (Tr/Co)..... | 1.0206 | 1 |
| T-test p-value..... | 0.343958 | 1 |

***** (V106) factor(Year)2007 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.150477 | 0.179604 |
| mean control..... | 0.132159 | 0.179604 |
| std mean diff..... | 5.12318 | 0 |
| mean raw eQQ diff..... | 0.0183243 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.00915897 | 0 |
| med eCDF diff..... | 0.00915897 | 0 |
| max eCDF diff..... | 0.0183179 | 0 |
| var ratio (Tr/Co)..... | 1.11463 | 1 |
| T-test p-value..... | 1.11265e-08 | 1 |

***** (V107) factor(Year)2008 *****

| | Before Matching | After Matching |
|---|---|---|
| mean treatment..... | 0.230245 | 0.251903 |
| mean control..... | 0.19014 | 0.251903 |
| std mean diff..... | 9.52619 | 0 |
| mean raw eQQ diff..... | 0.0401226 | 0 |
| med raw eQQ diff..... | 0 | 0 |
| max raw eQQ diff..... | 1 | 0 |
| mean eCDF diff..... | 0.0200528 | 0 |
| med eCDF diff..... | 0.0200528 | 0 |
| max eCDF diff..... | 0.0401056 | 0 |
| var ratio (Tr/Co)..... | 1.15102 | 1 |
| T-test p-value..... | < 2.22e-16 | 1 |

*Notes:* The figure shows balancing results for the third specification of hypothesis 1, summarised in Table 4.1. The figure includes all matching variables which include the covered issues, denoted by their codes (see Table A.1), type of a report *(typer)* and other variables summarised in Table 4.1.

**Table A.3: H1 Robustness – Specification 1**

| log (report value) | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| Premium for Specialist compared to Connected | -0.049 | -0.056 | -0.052 | -0.041 | 0.008 | 0.079 |
| s.e. | [0.013] *** | [0.013] *** | [0.012] *** | [0.014] ** | [0.023] | [0.028] *** |
| Matching | | | | | | |
| Tenure | Yes | Yes | Yes | Yes | Yes | Yes |
| Number of active years | Yes | Yes | Yes | Yes | Yes | Yes |
| Number of lobbying records / year | Yes | Yes | Yes | Yes | Yes | Yes |
| Exact matching | | | | | | |
| Number of lobbyists | Yes | Yes | Yes | Yes | Yes | Yes |
| Matching on issues | Yes | Yes | Yes | Yes | Yes | Yes |
| Year | Yes | Yes | Yes | Yes | Yes | Yes |
| Caliper | 0.25 | 0.25 | 0.25 | 0.1 | 0.05 | 0.01 |
| Trimmed sample | 1% | 5% | 10% | - | - | - |
| Only lobbyists in Lobbyists.info sample | No | No | No | No | No | No |
| Original number of obs. | 98,494 | 94,696 | 86,391 | 100,001 | 100,001 | 100,001 |
| Original number of treated obs. | 20,663 | 20,096 | 18,447 | 20,923 | 20,923 | 20,923 |
| Matched number of observations | 4,926 | 4,884 | 4,244 | 2,512 | 1,664 | 1,192 |

*Notes:* The table shows results for robustness check to the specification 1 of the first hypothesis, summarised in Table 4.1. The first three specifications show results related to trimmed sample by one, five, and ten percent of the observations by excluding the reports with the largest and smallest report values. The second three specifications show results using a caliper level of 0.1, 0.05 and 0.01 standard deviations, meaning that only reports with characteristics not different in each matching variable by more than the related level of caliper are used as a match.

**Table A.4: H1 Robustness – Specification 2**

| log (report value) | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Premium for Specialist compared to Connected | -0.046 | -0.055 | -0.061 | -0.018 |
| s.e. | [0.016] *** | [0.015] *** | [0.015] *** | [0.023] ** |
| Matching | | | | |
| Tenure | Yes | Yes | Yes | Yes |
| Number of active years | Yes | Yes | Yes | Yes |
| Number of lobbying records / year | Yes | Yes | Yes | Yes |
| Exact matching | | | | |
| Number of lobbyists | Yes | Yes | Yes | - |
| Matching on issues | Yes | Yes | Yes | - |
| Year | Yes | Yes | Yes | - |
| Caliper | 0.25 | 0.25 | 0.25 | 0.1 |
| Trimmed sample | 1% | 5% | 10% | - |
| Only lobbyists in Lobbyists.info sample | No | No | No | No |
| Original number of obs. | 86,562 | 82,961 | 75,370 | 87,963 |
| Original number of treated obs. | 14,481 | 14,034 | 12,774 | 14,680 |
| Matched number of observations | 3,271 | 3,249 | 2,836 | 1,575 |

*Notes:* The table shows results for robustness check to the specification 2 of the first hypothesis, summarised in Table 4.1. The first three specifications show results related to trimmed sample by one, five, and ten percent of the observations by excluding the reports with the largest and smallest report values. The last specification shows results using a caliper level of 0.1 standard deviations, meaning that only reports with characteristics not different in each matching variable by more than the related level of caliper are used as a match. (The sample is much smaller for this specification. Therefore, more restrictive caliper of 0.05 and 0.01 presented in the robustness check of the first specification percent leads to insignificant results.)

**Table A.5: H1 robustness – Specification 3**

| log (report value) | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Premium for Specialist compared to Connected | -0.053 | -0.049 | -0.042 | -0.049 |
| s.e. | [0.025] ** | [0.025] ** | [0.025] * | [0.044] |
| Matching | | | | |
| Tenure | Yes | Yes | Yes | Yes |
| Number of active years | Yes | Yes | Yes | Yes |
| Number of lobbying records / year | Yes | Yes | Yes | Yes |
| Former member of Congress | Yes | Yes | Yes | Yes |
| Share Republicans | Yes | Yes | Yes | Yes |
| Share Democrats | Yes | Yes | Yes | Yes |
| Share with past experience in / as: | Yes | Yes | Yes | Yes |
| House (but not representative) | Yes | Yes | Yes | Yes |
| Senate (but not senator) | Yes | Yes | Yes | Yes |
| White House | Yes | Yes | Yes | Yes |
| Aide | Yes | Yes | Yes | Yes |
| Clerk | Yes | Yes | Yes | Yes |
| Counsel | Yes | Yes | Yes | Yes |
| Exact matching | Yes | Yes | Yes | Yes |
| Number of lobbyists | Yes | Yes | Yes | Yes |
| Matching on issues | Yes | Yes | Yes | Yes |
| Year | Yes | Yes | Yes | Yes |
| Caliper | 0.25 | 0.25 | 0.25 | 0.1 |
| Trimmed sample | 1% | 5% | 10% | - |
| Only lobbyists in Lobbyists.info sample | Yes | Yes | Yes | Yes |
| Original number of obs. | 86,562 | 82,961 | 75,370 | 87,963 |
| Original number of treated obs. | 14,481 | 14,034 | 12,774 | 14,680 |
| Matched number of observations | 3,271 | 3,249 | 2,836 | 1,575 |

*Notes:* The table shows results for robustness check to the specification 3 of the first hypothesis, summarised in Table 4.1. The first three specifications show results related to trimmed sample by one, five, and ten percent of the observations by excluding the reports with the largest and smallest report values. The last specification shows results using a caliper level of 0.1 standard deviations, meaning that only reports with characteristics not different in each matching variable by more than the related level of caliper are used as a match. (The sample is much smaller for this specification. Therefore, more restrictive caliper of 0.05 and 0.01 presented in the robustness check of the first specification percent leads to insignificant results.)

**Figure A.4: Hausman test H2 – Number of committees – Specification 1**

| | Coefficients (b) spec_1_fe | (B) spec_1_re | (b-B) Difference | sqrt(diag(V_b-V_B)) S.E. |
|---|---|---|---|---|
| Numcom | -.0165317 | .020417 | -.0369487 | .0255915 |
| GRIm | .075672 | .1714922 | -.0958202 | .0481872 |
| numcontr | .0045789 | .0052659 | -.000687 | .0000881 |
| 108bn.cong | .1994532 | .1819481 | .0175051 | . |
| 109.cong | .3527844 | .3265695 | .0262149 | . |
| 110.cong | .3400024 | .3023389 | .0376635 | .0063475 |

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 60.63
Prob>chi2 = 0.0000

*Notes:* This figure relates to the estimation in the Table 4.7

**Figure A.5: Hausman test H2 – Number of committees – Specification 2**

| | Coefficients (b) spec_2_fe | (B) spec_2_re | (b-B) Difference | sqrt(diag(V_b-V_B)) S.E. |
|---|---|---|---|---|
| Numcom | -.0135707 | .0333807 | -.0469514 | .025783 |
| GRIm | .4896136 | .7058699 | -.2162564 | .1425341 |
| GRIm_sq | -.1892669 | -.2418367 | .0525698 | .0615192 |
| numcontr | .0045652 | .0052314 | -.0006662 | .0000903 |
| 108bn.cong | .1927793 | .1739265 | .0188528 | . |
| 109.cong | .3455476 | .3181212 | .0274264 | . |
| 110.cong | .3343484 | .295546 | .0388024 | .0074794 |

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(7) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 54.58
Prob>chi2 = 0.0000

*Notes:* This figure relates to the estimation in the Table 4.7

**Figure A.6: Hausman test H2 – Number of committees – Specification 3**

| | Coefficients (b) spec_3_fe | (B) spec_3_re | (b-B) Difference | sqrt(diag(V_b-V_B)) S.E. |
|---|---|---|---|---|
| Numcom | .2195662 | .0213365 | .1982297 | .0609972 |
| Numcom_sq | -.0402097 | -.0001305 | -.0400792 | .0096675 |
| GRIm | .0925015 | .1720208 | -.0795193 | .0478927 |
| numcontr | .0045694 | .0052764 | -.000707 | .000086 |
| 108bn.cong | .2012985 | .181772 | .0195265 | . |
| 109.cong | .3564082 | .3262682 | .03014 | . |
| 110.cong | .3468812 | .3019821 | .0448991 | .0039268 |

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(7) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 83.75
Prob>chi2 = 0.0000

*Notes:* This figure relates to the estimation in the Table 4.7

**Figure A.7: Hausman test H2 – Number of committees – Specification 4**

| | Coefficients (b) spec_4_fe | (B) spec_4_re | (b-B) Difference | sqrt(diag(V_b-V_B)) S.E. |
|---|---|---|---|---|
| Numcom | .2416224 | .1094749 | .1321475 | .0604174 |
| Numcom_sq | -.0434268 | -.0127541 | -.0306727 | .0096238 |
| GRIm | .5365284 | .7278209 | -.1912925 | .1411749 |
| GRIm_sq | -.2024071 | -.2482478 | .0458407 | .0611155 |
| numcontr | .0045539 | .0052276 | -.0006737 | .0000886 |
| 108bn.cong | .1943088 | .1738808 | .020428 | . |
| 109.cong | .3489589 | .3186217 | .0303372 | . |
| 110.cong | .3413849 | .2969599 | .044425 | .0065347 |

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(8) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 68.31
Prob>chi2 = 0.0000

*Notes:* This figure relates to the estimation in the Table 4.7

**Figure A.8: Wald test for heteroskedasticity and an F-test for time fixed effects – H2 – Number of committees – Specification 1**

```
Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model

H0: sigma(i)^2 = sigma^2 for all i

chi2 (368)  =   4.4e+31
Prob>chi2 =      0.0000


. testparm i.cong

 ( 1)  108.cong = 0
 ( 2)  109.cong = 0
 ( 3)  110.cong = 0

       F(  3,  1067) =   17.41
            Prob > F =    0.0000
```

*Notes:* This figure relates to the estimation in the Table 4.7

**Figure A.9: Wald test for heteroskedasticity and an F-test for time fixed effects – H2 – Number of committees – Specification 3**

```
Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model

H0: sigma(i)^2 = sigma^2 for all i

chi2 (368)  =   4.2e+31
Prob>chi2 =      0.0000


. testparm i.cong

 ( 1)  108.cong = 0
 ( 2)  109.cong = 0
 ( 3)  110.cong = 0

       F(  3,  1066) =   17.98
            Prob > F =    0.0000
```

*Notes:* This figure relates to the estimation in the Table 4.7

**Figure A.10: Wald test for heteroskedasticity and an F-test for time fixed effects – H2 – Number of committees – Specification 2**

```
Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model

H0: sigma(i)^2 = sigma^2 for all i

chi2 (368)  =   2.4e+29
Prob>chi2 =      0.0000


. testparm i.cong

 ( 1)  108.cong = 0
 ( 2)  109.cong = 0
 ( 3)  110.cong = 0

       F(  3,  1066) =   16.83
            Prob > F =    0.0000
```

*Notes:* This figure relates to the estimation in the Table 4.7

**Figure A.11: Wald test for heteroskedasticity and an F-test for time fixed effects – H2 – Number of committees – Specification 4**

```
H0: sigma(i)^2 = sigma^2 for all i

chi2 (368)  =   5.4e+31
Prob>chi2 =      0.0000


. testparm i.cong

 ( 1)  108.cong = 0
 ( 2)  109.cong = 0
 ( 3)  110.cong = 0

       F(  3,  1065) =   17.41
            Prob > F =    0.0000
```

*Notes:* This figure relates to the estimation in the Table 4.7