JCMS JOURNAL OF COMMON MARKET STUDIES
UACES
JCMS 2024 pp. 1–13 DOI: 10.1111/jcms.13714

Brussels-Based Think Tanks in Times of Crisis: Examining Think Tank Climate Publication and Networking Activities During Brexit

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Abstract

The European Union (EU) relies on the input of scientific knowledge and external policy advice to develop and justify its climate policy. This link between the EU and external policy actors, including Brussels-based think tanks, has emboldened amid multiple crises faced by the EU. Using crisis, Brussels-based think tanks may alter their activities by acting strategically in attempts to influence EU policy-making and enhance their prominence by promoting ideas, knowledge and policy recommendations. This research note sets out to examine the climate policy link between the EU and Brussels-based think tanks and the changing activities of Brussels-based think tanks during the Brexit crisis, given Brexit has raised questions around the EU's ability to continually develop ambitious climate policy and sustain its climate leadership. Drawing on a dataset of over 800 think tank documents and applying a time-series regression and descriptive social network analysis, changes in the climate-related publication productivity and co-authorship networking activities of three Brussels-based think tanks – Bruegel, CEPS and EPC – are examined before and after the Brexit referendum. The results show that Brussels-based think tanks' climate-related publication productivity and their co-authorship networking activities change before and after the Brexit referendum, but in different ways, highlighting the need to consider the characteristics of individual think tanks vis-à-vis their role in EU policy-making.

Keywords: Brexit; climate policy; crisis; European Union; policy-making; think tanks

Introduction

The development of the European Union's (EU) climate policy has constantly relied on scientific knowledge and external policy advice to justify its climate action and reduce its democratic deficit (Dupont et al., 2023; Plehwe, 2014). As EU climate policy has developed, it has also endured numerous crises, such as the Eurozone crisis, Brexit, Covid-19 and the Russian invasion of Ukraine, leading to moments of climate policy progression and dismantling (Burns and Tobin, 2020; Dupont et al., 2024; Gravey and Jordan, 2020). As this exchange process between the EU and external policy actors has emboldened amid crises, Brussels-based think tanks have become prominent policy actors in EU policy-making processes, acting strategically to try and influence policies by promoting ideas, knowledge and policy recommendations (Coman, 2019; Sherrington, 2000; Stone, 2007). Research shows that the activities of Brussels-based think tanks, including publishing and networking, are shaped by policy-making contexts and shifts in such context brought about by crises. Yet, little is known about how and to what extent specific

crises impact the activities of Brussels-based think tanks (Bajenova, 2019; Coman, 2019; Perez, 2014).

Brexit and the withdrawal of the United Kingdom prompted questions around the EU's ability to develop ambitious climate policy and sustain its climate leadership role, given the United Kingdom's role as an ambitious climate leader within the EU and globally (Bocse, 2020; Dupont and Moore, 2019; Oberthür and Dupont, 2021). Hence, the loss of an ambitious climate leader within the EU policy-making system has created opportunities for other policy actors, including Brussels-based think tanks, to increase their prominence in the EU climate policy-making system. To explore the intersection between Brussels-based think tanks, crisis and EU climate policy-making, the research note asks: to what extent have the climate-oriented publication productivity and co-authorship networking activities of Brussels-based think tanks altered before and after the Brexit referendum?

Brussels-based think tanks are supranational think tanks that debate and exchange multiple perspectives on the EU polity (Rastrick, 2017). They seek to create and manage knowledge and ideas through the production of original research and the analysis of topical issues. The output of such knowledge is primarily disseminated via publications and events, which both involve the strategic cultivation and maintenance of policy networks. These networks, in turn, enable the transmission of ideas between people and institutions (Bajenova, 2019; Plehwe, 2014). Hence, Brussels-based think tanks have three core activities to create and manage knowledge: publishing, hosting events and networking. The research note centres on shifts in the climate-oriented publishing productivity and co-author networking activities of three Brussels-based think tanks: Brussel European and Global Economic Laboratory (Bruegel), Centre for European Policy Studies (CEPS) and the European Policy Centre (EPC).

To shed light on the research question, hypotheses are derived from the think tank literature to develop expectations about how Brussels-based think tanks' climate-oriented publication productivity and co-author networking activities change before and after the Brexit referendum. As strategic actors, it is expected that Brussels-based think tanks will produce and disseminate more climate-oriented policy ideas, expand their co-authoring network and co-author with other research-focused organisations to enhance their prominence in EU climate policy-making during Brexit. Second, interrupted time-series regression and social network analysis (SNA) is applied to a novel database comprising of 807 climate-oriented publications from Bruegel, CEPS and EPC. Results show that Brussels-based think tanks' productivity of climate-oriented publications and their co-authorship networking activities alter before and after Brexit, but in different ways. Bruegel increased its productivity on climate-related policy commentaries, expanded its co-authoring network but did not change the types of organisations it interacted with. CEPS increased its productivity, but on climate-related policy briefs, expanded its network and interacted with relatively more research organisations. Conversely, EPC decreased its productivity on both climate-related publication types and significantly contracted its co-author network.

The results partially support past findings on Brussels-based think tanks' responses to crisis and the notion that think tanks are strategic policy actors (Bajenova, 2019, 2023; Coman, 2019; Kelstrup, 2017; Perez, 2014; Pautz, 2014). Yet, as the three think tanks all respond to the Brexit referendum in different ways, not all Brussels-based think tanks

can be considered strategic actors that alter their activities in similar ways during crisis periods. Hence, by focusing on the impact of the Brexit referendum on EU climate policy-making, the analysis builds on a small but growing body of literature on Brussels-based think tanks, highlighting that future analyses should consider the characteristics of individual think tanks vis-à-vis their role in EU policy-making.

The remainder of this research note is organized as follows. First, literature on Brussels-based and EU think tanks is briefly presented, and three hypotheses are derived on potential shifts to Bruegel, CEPS and EPC's publication productivity, co-author network expansion and co-authoring patterns. Second, the three Brussels-based think tanks are discussed. Third, the data and method of analysis are outlined. Fourth, the results are presented, and the research note is concluded.

I. The Shifting Activities of Brussels-Based Think Tanks During Crisis

Think tanks have been conceptualized in differing ways, including neutral bridges linking society and policy-making (Stone, 2007), strategic actors that are shaped by their context (Coman, 2019; Kelstrup, 2017; Perez, 2014) and as policy entrepreneurs (Sherrington, 2000; Stone, 2007). Literature focusing on EU-level and think tanks within European countries tends to conceptualize of think tanks as strategic actors that respond to varying opportunities and constraints presented across policy-making contexts. Progressing this conceptualization, Bajenova (2019) shows that European think tanks mobilise their symbolic capital as 'think tanks', their political capital as expert providers of information and network capital through their presence in Brussels. Hence, it is argued that Brussels-based think tanks strategically seek to increase their publication output and expand their networks, particularly with like-minded policy actors, to enhance their visibility and legitimacy as policy actors (Bajenova, 2019, 2023).

This same line of argument is also shared with others who examine the impact of changes in institutional factors and the onset of crisis on think tank activities. Perez (2014) shows that EU institutional policy-making factors shape the activities of 22 EU think tanks, including the publication output, the number of events hosted and mentions in the media. Similarly, Kelstrup (2017) finds that the level of dissemination activities of think tanks in Germany, Denmark and the United Kingdom are all altered due to differences in the policy advisory systems of the given member states' policy-making processes. Building on this research, Coman (2019) temporally examines changes in two Brussels-based think tanks' activities before and after the Eurozone crisis, finding that the two think tanks increased their publication output, included more researchers in the production of analyses and increased their budgets and networks to further fuel their policy thinking.

Given Brussels-based think tanks are strategic actors who shift their activities based on changes in institutional contexts, two hypotheses are developed. First, as strategic actors, Brussels-based think tanks will use Brexit to increase their visibility and reputation, filling the void left by the United Kingdom, and, in doing so, produce and disseminate more climate-oriented policy ideas. Thus, it is expected that Brussels-based think tanks will increase their climate-oriented publication output following the Brexit referendum. This leads to the first hypothesis:

H1 Following the Brexit vote, Brussels-based think tanks' climate-oriented publication productivity will increase.

Second, in a similar logic, Brussels-based think tanks may also engage in the activity of expanding their co-author networks following the Brexit vote to produce higher quality climate publications and supply more credible and sociable climate policy ideas that are supported by others to the EU. This expectation leads to the second hypothesis:

H2 Following the Brexit vote, Brussels-based think tanks will expand their co-authoring network.

Building on the networking activities of think tanks highlighted by Coman (2019), Pautz (2014) also shows that British think tanks communicate and co-operate primarily with other research organisations, including other think tanks and universities, as well as government bodies and journalists. Hence, given that Brussels-based think tanks are strategic actors, they may also seek to co-author with other like-minded organizations and experts, such as other think tanks or universities, to add further reliability and support to the dissemination of their climate-oriented policy ideas. Hence, it is assumed that:

H3 Following the Brexit, Brussels-based think tanks will co-author with other research-focused organisations.

II. Case Selection

The climate-oriented publication productivity and co-author networking activities Bruegel, CEPS and EPC are examined and compared. Of the approximately 149 think tanks in EU affairs (Coman, 2019), Bruegel, CEPS and EPC were selected due their visibility and prominence in EU policy-making and during crisis periods. Coman (2019) highlights that EPC, Bruegel, CEPS and Friends of Europe were the think tanks constantly mentioned by experts and decision-makers as visible and relevant during the Eurozone crisis. Furthermore, Perez (2014) illustrates that, of these four, Bruegel, CEPS and EPC received the most media coverage, further illustrating their prominence in EU policy-making. Hence, Bruegel, CEPS and EPC are considered most likely cases to examine whether Brussels-based think tanks are strategic actors and, if so, how they shift their activities following a crisis.

Bruegel, considered an academic think tank (Perez, 2014), has developed a revolving research programme informed by three core activities: research, publications, and events (Missiroli and Ioannides, 2012). In 2016, 2017 and 2018, Bruegel's research programme focused on the following: European macroeconomics and governance, global economics and governance, finance and financial regulation, competition policy and innovation policy and energy and climate. To support their output and dissemination activities, Bruegel's main revenue stream emanates from their membership programme, consisting of EU member states, corporations, central banks and autonomous institutions. Most revenue comes from the state members, followed by corporate members, banks and

institutional members. The remaining revenue comes via grants from European institutions and private organisations. This independent revenue structure has remained constant from 2014 to 2018 with membership funding representing approximately 85% of the total yearly amount (Bruegel, 2015, 2016, 2017, 2018, 2019). Prior to the Brexit vote, Bruegel's revenue remained consistent. Revenue in 2014 and 2015 equated to EUR 4,557,188.73 and EUR 4,540,245.96, respectively, resulting in a difference of EUR −16,942. In 2016, Bruegel's revenue was similar, totalling EUR 4,411,384.51. After the referendum, Bruegel's revenue increased in 2017 and 2018 to EUR 4,939,108.01 and EUR 5,330,227.64, respectively. Reflecting the shifts in funding, Bruegel had 51 research and non-research staff in 2014 (not including visiting scholars, fellows or interns), 58 in 2015, 56 in 2016 and 2017 and 57 in 2018.

CEPS, also considered an academic think tank (Perez, 2014), has developed a similar research programme that covers six broad research topics including economy and finance, regulation, energy and climate change, rights, Europe in the world and institutions (CEPS, 2019). To disseminate their research, CEPS also carries out three core activities: research, publications and events (CEPS, 2022; Missiroli and Ioannides, 2012). CEPS' main revenue stream comes from the European Commission, the second stream from memberships, and the remaining from a mix of private organisations, national governments and events (CEPS, 2016, 2017, 2018, 2019). CEPS' revenue fluctuated before and after the Brexit referendum. In 2014, CEPS' revenue was EUR 7,363,528.33. In 2015, revenue slightly increased to EUR 7,505,292.33 and peaked at EUR 8,382,635.13 in 2016. Following Brexit, CEPS' revenue decreased between 2016 and 2017 by EUR 1,580,088. In 2016, CEPS' revenue totalled EUR 6,802,546.31, and in 2017, revenue equalled EUR 6,622,457.88. Reflecting shifts in their budget, CEPS had 70 research and non-research staff in 2014 and 2015, which was then reduced to 62 in 2016 and 2017, yet increased to 63 in 2018.

EPC, a platform think tank (Perez, 2014), has also developed a broad research programme, which includes European politics and institutions, European migration and diversity, Europe's political economy, sustainable prosperity for Europe, Europe in the world, social Europe and well-being and connecting Europe. Like Bruegel and CEPS, EPC's research programme is underpinned by three main activities: research, publications and events (EPC, 2022). Like Bruegel, EPC's primary source of funding comes from memberships, which is followed by programme support funding from a mix of EU institutes and foundations (EPC, 2022). Although not all of EPC's financial statements for the period analysed were able to be obtained, the EPC's revenue, like Bruegel's, incrementally increased from EUR 2,293,979 in 2016 to EU 2,549,826 in 2017 and again to EUR 2,788,421 in 2018. In parallel to the increase in revenue, EPC had 67 research and non-research staff in 2017, which increased to 72 in 2018.

All three think tanks share similarities and some differences. First, Bruegel, CEPS and EPC all have an EU-transnational origin, interests in EU subjects and intentions to contribute to EU policy-making. Second, each has established similar research agendas that are broad in nature and have a focus on climate policy. Third, underpinning their research agendas, the think tanks also conduct similar core activities. The think tanks do, however, differ in the type of think tanks they are and the number of resources they have. Bruegel and CEPS are both identified as academic think tanks, whereas EPC is considered a platform think tank (Perez, 2014). CEPS receives the most funding, followed by Bruegel and

EPC, respectively. Interestingly, the funding amount does not relate to the think tanks' staffing levels, where, after Brexit, Bruegel has the smallest number of staff, followed by CEPS and EPC.

III. Data and Analysis

The Brexit referendum occurred on 23 June 2016. Thus, to examine changes in the Brussels-based think tanks' climate-oriented publication productivity and co-author networking activities, policy commentaries and policy briefs published between 2014 and 2018 were systematically and manually collected from the three think tanks' websites between March and April 2022. This resulted in 807 publications (see Table 1). Policy commentaries and policy briefs were chosen because each think tank published both types of documents, thus allowing systematic comparisons. The organisational affiliation of each author was also derived from the documents. If the authors' affiliations were not indicated on the relevant document, their public profiles were searched for online. Additional sources of data, such as interviews, were considered. However, as the research focuses on the time directly before and after the Brexit vote in 2016, recall from interviewees might have been challenging. Furthermore, during data collection, access to interviewees was restricted, making document analysis the most accessible data source.

The climate publication productivity and co-author networking activities of Bruegel, CEPS and EPC were analysed in three steps. First, content analysis of the publications was conducted using Nvivo software to denote climate change related articles. This resulted in a database of all climate publications published by each think tank between 2014 and 2018. The database accounted for the climate-related publication's date, title, author(s) and author(s) organisational affiliation. CEPS published the highest number of publications amongst the three think tanks followed by EPC and Bruegel, respectively (see Table 1 for further breakdown of publications). Second, drawing on the publication database, an interrupted time-series regression analysis was conducted to statistically examine and compare the changes in the climate-oriented publication productivity of the think tanks before and after the Brexit referendum. The time-series analysis was conducted at the month-year level and accounted for all climate-related publications. Third, the authors' organisational affiliations of the climate-related publications were identified and used to build a co-authorship network. Co-authored networks provide useful insights into collaborative patterns between co-authors and their institutions (Newman, 2004). The

Table 1: Number of Think Tank Publications Analysed.

Think tank	*Type of publication*	*2014*	*2015*	*2016*	*2017*	*2018*	*Total*
Bruegel	Policy briefs	7 (1)	4 (3)	4 (2)	6 (2)	4 (2)	25 (10)
	Policy commentaries	15 (1)	20 (1)	23 (3)	31 (3)	26 (4)	115 (12)
CEPS	Policy briefs	13 (0)	13 (2)	15 (2)	47 (9)	22 (4)	110 (17)
	Policy commentaries	76 (7)	79 (5)	65 (5)	67 (6)	50 (1)	337 (24)
EPC	Policy briefs	12 (1)	20 (4)	12 (0)	12 (0)	13 (1)	69 (6)
	Policy commentaries	32 (4)	32 (3)	33 (2)	30 (2)	24 (2)	151 (13)
	Total	155 (14)	168 (18)	152 (14)	193 (22)	139 (14)	807 (82)

Notes: (n) = number of publications with observed climate-related content. The climate-related publications were used for the climate network and interaction mapping.

SNA complements the regression analysis by further uncovering additional patterns of climate-oriented networking activities. The nodes of the network denote the author's organizational affiliation at the time of the publication of the given policy document. The ties are the co-authoring of a policy brief or commentary that connect two or more institutions. The networks are then time stamped at two time points, like the time-series analysis, delineated by the Brexit referendum. As such, two undirected networks are created to examine how the co-authorship networks changed before and after Brexit.

The networks were measured in R using the igraph package and visualized using the Gephi network analysis software. The degree centrality, betweenness centrality and assortativity of each think tank are examined to gain insights into the expansion of the three think tanks' co-authorship networks. Degree centrality is the most prominent network measure and can offer insights into the nodes that contain the most structural advantage or those that play a key role in the network. Betweenness centrality is defined as the number of times a node is on the geodesic between others. The greater the betweenness centrality of a node, the easier it is for that node to cut off indirect connections, manipulate information or act as a bridge to bond other nodes within the network. Hence, a central position can lend insight into the efforts and strategies of the think tanks, such as reaching out to others and gain an advantage by accessing more information (Ingold et al., 2021). Assortativity, on the other hand, is the notion that contact between similar nodes occurs at a higher rate than amongst dissimilar others based on given characteristics, such as policy actor type (McPherson et al., 2001). Thus, by examining the assortativity of the think tanks, patterns of think tank interaction before and after Brexit can be assessed. The assortativity measure takes the tendency of all the nodes in the network to have ties with similar other nodes. As this is a network level measure, it is paired with an analysis of the visualisation of the networks.

IV. Results

The results of the analysis indicate that the climate publication productivity and co-authorship networking activities of Bruegel, CEPS and EPC all changed in varying ways following the Brexit referendum. Bruegel increased its productivity on climate-related policy commentaries, expanded its co-author network but did not change the types of organisations it interacted with. CEPS increased its productivity, but on climate-related policy briefs, expanded its co-author network and interacted with more research organisations. Conversely, EPC decreased its productivity on both climate-related policy commentaries and policy briefs and significantly contracted its co-author network. The following sections will further present the results of the regression and SNA.

Climate Publication Productivity

The results of the time-series regression analysis (see Table 2) show that Bruegel increased its productivity on climate-related policy commentaries but decreased its productivity on climate-related policy briefs in the wake of the Brexit referendum. Comparatively, CEPS increased its productivity on climate-related policy briefs but decreased its productivity on policy commentaries. Contrastingly, EPC decreased its productivity on both policy briefs and commentaries.

Table 2: The Monthly Average of Think Tank Publications Before and After the Brexit Referendum.

		Policy briefs			*Policy contributions/commentaries*		
		Before Brexit	*After Brexit*	*Change*	*Before Brexit*	*After Brexit*	*Change*
All think tanks	All publications	0.93	1.31	0.38* (0.07)	3.39	3.36	−0.03 (0.93)
	Climate-related publications	0.16	0.72	0.56 (0.39)	0.28	0.27	−0.01 (0.89)
Bruegel	All publications	0.47	0.37	−0.1 (0.517)	1.5	2.47	0.97 *** (0.005)
	Climate-related publications	0.2	0.13	−0.07 (0.542)	0.1	0.3	0.2 *** (0.054)
CEPS	All publications	1.13	2.46	1.33 *** (0.004)	6	5.23	−0.77 (0.291)
	Climate-related publications	0.1	0.47	0.37 *** (0.005)	0.43	0.36	−0.07 (0.731)
EPC	All publications	1.2	1.1	−0.1 (0.725)	2.67	2.37	−0.3 (0.593)
	Climate-related publications	0.17	0.04	−0.13 * (0.088)	0.3	0.13	−0.17 (0.157)

Notes: This table shows the changes in all and climate-related policy brief and policy commentary before and after the Brexit referendum. The numbers in parentheses indicate the level of significance in the change of monthly average publications. $^{*}P < 0.1$. $^{**}P < 0.05$. $^{***}P < 0.01$.

Breaking it down further, Bruegel published an average of 0.2 climate policy briefs each month before the Brexit referendum. Following the referendum, Bruegel reduced the average number of climate policy briefs to 0.13 per month. Conversely, Bruegel's monthly publication rate of climate-related commentaries was significant and more than doubled following the Brexit referendum, from 0.1 to 0.3. Contrary to Bruegel, CEPS' climate-related policy brief publication productivity significantly increased following the referendum from an average of 0.1 policy briefs to 0.47 published policy briefs per month. Conversely, CEPS reduced the number of monthly climate-related commentaries published after the Brexit vote. Before Brexit, CEPS published an average of 0.43 climate commentaries per month, falling to 0.36 after the referendum. Unlike Bruegel and CEPS, EPC's publishing productivity of climate-related policy briefs and commentaries both reduced after the Brexit referendum. Before the referendum, EPC published a monthly average of 0.17 climate-related policy briefs. This level of productivity, however, reduced to a monthly average of 0.04 following the referendum, which was found to be significant. Similarly, before Brexit, EPC published a monthly average of 0.3 climate-related commentaries. This also dropped to 0.13 climate-related commentaries on average per month, after the Brexit referendum.

Expanding Co-Authoring Networks

The results of the network analysis highlight that Bruegel and CEPS' co-authorship networks and access to knowledge both expand, whereas EPC's network and access to knowledge contracts (degree centrality and betweenness centrality; see Table 3). More specifically, Bruegel had a degree centrality of 4, indicating that Bruegel co-authored with four other organizations. In the period after Brexit, Bruegel's degree centrality increased to 6. Similarly, Bruegel's betweenness centrality increased from 5 to 11, indicating that Bruegel also gained access to more knowledge, in which it can draw on to develop climate-related policy ideas and publications. Like Bruegel, CEPS' climate co-authorship network also expanded. Before Brexit, CEPS' degree centrality was 2, which increased to 12 following the referendum. This increase of 10 indicates a relatively major growth in CEPS' centrality. Furthermore, CEPS' betweenness centrality also increased from 1 to 55 in the period of analysis after Brexit. Like Bruegel, CEPS increased its access to additional knowledge in which it can utilize when producing climate-related policy ideas and publications. Conversely, in the period before Brexit, EPC had a degree centrality of 6, making it the most central of the three think tanks in the network. However, following Brexit, EPC's degree centrality contracted to zero. As a result, EPC has gone from the think tank with the largest degree centrality to the smallest. EPC's betweenness centrality also shrunk. In the period before the Brexit referendum EPC had a betweenness centrality of 9, which reduced to 0 following the referendum, highlighting that EPC's access to climate-oriented knowledge may have reduced although it kept on publishing climate-oriented policy documents.

Who Do Think Tanks Co-Author With?

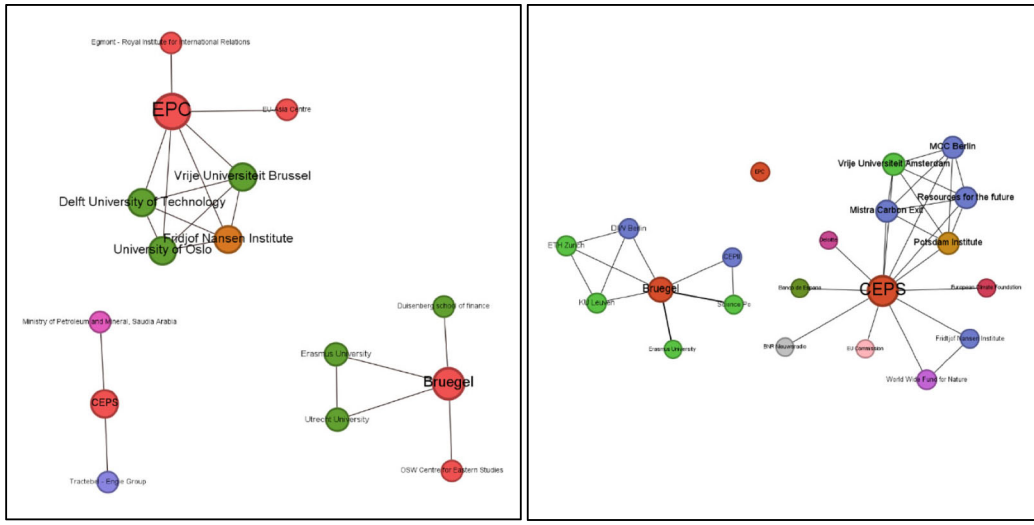
Examining the assortativity of the networks highlights mixed results. The assortativity of the pre-Brexit network, which included all three think tanks, measured −0.041. This further decreased to −0.062 in the period of analysis after the referendum. The measures indicate that there is a weak tendency within the whole network to co-author with other research-oriented organisations, which slightly decreases in the period after Brexit.

From a closer look at the network visualisation and individually inspecting the three think tanks, the story seems to be a little different (see Figure 1). Before Brexit, Bruegel co-authored with other research organisations, namely, think tanks and universities. Following Brexit, Bruegel continued to co-author with research organisations, indicating little change in co-authoring patterns. Conversely, before Brexit, CEPS co-authored with a government agencies and businesses. Such interactions with public and private

Table 3: Degree Centrality of Think Tanks.

	Degree centrality		*Betweenness centrality*	
Think tank	*Before Brexit*	*After Brexit*	*Before Brexit*	*After Brexit*
Bruegel	4	6	5	11
CEPS	2	12	1	55
EPC	6	0	9	0

Figure 1: Co-Authorship Networks and Interactions Before and After Brexit.



Notes: (a) Co-authorship before Brexit and (b) co-authorship after Brexit.

organizations differ to that of Bruegel's, who opted to interact with research-oriented organizations. Following Brexit, CEPS shifted by interacting primarily with research organisations. Like Bruegel, EPC interacted primarily with research organisations including other think tanks, research institutes and universities before the Brexit referendum, illustrating that EPC also tends to co-author on the topic of climate change with other research-oriented organizations. Following the Brexit referendum, EPC, however, does not co-author climate publications with any other organisations, although still producing publications.

Conclusion

To justify its climate action and reduce its democratic deficit, the EU has constantly relied on the input of scientific knowledge and external policy advice (Dupont et al., 2023; Plehwe, 2014). As this link has strengthened amid multiple crises, Brussels-based think tanks have become prominent policy actors in EU policy-making processes, acting strategically to try and influence policy-making by promoting ideas, knowledge and policy recommendations (Coman, 2019; Sherrington, 2000; Stone, 2007). To explore this link between the EU and Brussels-based think tanks, this research note sets out to examine the extent to which the climate-related publication productivity and co-authorship networking activities of three Brussels-based think tanks – Bruegel, CEPS and EPC – altered before and after the Brexit referendum.

The results illustrate that Bruegel, CEPS and EPC all shift their climate-related publication productivity and co-authorship networking activities following the Brexit

referendum. Regarding the think tanks climate publication productivity, the results partially support Hypothesis 1. Bruegel and CEPS both increased their productivity of climate-related publications, but their productivity differed in terms of the type of publication. EPC, however, did not increase their climate publication output for either publication types. The network analysis also partially supports the second and third hypotheses. Regarding Hypothesis 2, both Bruegel and CEPS' degree and betweenness centrality measures increased, indicating that they both co-authored with more organisations and increased their access to more sources of knowledge in the period following the Brexit vote. Contrarily, EPC's network and access to knowledge contracted following the referendum. Regarding Hypothesis 3, it was found that Bruegel maintained its tendency to co-author with other research organisations in the periods before and after the referendum, CEPS increased its tendency to co-author with research organisations and EPC went from co-authoring with only other research organisations to not co-authoring with any other organisations. These publication productivity and co-authorship network patterns may be due to the nature of each think tank, in that Bruegel and CEPS are academic think tanks, whereas EPC is a platform think tank (Perez, 2014).

By focusing on the changing context of the Brexit referendum on EU climate policymaking, the results support past findings on think tanks' responses to crisis and think tanks as strategic policy actors (Bajenova, 2019, 2023; Coman, 2019; Kelstrup, 2017; Pautz, 2014; Perez, 2014). However, the results also indicate that the three think tanks all respond to the Brexit referendum in different ways. This highlights that not all think tanks can be considered strategic actors that respond to crisis in similar ways. Hence, future research on Brussels-based think tanks should account for the individual characteristics of each think tank being examined. However, as the findings are limited to a small number of cases, one policy area and one activity type, the results do not imply direct causation, but correlation, between Brexit and shifts in think tank activities. Furthermore, such identified shifts, particularly the publication productivity, must be interpreted with caution due to the strength of the regression results. Thus, to build on the findings, future research can explore the relationship and explanations between think tanks, think tank types and their changes in activities across crises and variation in institutional variables.

Acknowledgements

I would like to thank Azim Zahir, Tushar Bharati and the editors of *JCMS* and the anonymous reviewers for their helpful comments on the manuscript.

Data Availability Statement

The data that support the findings of this study are openly available in figshare at 10.6084/m9.figshare.25232159.

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