DOI: 10.32559/et.2024.1.3

Attila Miklós Kovács[1]

Legislative Activity and Connectivity in the European Parliament[2]

The Case of 'Demography'

This article analyses the legislative activity and connectedness of the Members of the European Parliament (MEP) who dealt with the topic of 'demography' in the 2019–2024 EP term. A novel dataset of legislative amendments was analysed to identify those MEPs who were the most active and connected in the last five years in this policy domain.

We found that MEPs from Spain, France and Germany were the most active ones and the ones from the S&D (Socialist & Democrats), RE (Renew Europe) and EPP (European People's Party) groups. Slovenia and Hungary were the most impactful countries, while the number of successful amendments was the highest for RE, EPP and S&D.

The social network analysis identified the S&D Group as the biggest and most connected community, which was corroborated by the rankings of different network centralities. The rankings also highlighted that Spanish MEPs played a key role in the legislative network.

Keywords: European Parliament, demography, connectivity, social network analysis

Introduction

The role of the European Parliament (EP) in the legislation and political decision-making of the European Union (EU) has been in the forefront of political and scientific discussions since the establishment of the institution. These discussions have intensified since 1979 when Members of the European Parliament (MEPs) were first directly elected.

1 Founder, CEO, Eulytix, e-mail: attila.kovacs@eulytix.eu

2 „A cikk elkészítésére a „Big-data alapú, innovatív megoldások az Európai Unió jogalkotásának elemzésére: új irányok és lehetőségek a tanácsadói és lobbiiparág forradalmasítására" című, 2021-1.1.4-GYORSÍTÓSÁV-2022-00041 azonosítószámú projekt keretében, a projekt eredményeinek felhasználásával került sor. A Nemzeti Kutatási, Fejlesztési és Innovációs Hivatal által támogatott projekt kedvezményezettje az Eulytix Kft., a projekt összköltsége 250 588 800 Ft, melyből a vissza nem térítendő támogatás összege 199 820 160 Ft."

Further impetus has been given to this discussion in the 1990s and early 2000s, when a series of treaty changes – Treaty of Maastricht in 1992, the Treaty of Amsterdam in 1997, and the Treaty of Nice in 2001 – gradually empowered the European Parliament.

Nevertheless, the breakthrough was the signing of the Treaty of Lisbon in 2007. It was a consequence of the mounting pressure after the 2004 'big-boom' enlargement and a response to the increasing need for changes in the institutional setup of the EU to ensure a smooth decision-making. The Treaty of Lisbon opened a new page in the history and role of the European Parliament.

Since the entering into force of the Treaty of Lisbon in 2009, the EP has been a co-legislator in several important EU policy areas, including high-budget policies like regional policy, Common Agricultural Policy, etc. Demography, nevertheless, is not a European policy, although it has implications at EU level. Demographic challenges in the EU, including ageing European society, falling birth rates across the continent, the current and future imbalances of social security funds make this policy domain to the forefront of political discussion. Therefore, it is of interest to both the scholarly community as well as the broader readership to understand better the legislative processes related to demography.

Demography is truly a multidisciplinary topic which has connections and implications with several European policies both at EU and Member States level. These policies include migration, competitiveness and healthcare, among others.

According to the European Commission's report,[3] demography is interlinked to various aspects of social life in Europe, including life expectancy, mortality, migration flows, health shocks and the exposure of the economy to both gradual aging and quick health shocks, like Covid–19. Another related pre-pandemia report of the Commission[4] also highlighted the implications of changing demography on the labour market and skills, on public budgets, while also emphasising the regional and local dimensions of demographic transition. The recently published Draghi report[5] analysed the link of adverse demographic trends with productivity, labour force trends and skill gaps. Eurostat data shows[6] that after two years of decline (2020–2021), the population of the EU has started to increase again and now reaches almost 450 million. Behind the overall numbers, there are some important tendencies to highlight. Of those aged 80+ increased from 3.7% to 6.0% between 2003 and 2023. The median age increased in the period 2003 to 2023: it was 39.0 years in 2003 and 44.5 years in 2023. This means an increase of 5.5 years in the median age in the EU during this 20-year period. The crude birth rate, showing the number of live births per 1,000 persons, was 10.1 in 2002, went up to 10.6 in 2008 and has decreased since then to 8.7 in 2022. All these alarming statistics put the topic of demography high on the political and policy agenda in the European Union.

In sum, we can conclude that demography is in the centre of the latest political discussions as well as public discourse. It justifies the need for a more fine-tuned, in-depth analysis on what role EU institutions, especially the European Parliament play in demography-related policy areas.

---

3 European Commission 2023.
4 European Commission 2020.
5 Draghi 2024.
6 Eurostat 2024.

The objective of this article is to give a comprehensive picture and highlight some of the insights of demography-related EU legislation, with focus on the European Parliament. To fulfil these objectives, we compelled a novel dataset of legislative amendments tabled to demography-related legislative procedures in the European Parliament. Besides the descriptive analysis of this dataset, we applied social network analysis to highlight the main focal points of the legislation as well as to reveal the main patters of cooperation of Members of the European Parliament (MEPs), Member States and EP Groups.

Literature review

The relevant existing literature can be categorised into four main groups: 1. literature on the power and the empowerment of the European Parliament; 2. literature on the role of the EP in various EU policies; 3. literature on the application of a data-driven approach to analyse EU legislation, especially in the European Parliament; 4. social network analysis (SNA) in the European Parliament.

First, regarding the literature on the power and empowerment of the European Parliament, there are conflicting views whether the EP's power increased after the entering into force of the Treaty of Lisbon. Some scholars[7] claimed that the co-decision procedure didn't increase the power of the Parliament. In his opinion, under the ordinary legislative procedure (OLP, former co-decision procedure), the most influential EU institution is the European Commission. Another group of scholars[8] stated that, under co-decision, the EP's power is decreased by the loss of its agenda-setting power. The mainstream view is nevertheless that the OLP increased the power of the EP.[9] When analysing the institutional implications and balance, the main research focus includes the empowerment of the European Parliament[10] and the EP's power under different EU legislative procedures.[11]

Second, regarding the role of the EP in different policy domains, there are a variety of EU policies the EP has a say in: European foreign policy,[12] cohesion policy,[13] Common Agricultural Policy[14] Common Fisheries Policy,[15] environmental policy,[16] social policy[17] and energy policy.[18]

Third, regarding a data-driven analytical approach, network analysis and connectivity, we see that several scholarly articles used legislative amendments as a data source

7 For example, Steunenberg 1994.
8 See Tsebelis 1995 and Tsebelis et al. 2001.
9 For example, Bureau et al. 2012 and Greer–Hind 2012.
10 Hix–Høyland 2013.
11 Tsebelis–Kalandrakis 1999; Kreppel 2002; Lučić 2004.
12 Van Hecke – Wolfs 2015.
13 Hübner 2016.
14 Knops 2012.
15 Zimmermann 2019.
16 Rasmussen 2012.
17 Roos 2021.
18 Buzogány–Ćetković 2021.

to analyse the role and influence of the EP.[19] The other relevant source of data is voting records.[20]

Fourth, social network analysis in the context of the European Parliament. SNA has already been applied in different EU policy areas, including regional development policy,[21] Common Security and Defence Policy,[22] Common Agricultural Policy.[23] Häge and Ringe (2018) analysed networks of rapporteurs and shadow rapporteurs, while Jäckle and Metz (2019) applied SNA for oral questions in the European Parliament. Walter et al. (2023) carried out a social network analysis of debate networks in the EP.

There are various other sources of data for parliamentary network analysis including Twitter account data,[24] interest group data from the Transparency Register of the European Union,[25] oral questions,[26] and debate interactions in the EP.[27]

Dataset

In this article, we use a novel dataset of legislative amendments from the EP. The scarcely available data have been put into a clean dataset by Eulytix.[28] The thematic filtering was based on the official policy and subject categorisation of the Legislative Observatory of the European Parliament under the number of "4.10.14 Demography". With this filtering, the relevant legislative procedures, their rapporteurs, the tabled amendments, the sponsors of the amendments as well as the texts of all the amendments have been identified.

The dataset contains the legislative amendments tabled to the following four legislative procedures.

Table 1: Demography related legislative procedures in the 2019–2024 EP term

Procedure ID	Procedure title	Rapporteur	Member State	EP Group
2019/2850(RSP)	Resolution on the 25th anniversary of the International Conference on Population and Development (ICPD25) (Nairobi Summit)	Evelyn Regner	Austria	S&D
2020/2008(INI)	Old continent growing older – possibilities and challenges related to ageing policy post 2020	Beata Szydło	Poland	ECR
2020/2039(INI)	Reversing demographic trends in EU regions using cohesion policy instruments	Daniel Buda	Romania	EPP
2023/0008(COD)	Statistics on population and housing	Irena Joveva	Slovenia	RE

19 Kreppel 1999; Tsebelis–Kalandrakis 1999; Yordanova 2010.
20 Fertő et al. 2020 and Arinik et al. 2020.
21 Ansell et al. 1997 and Ansell 2000.
22 Mérand et al. 2011.
23 Fertő–Kovács 2015.
24 Praet et al. 2021.
25 Ibenskas–Bunea 2021.
26 Jäckle–Metz 2019.
27 Walter et al. 2023.
28 See: www.eulytix.eu

Source: European Parliament & Eulytix

Altogether, 1,583 amendments were tabled to these four legislative procedures as follows.

Table 2: Number of EP legislative amendments in the field of demography

Legislative procedure	Number of amendments
2019/2850(RSP)	209
2020/2039(INI)	502
2020/2008(INI)	676
2023/0008(COD)	196
Total	**1,583**

Source: European Parliament & Eulytix

Methodology

In this article, we apply a methodology based on three pillars.

First, we provide the readers with the descriptive statistics of the dataset.

Second, we analyse the legislative impact and success of Member States and EP Groups. Legislative amendments are either adopted or rejected in their entirety, or sometimes find their way into so-called compromise amendments, which are the merger of several amendments. Hence, when assessing the success of an amendment a simple binary categorisation is inadequate. To alleviate this issue, we break down amendments into elementary changes: deletion, replacement or addition. Every amendment is a composition of these elementary changes. A feasible approach is to map amendments to fractional values ranging from zero to one; values which correspond to the ratio of elementary changes present in both the tabled and the adopted amendment.

In this classification, entirely successful and rejected amendments have a score of one and zero, respectively, while amendments included in a compromise have a score somewhere in between. It logically follows that the aggregate impact of an entity, be it MEP, Member State or political group – measured as the sum of amendment success scores – is a fractional number. This impact measure thus reflects the effective number of successful amendments tabled by the entity. The use of fractional scoring can be justified based on two grounds. First, the number of amendments adopted in their entirety is low, so limiting the research only to these amendments would leave partially adopted amendments with significant impact outside of the scope of the analysis. Second, if only fully adopted amendments were to be taken into account, it would seriously distort the aggregate level legislative impact, be it at MEP, Member State or EP Group level, sidelining the individually small but numerous impacts.

Third, we carry out social network analysis based on the co-sponsorship of legislative amendments. We calculate three separate rankings, then "merge" them into one.

Degree centrality gives high value to nodes with a high number of connections in the network. In a network graph, degree centrality is measured by the total amount of direct links with the other nodes.[29]

The eigenvector centrality suggests the idea that a node is more central as it is connected to important (central) nodes.[30] Eigenvector centrality is high among influential people in the network.

We calculate the closeness centrality of nodes with respect to the distance and shortest path concept.[31]

These three partial rankings capture different aspects of connectivity. In order to 'merge' these three rankings, we use a Condorcet method: a method that makes sure the rankings are such that in every pairwise comparison the winner is in possession of the majority of votes.[32] Partial rankings have uniform weights, which means that they have equal importance. The result of the calculations is an aggregate ranking, which balances the various aspects of connectivity.

Regarding the limitations of the methodology, it shall be noted that legislative amendments form only one source of legislative data in the EP. Nevertheless, extending the dataset would be beyond the scope of the analysis presented in this paper. Another limitation is that SNA doesn't make a difference between the weight – i.e. policy importance – of amendments, giving them all an equal weight.

Results

In line with the different methodologies applied, this section contains four main pillars. First, we present the most important descriptive statistics, then we present the results of calculations on legislative success and impact. The third pillar deals with connectivity, presenting the networks and connections of MEPs, Member States and EP Groups.

Descriptive statistics, legislative activity

Table 1 gives an overview of the number of co-sponsored amendments in the analysed dataset. MEPs from S&D Group was the most active one, tabling more than 50% of all amendments. MEPs from Renew Europe (RE) took the second place, followed by the European People's Party. The least active EP Group was the Greens/EFA.

Table 3: Number of co-sponsored amendments by EP Group

#	EP Group	Number of amendments co-sponsored
1	S&D	3,169
2	RE	1,101

[29] Zhang–Luo 2017.
[30] Bonacich 2007.
[31] Opsahl et al. 2010.
[32] See Kemeny 1959 or Young 1988.

#	EP Group	Number of amendments co-sponsored
3	EPP	645
4	ECR	370
5	ID	304
6	GUE/NGL	242
7	NI	173
8	Greens/EFA	84
Total		**6,088**

Note: the 'Number of amendments co-sponsored' column is multiplied by the number of co-sponsors to better express the weight of each EP Group.
Source: European Parliament & Eulytix

Table 4: Number of co-sponsored amendments by Member States

#	Member States	Number of amendments co-sponsored
1	Spain	903
2	France	808
3	Italy	574
4	Germany	522
5	Portugal	393
6	Romania	349
7	Poland	320
8	Sweden	291
9	Slovenia	277
10	Netherlands	269
11	Lithuania	213
12	Hungary	174
13	Malta	144
14	Bulgaria	135
15	Czechia	131
16	Denmark	98
17	Latvia	87
18	Croatia	78
19	Slovakia	72
20	Belgium	64
21	Austria	58
22	Ireland	41
23	Greece	30
24	Cyprus	22
25	Luxembourg	16
26	Estonia	13
27	Finland	6
Total		**6,088**

Note: the 'Number of amendments co-sponsored' column is multiplied by the number of co-sponsors to better express the weight of each Member State.
Source: European Parliament & Eulytix

As for the activity of MEPs from different Member States, we can conclude the most active MEPs were from Spain, followed by France and Italy. The least actives were Luxembourg, Estonia and Finland.

Figure 1 presents the number of legislative amendments by political groups. S&D tops the ranking with 375 amendments, followed by EPP. Noteworthy to mention that the relatively smaller groups of ID and ECR are ahead of the leftist (GUE/NGL) and the green (Greens/EFA) group.

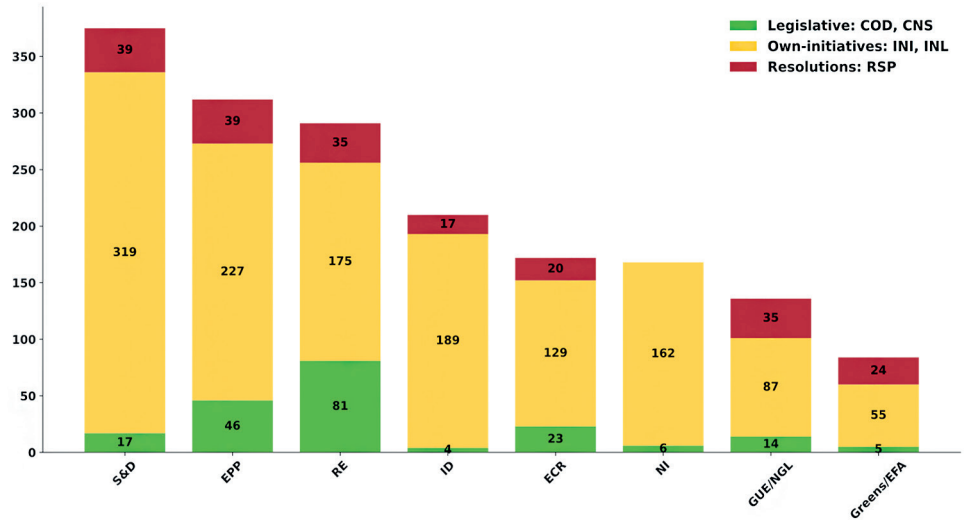

Figure 1: Number of amendments sponsored by political groups

Note: co-sponsored amendments mean one sponsored amendment for each co-sponsor

Source: European Parliament & Eulytix

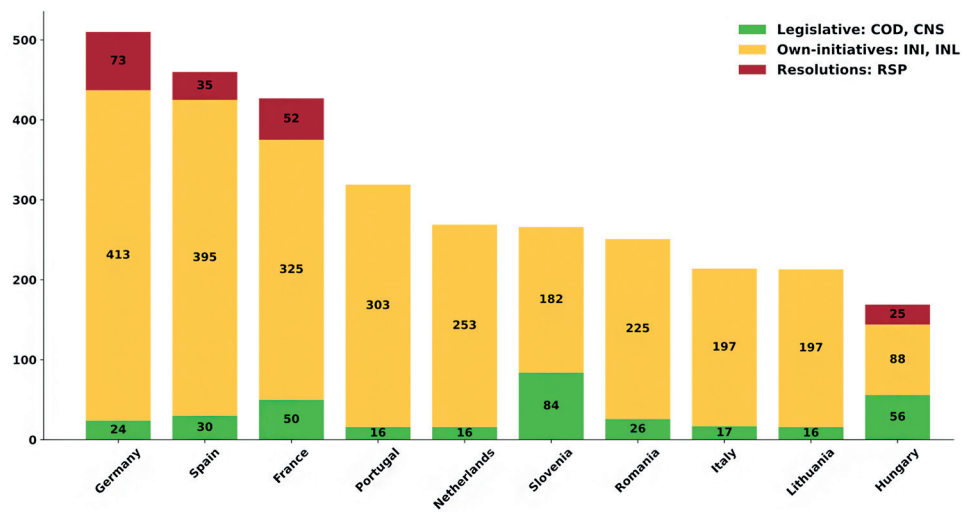

Figure 2: Member States with the highest number of sponsored amendments (top 10)

Note: co-sponsored amendments mean one sponsored amendment for each co-sponsor

Source: European Parliament & Eulytix

Figure 2 contains the top 10 Member States regarding legislative activity in the field of 'demography'. The most active MS was Germany, followed by Spain, France and Portugal. Hungary takes the 10th position out of 27 Member States, showing a more active attitude from Hungarian MEPs. It is also worth mentioning that in the top 10, four MSs are from CEE countries, Slovenia, Romania, Lithuania and Hungary.

Legislative impact and success

As for the ranking of MSs by legislative impact, we can see that Slovenia takes the first place, followed by Hungary and France. Lithuania also managed to make it into the top 10, taking the 8th position. Luxembourg and Sweden are the two countries which were not among the top 10 regarding activity but made it in terms of legislative impact.

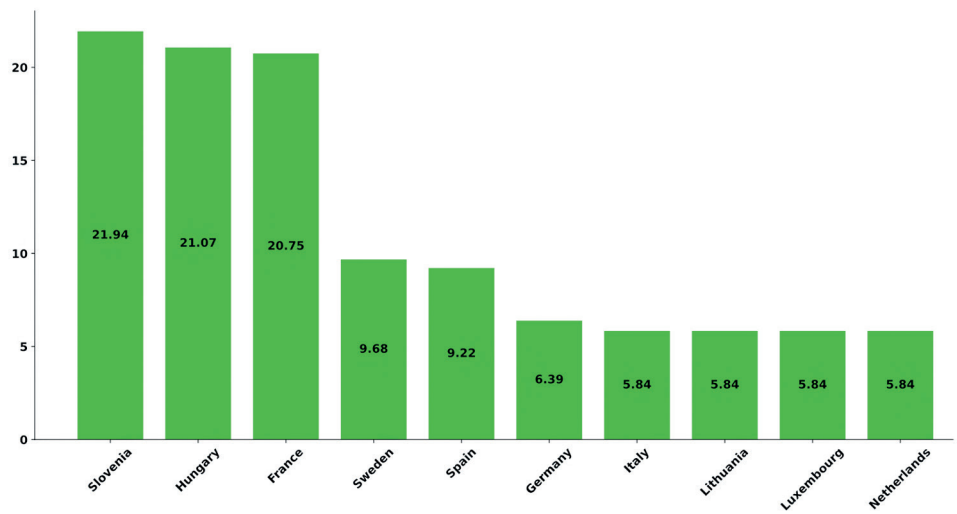

Figure 3: The impact of Member States (top 10)

Note: Each amendment is assigned a value between 0 and 1 representing the ratio of proposed changes accepted by the Committee. By effective number of successful amendments, we mean the sum of these ratios.

Source: European Parliament & Eulytix

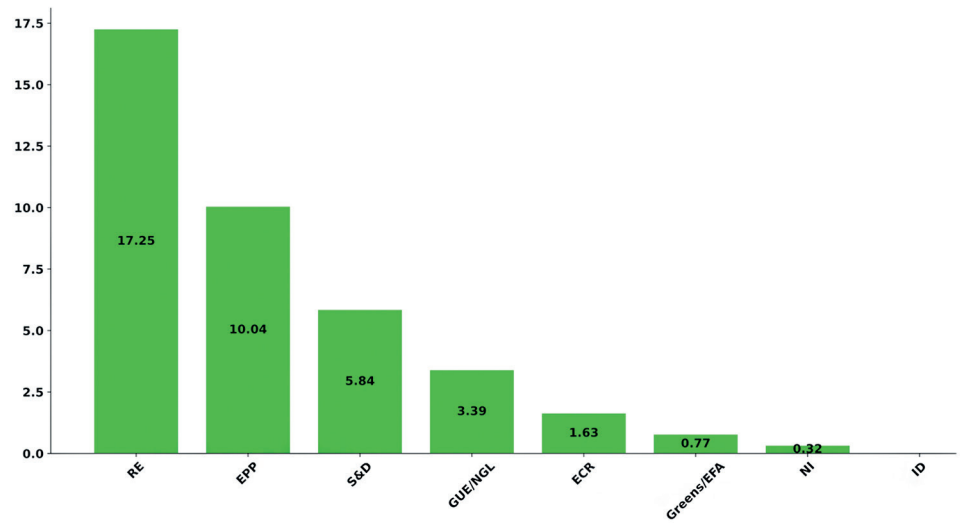

Figure 4: The impact of political groups
Source: European Parliament & Eulytix

As for the impact of political groups, the Renew Europe takes the first position with a commanding advantage, followed by the EPP and S&D. The ECR, the Greens/EFA and ID are lagging behind other EP groups in terms of influence. Two tendencies to observe here: the RE and ID took average positions regarding legislative activity, but while RE tops the impact ranking, ID became the last one.

Networks and connectivity

In this section we present the role of MEPs, EP Groups and Member States they play in the co-sponsorship network. First, we present the co-sponsorship network of MEPs.

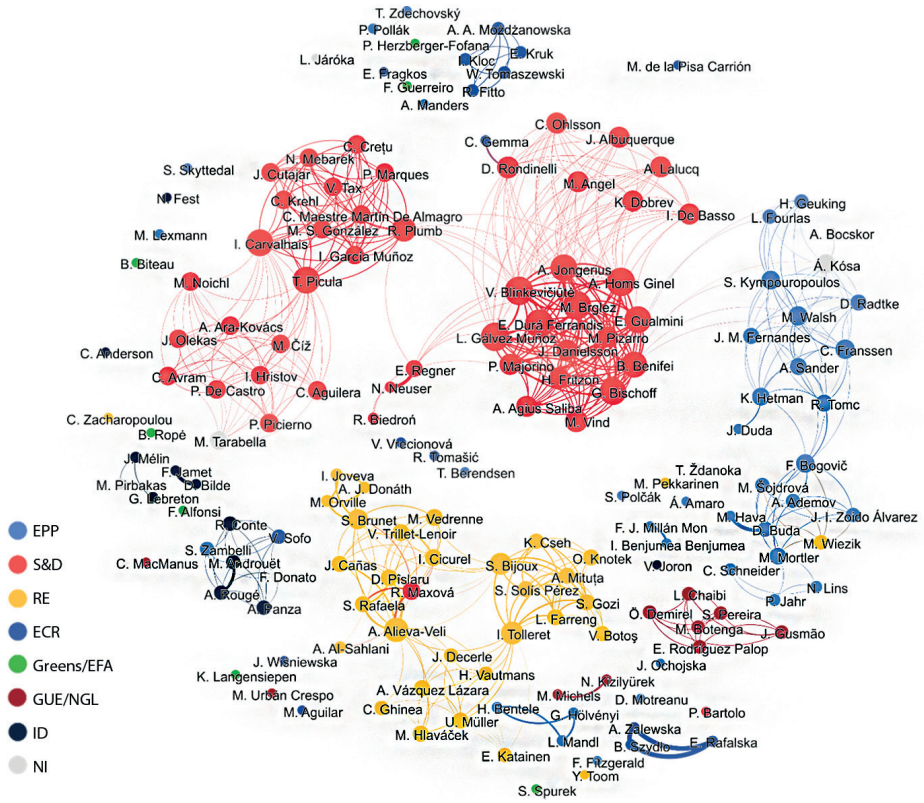

Figure 5: The co-sponsorship network of procedures related to demography

Note: Node sizes increase with the number of connections the node has. Edge thickness increases with tie strength.

Source: European Parliament & Eulytix

We see a very dense and well-connected core of S&D MEPs, slightly tied to EPP MEPs but without any direct link to Renew Europe. Green MEPs are very sporadically connected to others, with minimal cohesion. GUE/NGL MEPs form their own community with zero cross-party connections. The same applies to ECR MEPs. ID MEPs also form a separate community, with minimal ties to other EP Groups' members. The dominance of S&D MEPs is even more striking on the network picture of successful amendments. Besides the very dense S&D community, we find some ties within RE (second group), EPP and ECR members. There are also some lone MEPs from RE and EPP.

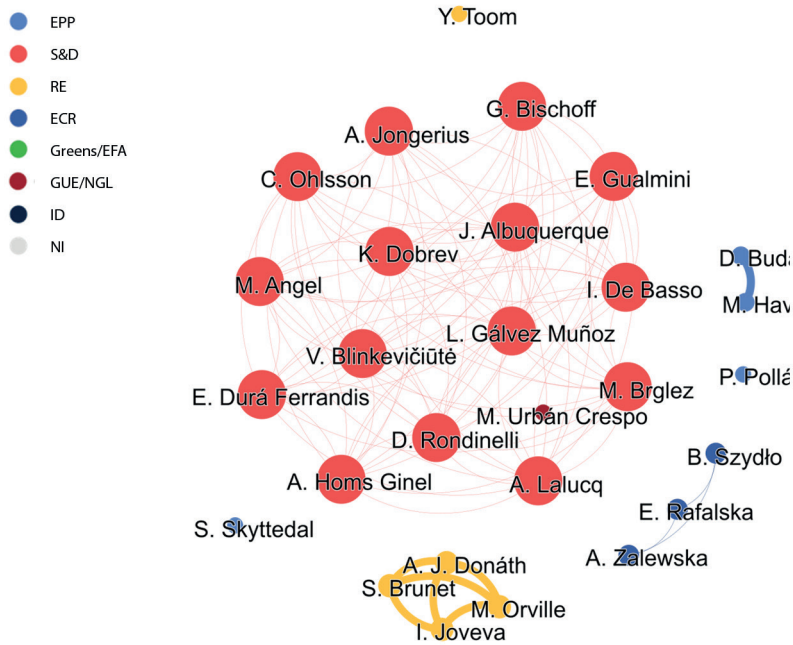

Figure 6: The co-sponsorship network of procedures related to demographics (successful amendments only)

Note: Node sizes increase with the number of connections the node has. Edge thickness increases with tie strength

Source: European Parliament & Eulytix

As a summary of the MEP-level network analysis, we present the ranking of Members of the European Parliament regarding their network position and power. As described in the 'Methodology' section of this article, we calculated the degree centrality, the eigenvector centrality and closeness centrality and set up the relevant rankings accordingly. Finally, we calculated the aggregated Kemeny ranking. Based on the above network graph visualisations, it comes with no surprise that S&D MEPs are on the top of all the rankings, including – obviously – the aggregate one. In the Top25 MEPs, we find 20 MEPs from S&D, 4 from RE and only one from EPP. Broken down by Member States, we find a trio from Spain, followed by MEPs from a diverse group of MSs. In the Top25, we also find 3 MEPs from both Italy and France, 2 MEPs from Portugal and Sweden. Altogether, 17 MEPs are represented in the Top25.

Table 5: Ranking of MEPs along different network centrality measures

MEP name	Member State	EP Group	Degree centrality	Eigenvector centrality	Closeness centrality	Degree rank	Eigenvector rank	Closeness rank	Kemeny rank
Estrella Durá Ferrandis	Spain	S&D	59.3	0.3	0.3	1	2	1	1
Lina Gálvez Muñoz	Spain	S&D	59.3	0.3	0.3	1	1	1	2
Alicia Homs Ginel	Spain	S&D	59.3	0.3	0.3	5	3	1	3
Vilija Blinkevičiūtė	Lithuania	S&D	59.3	0.3	0.3	1	4	1	4
Milan Brglez	Slovenia	S&D	59.3	0.3	0.3	1	4	1	5
Gabriele Bischoff	Germany	S&D	55.4	0.3	0.2	6	6	7	6
Agnes Jongerius	Netherlands	S&D	55.4	0.3	0.2	7	6	7	7
Elisabetta Gualmini	Italy	S&D	55.2	0.3	0.2	8	8	9	8
Brando Benifei	Italy	S&D	51.4	0.2	0.2	9	10	6	9
Manuel Pizarro	Portugal	S&D	42.7	0.2	0.2	10	9	11	10
Pierfrancesco Majorino	Italy	S&D	42.5	0.2	0.2	11	11	12	11
Heléne Fritzon	Sweden	S&D	40.6	0.2	0.2	12	12	13	12
Marianne Vind	Denmark	S&D	39.6	0.2	0.2	15	14	10	13
Johan Danielsson	Sweden	S&D	40.6	0.2	0.2	12	13	13	14
Alex Agius Saliba	Malta	S&D	35.7	0.2	0.2	18	15	16	15
Atidzhe Alieva-Veli	Bulgaria	RE	39.1	0.0	0.2	16	163	15	16
Rovana Plumb	Romania	S&D	33.7	0.0	0.2	20	23	17	17
Irène Tolleret	France	RE	34.6	0.0	0.2	19	169	18	18
Tonino Picula	Croatia	S&D	39.7	0.0	0.2	14	33	21	19
Stéphane Bijoux	France	RE	31.7	0.0	0.2	21	166	19	20
Maria Walsh	Ireland	EPP	17.7	0.0	0.2	41	25	20	21
Sylvie Brunet	France	RE	29.5	0.0	0.2	22	139	22	22
Evelyn Regner	Austria	S&D	16.7	0.0	0.2	44	24	23	23
Isabel Carvalhais	Portugal	S&D	37.8	0.0	0.2	17	34	24	24
Cindy Franssen	Belgium	EPP	15.5	0.0	0.2	48	27	25	25

Source: calculations of the author using data from European Parliament & Eulytix

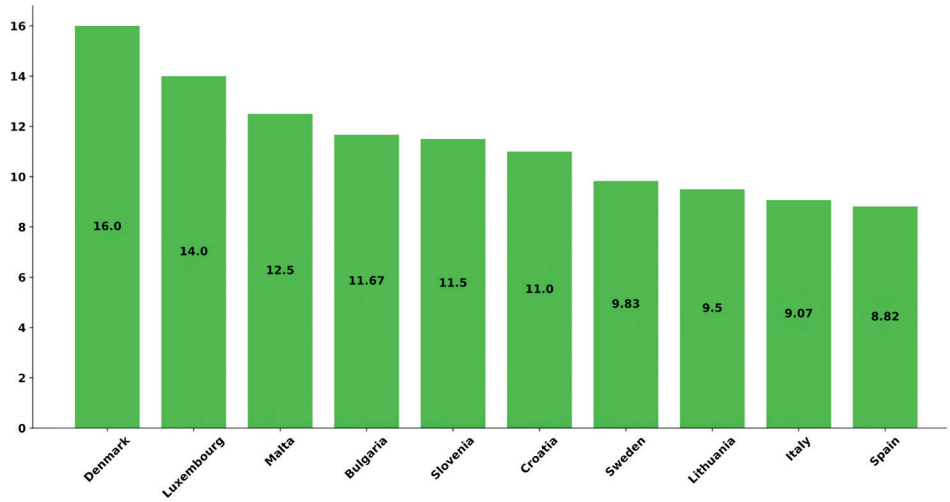

Figure 7: Member States with the most partnerships (average number of partners)
Source: European Parliament & Eulytix

Figure 7 presents the Member States with the most partnerships (MEPs). The ranking is topped by Denmark, followed by Luxembourg and Malta. In the top 10 Member States we see that relatively small Member States dominate the ranking (except Italy and Spain in the 9th and 10th position). It is in line with the assumption that MEPs from smaller MSs must build broader coalitions, which requires the involvement of multiple co-sponsors from different Member States.

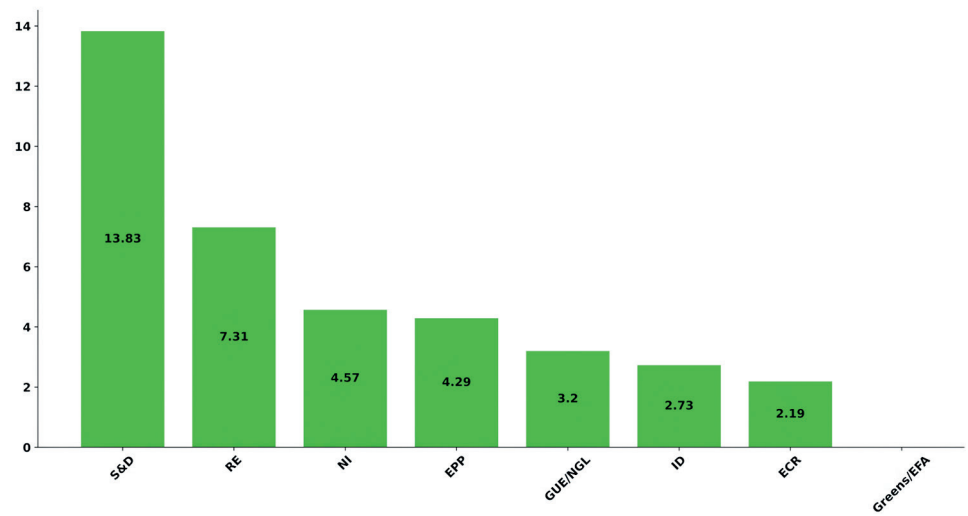

Figure 8: Partnerships of political groups (average number of partners)
Source: European Parliament & Eulytix

As for the partnerships of EP Groups, we see that the S&D Group had the most partnerships in the analysed four legislative procedures. RE can be found in the second position, followed by the non-attached members. EPP and GUE/NGL are taking the 4th and 5th positions, respectively. ID, ECR and the Greens/EFA are at the bottom of the ranking, the Greens having zero partnerships.

Discussion, conclusions

In this paper, we presented the legislative analysis of demography-related legislative procedures in the 2019–2024 EP term. We focused on legislative amendments tabled to the 4 procedures concerned.

First, we analysed legislative activity and success. We found that MEPs from 'big' Member States, namely Spain, France and Germany were the most active. As for EP Groups, MEPs from the S&D, RE and EPP were the most active ones.

As for the impact of Member States, Slovenia, Hungary and France top the ranking. For EP Groups, the number of successful amendments was the highest for RE, EPP and S&D.

The social network analysis of the co-sponsorship network of MEPs revealed that S&D MEPs form the biggest and most connected community in the network graph of both tabled and successful amendments. This is also reflected in the rankings of different network centralities, which also shed light on the fact that Spanish MEPs played a key role in the legislative network.

Although this paper is a descriptive analysis, it also reveals some policy and political implications. First, it identifies Member States whose MEPs play a key role – be it activity or legislative influence – in the field of demography. This could provide valuable information both for MEPs and Member States for building influential coalitions to put their relevant policy agenda through the EP.

A more fine-tuned textual analysis could reveal the context, topics and policy directions that MEPs from each Member State represent.

In the future, an increase in the importance of the topic of demography is expected not only because of the deteriorating demographic tendencies but also given the increasing political importance of related policy areas, including migration, public health and labour market.

Further research could address the topics which were covered by the amendments related to demography. Also, the approach presented in this paper could be applied to other policy areas in the EU decision-making process to make thematic comparisons. Finally, the subject of future research could be to analyse and compare the positions of MEPs and their respective national parties on demography in the European Parliament and their national parliaments. This could give a valuable insight into the similarities and differences represented in the EU institutional setup of multilevel governance.

References

Ansell, Christopher K. – Parsons, Craig A. – Darden, Keith A. (1997): Dual Networks in European Regional Development Policy. *Journal of Common Market Studies,* 35(3), 347–375. Online: https://doi.org/10.1111/1468-5965.00066

Ansell, Chris K. (2000): The Networked Polity: Regional Development in Western Europe. *Governance,* 13(2), 279–291. Online: https://doi.org/10.1111/0952-1895.00136

Arinik, Nejat – Figueiredo, Rosa – Labatut, Vincent (2020): Multiple Partitioning of Multiplex Signed Networks: Application to European Parliament Votes. *Social Networks,* 60, 83–102. Online: https://doi.org/10.1016/j.socnet.2019.02.001

Bonacich, Phillip (2007): Some Unique Properties of Eigenvector Centrality. *Social Networks,* 29(4), 555–564. Online: https://doi.org/10.1016/j.socnet.2007.04.002

Bureau, Jean-Christophe et al. (2012): The Common Agricultural Policy After 2013. *Intereconomics – Review of European Economic Policy,* 47(6), 316–342. Online: https://doi.org/10.1007/s10272-012-0435-6

Buzogány, Aron – Ćetković, Stefan (2021): Fractionalized but Ambitious? Voting on Energy and Climate Policy in the European Parliament. *Journal of European Public Policy,* 28(7), 1038–1056. Online: https://doi.org/10.1080/13501763.2021.1918220

Draghi, Mario (2024): *The Future of European Competitiveness.* Online: https://commission.europa.eu/topics/strengthening-european-competitiveness/eu-competitiveness-looking-ahead_en

European Commission (2020): *Report on the Impact of Demographic Change.* Online: https://commission.europa.eu/system/files/2020-06/demography_report_2020_n.pdf

European Commission (2023): *The Impact of Demographic Change – in a Changing Environment.* Commission Staff Working Document, SWD(2023) 21 final. Online: https://commission.europa.eu/system/files/2023-01/the_impact_of_demographic_change_in_a_changing_environment_2023.PDF

Eurostat (2024): *Demography of Europe – 2024 edition.* Online: https://doi.org/10.2785/911441

Fertő, Imre – Kovács, Attila (2015): Parliamentary Amendments to the Legislative Proposals of the 2013 CAP Reform. In Swinnen, Johan (ed.): *The Political Economy of the 2014–2020 Common Agricultural Policy. An Imperfect Storm.* London–Brussels: Centre for European Policy Studies (CEPS) – Rowman and Littlefield International, 379–413.

Fertő, Imre – Kóczy, László Á. – Kovács, Attila – Sziklai, Balázs R. (2020): The Power Ranking of the Members of the Agricultural Committee of the European Parliament. *European Review of Agricultural Economics,* 47(5), 1897–1919. Online: https://doi.org/10.1093/erae/jbaa011

Greer, Alan – Hind, Thomas (2012): Inter-Institutional Decision-Making: The Case of the Common Agricultural Policy. *Policy and Society,* 31(4), 331–341. Online: https://doi.org/10.1016/j.polsoc.2012.09.005

Häge, Frank M. – Ringe, Nils (2018): Rapporteur-Shadow Rapporteur Networks in the European Parliament: The Strength of Small Numbers. *European Journal of Political Research,* 58(1), 209–235. Online: https://doi.org/10.1111/1475-6765.12277

Hix, Simon – Høyland, Bjørn (2013): Empowerment of the European Parliament. *Annual Review of Political Science,* 16, 171–189. Online: https://doi.org/10.1146/annurev-polisci-032311-110735

Hübner, Danuta (2016): The European Parliament and Cohesion Policy. In Piattoni, Simona – Polverari, Laura (eds.): *Handbook on Cohesion Policy in the EU.* Edward Elgar, 140–155. Online: https://doi.org/10.4337/9781784715670.00023

Ibenskas, Raimondas – Bunea, Adriana (2021): Legislators, Organizations and Ties: Understanding Interest Group Recognition in the European Parliament. *European Journal of Political Research,* 60(3), 560–582. Online: https://doi.org/10.1111/1475-6765.12412

Jäckle, Sebastian – Metz, Thomas (2019): Oral Questions in the European Parliament: A Network Analysis. *Statistics, Politics and Policy,* 10(2), 87–113. Online: https://doi.org/10.1515/spp-2019-0004

Kemeny, John (1959): Mathematics without Numbers. *Daedalus,* 88(4), 577–591.

Knops, Louise (2012): *CAP Reform: Will the European Parliament Take the Bull by the Horns?* Centre for European Policy Studies.

Kreppel, Amie (1999): What Affects the European Parliament's Legislative Influence? An Analysis of the Success of EP Amendments. *Journal of Common Market Studies,* 37(3), 521–538. Online: https://doi.org/10.1111/1468-5965.00176

Kreppel, Amie (2002): Moving Beyond Procedure, An Empirical Analysis of European Parliament Legislative Influence. *Comparative Political Studies,* 35(7), 784–813. Online: https://doi.org/10.1177/0010414002035007002

Lučić, Sonja (2004): The Power of the European Parliament in Cooperation Legislative Procedure. *Medjunarodni problemi,* 56(2–3), 249–278. Online: https://doi.org/10.2298/MEDJP0403249L

Mérand, Frédéric – Hofmann, Stéphanie C. – Irondelle, Bastien (2011): Governance and State Power: A Network Analysis of European Security. *Journal of Common Market Studies,* 49(1), 121–147. Online: https://doi.org/10.1111/j.1468-5965.2010.02132.x

Opsahl, Tore – Agneessens, Filip – Skvoretz, John (2010): Node Centrality in Weighted Networks: Generalizing Degree and Shortest Paths. *Social Networks,* 32(3), 245–251. Online: https://doi.org/10.1016/j.socnet.2010.03.006

Praet, Stiene – Martens, David – Van Aelst, Peter (2021): Patterns of Democracy? Social Network Analysis of Parliamentary Twitter Networks in 12 Countries. *Online Social Networks and Media,* 24. Online: https://doi.org/10.1016/j.osnem.2021.100154

Rasmussen, Maja K. (2012): Is the European Parliament Still a Policy Champion for Environmental Interests? *Interest Groups & Advocacy,* 1(2), 239–259. Online: https://doi.org/10.1057/iga.2012.12

Roos, Mechthild (2021): Controlling the Purse: How the European Parliament Shaped Social Policy Through the European Social Fund. In *The Parliamentary Roots of European Social Policy: Turning Talk into Power.* Palgrave MacMillan, 247–278. Online: https://doi.org/10.1007/978-3-030-78233-7_7

Steunenberg, Bernard (1994): Decision Making under Different Institutional Arrangements: Legislation by the European Community. *Journal of Institutional and Theoretical Economics,* 150(4), 642–669.

Tsebelis, George (1995): Conditional Agenda-Setting and Decision-Making Inside the European Parliament. *The Journal of Legislative Studies,* 1(1), 65–93. Online: https://doi.org/10.1080/13572339508420415

Tsebelis, George – Jensen, Christian B. – Kalandrakis, Anastassios – Kreppel, Amie (2001): Legislative Procedures in the European Union: An Empirical Analysis. *British Journal of Political Science,* 31, 573–599. Online: https://doi.org/10.1017/S0007123401000229

Tsebelis, George – Kalandrakis, Anastassios (1999): The European Parliament and Environmental Legislation: The Case of Chemicals. *European Journal of Political Research,* 36(1), 119–154. Online: https://doi.org/10.1111/1475-6765.00465

Van Hecke, Steven – Wolfs, Wouter (2015): The European Parliament and European Foreign Policy. In Jorgensen, Knud Erik – Aarstad, Aasne Kalland – Drieskens, Edith – Laatikainen, Katie – Tonra, Ben (eds.): *The SAGE Handbook of European Foreign Policy,* 291–305. Online: https://doi.org/10.4135/9781473915190.n20

Walter, Stefanie – Kinski, Lucy – Boda, Zsófia (2023): Who Talks to Whom? Using Social Network Models to Understand Debate Networks in the European Parliament. *European Union Politics,* 24(2), 410–423. Online: https://doi.org/10.1177/14651165221137994

Yordanova, Nikoleta (2010): *Plenary 'Amendments' to Committee Reports: Legislative Powers of the European Parliament Committees.* Paper presented at the APSA 2009 Toronto Meeting and the EUSA 2009 Los Angeles Meeting. Online: http://nikoletayordanova.net/wp-content/uploads/Yordanova_Amendments_Aug2010.pdf

Young, H. P. (1988): Condorcet's Theory of Voting. *The American Political Science Review,* 82(4), 1231–1244. Online: https://doi.org/10.2307/1961757

Zhang, Junlong – Luo, Yu (2017): *Degree Centrality, Betweenness Centrality, and Closeness Centrality in Social Network.* Advances in Intelligent Systems Research, volume 132, 2nd International Conference on Modelling, Simulation and Applied Mathematics (MSAM 2017). Online: https://doi.org/10.2991/msam-17.2017.68

Zimmermann, Hubert (2019): The European Parliament and the Layered Politicization of the External Dimension of the Common Fisheries Policy. *Politics and Governance,* 7(3), 237–247. Online: https://doi.org/10.17645/pag.v7i3.2178