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Investigating the patterns of cooperation and role of embeddedness in EU defence projects – a social capital based approach



ABSTRACT

Social capital and cooperative behaviour could play an important role in the modern societies seeking to achieve socio-economic development and integration. Additionally, in times when facing remarkable challenges trust and interstate cooperation might enhance the countries involved to make fruitful efforts against the potential negative consequences of the emerging threats. Accordingly in this paper we propose that since the middle of the 2010's possible challenges emerged in the European Union, which necessitated common reactions and coordinated measures, thus it seems interesting to investigate the patterns of cooperation and role of social embeddedness in the defence sector. Applying a quantitative approach with social network analysis methods we explore and characterize the EU-level defence cooperation projects in the light of other relevant factors.

KEYWORDS

social capital, cooperation, network analysis, European Union, defence projects

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1. INTRODUCTION

Social capital and societal cooperation might be considered a rather important – or even indispensable – prerequisite for modern societies to foster and develop. Furthermore, since Europe witnessed several events in the middle of the second decade of the New Millennia that spectacularly illustrated the importance and necessity of adequate defence capabilities, it seems worth to investigate the role of social resources, trust and interstate cooperation in regarding the initiations and solutions in the European defence sector. The annexation of the Crimea by the Russian Federation in 2014 and the culmination of the refugee crisis in 2015 highlighted some potential vulnerabilities of the region and the fragility of the neighbouring areas. These developments might have played an important role in paving the way for a (re)starting and intensifying process of defence capacity building. These processes can be observed – on the one hand – in the case of the increasing share of budget spent on defence issues by several European NATO member countries ('D.E.N.C.' 2021), and the direct investments into security infrastructure by purchasing different products¹. On the other hand, a more subtle dimension of investment into security also started to evolve: different states of the European Union initiated cooperation projects in different spheres of defence issues. Besides that these projects might highly contribute to the integration and development of a common strategy and repository of relevant assets, the cooperation has the potential to facilitate and take advantage of partnership, social capital and embeddedness (GRANOVETTER 1985).

In our study we wish to empirically explore the different structures and potential relations between the European Union members in partnership, network embeddedness through defence investments and examine if former possible examples of cooperation and social embeddedness play any role in the state-to-state relations of the defence projects.

2. RESEARCH PROBLEM AND CONCEPTS

Cooperation and social capital and connections as a general means can promote development and increasing standards of living conditions (see Orbán-Szántó 2006, Putnam 2006) as the resources of the networks can provide novel resources for the community concerned (COLEMAN 2006.). In this sense, European integration can also be interpreted as a process of building partnership and trust among the European countries² in order to better realize common objectives and manage or prevent undesirable processes arising as potential threats for the countries involved and for the

¹ See for example: <https://www.sipri.org/yearbook/2021/08>

² In this context certain scholars also introduce the concept of European Social Capital (PRAPROTNİK – PERLOT 2021) while investigating the issue of the possible directions of the development of European Union future.

community as a whole. However, the evolution and development of integration might lead to a higher level of cooperation and a convergence of certain countries or regions, and clusters of member states characterised with less deepened partnership relations or smaller sub-regions or subgroups with specific areas of cooperation. That is, a differentiated integration pattern might evolve (BRUNAZZO 2022) with a segmented structure of partnership, which could also be explored in specific areas as well – including defence initiations (see BLOCKMANS – CROSSON 2019).

Accordingly the general research problem of this paper is whether a pattern and relationship between the network embeddedness and defence investments can be explored in the European context lately. Among the possible research questions the following ones can be differentiated: (1) can stable patterns of fragmentation be measured in the European defence partnership network? It might be interesting to investigate (2) the level of inequalities and concentration of defence cooperations among the participating European member states, and also the (3) possible role of the time factor could be worth to see if it has any role on the embeddedness in the cooperation network of this specific context of defence projects. Last but not least (4) the relation between other possible defence investments might also be interesting to be in the focus of the investigation.

3. METHODOLOGICAL REMARKS

Our research is based on the publicly available data sources of defence cooperation partnerships (PESCO) supplemented with the data of Stockholm International Peace Research Institute, and in the course of data analysis a basically quantitative approach would be applied. In order to empirically investigate the patterns and differences of the *defence cooperation* partnerships and explore regional clusters and distinctive hubs of defence collaborations we assembled a complex database from possible online information. Several articles and studies (Blockmans–Crosson 2019, Varga 2019, Nádudvari–Etl–Bereczky 2020, Molnár–Szabolcs 2020) have already mapped the overall structure and some deeper characteristics of the cooperation, which results can be utilized for further investigation. In this aspect it might be worth to investigate the structure as a *directed asymmetric network* in order to find out whether some kind of difference in the evolving structure can be measured. As for the methods applied, besides the quantitative approach in our research project we rely on the network analysis perspective which enables us to explore the inner patterns of the graphs and also to quantify the positions of the states and regions involved.

4. DATA ANALYSES

4.1. Introducing the PESCO projects

The four waves of PESCO projects contain an overall number of 60 defence initiations among 25 European Union member states. The most active participant of the defence program is France with its fourteen coordinated projects (see Figure 1.). With a kind of gradual decrease Italy and Germany follow the most active country with eleven and nine initiated projects, then Greece, Spain, Estonia and Portugal can be found with a minimum of three projects. There seem to be an

essentially negative relation between the activity level and the number of partners in the cooperative defence initiations. This rather unclear pattern can be illustrated with the correlation coefficient (-0,097) as well, and might – at least partially – explained with the notable outliers among the less active project coordinator countries. Lithuania, Hungary and Bulgaria all have only one project coordination, however they have relatively higher number of partners – ties directed towards other EU countries, but this inverse pattern is the most visible in the case of Belgium and primarily the Netherlands, where in one single coordinated project 23 partners are included.

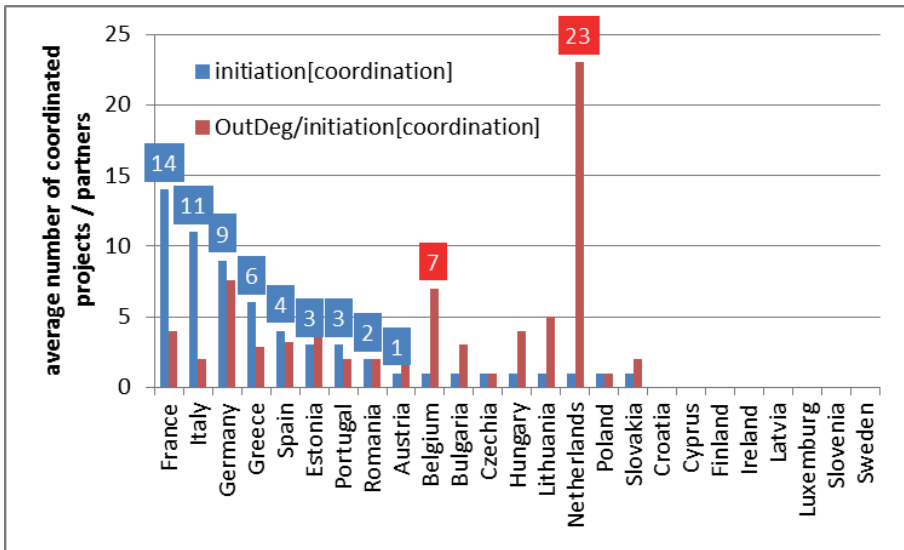


Figure 1.

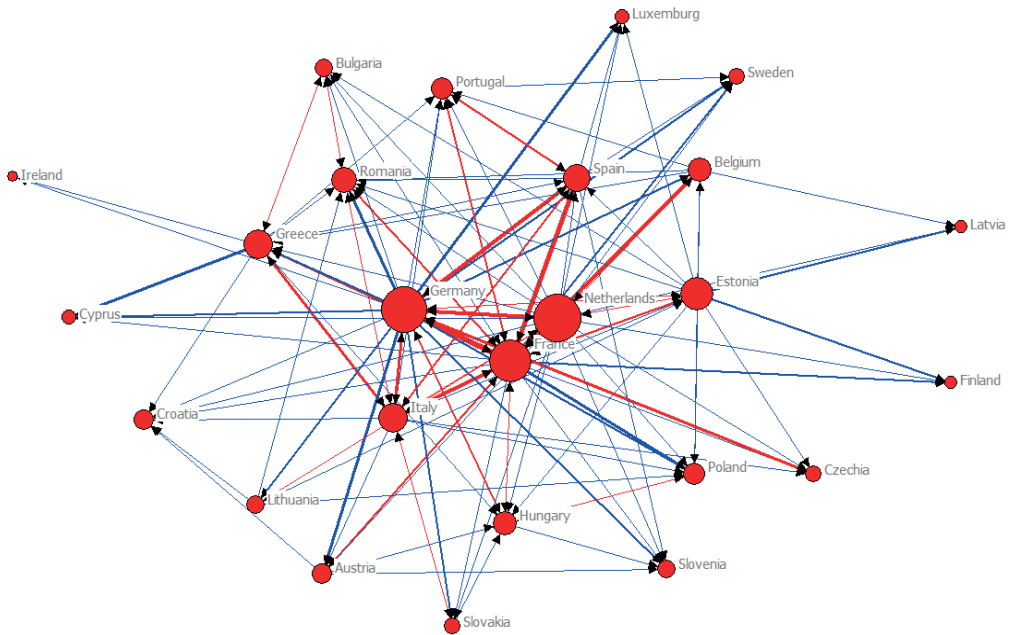
The pattern of the cooperation network based on the PESCO projects can be described as a structured and differentiated network containing more or less clearly distinguishable segments (see Graph 1.). These segments even can be interpreted to some extent as an arrangement of concentric circles. In the centre of the network we can primarily find Germany, France, the Netherlands, and Italy as well – although the latter is located more distant from the other three most active countries. This pattern could imply a progress of concentration – which would be a comprehensible process considering certain models of network evolution – if we consider that the analyses based on earlier weaves of PESCO projects³ identified more numerous leading countries.

The next segment of the network could be interpreted as an intermediary ring located around the core with most active countries. In this section Estonia and Greece seem to be more significant countries with relatively higher number of connections, but Spain and Romania could also be considered ones.

On the periphery of the network we find the third, outer ring with the least integrated states of the PESCO cooperation network – namely Ireland, Latvia and Finland. Hungary is positioned

³ See for example NÁDUDVARI – ETL – BERCZKY 2020.

around the border area between the intermediary and the outer segments, in a sub-graph with Austria, Slovakia and Slovenia⁴.



Graph 1.

A further worth-to-be-mentioned characteristic of the directed graph is the frequent and dense presence of mutual links – although obviously in light of the nature of the cooperation projects (fixed participants) it is understandable –: France possesses eleven partners with reciprocal links, Germany and the Netherlands have seven and six respectively. These mutual relations contribute to the evolvement of a more embedded network structure.

The positions of the countries in the graph of the cooperation network proves to be structured in a different way as well: based on the figures of the distribution of initiations – or ties

⁴ It should be noted, that the pattern of defence cooperations explored in this part of the analyses might emerge as an intersection of various different factors not ready to be measured quantitatively. On the one hand regarding the central players of the network the presence of a traditionally strong, developed, functional and many-sided defence sector has the potential to invite others to cooperate in several different fields of defence, that is, these actors necessarily can have greater and wider room for building collaborative relations. In this sense we encounter a mechanism widely known in the social sciences which describes that the more one has, the more will be added to her – referred to as Matthew effect in sociology (see MERTON 1968.).

On the other hand the less significant countries of the cooperation network – similarly – could have smaller and less diverse defence sectors which disable them from participating in several dimension of the development projects. However in this regard it should be emphasized, that specialization can play an important role, and in some cases we might again discover the process linked to Matthew effect: when a state acquires a specific, strategically important element of the European Union defence sector – as for example in the case of Estonia regarding cyber defence (centre) or the Czech Republic and space developments – it also gets an advantage to accumulate further development projects and collaborative relations.

directing towards other countries (out-degree⁵) – and partnerships – ties point toward an arbitrary state – a positive relation can be explored (see Figure 2A.). That is, the more active a country is in the PESCO initiations, the more numerous partners can achieve in the cooperation network (correlation coefficient; $R=0,657$). Certainly France and Germany seem to be a kind of outlier in this sense, however if we exclude them from the analysis (see Figure 2B.), the pattern proves to be essentially the same ($R=0,537$).

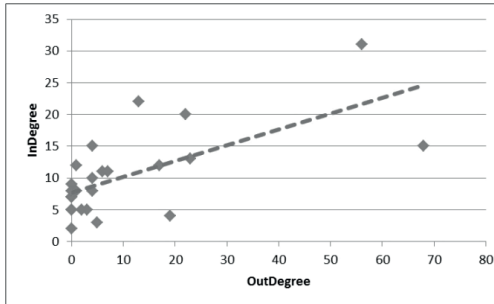


Figure 2A

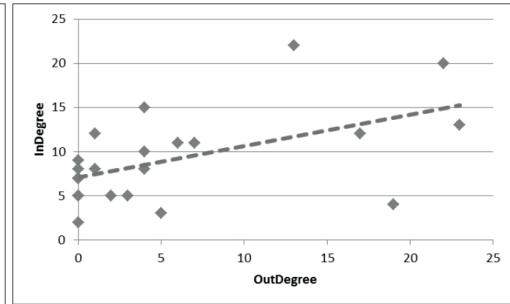


Figure 2B. (outliers excluded)

4.2. EU- and NATO-differences

Since all PESCO countries are European Union members, only inner comparisons can be carried out. One aspect can be the time spent in the organization – accordingly the first comparison reveals the differences of the network centrality values in light of the date of accession⁶.

As the data explores, both the out-degree and in-degree mean values tend to decrease towards the EU-members that joined the organization later (see Figure 3.). This negative tendency is more notable in the case of the initiations, but in the case of the partnerships it is also visible. That is, the countries with longer membership have higher volumes – as a tendency – of participative actions and community collaboration, which might imply a kind of institutional learning and the cultivation of cooperative norms – and might illustrate the evolvement and possible role of trust and embeddedness.

The similar mechanism can be empirically explored if we distinguish between the founders of the EU and the rest of the countries. The average value of both the initiations and collaborations prove to be remarkably higher in the group of the six EU-founders (see Figure 4.). The project initiations seem to be polarized as there can be measured more than seven times higher values of out-degree in the case of the funding states compared to the other countries, and the average level of participation is also almost twice as high in the founder member states.

So the countries in the European Union seem to be different regarding their activity on both defence investment initiations and partnerships. The main pattern imply that the EU-members with longer experience have higher levels of collaborative activities which might be explained with institutional learning, embeddedness and trust.

⁵ Degree – or number of ties – is the most important characteristic of a node (BARABÁSI 2016. 63-65.)

⁶ Longer EU and/or NATO membership might be treated as a certain indicator of following and practicing cooperative negotiations and compromise decision-making, that is, a possible source of social embeddedness.

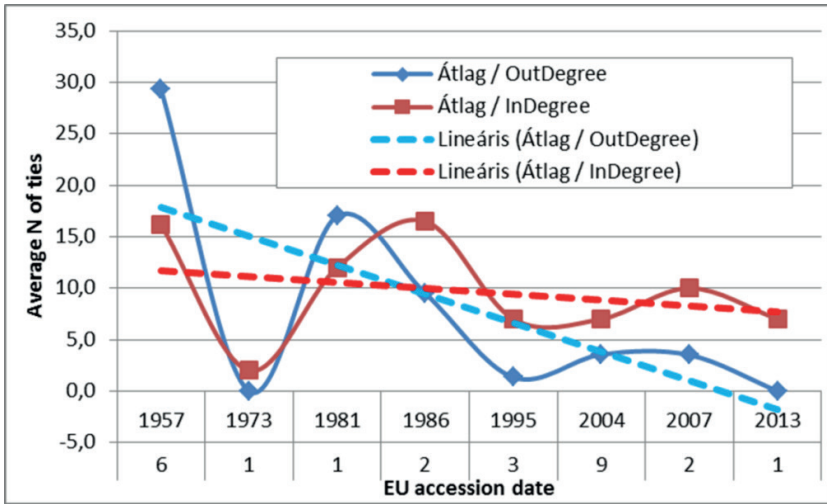


Figure 3.

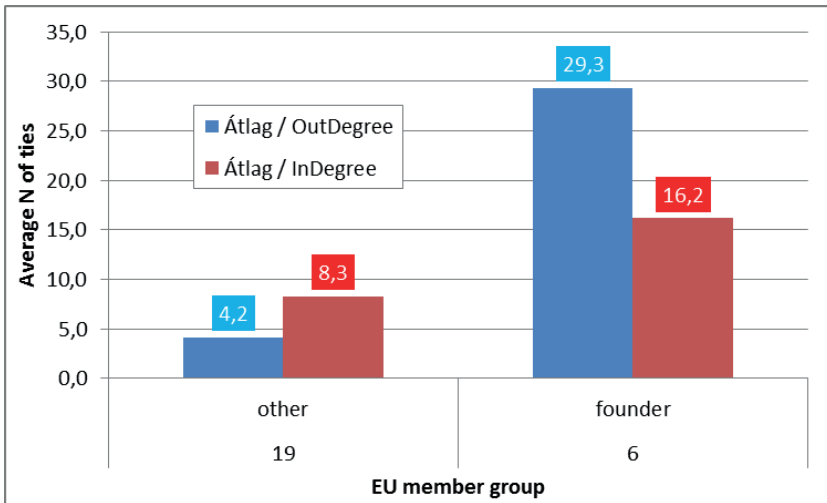


Figure 4.

However, several countries of the PESCO-projects are also NATO member countries, so this differentiation offers a similar possibility to compare.

The most notable difference can be seen – in the case again – regarding the initiations. That is, the average number of network ties based on initiated defence projects is more than fifteen times greater in the case of those EU members that arise also NATO member countries (see Figure 5.). Furthermore the states with NATO membership prove to be also more desirable or more frequently “targeted” partners.

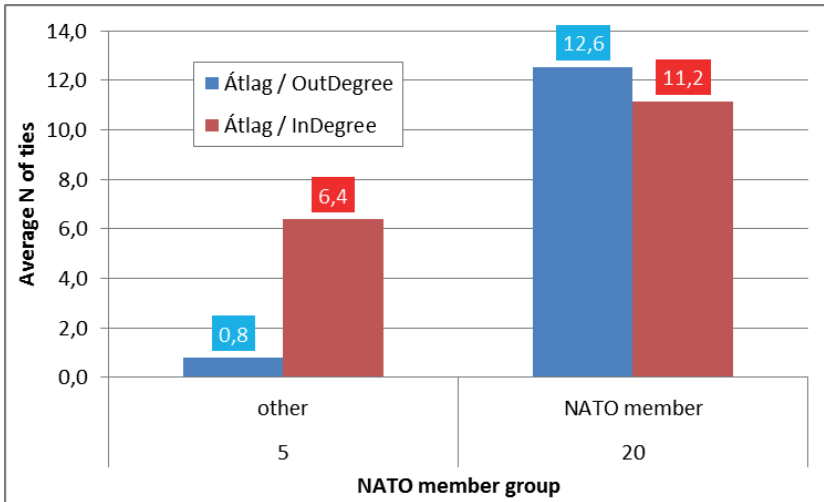


Figure 5.

It can also be added, that based in the data, an identical pattern can be seen regarding the institutional learning (see Figure 6.): the in-degree values are less notably related to membership duration, but the values tend to be higher with long-term membership, and defence partnership initiations show a more remarkably positive connection.

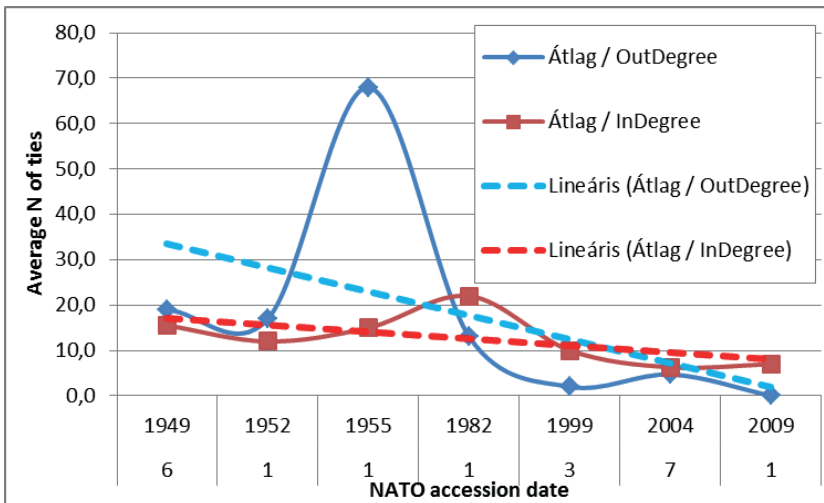


Figure 6.

In this sense, both EU and NATO membership figures corroborate that a longer, more significant experience in a multi-player, cooperative institutional environment increases the activity and partnership potential in a rather specific domain of defence investments as well.

4.3. Arms transfers in the PESCO countries

As for the overall volume a total of 21958 trend-indicator value (TIV)⁷ arms procurement has been carried out among the 25 PESCO countries between 2010 and 2021. Italy has the highest share of the weapons transfers (see Figure 7.): nearly 16 percentage of all the investments has flown there, which is followed by the Netherlands with its share of 13,6 percentage. In the case of Greece still a share above one-tenth of the overall arms procurements can be measured (11 percentage), furthermore Poland, Spain, Finland Germany have a portion exceeding five percentage (9,0; 7,3; 6,7 and 5,3 percentage respectively). France, Romania, Sweden and Belgium all belong to the countries with a share above two percentages, and the rest of the PESCO-states accumulate less than one percentage of the defence investments in the investigated period.

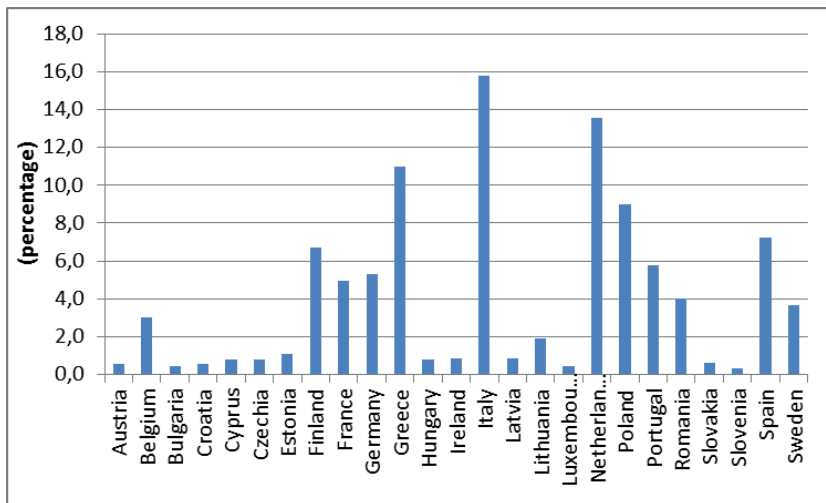


Figure 7.

If we investigate the number of partners providing the arms transfers towards the investigated EU countries, a positive pattern can be explored (see Figure 8.): the more numerous the selling partners are, the higher the share of the overall arms procurements tend to be. This pattern is corroborated also by the correlation estimate ($R=0,435$), and Poland proves to be the country that has the highest position regarding both the number of partners and the share of arms transfers, while Luxembourg can be found on the opposite pole of the data, and Greece, the Netherlands and Italy occupy a position characterized with the highest shares of the weapons acquisitions among the PESCO-members and a number of suppliers around the mean value (9,3).

⁷ Trend-indicator value is the measurement of arms transfers introduced and calculated by Stockholm International Peace Research Institute. See: HOLTOM – BROMLEY – SIMMEL (2012).

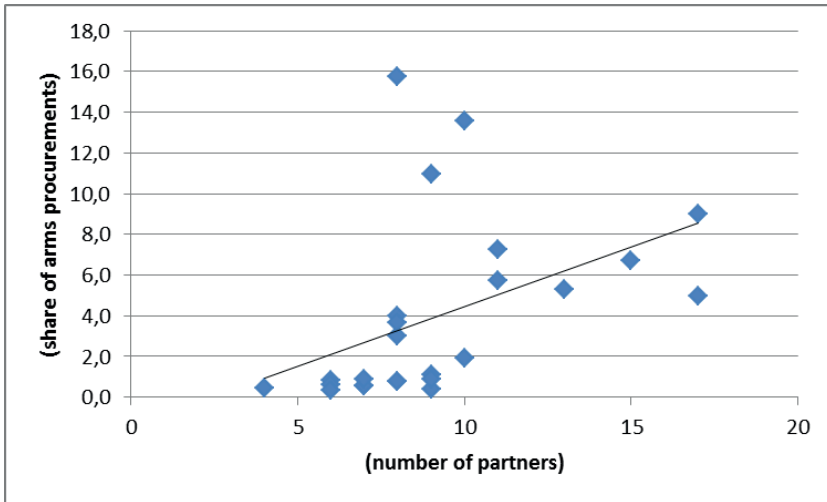


Figure 8.

The six founders of the European Union cover only 43 percentage of the overall defence investments of the PESCO-members between 2010 and 2021 (see Figure 9.), in the case of the number of partners there cannot be measured a remarkable difference compared to the other, not founder states, however the average values of the arms transfer volumes prove to be approximately two and a half higher in the case of the EU-founder countries.

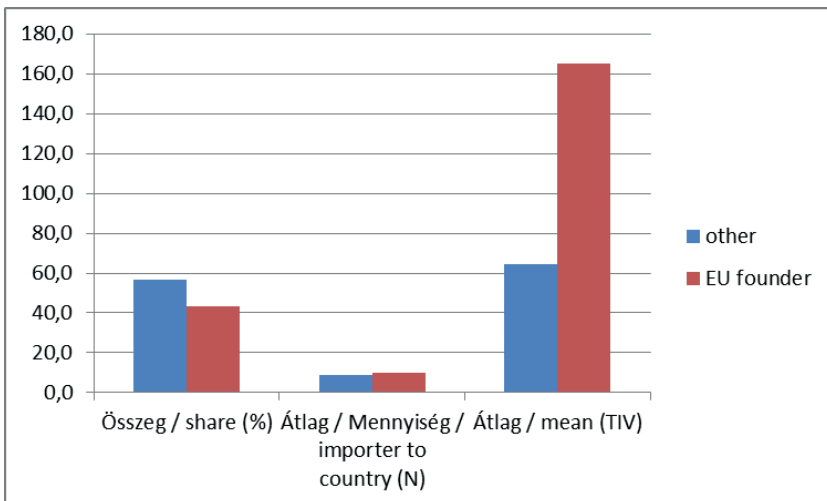


Figure 9.

Military alliance however proves to facilitate weapons procurement processes as the twenty NATO-members of the PESCO-states dominate the distribution of the arms transfers in the investigated period (see Figure 10.): nearly 90 percentage of the defence investments can be found in this category. In regard to the average number of suppliers a similar pattern can be explored as seen in the previous data analysis comparing the EU-founders with the other members: only negligible differences appear – in contrast to the average values of arms transfers. Almost twice as high value can be measured in the case of the EU countries with NATO membership than the states out of the military alliance.

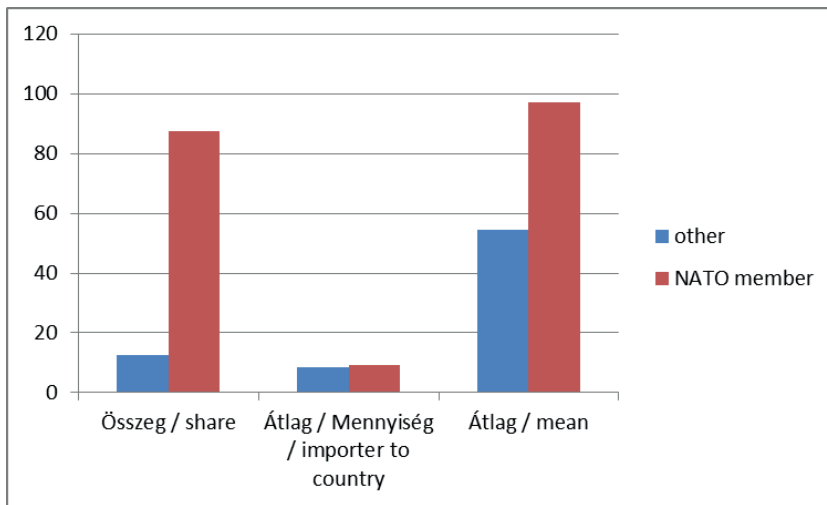


Figure 10.

The network of the PESCO-countries suppliers is made up of nearly half a hundred countries (see Graph 2.): besides 27 European Union members and – with a noticeable overlap – 26 NATO member states, further countries of the European continent (e.g. Switzerland, Ukraine) and also states from rather distant regions of the globe (e.g. Oman, Thailand) played certain role in the weapons investments of the cooperating states of PESCO between 2010 and 2021. In light of the applied methodological approach the non-PESCO states have a position of initiator, that is, in the network structure these countries have exclusively out-degree values, while the EU-members cooperating in the investigated defence projects have primarily inward ties, but also the arms transfers between two arbitrary PESCO-members explore the inner ties among this segment of the European Union states. The network structure evolving from the arms transfers relation of the PESCO-countries illustrates different segments of the states. First of all it is important to highlight that among the countries characterized with a central position in the network several out-of-the-investigation countries can be found: besides Germany, Spain, France, Italy, Poland, Sweden, Finland the United States and Israel occupy central position. Furthermore it is also worth to notice that the United Kingdom – a former EU member state, not participant country of the PESCO initiations – is also positioned in this central section of the network – where Norway could also be added. These actors of the network obviously can only play supplier roles, and accordingly they seem to be the most

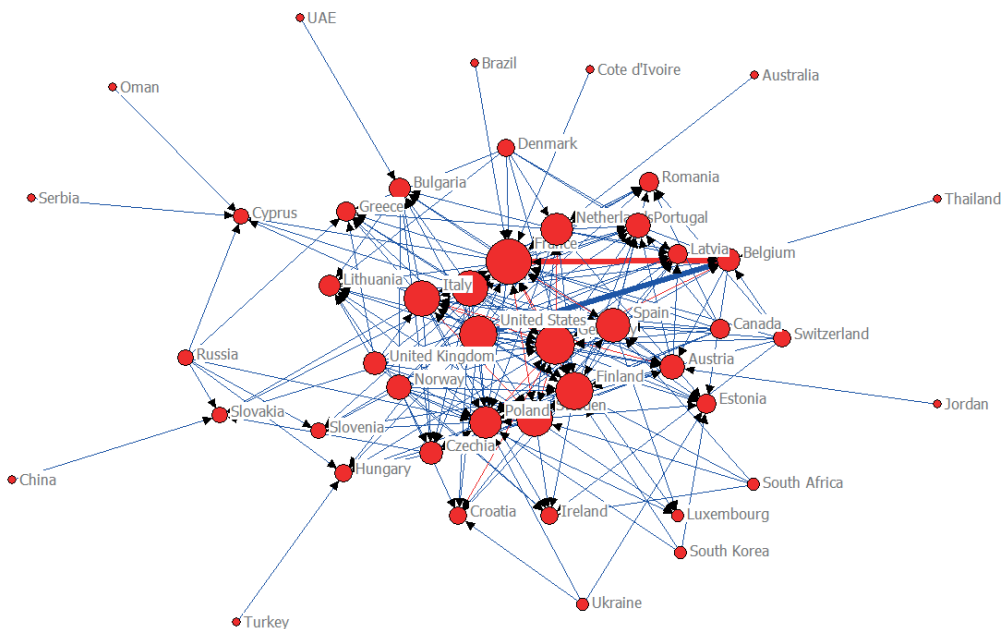
significant ones in this aspect. On the other hand, the central weapons investors of the network prove to be the above-mentioned countries: Germany, Spain, France, Italy, Poland, Sweden and Finland are most remarkably integrated into the arms transfers network.

In this rather dense section of the network another interesting pattern can be explored: among some central countries – supplemented with some further states with less central positions, e.g. Belgium – several reciprocal ties exist (highlighted with red colour). In this regard Germany or France can be illustrative examples as these countries have seven and six partners (reflectively) from which Paris and Berlin procured and for which they also sold weapons. In the French case these mutual links seem to be directed towards dominantly countries with central positions, while Germany have some partners form the intermediate segment of the network (e.g. Poland, Croatia).

A seemingly more separated portion of the network is positioned on the left side of the graph and essentially can be considered a sub-graph – at least partially – created by countries which (also) have ties with Russia. In this arms trade sub-network geographical background seems important as the countries included are dominantly from the Eastern and Central regions of European Union.

Considering the V4 countries the Czech Republic seems to be more integrated in to the arms trade network, and Slovakia is the most distant from the core of the structure – and also the only country with weapons supply from China.

The notable disproportionalities among the states of the PESCO-countries' arms investments can be highlighted if we investigate the strength of the ties and the relative difference in size illustrated by the number of ties (Graph 3.). In this regard we can add that Belgium might be also considered a highly integrated and important actor of the structure as it has intensive relation with both the United States and France – in this latter case in the form of a mutual connection.



Graph 2.

As mentioned and illustrated above, the arms trade network of the PESCO-countries contains states out of the European Union as well – in both rather central and also peripheral positions. Accordingly if we consider EU-membership, all of the in-degree ties can be found in this category (see Figure 11.), and the majority of the out-degree (58,1 %) also belongs to the European Union countries, and the rest – approximately two-fifth of the relations – can be linked to the states out of the EU. That is, there seems to be a relatively high rate of ties distributed among the inner group of EU-affiliated countries, which pattern implies a greater cooperation between EU-member states regarding the arms procurements.

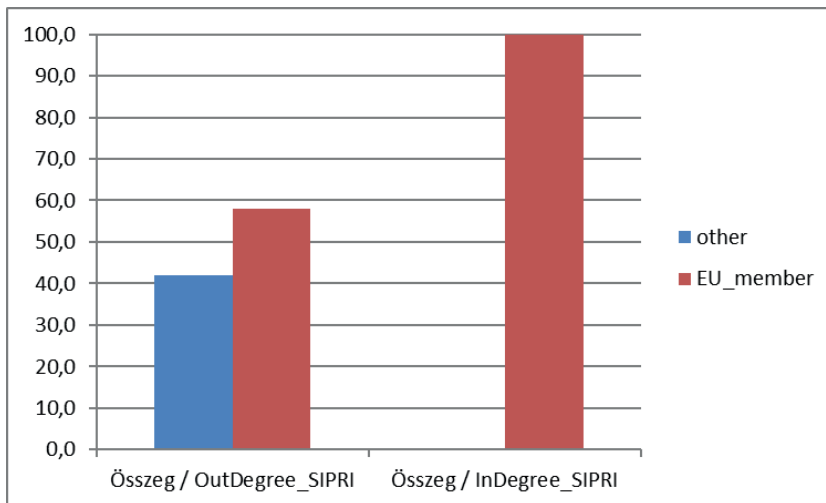


Figure 11.

A similar pattern can be explored if we investigate the mean values of inward and outward tie (see Figure 12.): the in-degree is higher than the ties signifying supply relations in the case of the EU-members, although there cannot be measured substantive difference between non-EU countries and the members of the Union. As the data shows, the EU states and the countries out of the organization prove to be equally active in the initiative aspect of the arms transfers, but dominantly the EU members are characterized with higher rate of weapons procurements.

The distributions of the relations in a comparison between European Union members and the countries out of the organization illustrates that the arms investment network of the PESCO states is open and remarkably affected by other supplier countries.



Figure 12.

Military alliance can also be considered an important factor of arms transfers: both the initiative and the receiving ties are dominated by NATO member countries (see Figure 13.). Almost two-third (63,7 percentage) of the out-degree can be linked to NATO states, and a remarkable four-fifth share (81,2 percentage) is concentrated in the 27 NATO members contained in the investigation. That is, military integration noticeably increases the intents and expenditures allocated for defence investments.

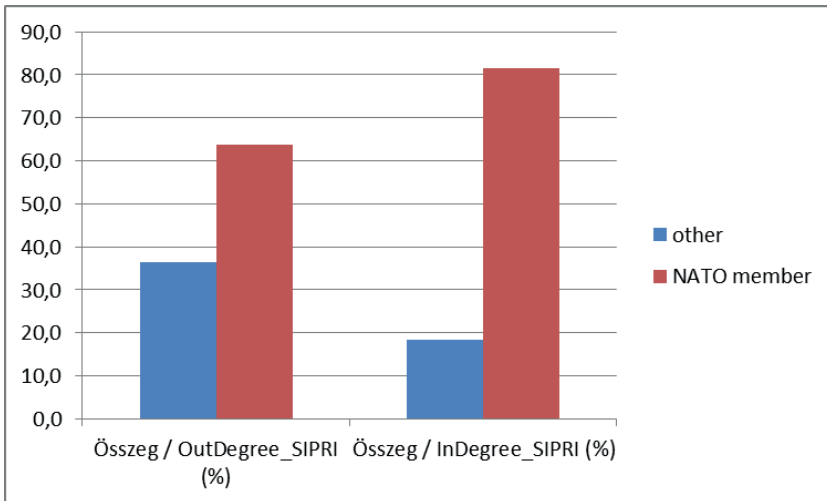


Figure 13.

It can also be added, that the significance of NATO membership in regard to arms transfers relations can be corroborated if we consider the average values of weapons selling and purchase ties (see Figure 14.). Countries of the defence alliance have a 1,4 higher rate of arms supply relations, furthermore a more than three times higher rate of average links can be explored in the case of the NATO-member PESCO countries.

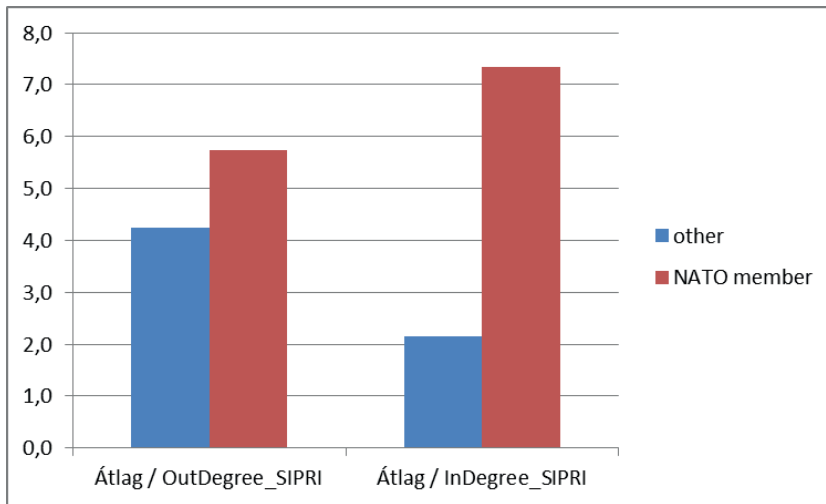


Figure 14.

Considering the above introduced comparisons NATO countries tend to be more active and more integrated in the arms transfers network of the PESCO states. Both in supply relations and investment ties the military alliance countries exhibit higher share values and more connections.

4.4. THE POSSIBLE ROLE OF TRUST AND EMBEDDEDNESS – COMPARISON OF COOPERATIONS

One of the initial objectives of this analysis is to investigate whether there can be explored a connection between the network positions of the investigated countries regarding the PESCO projects and the arms transfers. Accordingly in this final part of the paper we make efforts to compare the networks derived from the PESCO development projects and the arms transfers of the countries.

In this regard we consider the positions of the states involved in both data matrices and investigate the connection between the positions in different aspects of the network status quantified by the degree values or number of relations attached to the countries in the database. The comparison is illustrated in reference to the positions in supply dimension of the arms transfer network and implies that the least remarkable relation can be seen in the case of the positions regarding the arms transfers network customer data: in light of the data distribution the positions of the countries regarding arms transfers inflow proves to be almost independent from the arms selling aspects (see Figure 15.). However there can be seen a positive relation between the positions in the

cooperation network: the pattern shows that the higher the embeddedness of a country in the arms supply network, the higher number of ties can be measured regarding the participation in PESCO projects as a cooperative partner. However an even stronger positive relation can be explored if we investigate the connection between arms transfers supply and PESCO projects initiations: as a trend it can be stated, that the higher the potential of a country to initiate arms transfers, the higher the willingness to coordinate different defence projects. That is, the technological and economic potential and opportunities embedded in the actual defence sectors of the states seem to enable them to be more active in the field of other cooperative defence investments.

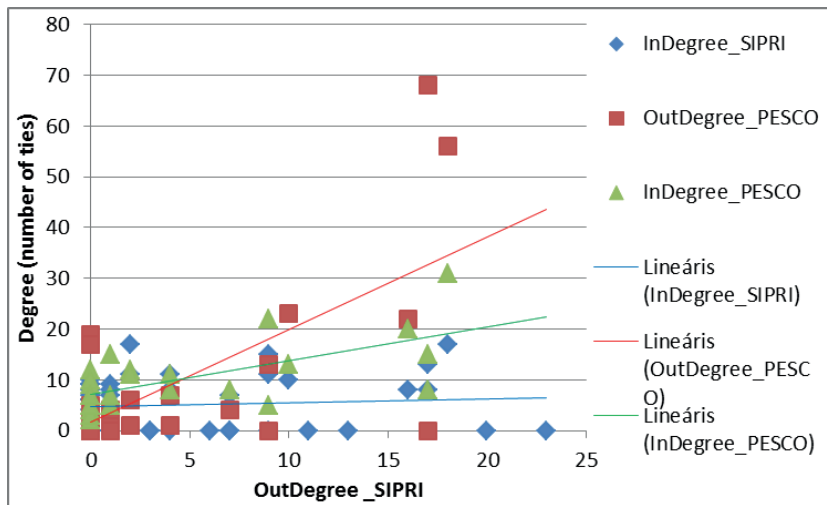


Figure 15.

Trust is a rather subtle phenomenon thus the question whether there can be measured any role of trust in the defence cooperations in the light of defence investments through arms transfers from a quantitative approach is rather difficult to answer. There would be some possible methods and procedures to investigate the connection between the two data matrices – for example matrix correlations could show the similarities of the ties, a 1-sample χ^2 test might quantify the (lack of) differences of the distributions in the tables – but we find pairwise correlation an appropriate and the most illustrative method. Accordingly after a dyadic transformation of both matrices and merging the two tables we investigate the distribution of the relations or number of ties regarding all the possible pairs of the countries in the dataset⁸. As for the data it can be stated, that there is a positive relation between the country-to-country cooperation relations (see Figure 16.): the pattern implies that those country-pairs that have (higher number of) relations in one aspect of the investigation, tend to have (higher number of) connection in the other aspect as well (correlation coefficient $R=0,383$). That is, those countries that handle arms transfers between each other, also tend to cooperate more intensively with each other in PESCO defence projects⁹.

⁸ Obviously during the data organizations the tables had to be limited for the PESCO countries so the arms transfers supplier countries out of this sphere has been excluded from the analysis.

⁹ It should be noted, that the reverse relation can also be a relevant interpretation, as this is a correlation measure, not a causal effect.

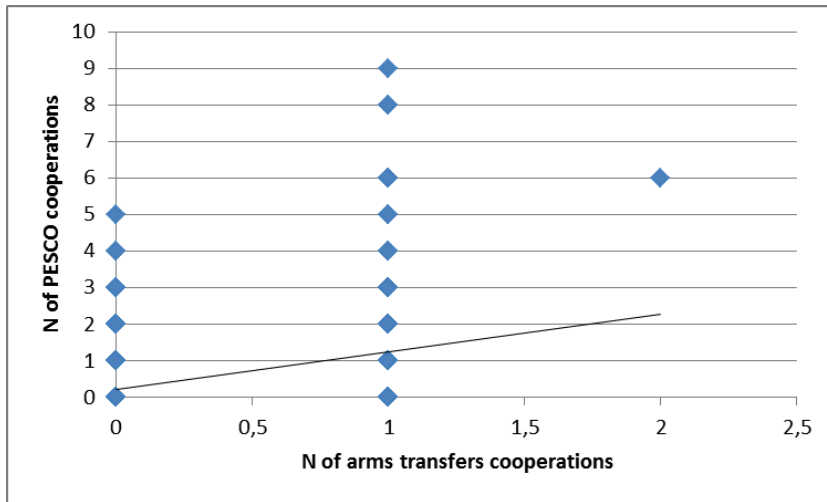


Figure 16.

Although at this point it is necessary to refer to the possible limitations of a quantitative approach when trying to explore the role of trust in the context of this specific area of international relations, the outcomes of the analyses imply that there seems to be a connection between the cooperation patterns of the PESCO countries, which might be interpreted – at least partially – as a result of longer-term evolvement of trust between them.

5. SUMMARY AND CONCLUSION

Based on the research outcomes it could be stated that (1) cooperative EU defence investment projects evolve into structured, dense and embedded networks. Contrary to possible initial presupposition, (2) high level of fragmentedness could not have been explored – the relations among the investigated countries create a wholly integrated network. However (3) the states in the network have different inner positions of course – based on their ties they occupy more central or rather marginal status, but there cannot be found isolated segments or clusters. The (4) differences among the positions of the countries and the embeddedness of the networks could have been illustrated by the reciprocal ties between certain states as well. Institutional background – primarily the length of membership in the European Union and in the military alliance of NATO – have been (5) identified also as a differing factor in the PESCO projects, which might be – at least partially – explained with the potential to accumulate skills and experience in collaborative patterns of decision-making and in cooperative reaction to evolving challenges. In the case of the arms transfers towards PESCO countries (6) a significant role of other, non-regional countries could be explored, resulting a structured network of weapons procurements with significant differences among countries. The (7) founders of the European Union and NATO member countries played – in this case also – more significant role in arms transfer relations, occupying more central

positions in the network. Finally, as for the role of mutual cooperations and former state-to-state interactions in other aspects of the defence sector, (8) a positive connection could have been explored: those country-pairs that cooperate with each other more intensely in the arms transfers network tend to be more active in PESCO-projects as well.

It seems that the various forms of connections among the investigated countries and the differences illustrated in institutional and regional affiliations all imply the *emergence of a highly structured and embedded pattern of relations* among the studied segment of the European sphere both regarding PESCO and arms transfers connections. The differences indicate an *inner central-periphery pattern* with some long-term significant EU-members and NATO countries in the core of the defence cooperation network, and the distributions imply that this pattern proves to be correlated with the relations in the arms transfers network as well.

REFERENCES

- BARABÁSI, ALBERT-LÁSZLÓ (2016): *A hálózatok tudománya*. Budapest, Libri Kiadó.
- BLOCKMANS, STEVEN – CROSSON, DYLAN MACCHIARINI (2019): Differentiated integration within PESCO – clusters and convergence in EU defence. *CEPS Research Report*, 2019/04.
- BRUNAZZO, MARCO (2022): The Politics of EU Differentiated Integration: Between Crises and Dilemmas. *The International Spectator* Vol. 57. No. 1. 18–34. <https://doi.org/10.1080/03932729.2022.2014103>
- COLEMAN, JAMES S. (2006): A társadalmi tőke az emberi tőke termelésében. In Lengyel, György - Szántó Zoltán (eds.): *Gazdaságpszichológia*. Budapest, Aula Kiadó, 109-131.
- 'D.E.N.C.' *Defence Expenditure of NATO Countries (2014–2021)* (2021): B-1110 Bruxelles Belgique, North Atlantic Treaty Organisation – Organisation du Traité de l'Atlantique Nord. Press & Media – Presse & Médias.
- GRANOVETTER, MARK. (1985): Economic Action and Social Structure: the Problem of Embeddedness. *American Journal of Sociology* Vol. 91. No. 3. 481–493. <https://doi.org/10.1086/228311>
- HOLTOM, PAUL – BROMLEY, MARK – SIMMEL, VERENA (2012): Measuring International Arms Transfers. SIPRI Fact Sheet December 2012.
- MERTON, ROBERT K. (1968): The Matthew Effect in Science. The reward and communication systems of science are considered. *Science* Vol. 159. Issue 3810. 56–63. <https://doi.org/10.1126/science.159.3810>.
- MOLNÁR, ANNA – SZABOLCS, LAURA (2020): *Megerősített együttműködés, változó geometria, PESCO*. *Hadtudomány* 30. évf. 4. sz. 77–106. <https://doi.org/10.17047/Hadtud.2020.30.4.77>
- NÁDUDVARI, ANNA – ETL, ALEX – BERECZKY, NIKOLETT (2020): Quo vadis, PESCO? An analysis of cooperative networks and capability development priorities. *ISDS Analyses*, 2020/15.

ORBÁN, ANNAMÁRIA – SZÁNTÓ, ZOLTÁN (2006): A társadalmi tőke koncepciója. In SZÁNTÓ, ZOLTÁN (ed.): *Analitikus szemléletmódok a modern társadalomtudományban. Tanulmányok a gazdaszociológia és a politikai gazdaságtan néhány kortárs elméleti irányzatáról*. Budapest, Helikon Kiadó, 137-155.

PRAPROTNIK, KATRIN – PERLOT, FLOOH (2021): More or less integration? Examining support for different EU future scenarios in Austria. *European Politics and Society*. DOI:10.1080/23745118.2021.1965405

PUTNAM, ROBERT D. (2006): Egyedül tekézni: Amerika csökkenő társadalmi tőkéje. In LENGYEL, GYÖRGY – SZÁNTÓ, ZOLTÁN (eds.): *Gazdaszociológia*. Budapest, Aula Kiadó, 207-219.

VARGA, GERGELY. (2019): Az európai biztonság- és védelempolitikai kezdeményezések értékelése Magyarország szempontjából (1.). *KKI Tanulmányok*, 2019/02.