

UN Actors in an Agreement-Actor Network

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1 Introduction

This document illustrates the use of the agreement-actor network analysis methodology[2][1] to study a set of 26 UN actors.

1.1 Data Sources

The analysis is based on the following signatory data files supplied by Niamh Henry on 03/11/2023:

- links_table.csv
- node_table.csv

As well as agreements and actors and the relationships between them, the files contain agreement metadata for:

- Peace process
- Date
- Agreement stage
- Region

The methodology demonstrated here enables us to analyse and visualise networks of actor-actor and actor-agreement relationships in combination with metadata attribute values.

1.2 Selecting UN Actors

The search criteria for selecting the 26 UN actors analysed in this report are as follows:

- The actor `node_id` value must start with 'IGO_' or 'COA_'.
- The actor `node_name` value must contain 'United Nations' or ' UN', or start with 'UN'.

2 Preliminaries

2.1 List of UN Actors

Name	Identifier
Group of Friends UNSG	COA_51
Office of the United Nations High Commissioner for Human Rights	IGO_640
UN General Assembly	IGO_315
UN Office on Drugs and Crimes	IGO_672
UN Secretary General	IGO_386
UN Security Council	IGO_8
UNAMID	IGO_950
UNAMSIL	IGO_652
UNCRO	IGO_795
UNISFA	IGO_616
UNMIBH	IGO_405
UNMIS	IGO_854
UNMISS	IGO_831
UNMOT	IGO_454
UNOMB	IGO_274
UNOMIG	IGO_480
UNPOS	IGO_536
UNPROFOR	IGO_355
UNSMIL	IGO_750
United Nations (General)	IGO_49
United Nations Children’s Fund	IGO_459
United Nations Development Programme	IGO_64
United Nations Educational, Scientific and Cultural Organization	IGO_678
United Nations Human Rights Council	IGO_440
United Nations Population Fund	IGO_674
United Nations Secretariat	IGO_391

Table 1: Names and identifiers of 26 UN actors obtained from the PA-X agreement-actor signatories dataset.

2.2 Numerical and Statistical Data

Variable	Value
Number of agreements in dataset	1642
Number of actors in dataset	1096
Number of UN actors in dataset (see Table 1 above)	26
Number of agreements to which one or more UN actors are signatories	371
Number of non-UN actors that are co-signatories with UN actors	510
Number of peace processes in dataset	152

Table 2: Basic numerical data.

Variable	Value (%)
UN actors as a percentage of all actors	2.4
Agreements signed by UN actors as a percentage of all agreements	22.6
Non-UN co-signatories as a percentage of all actors	46.5

Table 3: Statistical data.

2.3 Number of Agreements Signed by UN Actors

The data can be interrogated to show how many agreements individual actors have signed in one or more peace processes. For example, Figure 1 shows the results for the selected UN actors across all peace processes. The results are displayed in rank order and show marked differences between actors in the number of agreements signed. The United Nations (General) signed far more agreements than any other UN actor. For numerical analysis, exact values can be retrieved as shown in Table 4.

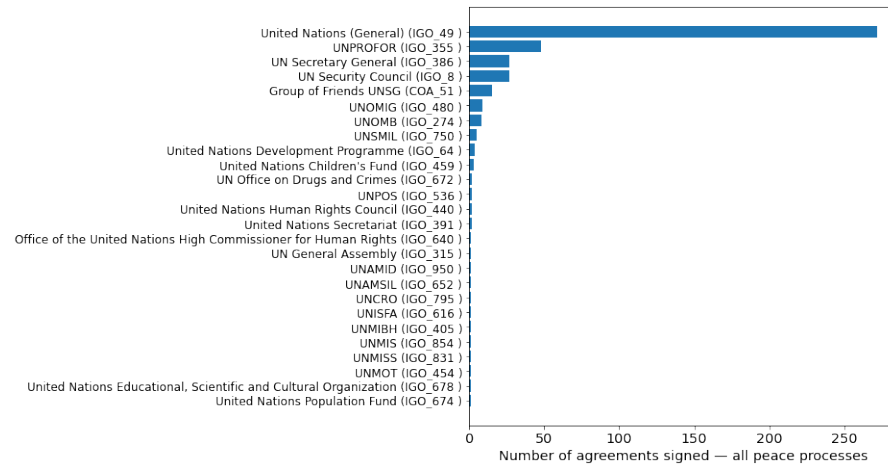


Figure 1: Number of agreements signed by the 26 UN actors in the analysis. See Table 4 below for exact values.

UN actor name	UN actor ID	Agts
United Nations (General)	IGO_49	272
UNPROFOR	IGO_355	48
UN Secretary General	IGO_386	27
UN Security Council	IGO_8	27
Group of Friends UNSG	COA_51	15
UNOMIG	IGO_480	9
UNOMB	IGO_274	8
UNSMIL	IGO_750	5
United Nations Development Programme	IGO_64	4
United Nations Children’s Fund	IGO_459	3
UN Office on Drugs and Crimes	IGO_672	2
UNPOS	IGO_536	2
United Nations Human Rights Council	IGO_440	2
United Nations Secretariat	IGO_391	2
Office of the United Nations High Commissioner for Human Rights	IGO_640	1
UN General Assembly	IGO_315	1
UNAMID	IGO_950	1
UNAMSIL	IGO_652	1
UNCRO	IGO_795	1
UNISFA	IGO_616	1
UNMIBH	IGO_405	1
UNMIS	IGO_854	1
UNMISS	IGO_831	1
UNMOT	IGO_454	1
United Nations Educational, Scientific and Cultural Organization	IGO_678	1
United Nations Population Fund	IGO_674	1

Table 4: Number of agreements signed by UN actors in descending order. See Figure 1 above.

3 UN Actors Co-signatory Analysis

3.1 UN–UN Co-signatories

The number of agreements co-signed by UN actors across all peace processes can be analysed using a square symmetrical matrix where UN actors are in both rows and columns. This can be visualised as a heat map as in Figure 2. The darker the blue, the greater the number of agreements a pair of actors have in common, i.e., agreements on which they were co-signatories. In the example below it can be seen that Group of Friends UNSG and United Nations (General) were co-signatories on 12 agreements. Similarly, United Nations (General) were

also co-signatories on 12 agreements with UN Secretary General.

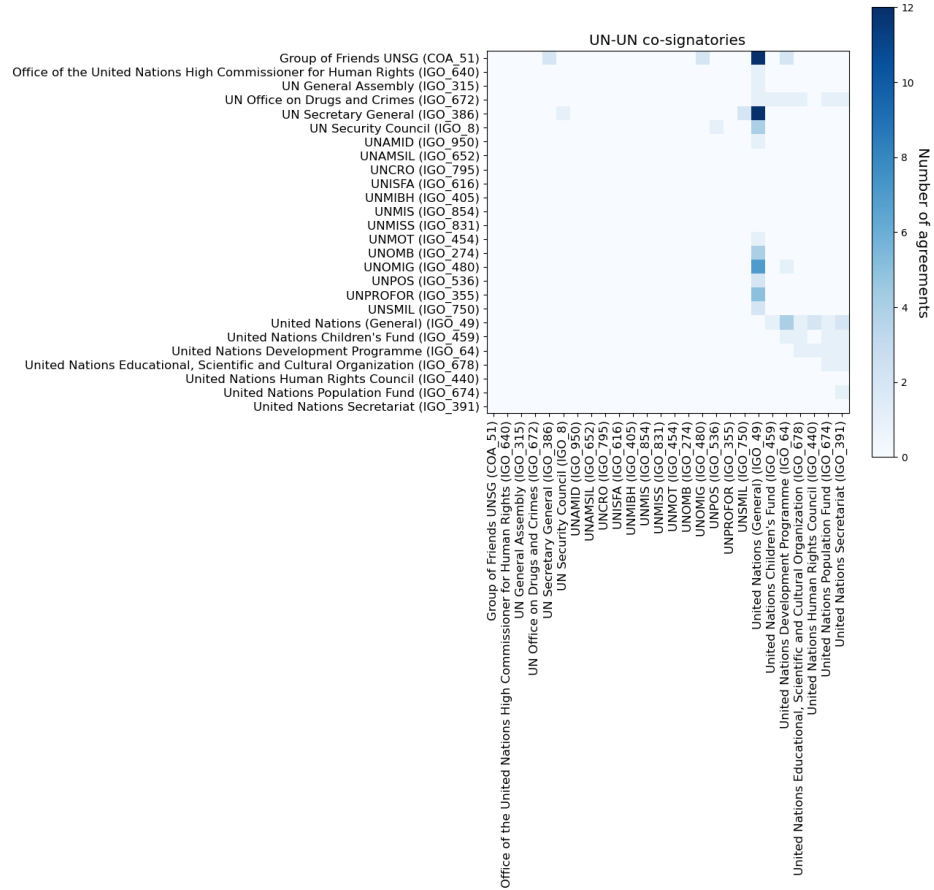


Figure 2: Heat map showing the number of agreements co-signed by pairs of UN actors. See Table 5 for further information.

UN actor co-signatory data can also be visualised as a network of UN-UN co-signatories, as shown in Figure 3.

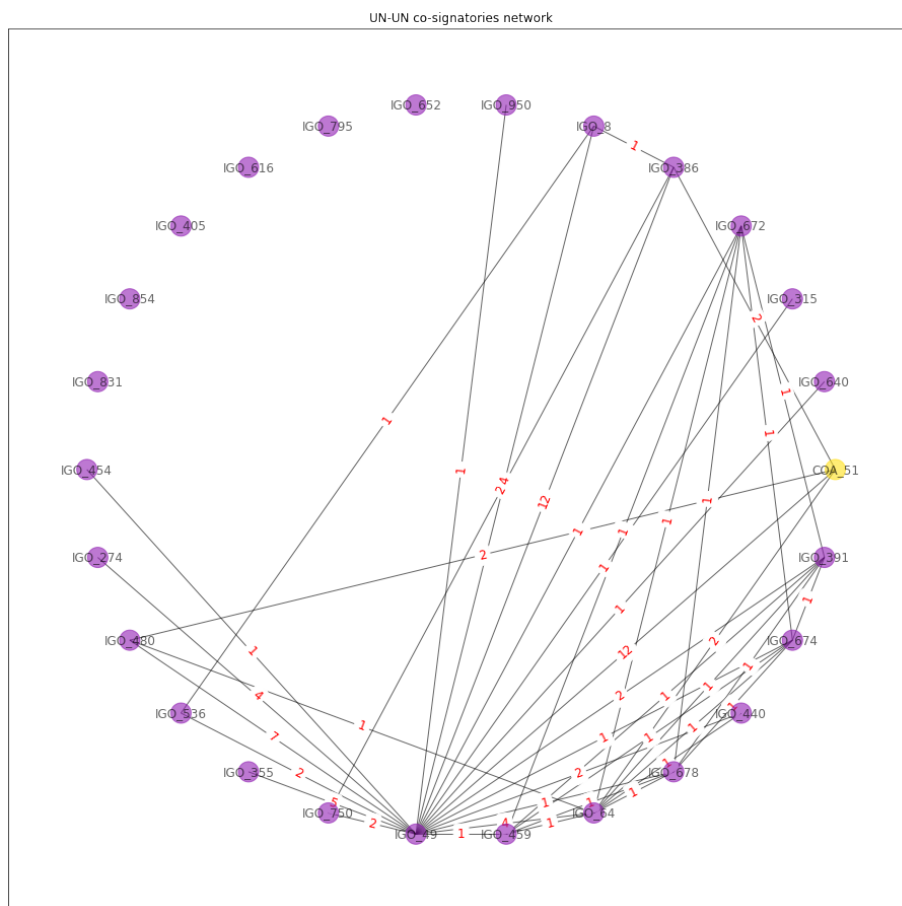


Figure 3: Network diagram of UN co-signatories. The number of agreements signed by a pair of UN actors is the red number in the connection between the pair. Isolated nodes (known as singletons) are UN actors with no UN co-signatories. See Tables 5 and 6 for further information.

Actor 1	Actor 2	Agts
Group of Friends UNSG (COA.51)	United Nations (General) (IGO.49)	12
UN Secretary General (IGO.386)	United Nations (General) (IGO.49)	12
UNOMIG (IGO.480)	United Nations (General) (IGO.49)	7
UNPROFOR (IGO.355)	United Nations (General) (IGO.49)	5
UN Security Council (IGO.8)	United Nations (General) (IGO.49)	4
UNOMB (IGO.274)	United Nations (General) (IGO.49)	4
United Nations (General) (IGO.49)	United Nations Development Programme (IGO.64)	4
Group of Friends UNSG (COA.51)	UN Secretary General (IGO.386)	2
Group of Friends UNSG (COA.51)	UNOMIG (IGO.480)	2
Group of Friends UNSG (COA.51)	United Nations Development Programme (IGO.64)	2
UN Secretary General (IGO.386)	UNSMIL (IGO.750)	2
UNPOS (IGO.536)	United Nations (General) (IGO.49)	2
UNSMIL (IGO.750)	United Nations (General) (IGO.49)	2
United Nations (General) (IGO.49)	United Nations Human Rights Council (IGO.440)	2
United Nations (General) (IGO.49)	United Nations Secretariat (IGO.391)	2
Office of the United Nations High Commissioner for Human Rights (IGO.640)	United Nations (General) (IGO.49)	1
UN General Assembly (IGO.315)	United Nations (General) (IGO.49)	1
UN Office on Drugs and Crimes (IGO.672)	United Nations (General) (IGO.49)	1
UN Office on Drugs and Crimes (IGO.672)	United Nations Children's Fund (IGO.459)	1
UN Office on Drugs and Crimes (IGO.672)	United Nations Development Programme (IGO.64)	1
UN Office on Drugs and Crimes (IGO.672)	United Nations Educational, Scientific and Cultural Organization (IGO.678)	1
UN Office on Drugs and Crimes (IGO.672)	United Nations Population Fund (IGO.674)	1
UN Office on Drugs and Crimes (IGO.672)	United Nations Secretariat (IGO.391)	1
UN Secretary General (IGO.386)	UN Security Council (IGO.8)	1
UN Security Council (IGO.8)	UNPOS (IGO.536)	1
UNAMID (IGO.950)	United Nations (General) (IGO.49)	1
UNMOT (IGO.454)	United Nations (General) (IGO.49)	1
UNOMIG (IGO.480)	United Nations Development Programme (IGO.64)	1
United Nations (General) (IGO.49)	United Nations Children's Fund (IGO.459)	1
United Nations (General) (IGO.49)	United Nations Educational, Scientific and Cultural Organization (IGO.678)	1

Actor 1 (cont)	Actor 2 (cont)	Agts
United Nations (General) (IGO_49)	United Nations Population Fund (IGO_674)	1
United Nations Children's Fund (IGO_459)	United Nations Development Programme (IGO_64)	1
United Nations Children's Fund (IGO_459)	United Nations Educational, Scientific and Cultural Organization (IGO_678)	1
United Nations Children's Fund (IGO_459)	United Nations Population Fund (IGO_674)	1
United Nations Children's Fund (IGO_459)	United Nations Secretariat (IGO_391)	1
United Nations Development Programme (IGO_64)	United Nations Educational, Scientific and Cultural Organization (IGO_678)	1
United Nations Development Programme (IGO_64)	United Nations Human Rights Council (IGO_440)	1
United Nations Development Programme (IGO_64)	United Nations Population Fund (IGO_674)	1
United Nations Development Programme (IGO_64)	United Nations Secretariat (IGO_391)	1
United Nations Educational, Scientific and Cultural Organization (IGO_678)	United Nations Population Fund (IGO_674)	1
United Nations Educational, Scientific and Cultural Organization (IGO_678)	United Nations Secretariat (IGO_391)	1
United Nations Population Fund (IGO_674)	United Nations Secretariat (IGO_391)	1

Table 5: List of UN actor co-signatories with number of agreements.

UN Actor
UNAMSIL (IGO_652)
UNCRO (IGO_795)
UNISFA (IGO_616)
UNMIBH (IGO_405)
UNMIS (IGO_854)
UNMISS (IGO_831)

Table 6: UN actors that are not co-signatories with other UN actors.

3.2 UN and Non-UN Co-signatories

The above analysis showed the number of agreements signed by UN actors across all peace processes. Figure 4 shows the results of choosing the top-20 actors (UN and non-UN). The results are displayed in rank order showing that United Nations (General) signed more agreements than any other actor in the top 20. For numerical analysis, exact values can be retrieved as shown in Tables 7 and 8.

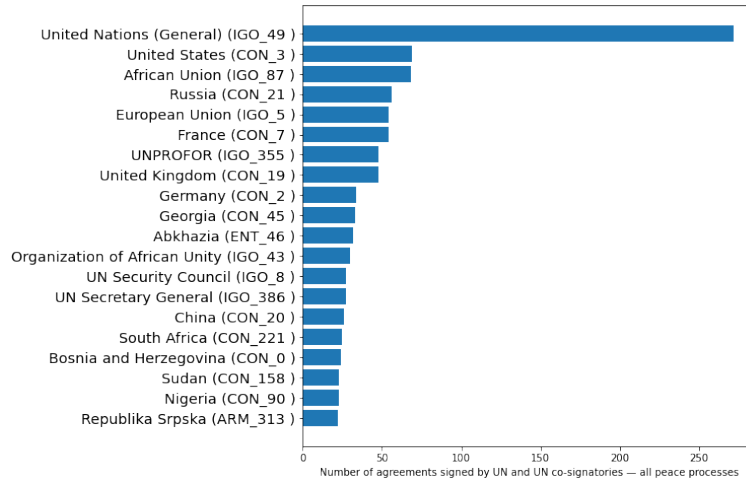


Figure 4: Number of agreements signed by the top-20 UN and non-UN co-signatories across all peace processes. In total there are 536 actors in the UN–non-UN co-signatory set.

UN actor	Non-UN actor	Agts
United Nations (General) (IGO_49)	African Union (IGO_87)	65
United Nations (General) (IGO_49)	United States (CON_3)	62
United Nations (General) (IGO_49)	European Union (IGO_5)	51
United Nations (General) (IGO_49)	France (CON_7)	47
United Nations (General) (IGO_49)	Russia (CON_21)	47
United Nations (General) (IGO_49)	United Kingdom (CON_19)	41
United Nations (General) (IGO_49)	Organization of African Unity (IGO_43)	30
United Nations (General) (IGO_49)	Georgia (CON_45)	28
United Nations (General) (IGO_49)	Germany (CON_2)	28
United Nations (General) (IGO_49)	Abkhazia (ENT_46)	27
United Nations (General) (IGO_49)	South Africa (CON_221)	24
United Nations (General) (IGO_49)	Sudan (CON_158)	22
United Nations (General) (IGO_49)	Congo, Democratic Republic of the (CON_264)	21
United Nations (General) (IGO_49)	Organization for Security and Co-operation in Europe (IGO_50)	21
United Nations (General) (IGO_49)	Uganda (CON_176)	20
United Nations (General) (IGO_49)	China (CON_20)	20
United Nations (General) (IGO_49)	Economic Community of West African States (IGO_89)	20
United Nations (General) (IGO_49)	Nigeria (CON_90)	20
United Nations (General) (IGO_49)	Somalia (CON_358)	19
United Nations (General) (IGO_49)	League of Arab States (IGO_346)	19
United Nations (General) (IGO_49)	Canada (CON_11)	19
United Nations (General) (IGO_49)	Norway (CON_81)	19
UNPROFOR (IGO_355)	Republika Srpska (ARM_313)	18
United Nations (General) (IGO_49)	Tajikistan (CON_62)	18
United Nations (General) (IGO_49)	Kenya (CON_172)	18
United Nations (General) (IGO_49)	Italy (CON_139)	17
United Nations (General) (IGO_49)	Guatemala (CON_306)	17
UNPROFOR (IGO_355)	Bosnia and Herzegovina (CON_0)	16
United Nations (General) (IGO_49)	Guatemalan National Revolutionary Unity (ARM_307)	15
United Nations (General) (IGO_49)	Organisation of Islamic Cooperation (IGO_226)	15

Table 7: Top-30 UN-non-UN co-signatory pairings with number of agreements in common. The total number of UN-non-UN actor pairings is 1287.

UN actor	Non-UN actor	Agts
UNSMIL (IGO_750)	Switzerland (CON_202)	1
UNSMIL (IGO_750)	Libyan Army (MIL_941)	1
UNSMIL (IGO_750)	Tunisia (CON_590)	1
UNSMIL (IGO_750)	Turkey (CON_562)	1
UNSMIL (IGO_750)	Germany (CON_2)	1
United Nations Human Rights Council (IGO_440)	Liberia (CON_83)	1
United Nations Human Rights Council (IGO_440)	Mali (CON_93)	1
United Nations Human Rights Council (IGO_440)	International Committee of the Red Cross (NGO_201)	1
United Nations Human Rights Council (IGO_440)	Côte d'Ivoire (CON_88)	1
United Nations Human Rights Council (IGO_440)	Togo (CON_85)	1
United Nations Human Rights Council (IGO_440)	Cape Verde (CON_354)	1
United Nations Human Rights Council (IGO_440)	International Monetary Fund (IGO_438)	1
United Nations Human Rights Council (IGO_440)	Niger (CON_142)	1
United Nations Human Rights Council (IGO_440)	Nigeria (CON_90)	1
United Nations Human Rights Council (IGO_440)	High Commission for Refugees (IGO_65)	1

Table 8: Bottom-15 UN-non-UN co-signatory pairings with number of agreements in common. The total number of UN-non-UN actor pairings is 1287.

4 Case Study: United Nations (General)

The actor United Nations (General) has been chosen to illustrate how the methodology can be used to explore patterns in an actor's involvement in peace processes both across time and within a single year. The analysis described below can be applied to any actor.

4.1 Time Series Analysis

The time series analysis in Figure 5 shows the fluctuations across time in the number of agreements signed by United Nations (General). The patterns revealed by this simple analysis may prompt a researcher to ask questions of the data. For example, can the trough in 2005 be explained? Is there a trough in 2005 for other UN actors? Is the apparent trend of a decrease in the number of agreements signed over time statistically significant?

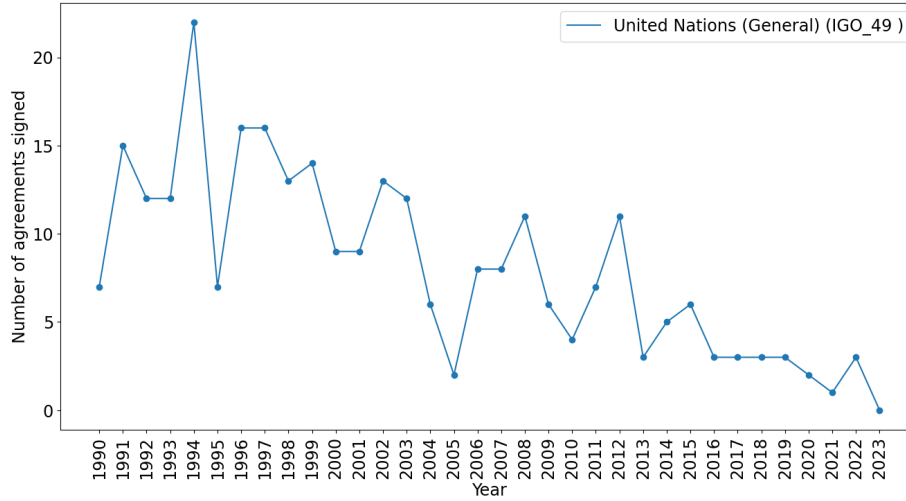


Figure 5: Number of agreements signed by year by United Nations (General).

The time series analysis in Figure 6 shows the the number of agreements signed in a year by United Nations (General) as percentage of all agreements signed in the year.

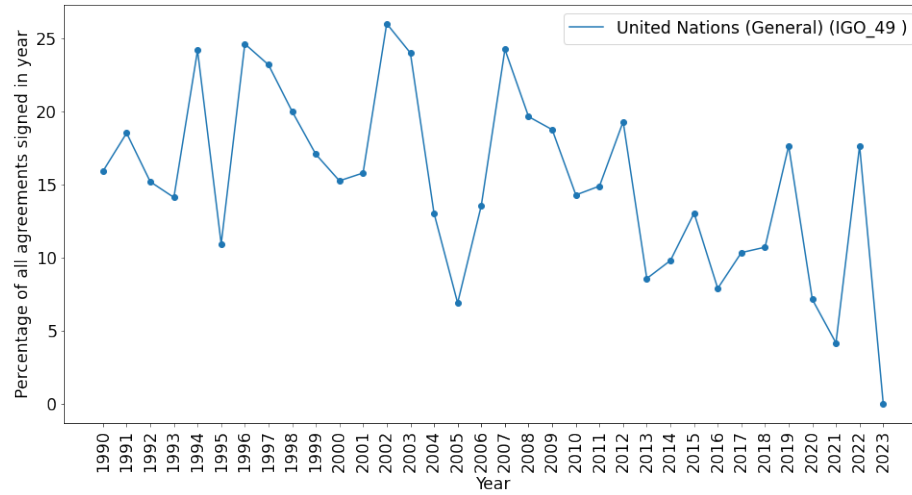


Figure 6: Percentage of all agreements signed by United Nations (General) by year.

4.2 Single Year Analysis

The year 2015 has been chosen to illustrate how the methodology can be used to explore patterns in an actor's involvement in a peace process within a single year. Any year can be selected for analysis.

Table 9 below lists the agreements to which United Nations (General) is a signatory together with each agreement's co-signatories.

Agreement ID	Agreement name	Signatories
AGT.1367	Arrangement sécuritaire pour une cessation des hostilités	African Union, Algeria, Burkina Faso, Chad, European Union, France, MINUSMA, Mali, Mauritania, National Movement for the Liberation of Azawad/Coordination of Azawad Movements, Niger, Nigeria, Organisation of Islamic Cooperation, United Nations (General), United States
AGT.1652	Final declaration on the results of the Syria Talks in Vienna as agreed by participants	China, Egypt, European Union, France, Germany, Iran (Islamic Republic of), Iraq, Italy, Jordan, Lebanon, Oman, Qatar, Russia, Saudi Arabia, Turkey, United Arab Emirates, United Kingdom, United Nations (General), United States
AGT.1366	Relevé de Conclusions des Consultations Préparatoires a la mise en œuvre de l'Accord pour la Paix et la Reconciliation au Mali Issu du Procesus d'Alger	African Union, Algeria, Burkina Faso, Chad, European Union, France, MINUSMA, Mali, Mauritania, National Movement for the Liberation of Azawad/Coordination of Azawad Movements, Niger, Nigeria, Organisation of Islamic Cooperation, United Nations (General), United States
AGT.1436	The Nationwide Ceasefire Agreement (NCA) between The Government of the Republic of the Union of Myanmar and the Ethnic Armed Organizations (EAO)	All Burma Students Democratic Front, Arakan Liberation Party, Chin National Front, China, DKBA-5, European Union, India, Japan, Karen National Union, Lahu Democratic Union, Myanmar, New Mon State Party, Norway, Pa-O National Liberation Army, Restoration Council of Shan State, Thailand, United Kingdom, United Nations (General), United States

Agreement ID (cont)	Agreement name (cont)	Signatories (cont)
AGT_1357	Agreement on the Resolution of the Conflict in the Republic of South Sudan (ARCSS)	African Union, Algeria, Chad, China, Civil Society Representative, Djibouti, Eminent Personalities Representative, Ethiopia, European Union, Former Detainees, Intergovernmental Authority on Development, Kenya, Nigeria, Norway, Other Political Parties, Rwanda, Somalia, South Africa, South Sudan, Sudan, Sudan People Liberation Movement/Army - In Opposition, Uganda, United Kingdom, United Nations (General), United States, Women's Bloc Representative
AGT_2035	Agreement between the Transitional Government and the armed groups on the principles of disarmament, demobilization, reintegration and repatriation and of integration into the uniformed State forces of the Central African Republic (DDRR Agreement)	African Union, Congo, Economic Community of Central African States, Economic Community of West African States, Movement of Central African Liberators for Justice , Patriotic Movement for the Central African Republic , Popular Front for the Renaissance of Central Africa, Revolution and Justice, Transitional Government, Union of Democratic Forces for Unity, United Nations (General)

Table 9: Agreements signed by United Nations (General) in 2015 with full list of signatories.

4.3 Metadata Analysis

For each agreement we know the signatories and the date. In addition, the metadata associated with each agreement includes:

- The peace process to which the agreement belongs.
- The stage of the peace processes at which the agreement was signed.
- The geographical region of the agreement's peace process.

The methodology can be used to explore the interaction of combination of these five variables.

4.3.1 Peace Processes

The United Nations (General) actor was a signatory to at least one agreement in 57 out of a total of 156 peace processes. Figure 7 shows peace processes ranked according to the number of agreements signed by United Nations (General).

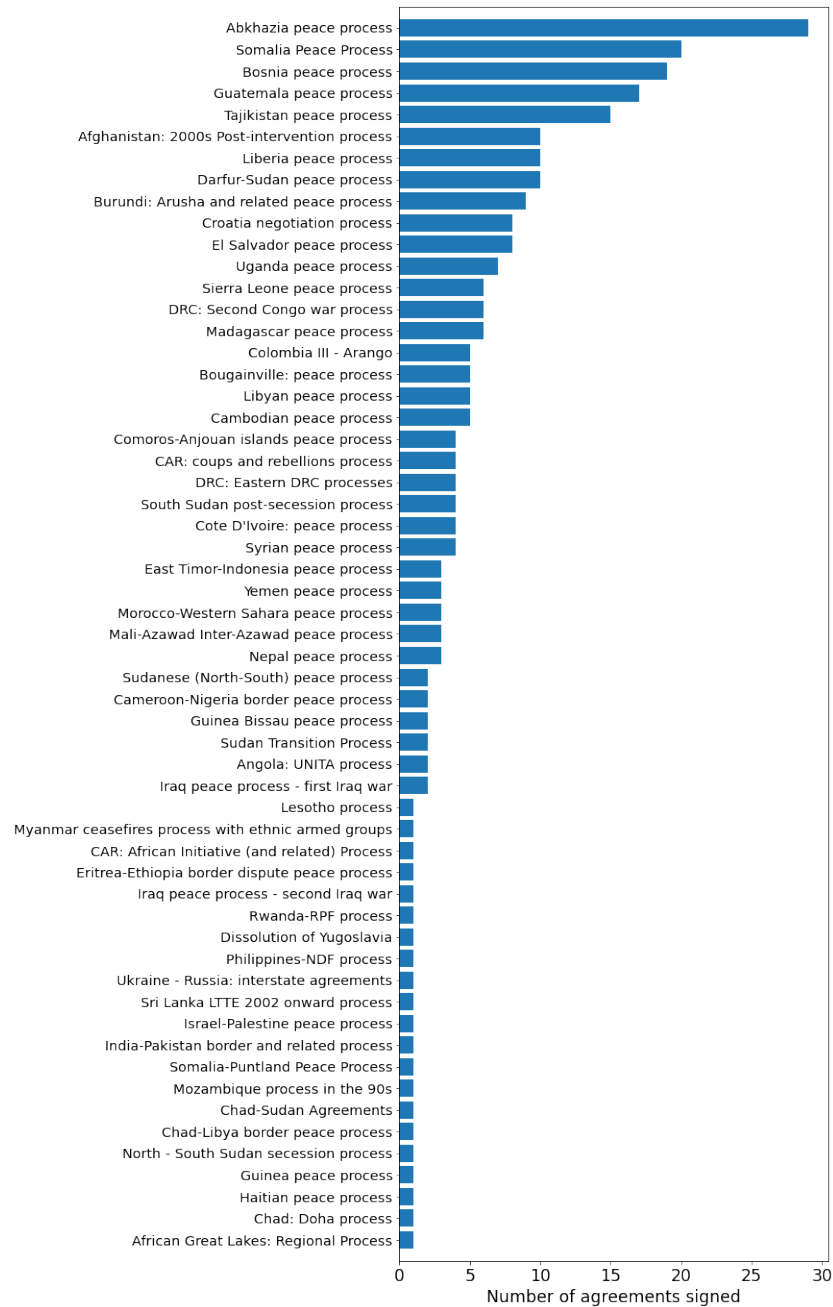


Figure 7: Agreements signed by peace process.

4.3.2 Agreement Stage

Figure 8 shows the number of agreements signed by United Nations (General) by stage aggregating data from all peace processes. Most agreements signed by United Nations (General) belong to the Pre-negotiation process stage.

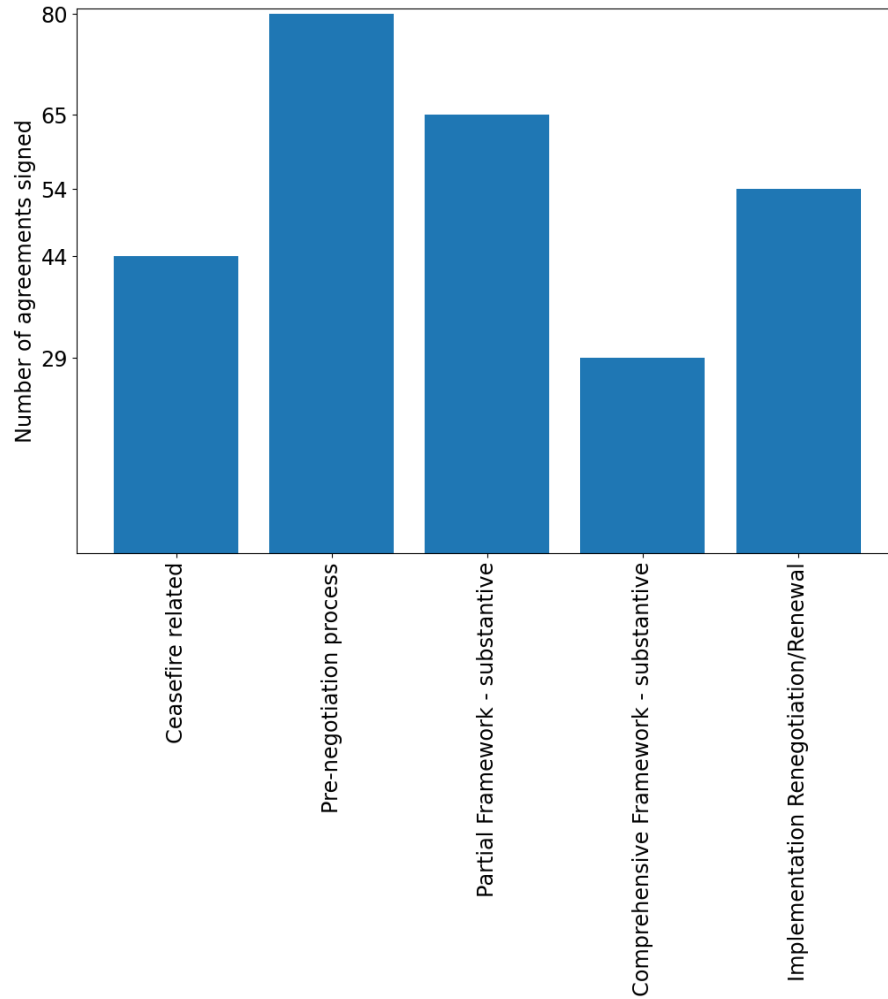


Figure 8: Agreements signed by agreement stage. Stages are in time order left to right.

4.3.3 Region

Figure 9 shows the number of agreements signed by United Nations (General) by region aggregating data from all peace processes. Most agreements signed

by United Nations (General) belong to Africa (excl MENA) region followed by Europe and Eurasia.

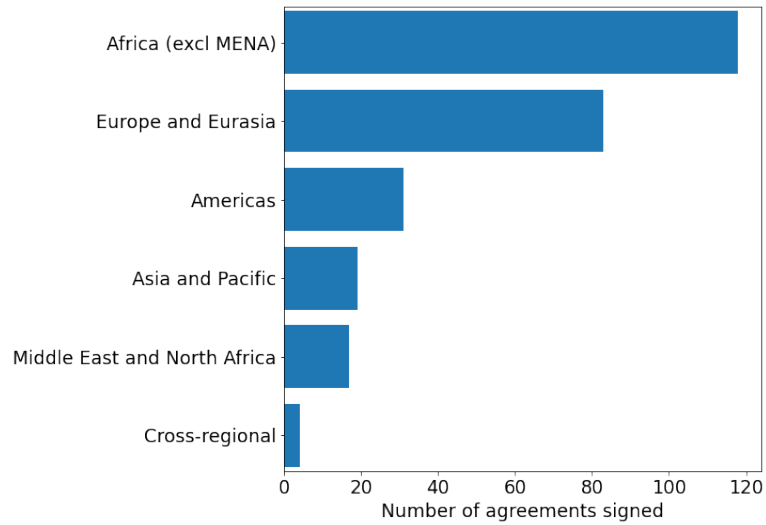


Figure 9: Agreements signed by region.

Figure 10 shows how the relationship between the number of agreements belonging to the Africa (excl MENA) and Europe and Eurasia regions changes over time.

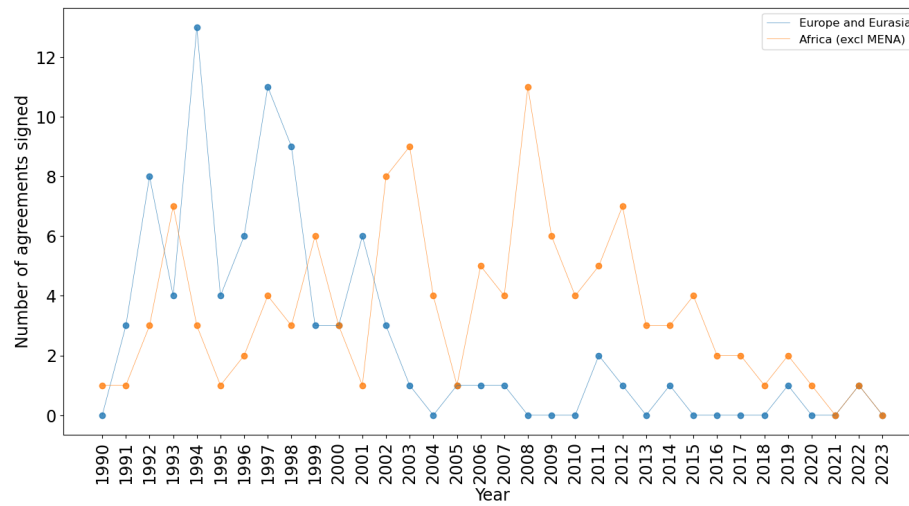


Figure 10: Number of agreements signed by year for the top-scoring regions. The Pearson correlation coefficient of the two distributions is 0.02, $p = 0.88$.

4.3.4 Stage-Region

Figure 11 shows the interaction of stage and region for agreements signed by the United Nations (General) actor. The darker the blue of a cell, the greater the number of agreements. Pre-negotiation process agreements in Europe and Eurasia contain the greatest number (38) of agreements.

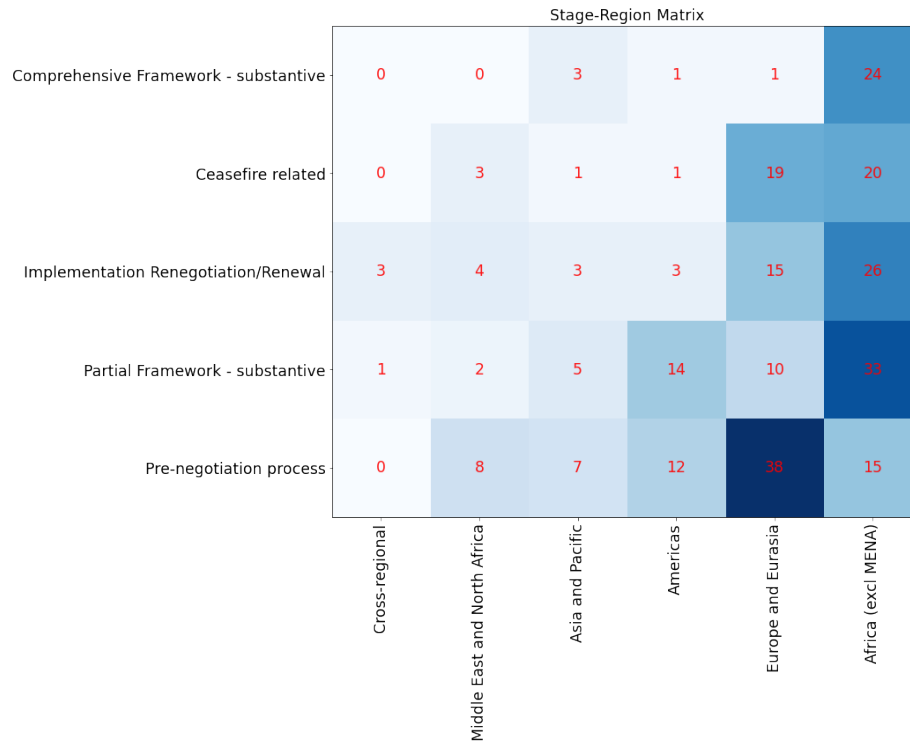


Figure 11: Heat map showing agreements signed for stage-region pairs.

5 Summary

The aim of this report is to demonstrate some of the many ways that PA-X data can be analysed and visualised using the agreements–actors network analysis methodology[1].

It is hoped that the limited treatment of the agreements–actors dataset described here conveys the potential applications of the methodology.

6 References

- [1] Roy Gardner. Methods for Agreement-Actor Network Analysis. *PeaceRep Lab Technical Report*, 2024.
- [2] Roy Gardner. Signatories Network Analysis Demonstrator. <https://agreements-actors-jm3mmkozifmylnrtgjy4nb.streamlit.app>, 2024.