A network of violence

Mapping a criminal gang network in Cape Town

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Summary

This study presents and discusses the characteristics of the structure, actors involved and types of interactions of a criminal network formed by a gang operating in Cape Town, South Africa. The analysis is based on data gathered from a case judgment in the Western Cape High Court. The accused group were on trial for a number of crimes, including murder, assault, theft, and malicious damage to property, and were also indicted in terms of the Prevention of Organised Crime Act, which criminalises membership of a criminal organisation. This information was processed and analysed by applying specific social network analysis protocols, among other methods.

SOCIAL NETWORK ANALYSIS (SNA) is increasingly used as an analytical tool across disciplines to study the interactions of people and/or institutions. It can used to illustrate how people and/or institutions interact over a period of time and focuses on fluid interactions without becoming stuck in theoretical classifications.

Methodology

SNA is a more sophisticated method of illustrating and analysing the interactions of actors rather than just linking them or placing them within a hierarchy. It uses a set of mathematical measures that can demonstrate the proximity of varied individuals and illustrate how they are linked using a set of mathematical techniques to create 'neat', observable images.

The actors in the network can be then classified in terms of various roles and one can observe the structure of the network in greater detail. For example, an SNA map can illustrate those who are at or close to the 'hub' of the network, those who constitute the structural bridges (i.e. that link various individuals) and those who are the stabilisers of the network. SNA also allows one to highlight the types of social agents involved in a network, the types of relationships and the intensity of the networking process. On a larger scale it is known to be used by a variety of agencies and companies, such as intelligence agencies attempting to identify terrorism threats. It has also been used on a smaller scale to illustrate the actions of individuals in criminal networks.[1]

Any form of systemic crime in which interactions in the form of confrontation, collaboration, corruption, infiltration or cooptation are established between criminal groups and formal lawful

institutions is arranged and can be analysed as a social network: 'Social networks can be defined as "a group of collaborating (and/or competing) entities that are related to each other".'[2] In a simpler sense, 'a network is defined as a set of nodes connected by ties. Nodes are typically actors, and can be people, teams, organizations or information systems.'[3] Criminal intelligence agencies and investigators have long used types of SNA to study criminal networks, although this was often done using a 'first-generation' link analysis in terms of which criminal relationships are visually mapped on a graph. This analysis can be physically carried out using tools (such as notes and string) or with a computer. However, the growth in data combined with technological progress has resulted in more systematic methods or 'second-generation' network approaches that automatically produce graphics that can then be interpreted. These second-generation techniques use a variety of mathematical techniques and the data can be manipulated to reflect a variety of dimensions of criminal linkages.

> Social network analysis is increasingly used as an analytical tool to study the interactions of people and/or institutions

This study uses a second-generation mapping technology developed by Vortex Incorporated. The software (Vortex Relationship System) creates a database of both nodes (actors) and edges (interactions) that are retrievable online. In this online database information and descriptions added to the system on all the actors involved are accessible, as is information on their interactions. This data is processed and analysed using the following 'grammar structure' of a 'relationship' or 'interaction' between two actors:

[[Name Actor 1[Description Actor 1]][interaction[verb wordV action word]] [[Name Actor 2[Description Actor 2]]]

What this grammar structure means is that there is an interaction between two actors. For example, actor 1 pays actor 2, or actor 1 murders actor 2. Each piece of information with this grammar structure is then organised through an SNA tool in order to consolidate a database giving the details of each interaction. The database is then used for generating the graphs and calculating the *centrality* (or relative importance) indicators.[4]

Therefore, in the present analysis each node represents and is defined as an agent, bearing in mind his/her capacity for determining developments within the network. Even if the role of a corporate actor is considered, it is possible to identify the location of decisional capacity within it. Each line connecting two nodes represents a social interaction. The line indicates the presence of interactions between nodes/agents, and the arrow in the line illustrates the specific direction of that interaction. For instance, if node/agent X interacts with node/agent Z, then there is an arrow from a node representing X to a node representing Z, in which X operates as the active individual –the one who executes the action – and Z operates as the passive individual – the one towards whom the action is directed. This means that the direction of the arrow explains the specific direction of the interaction, illustrating who are the active and passive node/agents.

The arrangement of the nodes and edges[5] may be represented through graphs. A graph is a finite set of connected nodes,[6] which in this context means a finite set of
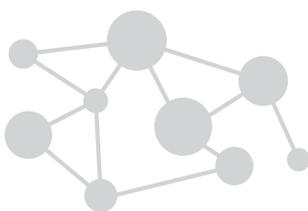
A NETWORK IS DEFINED AS A SET OF NODES CONNECTED BY TIES. NODES ARE TYPICALLY ACTORS, AND CAN BE PEOPLE, TEAMS, ORGANISATIONS OR INFORMATION SYSTEMS

interacting individuals. In criminology, graphs and SNA have been used to identify the structural features of illicit networks.[7]

As mentioned above, the procedures applied in this paper enable the identification and analysis of the most relevant or 'central' nodes/agents, which means the most connected nodes/agents or the ones with the highest capacity to intervene in the networks' routes.

On the one hand, through the direct centrality indicator it is possible to identify the number of direct interactions established by each node/agent in order to identify the most connected node.

> The procedures applied in this paper enable the identification and analysis of the most relevant or 'central' nodes

In Figure 1 the node/agent represented by the number 1 registers four direct connections or interactions, while nodes 2, 3, 4 and 5 only register one direct interaction (with node 1). This means that, after calculating the number of direct interactions (eight),[9] it can be stated that node/agent 1 establishes four of the eight interactions, which means that this node registers a direct centrality indicator of 50 per cent, while the other nodes/agents register indicators of 12,5 per cent each. In this sense, node/agent 1 is the hub of Figure 1.

Figure 1: Example of a network[8]
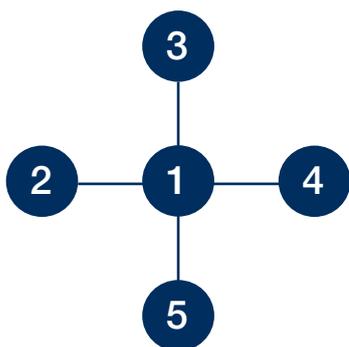
The second sense of centrality allows the identification of the node/agent with the highest capacity to arbitrate or intervene in the geodesic[10] routes of the network; this node/agent is defined as a 'structural bridge'. In this case, the number of direct interactions is irrelevant while the number of routes is relevant.

While in Figure 1 there are four direct interactions, there is a higher number of geodesic routes. For instance, a geodesic route connects nodes 2 and 3 through node 1, another route connects nodes 2 and 4 through node 1, etc. After calculating

the number of geodesic routes connecting the nodes/agents of the network, it is possible to identify the one that intervenes in the highest number of routes. This calculation is carried out using the 'betweenness' indicator. For example, as can be observed in Figure 1, node 1 intervenes in every route of the network and therefore registers a betweenness indicator of 100 per cent.

Case study selection and data collection

Background

This case study, the second in a series, is part of a greater project to study the impact of organised crime on governance in Cape Town. Using SNA, the case study uses information gathered from a case judgment to explain the structure of a violent organised crime subnetwork of 'The Americans' gang in Cape Town. The legal documents of the judgment are retrievable online.[11] Additional background information for this paper was obtained through key informant interviews and from media coverage. Andre Standings' 2006 book entitled *Organised crime: a study from the Cape Flats*[12] provided detail on the nature and structure of organised crime gangs on the Cape Flats.

The case primarily revolved around the so-called 'Woodstock Massacre' in 2007 in which five people were murdered execution style. Seven men were subsequently convicted of murder, attempted murder, vehicle theft, gang-related crimes, and possession of firearms and drugs. They were Moenedien Ceaser (accused 1), Junaid Mitchells (accused 2), Ismail Ceaser (accused 3), Allan Almon Albert (accused 4), Ikaraam Masarapa (accused 5), Lucian Lackay (accused 6) and Michael Sam (accused 7). Much of the evidence came from the testimony of former gangsters, complemented by the results of forensic analyses and cellular phone records.

Cape Town has a history of gang activity dating back to the 19th century. As Pinnock recorded in an intriguing book,[13] gang activity escalated simultaneously with the establishment of coloured townships on the eastern outskirts of the city – an area that became known as the Cape Flats. Deprived of work opportunities, torn from the social support of the extended family unit, and thrust into a dangerous, dysfunctional and racist state, many young men turned to gangs for protection, opportunity and a sense of belonging.[14]

Informal subsistence systems became criminalised markets, and substance abuse, particularly the abuse of drugs, fed the growth of large gang structures on the Cape Flats. With time, both the apartheid state and the resistance movement opposing it became involved with the gangs, collaborating with and using them to further their objectives. By the time the

use of mandrax (and later crack cocaine) reached epidemic proportions, gangs were able to participate on a large scale in the market, making huge profits and creating larger and more powerful gangs. A few gangs became well known outside the Cape Flats and were a concern for national government.[15] The group of well-known gangs included the 'Americans', 'Sexy Boys' and 'Hard Livings'. The violence that they committed in internal and external gang warfare when competing for turf has periodically plagued the Cape Flats. The Western Cape police estimate gang violence to be responsible for the murder of just under one person a day and to account for one-third of all attempted murders in the province.[16]

> The Western Cape police estimate gang violence to account for one-third of all attempted murders in the province

One of the most illustrative and severe manifestations of this gang violence happened in November 2007, in Woodstock, a suburb just outside the Cape Town central business district. The execution-style murders of five people and the burning of a number of taxis at a business rocked the suburb. The business belonged to notorious drug lord and high-ranking Americans leader Mogamat Madatt.[17] The murders were allegedly committed in response to the murders of Mark 'Mokes' Williams and Rashaad 'Charra' Naidoo, two high-ranking Americans gang leaders.[18] Those arrested and later convicted were all members of or linked to factions of the Americans. The extreme violence was in fact an internal gang battle.

This case study seeks to illustrate how violence may be used by criminal gangs and the nature of that violence. SNA allows one to understand how the violence was perpetuated, but also how criminal gang members linked with one another to commit acts of violence.

Relevant nodes/agents

The Americans or Ugly Americans

The events leading up to the massacre illustrated a part of the structure of one of the most notorious gangs in the Western Cape: the 'Americans' or 'Ugly Americans'. The gang has a distinct ideology particularly focused on financial gain and identifies itself with certain American symbols. It has an unwritten constitution, a president, a cabinet and a 'White House', and counts its money in 'dollars'. Like many organised crime groups, the gang is extremely secretive and has constructed a mythology around membership. Despite anecdotal evidence about the gang, its structure is largely a matter of conjecture. There are various theories as to

how the gang is controlled, due to its significant size (roughly estimated to be between 5 000 and 10 000 people), which makes it 'supergang'. Not all of those associated with the gang participate in continuous market-based crime, because some are only involved sporadically and for limited assignments. As pointed out in the previous section, social networks, including criminal ones, are configured through the establishment of several types of interactions with different levels of intensity or frequency. In the criminal network under study some actors may participate through occasional work and for certain purposes, while others are involved in more sustained and regular market-based crimes, with some operating as leading figures.

The Americans gang is also an 'umbrella' organisation for smaller gangs that seek protection and in return are expected to help the Americans in gang fights or to use commodities supplied by the Americans. It has a strong connection with the prison gang called 'The 26s', although not all members of the Americans have to be 26s, and vice versa.

Current research supports Standing's view that criminal organisations such as the Americans are complex, as are the interactions of those involved, and that supergangs such as the Americans operate like a 'franchise' rather than through a hierarchy, with cells having considerable autonomy.[19] As an interviewee put it to Standing: 'It's a big chain, you know, like, 7/11 franchises. The main franchise supplies all the shops, but each shop is owned individually. That's basically what it comes down to.'[20]

Old and New Americans

According to judicial records, the violence in this case was over leadership, 'turf' and funds. Nathan McGregor, a high-ranking Americans member, testified that the structure of the gang had been changing as the 'old members' (controlled by Madatt) 'disappeared' and as Markie Mokes built up the 'New Americans' with a core of younger members. This caused tensions between the high-ranking and powerful Madatt and Mokes.

These tensions resulted in the murder of two gang members, namely Markie Mokes and Rashaad Abrahams, also known as 'Charra'. It was believed that Madatt was behind the murder of Mokes with the suspicion that Nathan McGregor, one of Madatt's henchmen, had done the killing. Shortly afterwards Lucian Lackay tried to kill Nathan McGregor in an act of retaliation.

The massacre that followed was a horrific act of violence against Madatt's business interests, despite the fact that there were no gang members at the business. The group on trial broke into Madatt's business and murdered five people, including employees, execution style before setting alight taxis owned by Madatt. One victim managed to survive the attack and bore

witness to some of the crimes, although he had hidden while many others were committed. Of the gruesome accounts was one of a victim's mother who heard her daughter's cries over the phone while she was being murdered. Despite the limited information about what exactly transpired during the attack, the court found accused 2 (Junaid Mitchells) to be the mastermind behind the attacks and that accused 1 (Moenedien Ceaser) had a significant level of power and decision-making authority. While it was difficult to pinpoint reliably who did the actual killing, all the accused were convicted of the five murders and the attempted murder that happened at the business. The courts also charged them on Prevention of Organised Crime Act-related charges, as well as a number of other charges, including firearms charges, robbery and damage to property among others, stemming from the massacre and previous crimes the group was involved in (as both individuals and with others).

Following the massacre, the group of seven who were involved in the massacre, with a few associates, travelled in separate cars to Paarl, a town outside Cape Town, to obtain firearms, expecting a violent retaliation from those associated with Madatt. On the way back the South African Police Service stopped both groups and the firearms and ammunition were seized, which led to the arrest of the group and the subsequent trial.

Certain aspects of the accused emerged from the trial. Moenedien Ceaser, Junaid Mitchells and Ismail Ceaser were all active Americans members in the Bonteheuwel area: they were actively involved in the drug trade and also shared accommodation. Junaid Mitchells, seen as the leader of the massacre, also dealt in drugs and had people working for him as drug dealers. Ismail Ceaser was the 'fighting general' in the area, as well as a member of 'The 28s' prison gang. Allan Almon Albert was thought to be Ismail Ceaser's '*regterhand*' or right-hand man, although he mainly operated with Ikaraam Masarapa in the Cape Flats townships of Heinz Park, Mitchells Plain and Athlone. Albert also admitted membership of the 26s prison gang. Lucian Lackay operated in the Manenberg area (another township) and was a member of the 'Dixie Boys' gang before joining the Americans. He was also a member of the 26s prison gang and had tried to kill Nathan McGregor. Michael Sam seemed to be a peripheral character and not a member of the Americans. Witnesses did not seem to recall him as a person known within the Americans gang.

Nodes/agents

The number of nodes/agents participating in the network is 46; these nodes are those that were identified during the trial and are not the full number of people involved in

Figure 2: Types of nodes/agents.

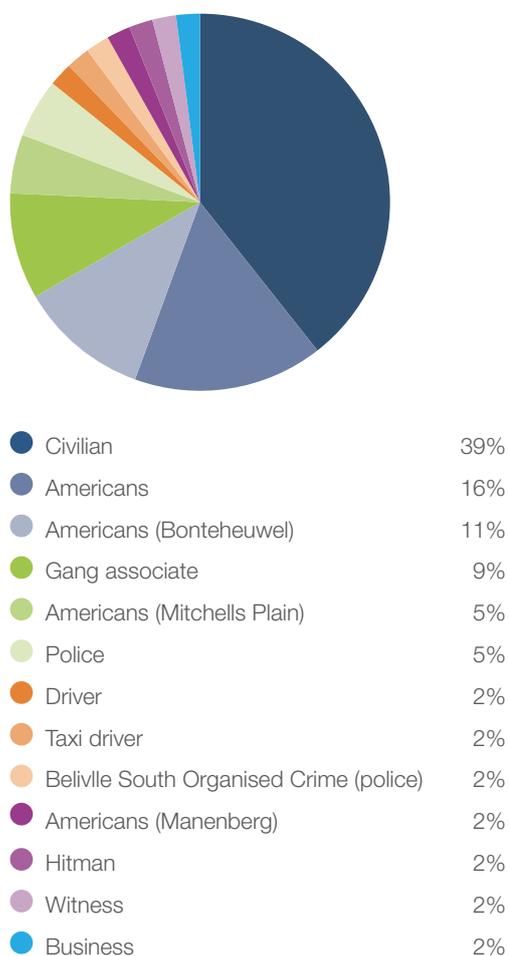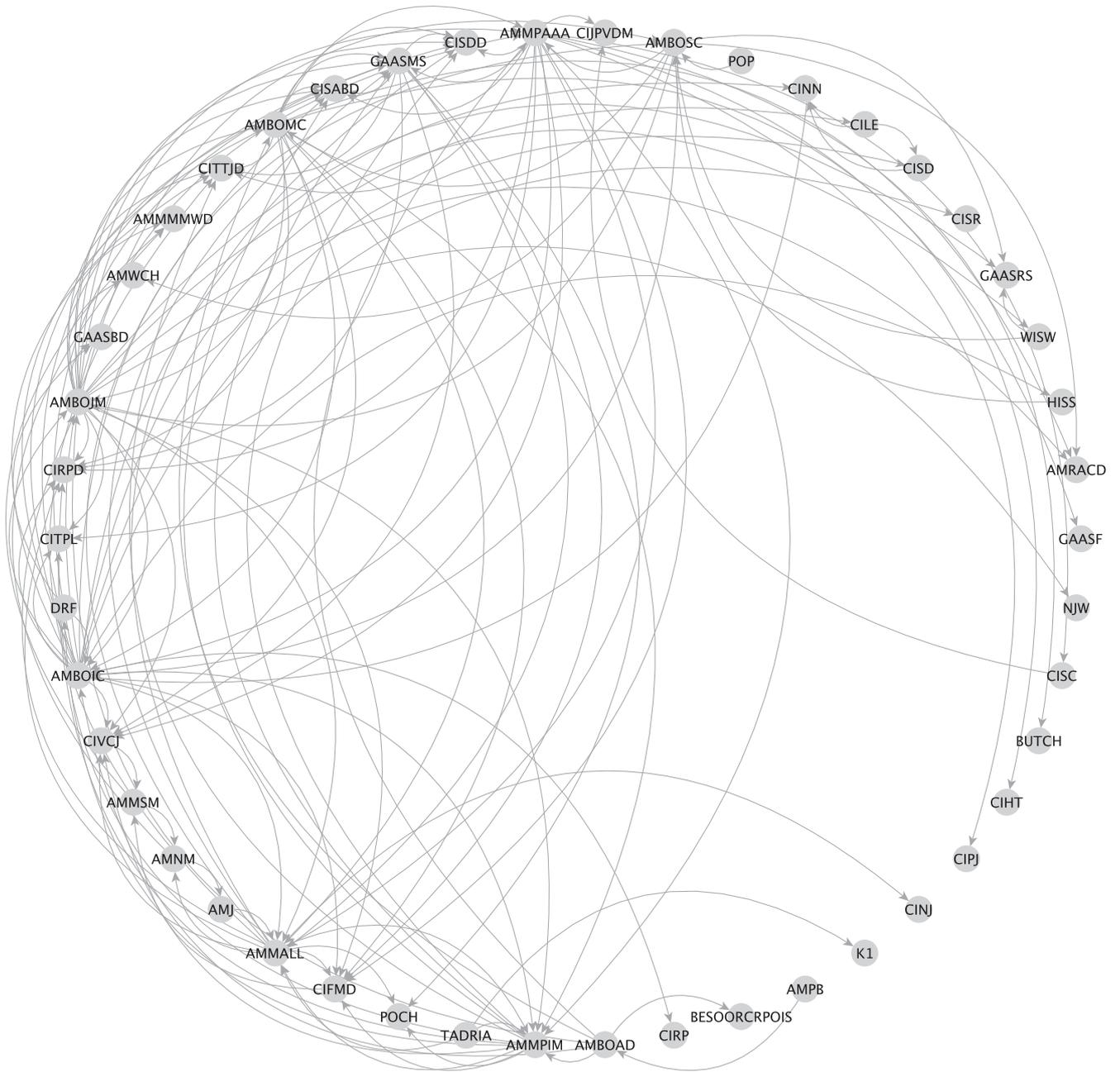|	
● Civilian	39%
● Americans	16%
● Americans (Bonteheuwel)	11%
● Gang associate	9%
● Americans (Mitchells Plain)	5%
● Police	5%
● Driver	2%
● Taxi driver	2%
● Belivlle South Organised Crime (police)	2%
● Americans (Manenberg)	2%
● Hitman	2%
● Witness	2%
● Business	2%

Figure 3: The number of interactions (179) in the network

the network. It is important to note that throughout the subsequent discussion the interactions and nodes referred to are those that were mentioned in the court judgment. These interactions are not the total number of agents or interactions, but just those from the trial. During the trial there were specific references to nodes and agents and these are also not all encompassing.

The 46 nodes/agents were distributed as shown in Figure 1.

Analysis of interactions

The number of interactions established in the network is 179, illustrated in Figure 3.

The 179 interactions were classified in terms of the categories given in Figure 4. Again, it is important to remember that these interactions are not all the interactions in the network, but the number identified during the trial. The next few sections also note a number of interactions, networks and nodes, all of which are based solely on the case judgment.

Among the most relevant types, the grouping of interactions categorised as 'violence/coercion' accounts for 70 interactions, distributed as shown in Figure 5. Figure 6 illustrates the structure of interactions characterised by 'violence/coercion'.

The category of 'gangs' accounts for 43 cases, but no additional subcategories were applied, which explains why there is no additional graph illustrating the percentage of concentrations. However, these types of interactions, which can be observed in Figure 7, illustrates the structure of relationships among members of gangs according to the analysed information.

Twenty-six interactions can be classified as 'criminal', which were distributed as shown in Figure 8. Figure 9 shows the structure of 'criminal interactions'.

Only six interactions are categorised as 'economic', which represents 4 per cent of the total. A complex structure such as the Americans could not operate without the support of a complex economic structure, so it is necessary to access and analyse information that allows one to understand the economic dimension of the gang. Unfortunately, however, the primary source material obtained did not allow for this type of analysis. Also, the dates of the criminal activity were primarily focused on a short period of time when there was intense violence. If a longer period of study were possible, with a deeper investigation, the gang's economic links could be highlighted to a greater degree.
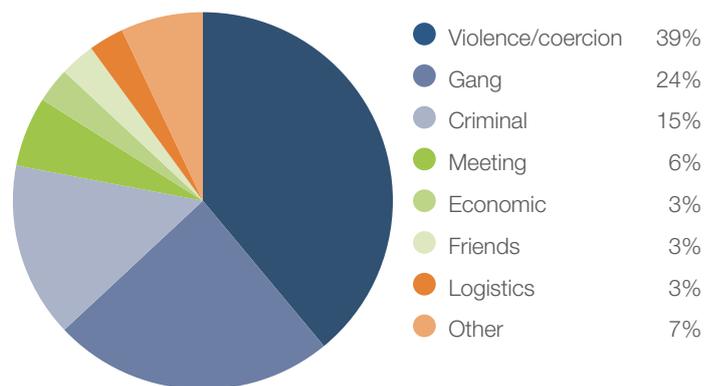
Figure 4: Types of interactions [21]

Violence/coercion	39%
Gang	24%
Criminal	15%
Meeting	6%
Economic	3%
Friends	3%
Logistics	3%
Other	7%

Figure 5: Subtypes of interactions in the category 'violence/coercion'

Murder	39%
Robbery	24%
Attempted murder	15%
Shot at	6%
Assault	3%
Orchestrated hit	3%
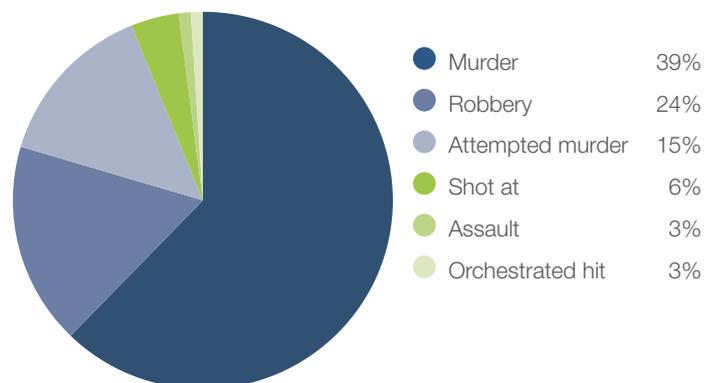
Figure 8: Subtypes of interactions classified as 'criminal'

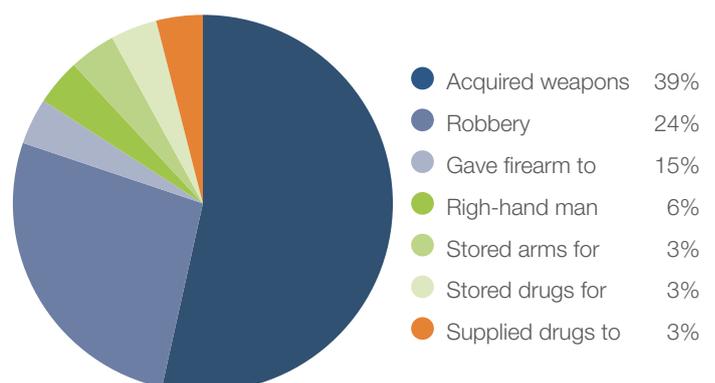|	
Acquired weapons	39%
Robbery	24%
Gave firearm to	15%
Righ-hand man	6%
Stored arms for	3%
Stored drugs for	3%
Supplied drugs to	3%

Figure 6: Structure of interactions characterised by 'violence/coercion'

Figure 7: Structure of 'gang' interactions
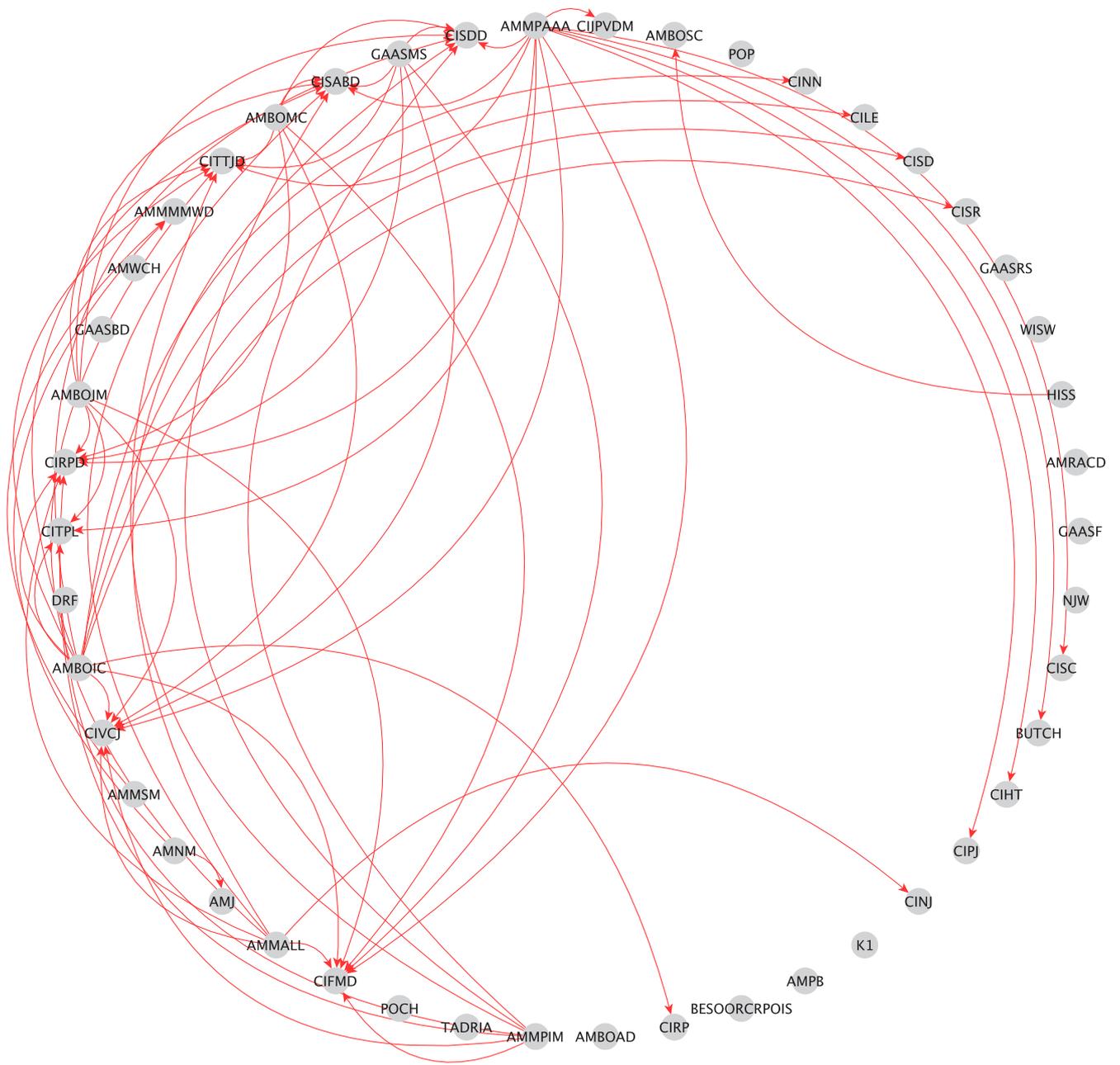
Figure 9: Structure of 'criminal' interactions

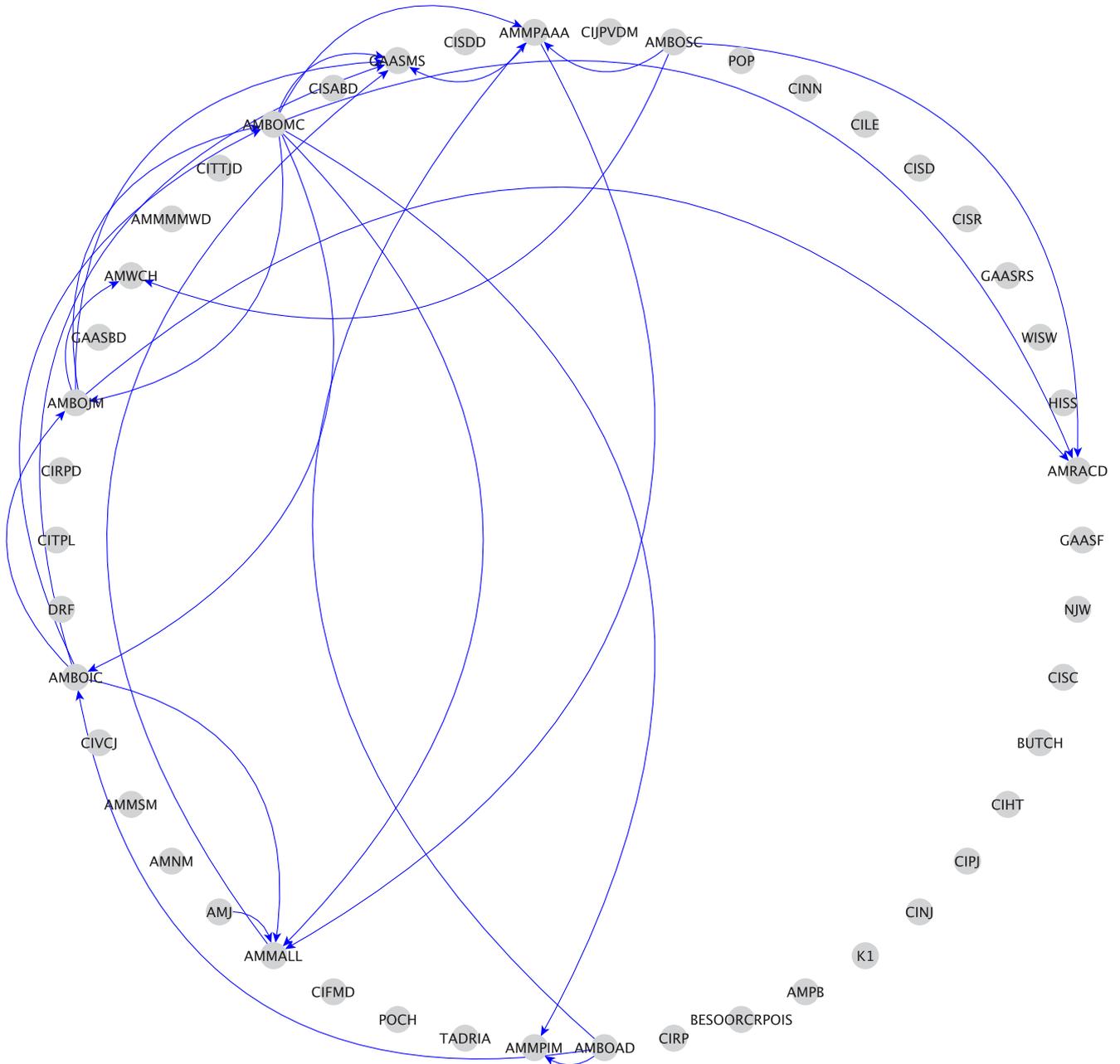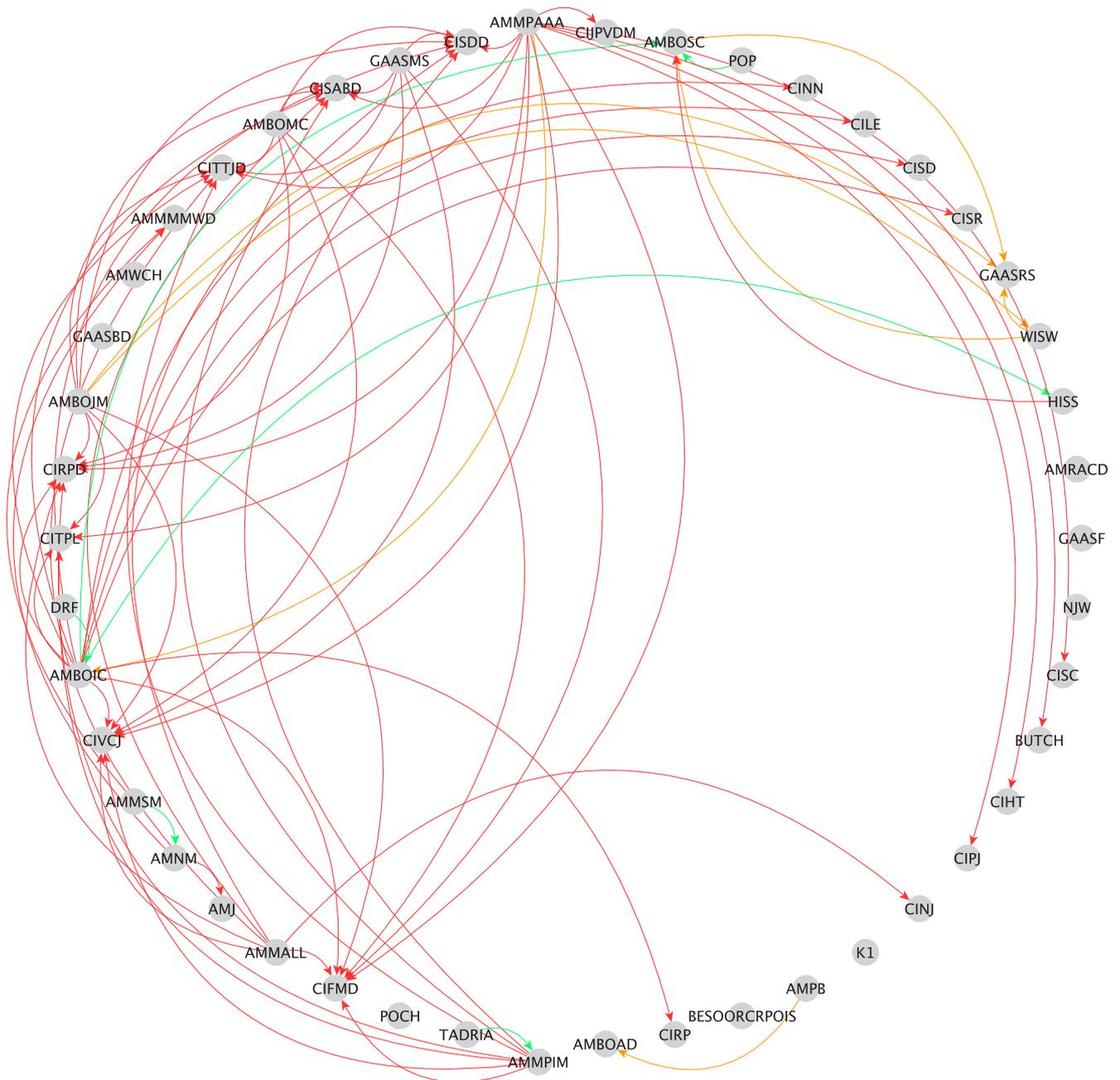Figure 10: Structure of 'economic' interactions

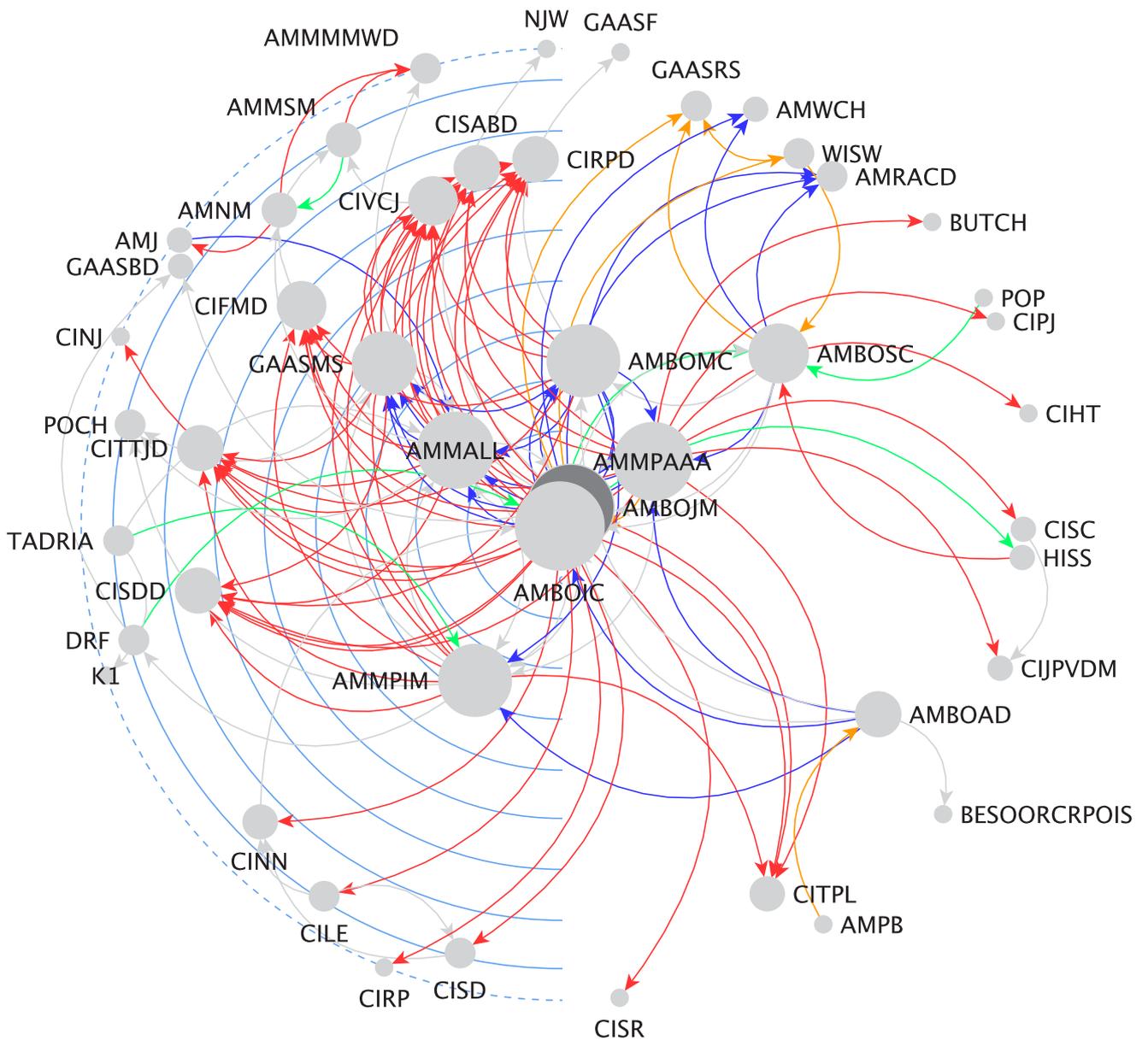**Figure 11: The network's most relevant interactions**

NOTE: Red lines represent 'violence/coercion' interactions, green lines represent 'economic' interactions and orange lines represent 'criminal' interactions.

Concentration of direct interactions

Four nodes/agents concentrate 34,40 per cent of the network's direct interactions, measured using the centrality indicator. This high concentration of direct interactions can be observed in Figure 12, in which the location and size of the nodes represent the indicator of direct interactions.

Figure 12: Direct network interactions

NOTE: Uniform radial distribution. Location (higher in the nucleus) and size represent the indicator (percentage) of direct centrality. Red lines represent 'violence/coercion' interactions, green lines represent 'economic' interactions, dark blue lines represent 'gang' interactions, orange lines represent 'criminal' interactions and grey lines indicate interactions belonging to other categories (categories with fewer than two interactions).

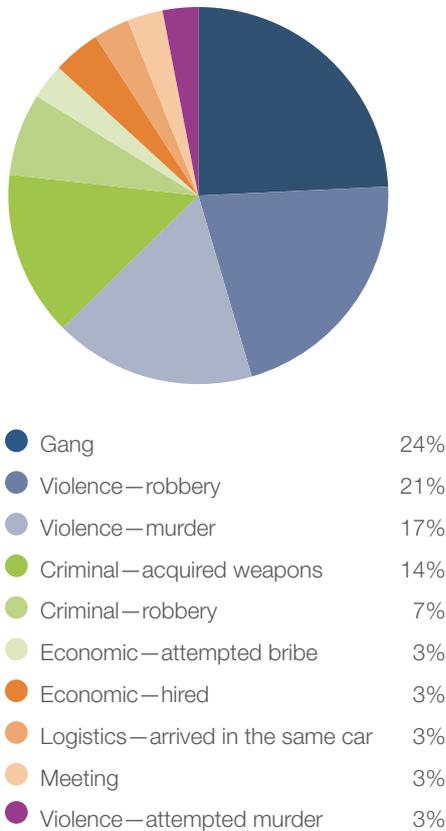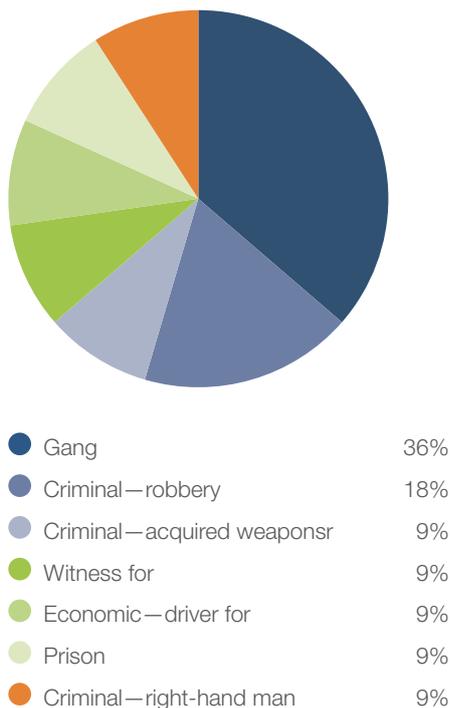**Figure 13: Interactions in which Ismail Ceaser actively participated**

● Gang	24%
● Violence—robbery	21%
● Violence—murder	17%
● Criminal—acquired weapons	14%
● Criminal—robbery	7%
● Economic—attempted bribe	3%
● Economic—hired	3%
● Logistics—arrived in the same car	3%
● Meeting	3%
● Violence—attempted murder	3%

Figure 14: Interactions in which Ismail Ceaser participated passively

● Gang	36%
● Criminal—robbery	18%
● Criminal—acquired weaponsr	9%
● Witness for	9%
● Economic—driver for	9%
● Prison	9%
● Criminal—right-hand man	9%

The node/agent with the highest concentration of direct interactions – meaning the highest indicator of direct centrality – is Ismail Ceaser, a member of the Americans, identified in the network with the code AMBOIC. This node/agent registers an indicator of direct centrality of 9,85 per cent and participated in 40 direct interactions. Specifically, Ceaser participated in 29 interactions as the active node/agent, distributed as shown in Figure 13.

In the interactions grouped under the category 'gang' in which Ismail Ceaser participated as an active node/agent, the passive nodes/agents were: (1) Michael Sam, (2) Lucian Lackay, (3) Ikaraam Masarapa, (4) Allan Almon Albert, (5) Junaid Mitchells, and (6) Moenedien Ceaser. This group of interactions could possibly reveal a command structure in which Ceaser issued orders within the gang's structure. Additionally, Ismail Ceaser participated in 11 interactions as passive node/agent, distributed as shown in Figure 14.

In the category of 'gang' interactions, Ceaser participated as a passive node/agent in four specific cases in which the active nodes/agents were (1) Junaid Mitchells, (2) Moenedien Ceaser and (3) Ashrief Diedericks. This means that Ismail Ceaser and Moenedien Ceaser mutually interacted within the gang structure of the network.

The node/agent with the second-highest concentration of direct interactions is Junaid Mitchells, also described as a member of the Americans and identified with the code AMBOJM. This node/agent registers an indicator of 9,49% per cent and participated in 39 interactions: 28 as the active node/agent and 11 as the passive node/agent.

The interactions in which Mitchells operated as active node/agent are distributed as shown in Figure 15.

As can be observed, the most relevant types of interaction in which Mitchells actively operated were 'criminal'. Table 1 shows the passive nodes/agents participating in those interactions.

Bearing in mind that the category of interactions tagged as 'gang' provides information about the structure of the Americans, the nodes/agents that operated passively in this category when Junaid Mitchells operated actively are shown in Table 2.

On the other hand, the distribution of the interactions in which Mitchells operated as a passive node/agent is shown in Figure 16.

Specifically, the nodes/agents who participated actively in the 'meeting' interactions were: (1) Shahied Carelse, categorised as 'Americans (Bonteheuwel)' and identified with the code AMBOSC, (2) Moenedien Ceaser, categorised as 'Americans (Bonteheuwel)' and identified with the code AMBOMC, and (3) Lucian Lackay, categorised as 'Americans (Manenberg)' and identified with the code AMMALL.

Table 1: Criminal interactions in which Junaid Mitchells operated actively

Passive node/agent	Code of passive node/agent	Type of criminal interaction
Ikaraam Masarapa	AMMPIM	Criminal – acquired weapons
Allan Almon Albert	AMMPAAA	Criminal – acquired weapons
Ismail Ceaser	AMBOIC	Criminal – acquired weapons
Shahied Carelse	AMBOSC	Criminal – acquired weapons
Rashaad Solomans	GAASRS	Criminal – acquired weapons
State witness	WISW	Criminal – acquired weapons
Ikaraam Masarapa	AMMPIM	Criminal – robbery
Allan Almon Albert	AMMPAAA	Criminal – robbery
Ismail Ceaser	AMBOIC	Criminal – robbery
Ismail Ceaser	AMBOIC	Criminal – robbery
Shahied Carelse	AMBOSC	Criminal – supplied drugs to

Table 2: Passive nodes/agents in 'gang' interactions in which Junaid Mitchells operated actively

Name of passive node/agent	Code	Type of node/agent
Ismail Ceaser	AMBOIC	Americans (Bonteheuwel)
Michael Sam	GAASMS	Gang associate
Lucian Lackay	AMMALL	Americans (Manenberg)
Ikaraam Masarapa	AMMPIM	Americans (Mitchells Plain)
Allan Almon Albert	AMMPAAA	Americans (Mitchells Plain)
Wynand (Charlie Hangkas)	AMWCH	Americans
Rashaad Abrahams ('Charra') (deceased)	AMRACD	Americans
Moenedien Ceaser	AMBOMC	Americans (Bonteheuwel)

Table 3: 'Violence/coercion' interactions in which Allan Almot Albert operated actively

Active node/agent	Type of violence/coercion	Passive node/agent	Code of the passive node/agent	Type of passive node/agent
Allan Almon Albert	Violence – attempted murder	Patrick Julies	CIPJ	Civilian
	Violence – attempted murder	Vuzumzi Cakume (justice)	CIVCJ	Civilian
	Violence – murdered	Reginald Pienaar (deceased)	CIRPD	Civilian
	Violence – murdered	Tamsyn Tamin Jordaan (deceased)	CITTJD	Civilian
	Violence – murdered	Fariz Maggot (deceased)	CIFMD	Civilian
	Violence – murdered	Sivuyile Albert Bobotyana (deceased)	CISABD	Civilian
	Violence – murdered	Sinethemba Dedeka (deceased)	CISDD	Civilian
	Violence – robbed	Tidimalo Patricia Letchare	CITPL	Civilian
	Violence – robbed	Jan Pieter van der Merwe	CIJPVDM	Civilian
	Violence - robbed	Shaun Crosby	CISC	Civilian
	Violence – robbed	Tempest Car Hire	BUTCH	Civilian
	Violence – shot at	Hilda Tom	CIHT	Civilian
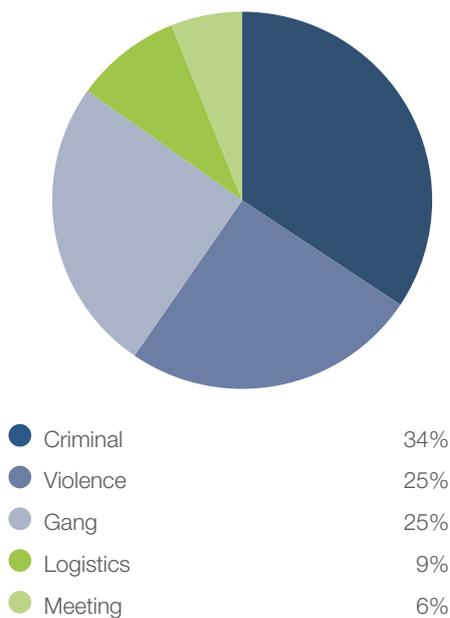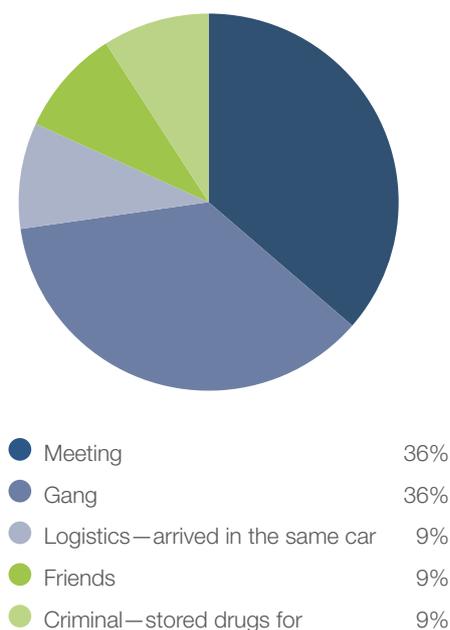
The node/agent with the third-highest concentration of direct interactions is Allan Almon Albert, identified with the code AMMPAAA and categorised as 'Americans (Mitchells Plain)'. This node/agent registers a direct centrality indicator of 7,66 per cent and participated in 35 direct interactions.

The distribution of interactions in which Albert operated as an active node/agent is shown in Figure 17. This draws attention to the number of direct 'violence/coercion' interactions in which Albert actively participated, with 17 cases distributed among the forms of 'violence/coercion' shown in Figure 18. Table 3 presents the specific forms of violence and coercion in which Albert was actively involved.

The node/agent with the fourth-highest indicator of direct centrality is Lucian Lackay, classified as 'Americans (Manenberg)' and identified with the code AMMALL. This node/agent registers an indicator of 7,3 per cent and participated in 26 direct interactions.

Thus, only four nodes/agents concentrate 34 per cent of the network's direct interactions. Neutralising these four nodes/agents would drastically modify this structure, i.e. the high level of concentration implies a low level of resilience. However, as discussed below, the level of resilience of the structure of direct interactions is higher than the level of resilience of the capacity to intervene in the network's geodesic routes, measured using the indicator of betweenness. This means that it was easier for law enforcement agencies to affect the network's capacity to distribute information than to modify the structure of the various interactions. The implications of this are discussed in the following section.

The structural bridge and capacity to intervene in geodesic routes

Three nodes/agents intervened in 50,3 per cent of the network's geodesic routes, which means that 6,5 per cent of nodes/agents intervened in half the geodesic routes.

Bearing in mind the abovementioned concentration of members' capacity to intervene in the network's geodesic routes, it was found that the node/agent with the highest indicator of betweenness is Lucian Lackay, a member of the Americans (Manenberg), identified with the code AMMALL and registering a betweenness indicator of 17,33 per cent. This actor participated in 26 interactions: 14 as active node/agent and 12 as passive node/agent. As an active node/agent, Lackay participated in nine 'violence/coercion' interactions, including five in which he murdered the nodes/agents identified with the codes CIRPD, CITTJD, CISDD, CIFMD and CISABD (all of these victims were civilians). On the other hand, as a passive node/agent, Lackay participated in eight interactions with other

Figure 15: Interactions in which Junaid Mitchells actively operated

● Criminal	34%
● Violence	25%
● Gang	25%
● Logistics	9%
● Meeting	6%

Figure 16: Interactions in which Junaid Mitchells operated passively

● Meeting	36%
● Gang	36%
● Logistics—arrived in the same car	9%
● Friends	9%
● Criminal—stored drugs for	9%

members of the gang, specifically: (1) Ikaraam Masarapa, (2) Allan Almon Albert, (3) Ismail Ceaser, (4) Junaid Mitchells and (5) Moenedien Ceaser. It can therefore be stated that Lackay intervened in geodesic routes involving 'violence/coercion' in which other members of the gang also participated.

The node/agent with the second-highest indicator of betweenness is Ismail Ceaser, classified as member of the 'Americans (Bonteheuwel)', identified with the code AMBOIC and registering an indicator of 16,919 per cent. This node/agent has already been described in the previous section because he operated as the hub of the network, meaning that he was the node/agent who participated in the highest number of interactions and therefore registered the highest indicator of direct centrality at 9,85 per cent. Specifically, it was found that Ismail Ceaser participated in an important number of direct 'violence/coercion' interactions, so it can be inferred that this is the nature of the geodesic routes in which he intervened.

The node/agent with the third-highest indicator of betweenness is Junaid Mitchells, also a member of the 'Americans (Bonteheuwel)', identified with the code AMBOJM and registering a betweenness indicator of 16,041 per cent. This node/agent was identified as the second-highest indicator of direct centrality (9,49 per cent) and participated in an important number of 'violence/coercion' interactions.

In general, the fact that only three nodes/agents intervened in 50 per cent of the network's geodesic routes implies a low level of resilience, since it would be sufficient for law enforcement agencies to neutralise only these three nodes/agents in order to dramatically modify the structure of the network's geodesic routes and affect the type and amount of information and number of interactions flowing across nodes/agents and subnetworks. In this case, the level of resilience is even lower than that registered in terms of the structure of direct interactions, in which four nodes/agents concentrated 34 per cent of such interactions. Since the level of resilience of the capacity to arbitrate and intervene in the network's geodesic routes is lower than the level of resilience of the structure of direct interactions, it could be expected that a modification in the type and amount of information flowing across the network would change before modifications in the structure of the various interactions were observed.

Conclusion

The model discussed in this study allowed us to understand the characteristics of a criminal network that mainly consisted of activities and interactions in a gang structure. It was found that membership of this gang did not appear to be fixed, because there was a constant movement in and out of gang structures.

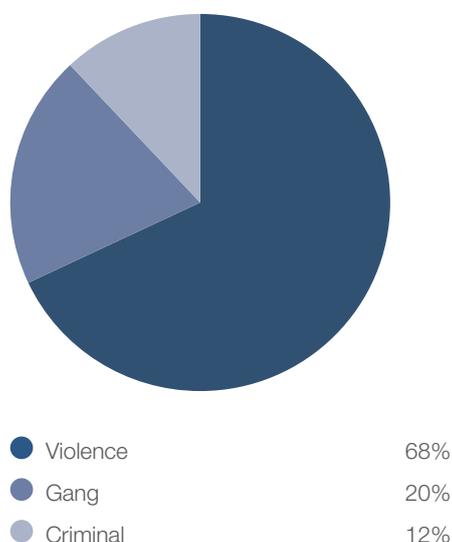**Figure 17: Interactions in which Allan Almon Albert actively operated**

● Violence	68%
● Gang	20%
● Criminal	12%

Figure 18: 'Violence/coercion' interactions in which Allan Almot Albert participated

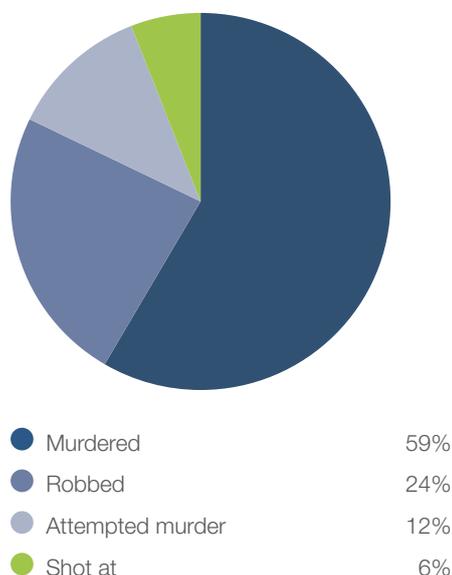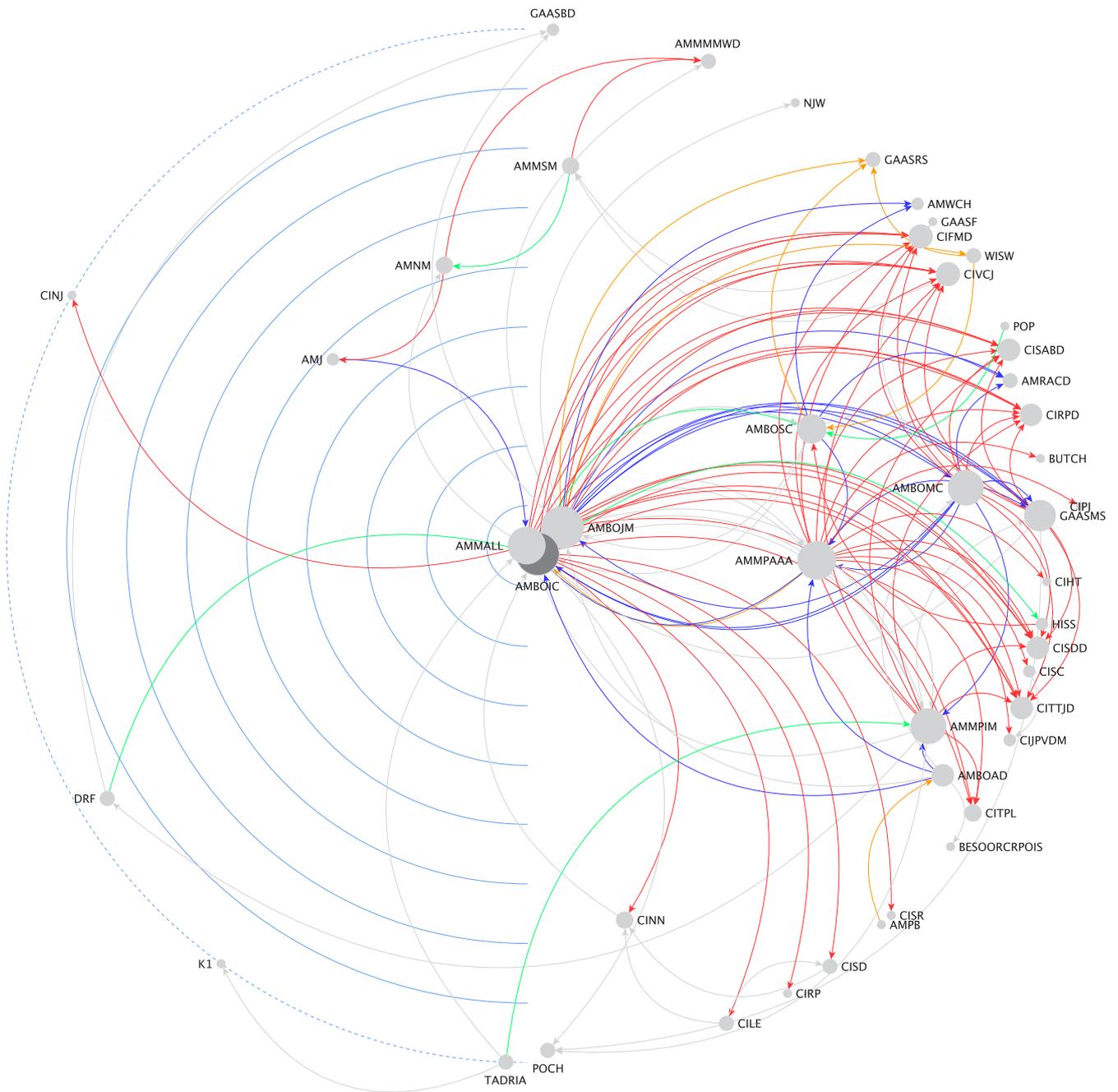|	
● Murdered	59%
● Robbed	24%
● Attempted murder	12%
● Shot at	6%

Figure 19: Capacity to intervene in geodesic routes

NOTE: Uniform radial distribution. Location (higher in the nucleus) and size represent the indicator of betweenness, or capacity to intervene. Red lines represent 'violence/coercion' interactions, green lines represent 'economic' interactions, dark blue lines represent 'gang' interactions, orange lines represent 'criminal' interactions and grey lines indicate interactions belonging to other categories (categories with fewer than two interactions).

Also, gang members tended to shift allegiance to suit their needs. This is because a gang like the Americans is so large that complete control over personnel and their actions is often impossible. However, this does not imply that the gang lacks structure; in fact, we identified specific forms of interactions, procedures and specific nodes/agents that stabilise it. The image of a small and simple or rigid criminal group does not therefore coincide with the evidence in this case.

In the present network 46 nodes/agents were identified and analysed, most of them defined as members of the gang known as 'The Americans'. A total of 179 interactions were identified and modelled: 39 per cent were characterised by violence/coercion, 24 were instructions communicated via the gang hierarchy, and 15 per cent were other criminal interactions. In the context of gang interaction, the relationship between prison gangs and gangs on the outside is far more complex than a single prison gang being associated with an equivalent gang on the outside. Prison is also often a meeting point for criminals, whether they are part of a gang or not.

> A gang like the Americans is so large that complete control over personnel and their actions is often impossible

The high number of violent interactions such as murder (61 per cent of the total), robbery (17 per cent) and attempted murder (14 per cent) allows one to conclude that the Americans is extremely violent and its members mainly interact through violence, as well as with nodes/agents outside the gang structure. Gang violence can be intra-gang and there is often no overall command structure to limit it.

The interactions revealed by the present analysis indicate how the network operated, but also indicate what should be the main point of focus of investigation by law enforcement agencies. For instance, interactions with political leaders and public servants were not identified, while economic interactions only accounted for 3 per cent of the interactions. This leads one to conclude that this network lacked a political structure and its economic structure was simple or weak. However, bearing in mind its size and complexity, and the evidence of criminal networks modelled in other countries, it could be expected that the Americans was supported by economic and political structures that provided institutional and financial resources for the gang's successful operation. Unfortunately, it was impossible to elaborate on this issue because the judicial records available, which were used as the most important source for the model, did not include such information.

The lack of information regarding the political and economic structures in this case can be explained by the fact that investigative and law enforcement agencies usually focus on understanding and tackling the violent structure that concentrates the activities of 'full-time' criminals, i.e. dark nodes/agents with unlawful institutional and organisational roles,[22] while economic and political structures are usually established by grey nodes/agents whose organisational and institutional roles do not coincide, such as bankers or lawyers with lawful organisational roles, but unlawful institutional roles. As a result, law enforcement agencies usually have an incomplete and oversimplified view of the characteristics of criminal structures. Understanding characteristics such as the ones discussed in the present document requires additional efforts by law enforcement agencies, i.e. identifying lawful criminal activities, interactions, and actors while also paying attention to sociological and anthropological characteristics.

In a second stage of analysis, it would be highly relevant to verify if the Americans' main forms of interactions – specifically in terms of the use of violence – are also used by other gangs operating in the Cape Town area and the wider South Africa.

As explained above, SNA not only allows one to identify and analyse the structure and concentrations of interactions, but also allows one to identify the most relevant nodes/agents in terms of the concentration of direct interactions and the capacity to intervene in the network's geodesic routes. It was found that four nodes/agents concentrated 34,40 per cent of the direct interactions of the network. This implies a low level of resilience in terms of the structure of interactions. It would therefore be sufficient to neutralise these four nodes/agents to extensively affect or modify the network's direct interactions.

Regarding the capacity to intervene in the network's geodesic routes, measured by the betweenness indicator, it was found that three nodes/agents intervened in 50,3 per cent out of these routes: Lucian Lackay (with a betweenness indicator of 17,33 per cent), Ismail Ceaser (16,919 per cent) and Junaid Mitchells (16,041 per cent).

This also implies a low level of resilience, and it would be sufficient for law enforcement agencies to isolate these three nodes/agents to dramatically modify the structure of the network's geodesic routes and affect the information flowing across nodes/agents and subnetworks.

Clearly, then, these nodes/agents had more power than others. SNA illustrated the important role of Ismail Ceaser, Junaid Mitchells and Lucian Lackay in the gang, since all of them had intervened extensively in the network's geodesic routes and direct interactions.

Ismail Ceaser had a highly relevant role since he was the node/agent with the highest concentration of direct interactions and the second-highest capacity to intervene in the network, while being actively involved in discussions with people outside the immediate gang structure.

Junaid Mitchells also played a direct role in a number of key activities and had people working for him to sell drugs and store his firearms. One of those with a strong link to Mitchells was Lucian Lackay, who carried out a number of tasks at Mitchells' behest and, according to testimony, often carried out his orders. Despite some witnesses not being able to confirm whether Lackay was an active member of the Americans, he was often seen in the company of other members and was also involved in a number of important events, including the attempted murder of Nathan McGregor. Affiliated nodes/agents such as Michael Sam, without being official members of the gang, can carry out acts of extreme violence and be a part of the criminal network. Also, nodes/agents outside the inner core of the criminal group are often relevant in providing supplies, such as firearms, while outsiders provide advice and, while not being active in the network, are part of the broader criminal milieu and can shape events.

Lucian Lackay, therefore, illustrates the fact that defining a complex gang like the Americans as having a rigid hierarchical structure along the lines of the traditional concept of 'organised crime' in which a few members establish a hierarchy often leads to the omission of the role of relevant outsiders who move across subnetworks or constantly modify their affiliations. It is also interesting how Lackay, despite being from the Athlone, was a member of the Americans in Manenberg and was often seen in other areas of the Cape Flats, including Bonteheuwel.

In general, SNA allowed us to illustrate how a limited number of actors managed a majority of the network's interactions and intervened in most of its geodesic routes. Therefore, in theory, this particular subnetwork of the Americans could be drastically modified with the arrest of a few members, which is suggested by the network's low level of resilience. The analysis of the network also suggests that it would be easier for law enforcement agencies to affect the capacity to intervene in information flows than to modify the structure of interactions, since the structure of the network's information flows registers a higher concentration in a few nodes/agents and, therefore, lower resilience.

> SNA illustrated how a limited number of actors managed a majority of the network's interactions and intervened in most of its geodesic routes

The characteristics identified in this study only apply to the structure analysed, i.e. a subnetwork of the Americans, which leads to two main conclusions regarding the design and implementation of policies to understand and confront gangs. Firstly, it should be clarified whether these characteristics apply to other networks or not. In this regard, other cases should be modelled and analysed in order to establish links and similarities. Equally, the courts should make it easier for researchers to access information about closed cases in which complex investigations were conducted, because only with such information would it be possible to gain a more comprehensive understanding of the actual complexity of gangs currently operating in Cape Town.

LAW ENFORCEMENT AGENCIES USUALLY HAVE AN INCOMPLETE VIEW OF THE CHARACTERISTICS OF CRIMINAL STRUCTURES

Secondly, the use of SNA and the general idea that criminal groups are usually complex systems with diverse types of interactions and nodes/agents should be promoted and adopted as a general strategy for understanding and tackling the complexity of gangs and other criminal networks. If this approach is not adopted, relevant elements sustaining the reproduction and existence of these groups will be omitted in investigations and court decisions.

Notes

1   C Morselli, *Inside criminal networks*, Montreal: Springer, 2008.

2   PV den Bossche and M Segers, Transfer of training: adding insight through social network analysis, *Educational Research Review* 8 (2013), 39.

3   J Worrell, M Wasko and A Johnston, Social network analysis in accounting information systems research, *International Journal of Accounting Information Systems* 14 (2013), 128.

4   More detail on the centrality indicators used in the current paper is given below.

5   An 'edge' is the point of interaction.

6   A Degenne and M Forsé, *Introducing social networks*, London: SAGE, 1999, 63.

7   Morselli, *Inside criminal networks*; JA Johnson et al, *FBI Law Enforcement Bulletin*, March 2013, http://www.fbi.gov/stats-services/publications/law-enforcement-bulletin/2013/March/social-network-analysis; SM Radil, C Flint and GE Tita, Spatializing social networks: using social network analysis to investigate geographies of gang rivalry, territoriality, and violence in Los Angeles, *Annals of the Association of American Geographers* 100(2) (2010), 307–326.

8   All the figures in this document were created by the authors.

9   Since the direction of the interaction is relevant for understanding the structure of the model, the interaction going from node/agent 1 to node/agent 2 is counted as one direct interaction and is different from the interaction going from node/agent 2 to node/agent 1. This is why eight direct interactions are registered in Figure 1.

10 Geodesic: the shortest line between two points on a curved surface.

11 S v Ceaser and others, Western Cape High Court judgment, 2010, http://www.saflii.org/cgi-bin/disp.pl?file=za/cases/ZAWCHC/2010/580.html&query=poca.

12 A Standing, *Organised crime: a study from the Cape Flats*, Pretoria, ISS, 2006.

13 D Pinnock, *The brotherhoods: street gangs and state control in Cape Town*, Cape Town: David Phillip, 1984.

14 The extended family served as a support structure for the poor, the marginalised, and new migrants to the city in that it provided shelter and a source of values.

15 Standing, *Organised crime*.

16 C Dolley, One gang murder a day in the Cape, *Independent Online*, 31 January 2014, http://www.iol.co.za/news/crime-courts/one-gang-murder-a-day-in-cape-1.1640174.

17 S v Ceaser and others.

18 Ibid.

19 This was noted at an experts workshop held in Cape Town in 2013. Those in attendance included the South African Police Service, crime researchers, academics, government official and members of the private sector.

20 Standing, *Organised crime*, 115.

21 The category 'other' groups those types with less than two interactions.

22 LJ Garay Salamanca and E Salcedo-Albaran, *Institutional impact of criminal networks in Colombia and Mexico, Crime, Law and Social Change* 57(2) (2012), 177–194; LJ Garay Salamanca, E Salcedo-Albaran, and I de Leon-Beltrán, *Illicit networks reconfiguring states: social network analysis of Colombian and Mexican Cases*, Bogotá: Metodo, 2010.

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About the ISS

The Institute for Security Studies is an African organisation that aims to enhance human security on the continent. It does independent and authoritative research, provides expert policy analysis and advice, and delivers practical training and technical assistance.

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