Social proximity, trust, and resilience: What network data tell us about drug markets and enforcement

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$17.5 billion

US government's funding for supply reduction efforts in 2022

(Executive Office of the President of the United States, 2021)

65%

UK drug-related public expenditure for supply reduction efforts in 2010

(EMCDDA, 2019)

£300 million

Investment on supply reduction efforts over next three years

(HM Government, 2021)

The 2021 UK drugs strategy

- £700 million to rebuild drug treatment services, but risk that this will translate into abstinence-only approaches (Nutt, 2021; Winstock et al., 2021)

- Tension between enforcement and public health responses (Rolles, 2021)

- Focus on 'breaking drug supply chains' – restricting upstream flow, targeting the 'middle market' (HM Government, 2021)
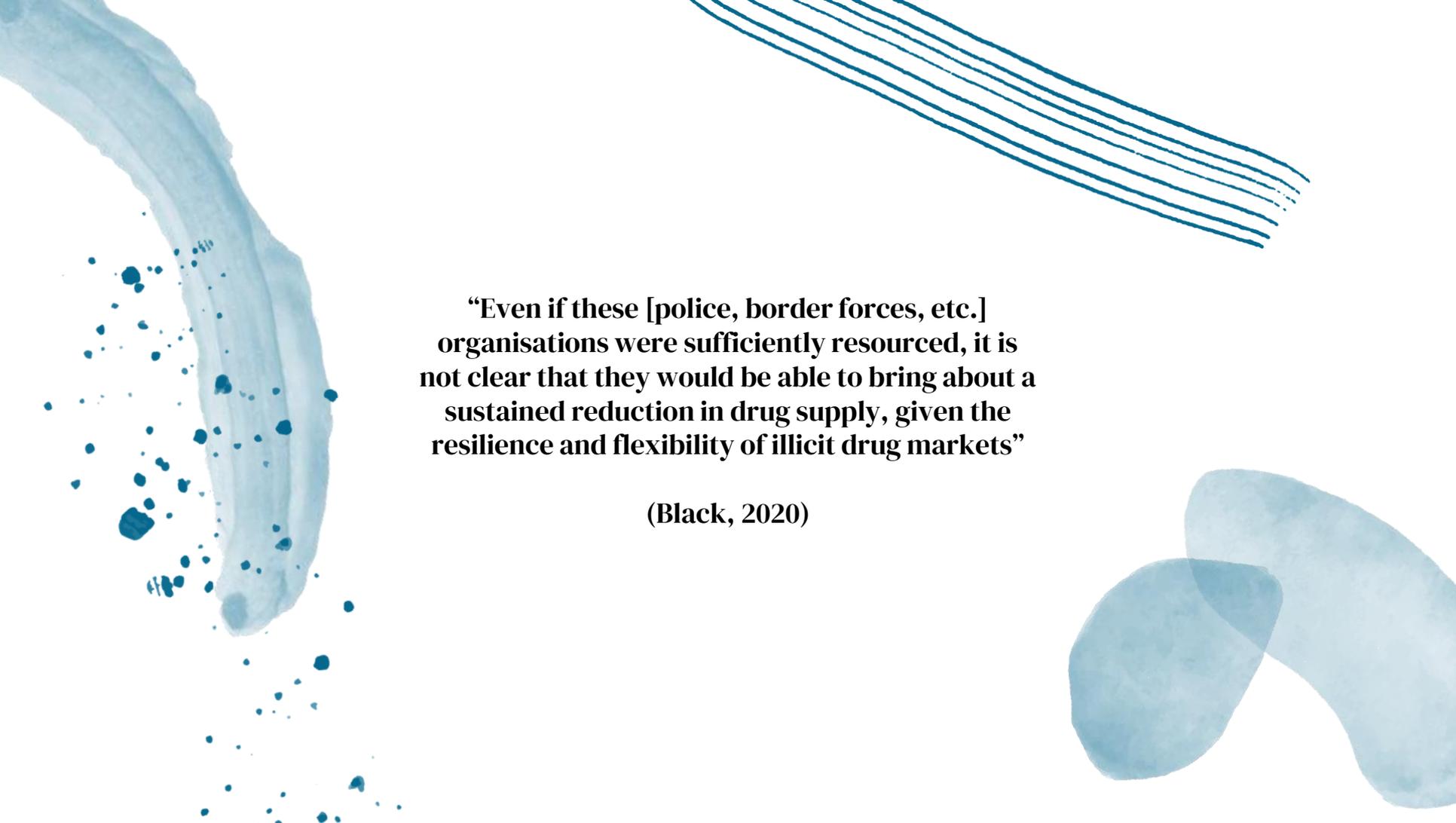
"Even if these [police, border forces, etc.] organisations were sufficiently resourced, it is not clear that they would be able to bring about a sustained reduction in drug supply, given the resilience and flexibility of illicit drug markets"

(Black, 2020)

– **Fighting the war on drugs, one brutality case at a time**
– **You can't even call this s*** a war**
– **Why not?**
– **Wars end**

(The Wire, 2002)
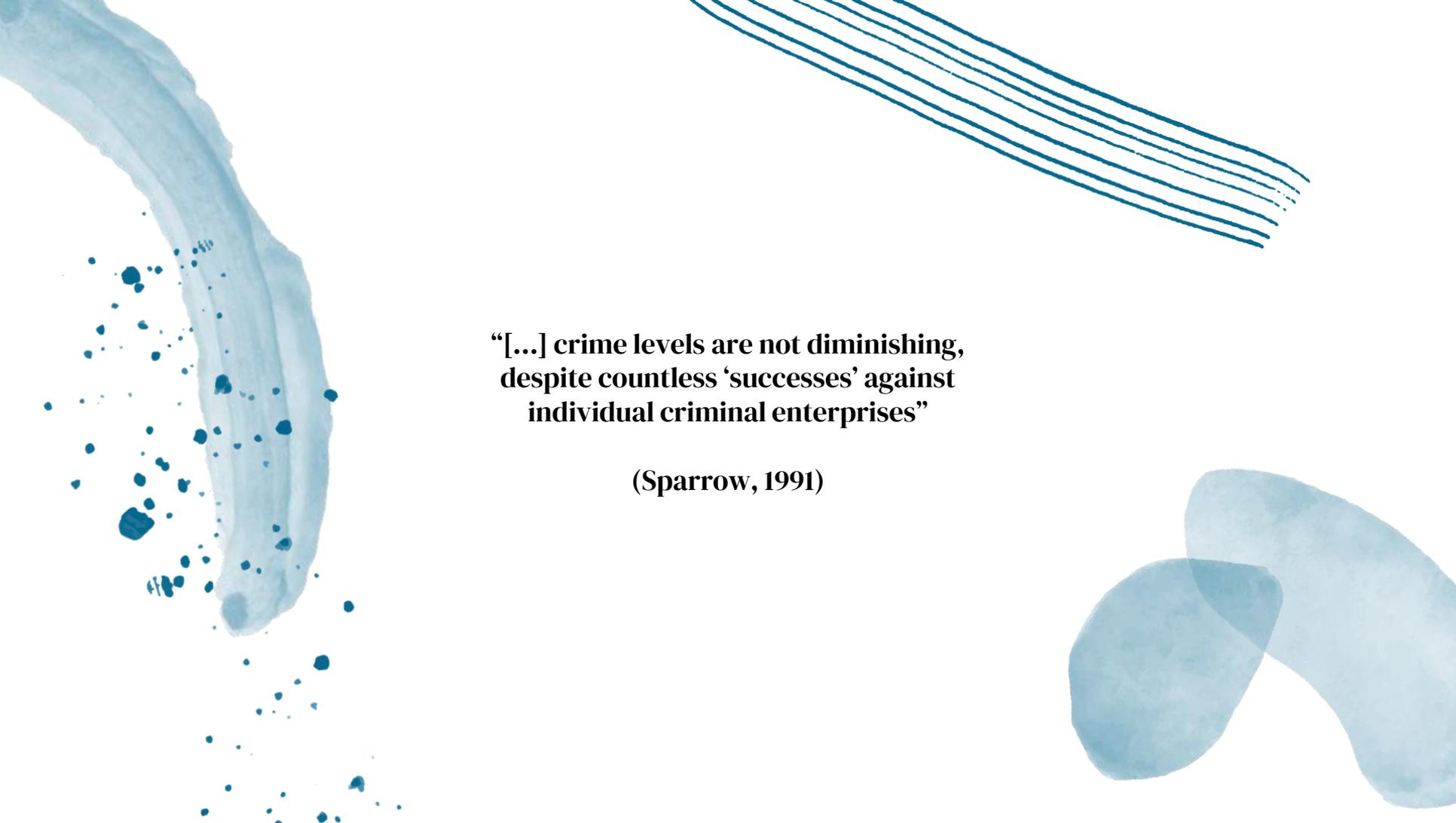
"[…] crime levels are not diminishing, despite countless 'successes' against individual criminal enterprises"

(Sparrow, 1991)

Resilience in drug markets

Micro level

Focus on criminal collaboration patterns

Meso levels

Focus on (local) drug markets

Macro level

Focus on drug trafficking routes

Micro level: criminal networks

Focus on criminal collaboration patterns in a context of law enforcement risk and on social processes that facilitate organisational survival and adaptation
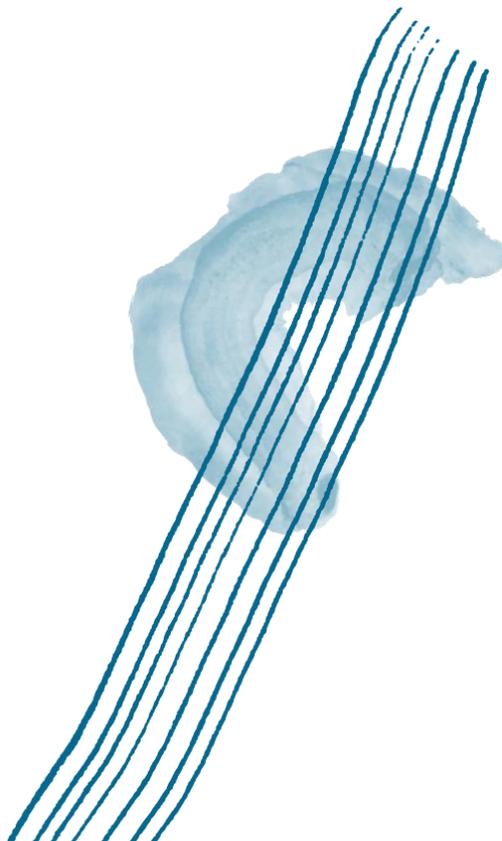
Background

- The definition rabbit hole – what is organised crime?

- "Organised crime is crime that is organised, often spanning several countries" (Varese 2021: 341)

- "Seek, rather than assume, structure" (Morselli 2009: 18) – flexible order model

- An OCG structure depends on its aims and line of business – production, trade, or governance (Campana & Varese 2018)…

- … or on the conditions of risk and uncertainty that it faces – efficiency vs. security (Morselli et al. 2007)

Efficiency-security trade-off

"[...] interplay between the need to act collectively and the need to assure trust and secrecy within these risky collaborative settings"

(Morselli et al., 2007)

From organised crime theory to network theory

Actors' behaviour will be reflected in the network structure that we observe…
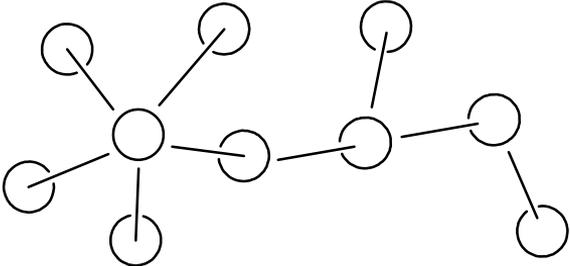
From organised crime theory to network theory

Sociality

Heterogeneity among actors in their propensity to establish ties (e.g. leaders avoid/favour direct involvement)

Selective mixing

Actors form ties with similar others (e.g. kinship ties and formal organisational ties drive collaboration)

Triad closure

Triads containing two ties will tend to form the third (e.g. the co-offender of a co-offender becomes a co-offender)

Degree distribution

Network is more/less centralised, few/many chain-like patters of connection

Homophily

Ties between actors sharing kinship ties and/or formal organisational ties

Transitivity

Many triangles and dense, local groups
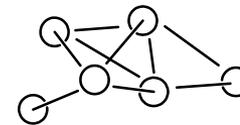
Case study: Cicala network

- Two-year investigation of a criminal network trafficking drugs from Colombia and Morocco to Italy via Spain

- Key player arrested mid-investigation, but police monitoring continued for another year

- Data from criminal justice records – information on criminal collaborations, kinship and formal organisational ties, actors involved (e.g. task, role in the drug supply chain, status)

- Three investigative phases – one before key player's arrest, two after the arrest

Phase 1   Phase 2   Phase 3

N003
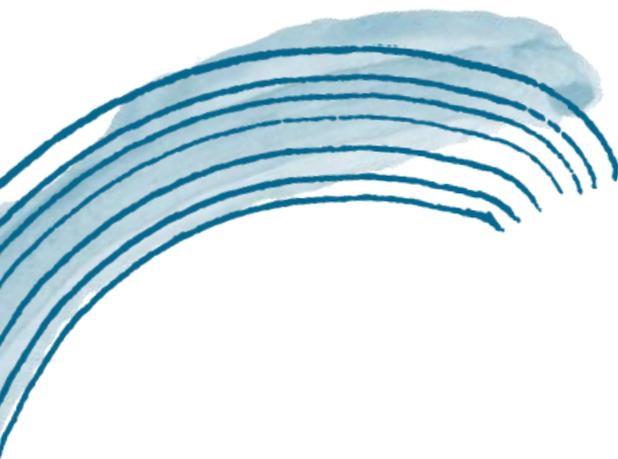
The Cicala network
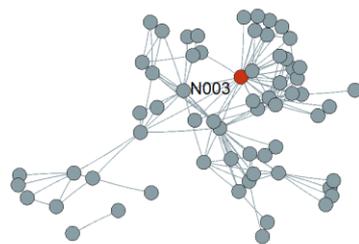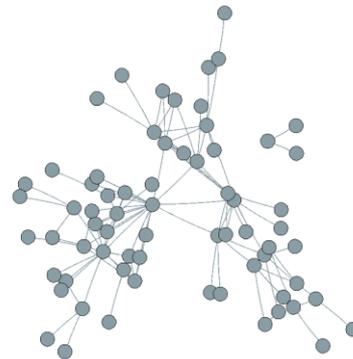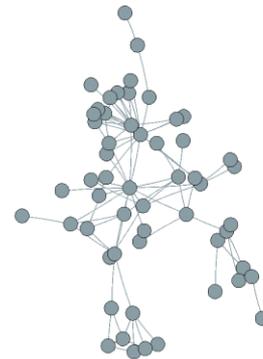
Methods

- Exponential random graph models (ERGMs) to identify the main drivers of criminal collaboration in each investigative phase

- Dependent variable is presence/absence of a tie, interpretation of parameters is similar to logistic regression

- Content analysis of wiretapped conversations to assess levels of criminal activity, actors' perception of risk, and changes in communication strategies and protection methods

Findings

Table 4. Estimates and standard errors from ERGMs.

	Phase 1		Phase 2		Phase 3	
	Estimate	SE	Estimate	SE	Estimate	SE
Edges	−7.53 ***	0.69	−6.96***	0.56	−7.97 ***	0.77
Activity spread (high status)[a]	0.51 **	0.19	0.40	0.22	0.89 **	0.31
Activity spread (trafficker)	−0.07	0.15	0.53 *	0.21	0.31	0.20
Activity spread ('Ndrangheta member)	0.25	0.16	0.25	0.18	−0.79***	0.23
Homophily by task	0.08	0.24	0.00	0.38	0.26	0.41
Homophily by role	0.59 **	0.22	0.03	0.33	−0.31	0.37
Multiplex ties (kinship)	2.58 ***	0.55	1.93 **	0.66	3.32 ***	0.88
Multiplex ties (formal org.)	0.98 *	0.39	1.42***	0.36	1.27 *	0.50
Preferential attachment	2.87 ***	0.79	3.10***	0.77	3.93 **	1.21
Triadic closure	1.81***	0.28	1.19***	0.21	1.16***	0.23
Indirect connections	0.00	0.03	0.03	0.03	0.07 *	0.03
Homophily by nationality	0.77***	0.23	0.66 *	0.28	1.77***	0.35
Activity spread (targeted)	0.99 ***	0.28	0.78 **	0.26	1.14***	0.33

*** p < 0.001; ** p < 0.01; * p < 0.05.
[a]Reference category: low status.
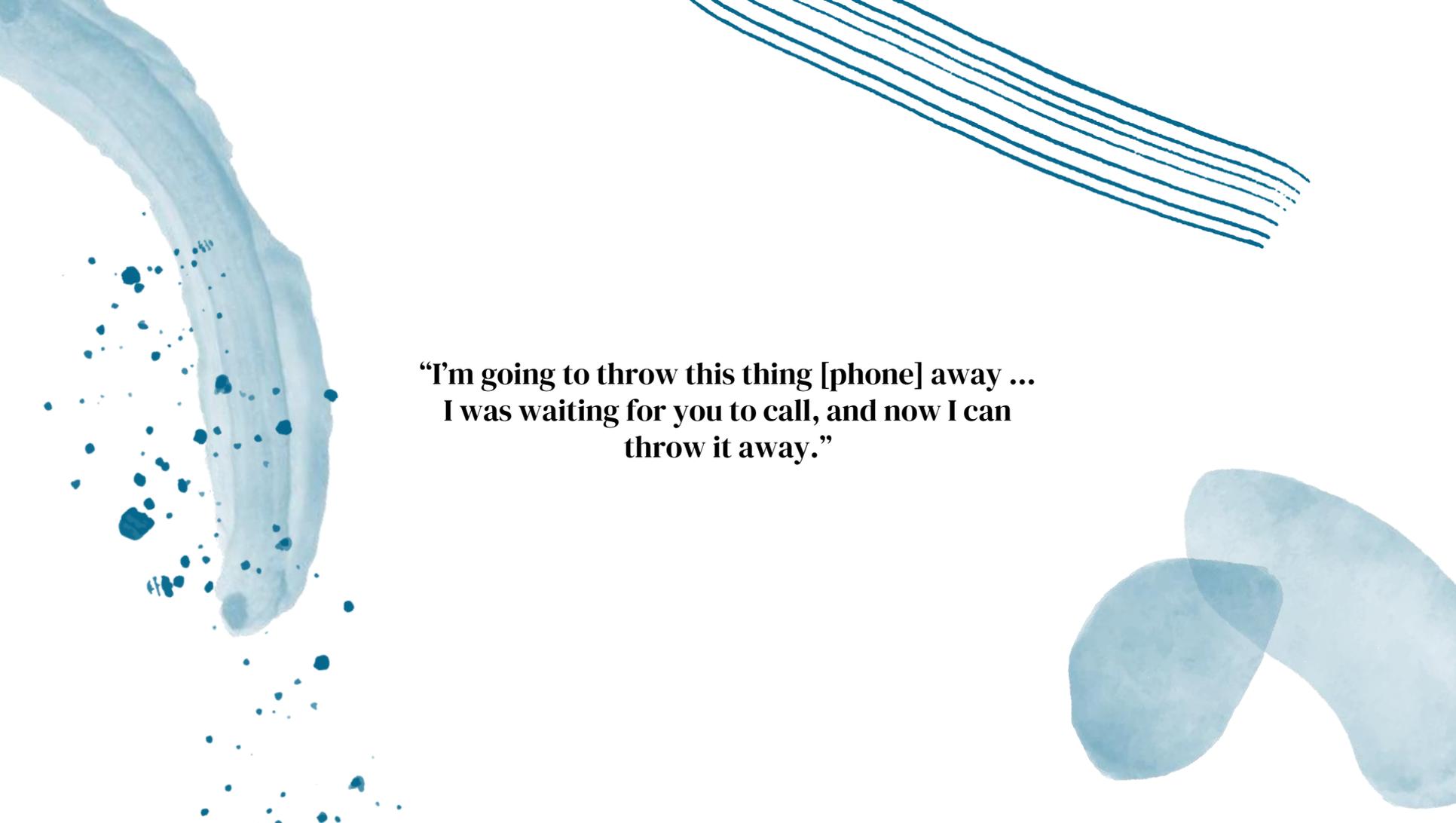
"I'm going to throw this thing [phone] away …
I was waiting for you to call, and now I can
throw it away."

"The shoes [drug] are not good quality ones ...
Quality is only 70%."

Findings

- Increased focus on security by reducing direct involvement of high-status actors (short term), and lengthening distance between actors (long term)

- But criminal collaboration continued – often based on pre-existing kinship or formal organisational ties

- Protective measures and content of telephone conversations did not change much after LE targeting

- But number of drug consignments decreased

Macro level: drug trafficking routes

Focus on drug trafficking routes and on
processes that facilitate drug flows
between countries
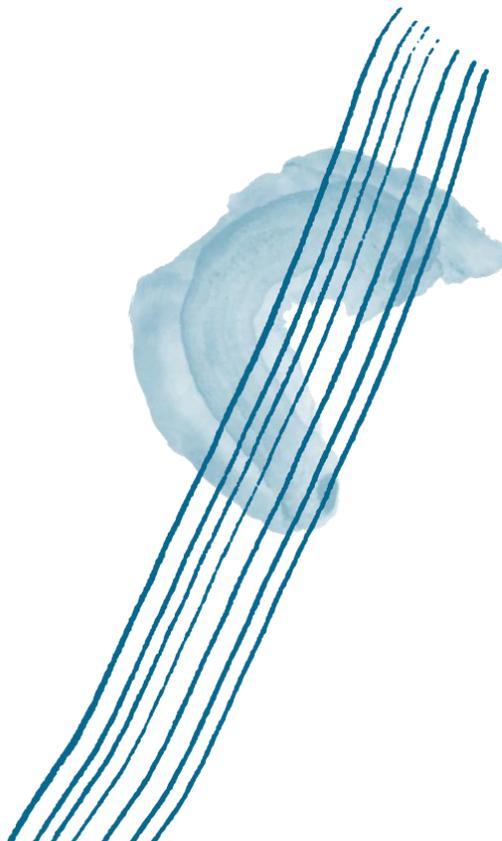
Background

- Illegal enterprise theory – organised crime as an "economic activity that happens to be illegal" (Liddick, 1999)

- Offenders as rational decision makers who decide to supply illicit commodities simply because it's profitable to do so

- Social embeddedness theory – the majority of organised criminal activities are embedded in social relations (van de Bunt and Kleemans, 1999)

- Network of interpersonal relations can increase levels of trust among partners and reduce transaction costs

How do illicit drugs move across countries?

Drug seizure data to identify all known paths used to smuggle cocaine and heroin from producing to consumer countries

Findings

Table 2. Estimates and standard errors from ERGMs of the cocaine trafficking network.

Parameter	Model 1 Estimate	Model 1 SE	Model 2 Estimate	Model 2 SE	Model 3 Estimate	Model 3 SE
Structural effects						
Edges	−33.344***	0.125	−29.926***	0.120	−33.270***	0.127
Reciprocity	0.388	0.839	−0.014	0.881	−0.033	0.853
Exporter effect	1.083	0.792	1.264	0.813	0.978	0.800
Importer effect	3.387**	1.283	3.584**	1.378	3.970**	1.332
Simple connectivity	−0.163	0.112	−0.202	0.110	−0.249*	0.109
Multiple connectivity	−0.171	0.135	−0.131	0.134	−0.098	0.129
Transitivity	−0.097	0.251	−0.163	0.255	−0.219	0.251
Illicit enterprise variables						
Trade price difference	0.786**	0.243	0.663*	0.263	0.577*	0.272
Importer – cocaine users	0.524***	0.110	0.569***	0.119	0.514***	0.117
Importer – police rate	−0.001	0.001	−0.001	0.001	−0.001	0.001
Importer – corruption	0.318**	0.118	0.330*	0.136	0.311*	0.129
Social embeddedness variables						
Common language	1.270*	0.552	0.284	0.641	0.169	0.649
Migration stock (ln)					0.243**	0.080
Distance (ln)			−0.472	0.294	−0.158	0.309
Shared borders			1.114*	0.485	0.869	0.489
Controls						
Importer – GDP per capita (ln)	0.865**	0.327	0.880*	0.353	1.088**	0.339
Schengen to non-Schengen	1.899	1.047	2.156*	1.060	2.203*	1.069
Non-Schengen to Schengen	1.471	1.131	1.745	1.147	2.012	1.171
Schengen to Schengen	3.328**	1.122	3.527**	1.140	3.836***	1.161
Exporter – cocaine imported from non-European countries (ln)	0.900***	0.124	0.977***	0.139	0.790***	0.139

Note. SE = standard error. * $p < .05$; ** $p < .01$; *** $p < .001$.

Conclusions

- Social (and geographic) proximity helps reduce transaction costs and uncertainties in a context dominated by constant threat of arrest, violence, and deception (Giommoni et al., 2017; Aziani et al., 2019)

- Demand (i.e. number of people who use drugs) is also a key factor in explaining drug trafficking flows (Giommoni et al., 2017; Aziani et al., 2019)

- Kinship as 'hidden glue' (Malm, Bichler and Van De Walle, 2010) that helps increase levels of trust and maintain collaboration in criminal contexts (Berlusconi, 2021)

- Law enforcement interventions are not as effective as expected given the flexibility and resilience of drug trafficking networks

- Drug markets are resilient, too (Bouchard, 2007), and risk of unintended, harmful consequences (Dickenson, 2014; Vargas, 2014)

A team work

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References /1

- Aziani A., Berlusconi G. and Giommoni L. (2019). A quantitative application of enterprise and social embeddedness theories to the transnational trafficking of cocaine in Europe. *Deviant Behaviour*, published online on 18th September 2019.
- Berlusconi G. (2021). Come at the king, you best not miss: criminal network adaptation after law enforcement targeting of key players. *Global Crime*, published online on 9th December 2021.
- Black C. (2020). *Review of drugs: phase one report*. London: Home Office.
- Campana P. and Varese F. (2018). Organised crime in the United Kingdom: Illegal governance of markets and communities. *British Journal of Criminology* 58: 1381-1400.
- Dickenson M. (2014). The impact of leadership removal on Mexican drug trafficking organisations. *Journal of Quantitative Criminology* 30(4): 651-676.
- EMCDDA (2019). *United Kingdom drug report 2019*. Lisbon: European Monitoring Centre for Drugs and Drug Addiction.

References /2

- Executive Office of the President of the United States (2021). *National Drug Control Budget: FY 2022 Budget Highlights*. Washington, DC: Office of National Drug Control Policy.
- Giommoni L., Aziani A. and Berlusconi G. (2017). How do illicit drugs move across countries? A network analysis of the heroin supply to Europe. *Journal of Drug Issues* 47(2): 217-240.
- HM Government (2021). *From harm to hope: a 10-year drugs plan to cut crime and save lives*. London: HM Government.
- Liddick D. (1999). The 'enterprise model' of organized crime: Assessing theoretical propositions. *Justice Quarterly* 16(2): 403-430.
- Malm A., Bichler G. and Van De Walle S. (2010). Comparing the ties that bind criminal networks: Is blood thicker than water? *Security Journal* 23(1): 52-74.
- Morselli C. (2009). *Inside criminal networks*. New York: Springer.
- Morselli C., Giguere C., and Petit K. (2007). The efficiency/security trade-off in criminal networks. *Social Networks* 29: 143-153.
- Nutt D. (2021). UK drugs strategy promises to be tough on criminals, but evidence shows this doesn't work. *BMJ* 375: n3129.

References /3

- Rolles S. (2021). UK drugs strategy: promised new approach is identical to previous strategies. *BMJ* 375: n3129.
- Sparrow M.K. (1991). Network vulnerabilities and strategic intelligence in law enforcement. *International Journal of Intelligence and Counterintelligence* 5(3): 255-274.
- Van de Bunt H. and Kleemans E. (1999). The social embeddedness of organised crime. *Trends in Organised Crime* 5(1): 19:36.
- Varese F. (2021). Ethnographies of organised crime. In S.M. Bucerius, K.D. Haggerty, and L. Berardi (eds.), *The Oxford Handbook of Ethnographies of Crime and Criminal Justice* (pp. 340-360). Oxford: Oxford University Press.
- Vargas R. (2014). Criminal group embeddedness and the averse effects of arresting a gang's leader: A comparative case study. *Criminology* 52(2): 143-168.
- Winstock A., Eastwood N. and Stevens A. (2021). Another drug strategy for the UK. *BMJ* 375: n3097.