Conceptualising Non-State Security

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I began this research project with a strong intent to understand private military companies, but lacked a clear idea of how to conduct such a research project in a timely and manageable way. Thanks are in order for several people for helping me shift this project from an amorphous idea to a piece of research I am quite pleased with. The guidance of Robin Harding, my advisor, has been essential, steadfast, and very much appreciated. Stathis Kalyvas provided similarly thoughtful and encouraging advice throughout my two years at Oxford, and his invitation to the T.E. Lawrence Program on the Study of Conflict to present my research was hugely helpful for the development of my project. My cohort was another source of endless ideas, discussion, and support, for which I am again very grateful. Lastly, my mum, dad, and grandma, who frequently reiterate how they're not quite sure what I do, but who support and love me unreservedly, thank you for always having my back.

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Abstract

Why do states choose to engage with non-state security apparatuses when faced with domestic threats? This research tackles two distinct challenges. First, I seek to understand how non-state security actors are organized and how they operate. Second, I assess the circumstances under which developing states choose to outsource their coercive capabilities to non-state security actors as opposed to their own militaries or other state militaries. I answer these puzzles using a novel dataset on non-state security actors, their characteristics, and their operations. I identify four latent clusters of non-state security actor using unsupervised machine learning techniques. Using this typology, I develop a theory of why states might choose to engage with different forms of non-state security, testing these theories with a number of prediction models. I find suggestive evidence that states with low levels of military diversity are more likely to outsource their coercive powers to non-state security actors who provide multiple services across multiple domains, essentially serving as a surrogate army for a lower cost. Implications are studied and discussed using a comparative case study of four non-state security actors.

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List of Abbreviations

BART . . . . . Bayesian additive regression tree.

CAR . . . . . Central African Republic.

CMAD . . . . Commercial Military Actors Database.

COW . . . . . Correlates of War.

DAG . . . . . Dyck Advisory Group.

DGM . . . . . Decomposable graphical model.

DRC . . . . . Democratic Republic of the Congo.

EO . . . . . Executive Outcomes.

LFA . . . . . Latent factor analysis.

GDP . . . . . Gross domestic product.

MARS . . . . . Multivariate adaptive regression spline.

MPRI . . . . . Military Professional Resources Incorporated.

MSE . . . . . Multiple systems equations.

NSSA . . . . . Non-state security actor.

PCA . . . . . Principal component analysis.

PGM . . . . . Pro-government militia.

PMC . . . . . Private military company ("C" can also refer to contractor).

PMF . . . . . Private military firm.

PMSC . . . . . Private military and security company.

PSC . . . . . Private security company.

PSD . . . . . Private Security Database.

PSED . . . . . Private Security Events Database.

ROC AUC . . Receiver operator characteristic, area under curve.

ROSE . . . . . Random oversampling examples.

SAIC . . . . . Science Applications International Corporation.

SMOTE . . . . Synthetic minority oversampling technique.

STTEP . . . . Specialized Tasks, Training, Equipment and Protection.

SVM . . . . . Support vector machine.

UPES . . . . . La Union de Periodistas y Escritores Saharauis.

WSS . . . . . Within-cluster-sum-of-squares.

1 Introduction

In 2015, Specialized Tasks, Training, Equipment and Protection (STTEP), a South African-based private military company (PMC), was contracted by the Nigerian government to fight Boko Haram (Adamo 2020). Details of the STTEP contract are sketchy, but it seems there are three main potential explanations for their involvement in Nigeria: first, efforts by the Nigerian military and police against Boko Haram were ineffective; second, an upcoming election meant that a military victory could boost incumbent Goodluck Jonathan's chances for re-election; and third, the United State's refusal to send Nigeria military equipment to fight insurgents meant that the government had to look for security provision elsewhere. While STTEP was the PMC of choice in Nigeria, they are not the only PMC operating in sub-Saharan Africa. In 2018, following the withdrawal of French military forces two years prior, Russian private military outfit the Wagner Group set up camp in the Central African Republic, fighting against rebels who controlled up to seventy-five percent of the country's territory (Bax 2021).[1] Since arriving in the CAR, the Wagner Group have been accused of numerous human rights violations and are in control of a number of mines in the region (Serwat et al. 2022; Wicker

[1]Reports suggest that the French military withdrew as a result of CAR's collaboration with the Wagner Group, as opposed to the Wagner Group entering the country after the French forces had left.

et al. 2023). In 2019, the Mozambican police hired the Dyck Advisory Group to train the state's police officers, and fight against an Islamist insurgency in Cabo Delgado (South Africa Litigation Centre 2022). Their contract in the region has since ended amidst reports that the group engaged in acts of violence against civilians (Amnesty International 2021).

We can see states opting for private military outfits when their own military or police forces are unable to provide military successes, or when other states are unwilling or unable to provide support. Are private military companies favoured because they are more efficient and unaffected by the bureaucracy that stymies conventional militaries? If that is the case, there is clear evidence that outsourcing domestic military operations to privatised organisations has negative implications: the private outfit might engage in indiscriminate violence or may go beyond their remit by exerting control over certain regions (Elischer 2022; Parens 2022).

Private military companies are by no means new actors, in fact, the historical state-building literature has documented states' use of mercenaries, pirates, and other private and profit-oriented actors to further their own objectives as far back as the 1500s (Spruyt 1994). Have the reasons behind states' decisions to outsource changed over time, or are private military and security companies really just modern mercenaries? Existing studies of private militaries, militias, and security companies are plagued by a lack of data and available evidence. Even though we know that private forms of security have proliferated considerably in recent years—a pattern resembling the proliferation of the mercenaries of yore—we do not know how many companies exist, where they operate, and what they do. Many interesting, impactful, and exciting questions surrounding these secretive organisations exist, and this research project attempts only to scratch the surface of this nascent research agenda.

The case of STTEP's operations in Nigeria, the Wagner Group's operations in the Central African Republic, and the Dyck Advisory Group's operation in Mozambique, are all stark instances of an increasingly common puzzle: why are states choosing to engage with security forces which fall outside of the state's

traditional security apparatus? A related question is what trade-offs do states face when choosing to outsource their security to a private, often foreign, security force? Both of these questions presuppose that there exists an industry-standard definition of what constitutes a private security force. I do not believe this to be the case, hence this research project's focus on systematically typologising what I term *non-state security actors*, a collective term for private security and private military companies, mercenaries.[2]

1.1 Overview of the Argument

Given these significant substantive grey areas in the study of private security, a deeper analysis of the topic is essential. This thesis serves two purposes: First, it probes the meaning and manifestations of private security, using a mix of qualitative and quantitative inquiry to better conceptualise and typologise private militaries and other non-state security actors. Second, this thesis provides a concrete theoretical framework of why states engage with different forms of privatised security outfit and why they forgo using their own militaries, police forces, or foreign allied forces. In doing so, I ask two distinct research questions: First, I ask *what distinctions exist between different types of non-state security actor?* Second, I seek to understand *what predicts the interactions between states and non-state security actors.*

On the first question, I provide two contributions. I seek to first define the universe of cases to be included in the data collection process, a task that I do not believe has been sufficiently addressed in the previous literature on non-state security actors. It is unclear what constitutes a non-state security actor, how organised they need to be, whether they need to be entirely separate from the state, and so on. A concrete example: in Petersohn's Commercial Military Actor Database, the company ADT (American District Telegraph), which primarily creates alarms and security infrastructure, is included in the data (Petersohn et al. 2022). It is, I believe, difficult to include this actor as any form of commercial

[2] I define the exact meaning of this term in more detail in Chapter 2 and Chapter 3.

military actor, private security actor, or non-state security actor, simply because they create alarms. I will deal with these typological and definitional inconsistencies in Chapter 2 and Chapter 3. Second, I typologise different forms of non-state security *within* this newly defined universe of cases, evaluating existing typologies as well as putting forward my own, empirically driven, typology.

On the second question, I develop a theory of why states engage with different forms of non-state security actor, and corroborate this theory with a set of machine-learning-based predictive models and meso-level qualitative case studies, integrating the conceptual contributions of Chapter 3 and several datasets on non-state security activity during civil wars. This theoretical contribution will allow future research to assess whether other forms of non-state actors engage with the state in a similar or different way, and will allow us to test what are the implications of states choosing to engage with non-state forms of security across a range of substantively important outcomes.

This thesis speaks to a number of different literatures. First, it attempts to bridge the disparate conceptualisations of private military and security companies (Avant 2005; Avant and Neu 2019; Cilliers and Mason 1999; McFate 2014; Moyakine 2015; Shearer 1998; Singer 2001; Tonkin 2012b), so-called pro-government militias (Bohmelt and Clayton 2018; Carey, N. J. Mitchell, et al. 2013; Carey, N. Mitchell, et al. 2022), and the newer concept of commercial military actors (Petersohn 2017; Petersohn et al. 2022). Second, it couches typologies of private military actors within the broader pantheon of non-state military security organisations including paramilitaries and militias (Ahram 2011; Carey, Colaresi, et al. 2015), Mafia organisations (Catino 2014; Shortland and Varese 2016; Varese 2011; Varese 2020), and peacekeeping forces (Donini 2007; Lawyer 2005). Lastly, this thesis posits a theory of why states engage with privatised forms of security, using both qualitative case study and quantitative analysis to understand the circumstances which predict state-non-state interactions (Fahn and Hadjer 2015; Jager and Kummel 2007).

These research questions are tricky to answer with existing data. First, there lacks an industry-standard definition of what constitutes and non-state security

force. Existing work use terms such as "mercenary", "private military company", "private security company", "private military and security company", "paramilitary", and "pro-government militia", though there appears to be a great deal of overlap across publications. Second, there is a paucity of data that links these non-state security actors to actual instances of conflict or that provides information on their presence, making inference on their operations difficult. Similarly, there exists (as far as I know), no systematically collected data on the characteristics of these non-state security forces in terms of there number of employees, services provided, or lifespan. This paper attempts to bridge these empirical gaps by collecting as much publicly available data on non-state security forces, then reverse-engineering a typology of these organisations. I will then map this dataset to existing datasets (described in more detail in Chapter 3) in order to establish a robust descriptive understanding of the organisation of these non-state security forces. In this sense, this project is the first to analyse non-state security organisation and operations in comparative perspective.

1.2 Summary of Findings

This research project arrives at a number of robust and interesting findings. First, I identify four "latent" clusters of non-state security actor using an unsupervised machine learning approach. These four clusters are based on an extensive data collection effort of non-state security actor characteristics, and the clusters incorporate variables on the length of each actors' existence, the number of countries in which they operate, the number and types of services they provide, the number and types of domains in which they operate, and the number of employees. The four clusters of non-state security actor, I believe, balance the trade-off between parsimony and capturing variation between different types of non-state security actor. I test the accuracy of a variety of different unsupervised methods to ensure the robustness of my findings. These clusters map well on to existing typologies of private military companies, private security companies, paramilitaries, and other non-state actors, allowing me to integrate findings across existing studies. While a

similar typology could be developed using qualitative methods—and indeed this has been the typical approach in the field of political science more broadly—using unsupervised machine learning methods allows me to more rigorously and objectively test my typologies using a large amount of data that would otherwise be too unweildly to manually coerce into categories. In this sense, my approach allows me to "clean-up" existing typologies of non-state security actor through providing an empirically-based typology based on the largest dataset of non-state security actors.

To preview the results, the first cluster captures what are typically understood to be private military companies. These actors tend to be relatively large (employing a thousand or more employees) and provide a number of (often military or military-adjacent) services across a number of domains. Cluster 2 captures private security companies. These groups tend to also be large in size, but tend to be less diverse in the services they offer and domains over which they serve. Most tend to only provide security or transportation services, and often times are home-grown and only operate in the country in which they were established. Cluster 3 captures what are known commonly as private defence contractors. These include organisations such as BAE Systems or Lockheed Martin. They are much larger than those in cluster 1 or 2, usually only provide infrastructural services but over a range of domains, and almost exclusively do not have "boots on the ground" in the countries they may be providing services to. Finally, cluster 4 captures traditional mercenary outfits. These are small, often ad hoc, outfits who provide military services. They may also engage specifically in anti-government operations or seek payment through the acquiring of natural resources in the host state.

Second, using these clusters, I develop and test a theory of state engagement with non-state security actors. I posit first that states with low state capacity (specifically, military state capacity, captured by the number and types of military equipment) are more likely to engage with non-state security actors than rely on their own (often underfunded or non-existent) public forces. I then argue that states with weak capacity and those in the midst of a conflict are more likely

to engage with Type-1 private military or Type-4 mercenary non-state security actors (described more in Chapter 3). These actors provide multiple services across multiple domains and tend to have greater autonomy from the state. Type-2 and Type-3 private security and defence contractors are more prevalent across all levels of state military capacity. I test these first two theories using an ensemble of supervised machine learning models, generating robust and suggestive evidence of the saliency of these two hypotheses. My third theory dives deeper into the reasons states engage with non-state security actors. I argue that, in addition to state capacity, there are a number of necessary conditions for states to favour non-state security options—public perceptions, conflict type, and power vacuums. I test this more causally complex theory using a nested case study, tracing the birth and death of four non-state security actors, each serving as a representative for each of the four clusters I have identified. Again, I find robust suggestive evidence that there are measurable conditions under which states may choose to outsource their coercive capabilities.

Taken together, these findings highlight the importance of focusing on the conceptualisation of hard-to-define actors, and the potential uses of unsupervised methods for aiding with defining concepts and creating typologies more broadly. Aside from the substantive findings, this project also makes the case for deeply integrated mixed-methods approaches to studying social science phenomena. As will be made clear throughout this research, the development of the latent clusters in Chapter 3—while important in and of itself—is essential for developing my theory, conducting supervised machine learning, and conducting the nested-case study method. From a policy perspective, having a clearer understanding of the different types of actors which currently fall under the blanket term "private military and security companies" will make analysing and comparing the organisation and operation of these actors more straightforward.

1.3 Roadmap

The research project is structured as follows: Chapter 2 provides a literature review of private military companies and other non-state security forces, probing what we do know about these organisations and mapping what we do not. Chapter 3 presents my inductive conceptualisation of these non-state security actors and a discussion of the data that undergirds this analysis. Chapter 4 then takes the questions generated in the literature review and the new conceptualisation of non-state security actors from the previous two Chapters to formulate theories of why states choose to engage with these organisations. I then distil these theories into testable hypotheses. Chapter 5 empirically tests these hypotheses. Chapter 6 makes use of the data to inform case selection, and presents a set of case studies to supplement the empirical analysis. Finally, Chapter 7 presents a discussion and summary of the research project, its findings, limitations, and areas for future analysis. This manuscript also contains two appendices: appendix A presents supplementary figures and tables mentioned throughout the paper, and appendix B presents a detailed overview of my data collection procedure and a codebook for my own dataset and for variables from other datasets used in my empirical analysis.

A full replication package containing all data, cleaning code, analysis code, and code to prepare the exhibits found in the manuscript, and code to produce the final manuscript itself, is hosted on my personal GitHub account.[3]

[3] https://github.com/tjbrailey/dpir-rdp, https://github.com/tjbrailey/dpir-thesis

2
Literature Review

Let us begin this research project with an overview of the historical trajectories of what I call *non-state security actors*, a discussion of existing theoretical and empirical definitions of these actors, and a discussion of what gaps remain in this literature. Though I discuss the exact operational definition of contemporary non-state security actors in the next chapter, I define these actors as any organised or semi-organised outfit which operates outside the direct control of a state (either the host or home state) and which focuses on the provision of security or security-adjacent services.

2.1 Non-State Security Through the Ages

Mercenaries, one of the first manifestations of non-state privatised security actor, are perhaps as old as the state itself, and are just as contentious back in the 1500s as they are today.[1] Machiavelli wrote that if political leaders relied on mercenary forces "he will never achieve stability or security", elucidating that

[1]Perhaps an even earlier form of non-state security is the privateer, defined by Hall's Treatise on International Law as "vessels belonging to private owners, and sailing under a commission of war empowering the person to whom it is granted to carry on all forms of hostility which are permissible at sea by the usages of war" (Hall 1924). However, there is less of a clear modern analogue to these actors, so they will not be discussed in as much depth as mercenaries.

> . . . mercenaries are disunited, thirsty for power, undisciplined, and disloyal; they are brave among their friends and cowards before the enemy; they have no fear of God, they do not keep faith with their fellow men; they avoid defeat just so long as they avoid battle; in peace time you are despoiled by them, and in wartime by the enemy. (Machiavelli et al. 2019).

Despite Machiavelli's vehement aversion to the use of the privatised security forces of the day, their popularity remained constant for several hundred years. So, why did states engage with mercenaries in the first place, and why did mercenarism become so popular? Thomson (1996) suggests that the proliferation of mercenary practices—defined more narrowly as those enlisted in a foreign army—was a direct result of feudal states' limited military opportunities. Knights would pay the state to avoid military service, allowing states to buy the security they needed. This practice continued to grow into the 14th and 15th centuries, when Machiavelli wrote of his mistrust towards mercenarism. By this point, however, no negative press could slow the development of the Free Companies of Europe, the Condottieri of Italy, and the massive private army of Wallenstein. States began to integrate foreign fighters into their own standing armies. At this time, as Thomson writes, the marketisation, democratisation, and internationalisation of coercive capabilities meant that "all lines were blurred" (Thomson 1996, p.41).

So what benefits did these mercenaries offer? The first was their cost. Because mercenaries were not paid outside of wartime, states could make great savings by relying predominantly on mercenaries and keeping their standing armies relatively small. Another benefit is that, despite their power, mercenaries did not usually pose a threat to the state. As Barkey remarks, mercenaries were not "motivated by any national ideology. Each was motivated by demands for short-term benefits and [were] easily co-optable into the system" (Barkey 1994).

With that said, mercenaries did have a number of shortcomings and presented some issues for the state and their control over force. First, given their separation from the states, mercenaries could easily operate beyond their remit or not carry out their objectives at all. In the past, this might not have mattered as much as

it does today, but it could have still meant that if mercenaries secured spoils that left them richer than if they had completed their contract for a state, they may simply defect (Lower 2017; Münkler and Camiller 2005).

The development of the modern state system impacted the prevalence of mercenarism and privateering in three ways. First, the state system recategorised who could exercise legitimate violence (Spruyt 1994, p.16). Certain actors were denied legitimation and so their decline in use succeeded the formation of sovereign states. Second, states' tended not to have actual control over these non-state security actors, and so by the 19th century, most states stopped sanctioning mercenaries and other forms of privatised violence. Third, the rising costs and changing nature of wars between sovereign states—organised infantries, artillery units, and fortification—not only served to strengthen the state through increased tax revenues and military spending, it also rendered the ad hoc mercenary groups redundant (Tilly 1992; Spruyt 1994, p.83).

The changing nature of the state explains the decline in the usage of non-state security actors, but does not go far enough in explaining the prevailing public sentiment *against* them in the 19th and 20th centuries. Krahmann ties together these political shifts by arguing that, taken together, they represent a normative shift towards the state's monopoly on violence and away from the outsourcing of coercive capabilities (Krahmann 2013, p.58). These pro-state and anti-mercenary norms were codified in various international treaties such as the Convention for the Elimination of Mercenarism in Africa (1977) and the UN Convention against the Recruitment, Use, Financing, and Training of Mercenaries (1989).

Towards the end of the 20th century and beginning the 21st century, the anti-mercenary norm no longer held steadfast. Military downsizing has created a vacuum that private security and military companies, as well as a whole range of non-state security actors, have sought to fill. Peacekeeping operations, often under-staffed, under-funded, or constrained by international law, have similarly reached out to privatised forms of security. As a result, the outsourcing of coercive capabilities is no longer the taboo it was in the 19th century. That said, despite the

resurgence of non-state solutions to security, we do not exist in an unabashedly pro-mercenary world, where anyone can charge for their military services (Krahmann 2013; Bures and Meyer 2019; Casiraghi 2021). Indeed, many individuals who have engaged in mercenary activities have faced prison sentences, such as Simon Mann and Mark Thatcher (Ndze Biyoa 2009).

Despite those affiliated with private military and security companies expressing disdain towards the conflation of mercenaries and modern forms of privatised security, the continuities between the two are undeniable (Brewis and Godfrey 2018; Prince 2014; Spicer 1999). Modern private security actors such as PMCs and PSCs would not exist today were it not for the norms established by historical mercenary forces such as the Italian Condottieri and the mercenaries of the Dutch East India Company (Brauer and Tuyll 2008; Winius 1991). The historical political science literature has provided far more comprehensive coverage of the birth of mercenarism and its metamorphosis over time, so I have only briefly summarised it here and encourage the reader to dive into the works cited in this chapter.

2.1.1 Security Options Available to the State

Now I have briefly reviewed the historical literature on mercenaries and state building, let us turn to understanding what tools the state has at its disposal, and where mercenaries and other private forces fit into this pantheon. Traditional Weberian theories of the state would suggest that the state would use its own security or military forces to deal with a security threat, thus exercising its monopoly of power and coercion (Weber 1919). Weberian accounts fail to explain why a state might outsource their militaries to non-state actors. States might opt for a range of non-state actors: first, they might outsource coercive capabilities to foreign militaries; second, they might outsource to peacekeeping forces or other international organisation-affiliated actors; third, states may supplement their own militaries—or outsource entirely—to militias or paramilitary groups; fourth, and what will be the predominant focus of this paper, states may outsource their monopoly over violence to private military companies.

Let us look at some examples of interactions between states and non-state actors. In 2003, Cote d'Ivoire sought assistance from the United Nations, the French military, and the Economic Community of West African States (ECOWAS) following a coup attempt and subsequent violent conflict across the country (Bekoe 2018). These peacekeeping operations were designed both to quell violent activity in the state, and also to monitor the next set of elections. A similar example is outlined in Chapter 1 where in 2015, Nigeria outsourced their security apparatus not to a foreign allied power, but to a private company, Specialized Tasks, Training, Equipment and Protection (STTEP) (Adamo 2020).[2] Similarly, Mali has opted for a private military company (the Wagner Group) following the expulsion of foreign military and peacekeeping troops to provide training and combat services across the state.

While anecdotally state capacity may be playing a role in a state's willingness to contract out its monopoly over violence to a laterally equivalent (albeit more powerful or better organised) institution, it does not explain the preference a state has for outsourcing to an non-state security actor. Nor can the literature properly account for what exactly is an non-state security actor. This chapter is organised into four sections: 1) I provide an overview of how private military companies and other non-state security actors are defined in the existing literature; 2) I move to describing how they are organised and how they operate; 3) I then assess the substantive impacts of their operations, and; 4) I discuss conceptualisation and operationalisation.

[2]A side note, the name STTEP presents another interesting descriptive exercise: understanding the names of PMCs. As I will discuss in this chapter, PMCs have an incentive to shroud their operations to avoid intense media scrutiny, and this is reflected by their naming conventions. Table A.1 tabulates the ten most common words found in the names of non-state security actors. We can see that most words contain positive or neutral sentiment, and are related to security and protection, as opposed to, say, combat.

2.2 Probing Definitional Discrepancies

2.2.1 Existing Definitions of Private Military Company

Academic work on PMCs can be bifurcated broadly into two time periods. The first group of scholars, writing at the turn of the century until the early 2010s, focused on organisations operating during the "golden age" of PMC—Aegis Defence Services, Blackwater, Executive Outcomes (EO), Military Professional Resources (MPRI), and Sandline—and sought to address the issue of the legality and efficacy of PMCs, especially those that operated predominantly in war-torn and developing polities. Following the cessation of operations of several prominent PMCs (sometimes coinciding with some form of publicised controversy, such as Sandline's "Sandline Affair" and Blackwater's "Nisour Square Massacre") research output declined, but in the late 2010s there was a renewed focus on PMCs following increased coverage of the Wagner Group's operations in Africa. Existing literature can be grouped into three camps: academic overviews of the history and operations of selected PMCs (Avant 2005; McFate 2014; Moyakine 2015; Singer 2001; Tonkin 2012b); first-hand accounts of former PMC employees (Spicer 1999; Prince 2014); and nascent works that analyses individual countries or PMCs, often utilising purpose-built datasets to analyse their research questions (Carey, N. J. Mitchell, et al. 2013; Carey and González 2021; Avant and Neu 2019).

Several typologies of private military companies have been postulated over the years. One issue with these typologies is that they conceptualise PMCs in isolation from both military forces and other forms of non-state security actor, which, while useful for the internal validity, hinders our ability to understand how PMCs are similar or different to these other concepts (Akcinaroglu and Radziszewski 2013, p.797). A second issue is that existing typologies tend to demarcate PMCs based on the services they provide. We know this to be a fraught method given that 1) PMCs tend to provide multiple services to the state in which they operate, 2) the types of services provided by a single PMC tend to vary over time and given the nature of a particular mission, and 3) PMCs have a strategic incentive to obscure the exact

services they are providing to the host country, such as Dyncorp's operations in Colombia (Singer 2001). A third issue is that of the scant quantitative literature on non-state security actors that exists, most rely on these broad and under-conceptualised definitions of non-state actor, which blurs the scope conditions of the analysis. This last point will be covered in more depth in the next section.

Let us dive into the leading conceptualisations and typologies of non-state security actors to date. McFate (2014) builds upon the work of Singer (2001) and Avant (2005) in typologising PMCs. Table 2.1 provides an overview of these three authors conceptualisation of different forms of private military. These tables highlight two key findings. First, that private military companies and other non-state security actors provide a range of different services, from infrastructural development to military combat operations. Second, that there is significant overlap between the services provided by any given non-state security actor. Third, existing qualitative approaches to typologising non-state security actors do not specifically demarcate between different types of actor, rather, they mention how some actors provide different services to others. As mentioned, if this means that large defence contractors are treated as conceptually equivalent to small-scale mercenary outfits in quantitative analysis, much of the variation is being aggregated away by treating these actors as the same entity.[3]

Taken together, these findings suggest that conventional "service-oriented" typologies of non-state security actors might not be the best approach to conceptualisation. Instead, as I will argue, an inductive approach may allow me to better understand across which dimensions I can evaluate the types of private security forces. While a qualitative approach would by no means be unhelpful, given the number of non-state security actors I have identified and given this research project's focus on quantitatively analysing the role of non-state actors in the provision of coercion, a quantitative approach may be a more fruitful avenue of research. Cluster- and factor-based approaches to typologising political phenomena

[3]It could be argued that the typologies in Table 2.1 are not really typologies at all, given that they do not specifically identify sub-classes of actor. In any case, this is the closest the literature has come thus far to categorising the vast world of non-state security actor.

can be thought of as more robust and potentially more objective, given that they are based on the underlying data as opposed to the researchers' interpretation of individual actors. These approaches also allow me to integrate existing typologies, using these existing typologies as a confidence check that my quantitative approach speaks to the existing literature while providing an additional layer of clarity to the types of non-state security actor.

Table 2.1: Typology of Private Military Companies

Citation	Area of Operation	Conventional Military Equivalents	Private Sector Equivalents	Example Tasks	Example Companies
McFate (2014)	Combat Arms, Private Military Companies	Infantry, Special Forces, Armed Aviations Armor, Artillery, Combat Engineers	Mercenary PMCs	Combat	Executive Outcomes
	As above	As above	Military Enterpriser PMCs	Generating Foreign Forces	Blackwater
	Combat Service, Security Support Companies	Noncombat Engineers, Intelligence And Espionage, Communications, Information Operations And Psychological Operations, Civil Affairs	N/A	Operational Coordination, Intelligence Collection, Analysis, And Risk Assessment, Information Warfare, Cyber-Warfare	SAIC
	Combat Service Support, General Contractors	Quartermaster, Ordnance, Transportation, Adjutant General, Finance, Medical Services	N/A	Food, Water, And Ammunition Supply, Mental And Physical Wellbeing Services, Demining, Constructing Infrastructure, Transportation, Etc.	Kellogg Brown Root

Singer (2006)	Military Provider Firms	N/A	N/A	Implementation, Command	Executive Outcomes
	Military Consultant Firms	N/A	N/A	Advisory And Training	Dyncorp
	Military Support Firms	N/A	N/A	Non-Lethal Aid And Assistance	SAIC
Avant (2005)	Military Advice And Training	N/A	N/A	N/A	Executive Outcomes
	Operational Support	N/A	N/A	N/A	Saracen
	Logistics Support	N/A	N/A	N/A	Booz-Allen And Hamilton
	Site And Personal Security	N/A	N/A	N/A	Gurkha Security Guards
	Crime Prevention And Intelligence	N/A	N/A	N/A	Secrets

Moving beyond the literature focused solely on private military and security companies, Carey, N. J. Mitchell, et al. (2013) pioneered the term "pro-government militias" to encompass proxy forces, death squads, vigilantes, civil defence forces, and paramilitaries. None of the literature on PGMs mentions what is commonly known as a private military company, though the PGM dataset includes two prominent PMCs (Sandline and Executive Outcomes). These two cases are classed as "mercenaries" alongside the White Legion of the First Congo War (1996 - 1997) and the Mujahidin Unit of the Bosnian War (1992 - 1995). The latter two organisations exhibit significant organisational and operational differences to the former two organisations, and it is unclear why other private military companies operating around the same time (such as Blackwater) are not included in this database. Similarly, the exclusion of other disorganised mercenary forces, such as those headed by "Mad Mike" Hoare, Bob Denard, Jack Schramme, Robert Falques, Rafa Gan-Ganowicz, or Jan Zumbach—all of whom operated within the temporal scope of the dataset—raises more conceptual ambiguity; what is it about Executive Outcomes or Sandline that make them pro-government in spite of being privately contracted and (ostensibly) apolitical, and mercenaries in spite of being highly organised? Moreover, PMCs tend not to be associated with the state outside of the contract under which they operate, meaning that they will leave the country of operation upon completion of the contract. This has implications for claims that these non-state security actors might perpetuate civil conflict, or that civil conflict occurs in response to mobilisation of these forces (Jentzsch et al. 2015, p.761).

A growing body of research offers a potentially useful distinction between paramilitaries and private security; that paramilitaries may offer public goods and services to the areas they serve (Besley and Ghatak 2009). For example, in Northern Ireland, paramilitary groups develop informal wartime institutions which have proliferated even after the Good Friday Agreement. In addition to the provision of security, these paramilitaries provide welfare and transportation services for the areas in which they operated (Rickard and Bakke 2021).

2.2.2 Existing Databases

Moving beyond these four foundational pieces of research and into recent quantitative studies of non-state private actors, there are additional conceptual discrepancies that are worth discussing. The pro-government militias that Bohmelt and Clayton (2018) discuss are conceptually distinct from the PMCs of Singer (2001) and Avant (2005), and from the pro-government militias described in Carey, N. J. Mitchell, et al. (2013). Bohmelt suggests that "PGMs rarely offer any military specialisation and tend to be less well equipped and trained than paramilitaries or the regular forces," though the author includes both Executive Outcomes and Sandline International in their analysis (Bohmelt and Clayton 2018, p.205). The key reason that EO and Sandline were employed in Angola, Sierra Leone, and Liberia, was precisely that they provided specialised combat support and military training to a more advanced degree than could be provided by the respective states. This raises the question as to why these two actors were included in Bohmelt's dataset. It also raises the question of why other PMCs like Blackwater, which offered similar services as EO and Sandline in Iraq, were excluded from the data, despite operating within the temporal scope of Bohmelt's dataset.

I have identified four other datasets which cover the names and activities of private military companies and other non-state security actors: the Private Security Dataset (PSD) (Branovic 2011), the Private Security Events Dataset (PSED) (Avant and Neu 2019), the database used in Akcinaroglu and Radziszewski (2013) (henceforth, A&R), and the Commercial Military Actors Dataset (CMAD) (Petersohn et al. 2022). I briefly discuss in turn each dataset, and summarise their contributions and weaknesses in Table 2.2.

First, there is the Private Security Dataset. This dataset defines private military companies as market-oriented, professionalised and organised, and legally registered entities. The data focuses on PMC activity in civil wars specifically (Branovic 2011, p.900). One major issue is that the author's scope conditions—civil wars and public clients only—mean that it is challenging to generalise their findings to 1) other

forms of non-state security apparatus, and 2) to other (non-civil war) circumstances in which private military and security companies are known to operate in (such as G4S or Wozani Security in South Africa). Moreover, this dataset only has 546 observations suggesting that empirical findings are likely underpowered to detect effects (Arel-Bundock et al. 2022).

Second, the Private Security Events Dataset captures private military and security company involvement in specific violent events. The broader scope conditions of this dataset (compared with the PSD) mean that the findings are more externally valid, though the unit of analysis—PMSC-event—perhaps fails to capture the nuanced impacts that the *presence* alone might have on their dependent variables. In other words, one might expect the presence of PMSC employees, or a PMSC base, to influence instances of conflict, especially if their presence is publicly known.

Third, the A&R dataset is constrained in the same way as the PSD by only looking at civil wars and the interaction between governments and opposition groups.[4] As Petersohn et al. (2022) suggests, this constraint misses the significant number of PMSCs that are hired by non-governmental and international organisations (Petersohn et al. 2022, p.901).

Fourth, while the Commercial Military Actors Dataset is broader in country-year coverage, it fails to clearly operationalise what a commercial military actor is beyond an agent that "provides force and force-related services for financial compensation" (Petersohn et al. 2022, p.900). This minimal definition, in what I consider to be conceptual stretching, fails to capture the nuances between these actors, such as how they are organised and where they operate (Sartori 1970). Interestingly, their dataset contains a surprising number of omissions of commercial military actors without clear justification as to why they have been omitted. For example, World Security Initiatives, the Dyck Advisory Group, and WatchGuard International are three non-state security actors who feature prominently in media coverage and other databases, but which do not appear in the CMAD.

[4]Moreover, there is a strange coding quirk such that the United States is classed as being in a civil war following 9/11. However, results are robust to the inclusion and exclusion of these cases.

Another issue with all the above datasets is that they fail to systematically record the names of the non-state actors involved. Most datasets have a notes column which sometimes contain the names of the actors, but it is not standardised and so cannot be properly analysed. While it is not these authors intentions to specifically analyse *who* is involved, I believe a lot of rich information is lost by not categorising the actual names of the non-state security actors. These data are summarised in Table 2.2.

Table 2.2: Overview of Existing Datasets

Citation	Time Span	Scope Conditions	Unit of Analysis	Number of Observations	Strengths	Limitations
Branovic (2011)	1990-2007	Civil wars, failed states	Contract	546	The first dataset of its kind	Limited information on contracts, shorter temporal scope
Avant and Neu (2019)	1990-2011	Civil wars, Latin America, Africa, Southeast Asia	Event	1291	Captures data on interactions between the principal and the state	Limited information on events
Akcinaroglu and Radziszewski (2013)	1990-2008	Civil wars, Africa	Contract	343	Clear data collection procedures, ability to merge with existing data (e.g., COW)	Limited information on contracts, relatively small N
Carey, Mitchell, and Lowe (2013)	1981-2007	All regions with a PGM	Actor	332	Comprehensive coverage of internal non-state actors	Shorter temporal scope, constraining definition

Carey, Mitchell, and Paula (2022)	1981-2014	All regions with a PGM	Country-year	5615	More measures than Carey, Mitchell, and Lowe (2013)	Constraining definition
Petersohn et al. (2022)	1980-2016	Civil wars, all regions except Europe	Contract	7093	Comprehensive spatio-temporal coverage	Lacking a clear definition of CMAs

To be sure, all of these databases are highly valuable in deepening our understanding of non-state security actors, there is still a great deal we do not know about these actors. First, more information needs to be collected on the actors themselves. This new data, which I describe in the next chapter, will include the estimated number of employees, the length of the company's existence, the types and number of services that they provide, the types and number of domains over which they operate, and whether they have explicit ties to their home government. These covariates will provide a better understanding of non-state security actors which will in turn allow me to identify different types of actor within my universe of cases. Second, the data should be formatted in such a way so as to be mergeable with other datasets.[5] With this in mind, I turn to summarising what we have learned, and what we have yet to learn, about non-state security actors.

2.3 What We Know About Non-State Security Actors

Now I have provided an overview of the literature, I will turn to synthesising what we know and what we can infer from the current literature, while assessing related literature from sociology and economics in helping me conceptualise non-state security actors.

2.3.1 Organisation

Given the secrecy surrounding PMC operations, their organisation and structure are not fully understood. This subsection covers the available literature on payment and cost, as well as PMC life-cycles. Existing (academic and non-academic) literature suggests that the majority of PMCs comprise of ex-military forces (Harvey et al. 2021; Prince 2014). These ex-military forces have often served in the countries the PMC is operating in, meaning they have knowledge of the geography, terrain, people, and dynamics of the state. Beyond this anecdotal information, there has

[5] As I mention in the next chapter, the gold standard would be the development of a panel dataset. This is an area for future research.

been no systematic collection of PMC employees, such as age or demographics Though outside the scope of this work, it will be important to better understand the characteristics of those who join PMCs, and how they might be incentivised.

On the topic of incentives, the issue of payment—both between the state and the PMC, and the PMC and its employees—is relatively overlooked. Again, the anecdotal evidence presented in autobiographical material suggests that PMCs are profit-motivated, though, contrary to "frequently expressed concerns" do not have the strength to extract additional resources from the government (Spicer 1999, p.25). Given that PMCs tend to be smaller in number compared to conventional militaries or peacekeeping forces, it follows that they would cost less to employ. This relates to the often cited statistic that during the Angolan civil war, Executive Outcomes received around $20 million for its services while the United Nations Mission in Angola cost around $607 million (Maciag 2019, p.65). Though stark, this comparison is somewhat of a false equivalence, given the highly specialised and institutionalised nature of peacekeeping forces compared with the often ad hoc formation of PMCs.

Another important but neglected aspect of PMCs is their life-cycle; how long they operate for, what happens when they cease operations, and what might predict their birth and death. Essentially no literature exists on what predicts a PMCs cessation of operations or their average lifespan. Similarly, we do not understand the conditions under which a PMC is organised. For example, the maritime PMC, Typhon, once described as the "Blackwater of the Seas" and subject to much media attention, has not been reported on since 2014, the year the company purported to form (Ackerman 2013). Figure A.1 and Figure A.2 both provide a preliminary distribution of the timeline and age of private military companies. Anecdotally, we can see a proliferation of (often short-lived) companies starting in the late 1990s and early 2000s.[6]

[6]While I do not have a strong theory as to why, I believe that non-state security actors behave similar to political parties, where low-institutionalised security actors are less likely to survive.

The sociological literature on Mafia organisation and operation presents some useful theoretical mechanisms through which we can better understand private military companies. To confirm, this is not to say that I consider private military companies to be equivalent to Mafia organisations, rather, there are more robust theories of organisational behaviour in the Mafia literature that can potentially be mapped to PMC operations. Somewhat surprisingly, the theoretical mechanisms presented here map relatively well to the theory of pioneering firms. Catino (2014) describes Mafia organisations as having vertical and horizontal dimensions. Vertical organisation is characterised by higher levels of coordination, centralised power, and systematic decision making processes while horizontal organisation is the absence of coordination and fractionalised decision making. This typology of organisation may be useful to distinguish between our understanding of "traditional" mercenaries—"Mad Mike" Hoare, Bob Denard, Jack Schramme, and the like—and more organised forms of private security, such as Blackwater or STTEP.

2.3.2 Operation

Given the scarcity of literature on the organisational aspects of PMC organisation, I again turn to sociological literature on Mafias, and economic literature of the firm, to better conceptualise the logic behind the organisation of non-state security actors. This section will be particularly important when we turn to the theory chapter of the paper.

Economic theories of the firm suggest that firms seek to maximise profits, increase efficiency, and tap into nascent markets in order to reap the advantages of being a "first-mover" (Jensen and Meckling 1976; M. Lieberman and Montgomery 1988). P. Collier et al. (2019) suggest that so-called pioneer firms are rare in fragile states given the high levels of risk associated with low state capacity, conflict, and economic instability. While P. Collier et al. (2019) focus on investment firms, we can map their theory into the context of a PMC looking to engage with a state. The benefits of a PMC tapping into a hitherto under-served market can benefit from "unexploited natural resources, low-cost labour, and [can] provide

missing basic services" while facing little competition from other PMCs hoping to involve themselves in a conflict (P. Collier et al. 2019, p.12). Similarly, the first-mover faces challenges in the new market into which they enter: 1) other firms free riding through imitation of the first-mover; 2) market uncertainty which may be exacerbated by the nature of the conflict; 3) shifts in the demand of the PMCs services; and 4) incumbent inertia, the concept that first movers become unable to enact internal change which in turn makes them less competitive (M. Lieberman and Montgomery 1988). My primary data collection efforts will help descriptively answer whether the presence of one PMC in a state predicts the proliferation of agents in the future.

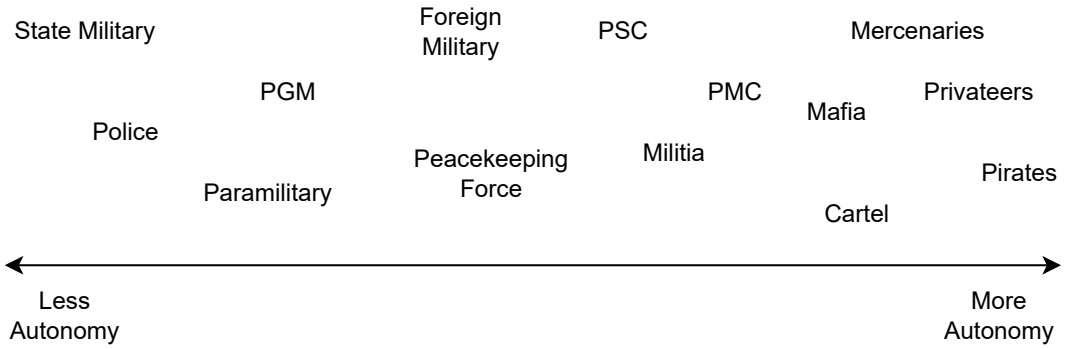
While the above might start to formalise the conditions under which a PMC chooses to engage with a state, it does not explain why a PMC *does not* engage with a state. Anecdotal evidence suggests that risk is the primary factor that PMCs consider. Even if a cash payment is unlikely, PMC leaders have expressed faith in the states that they will repay in-kind, and that the safety and well-being of their employees is the most important determinant of engagement (Prince 2014; Spicer 1999).

Varese (2011) and Varese (2020) describe the supply and demand aspects of Mafia migration. On the supply side, Mafia organisations may be resource-seeking, investment-seeking, or market-seeking. I consider PMCs as being both resource and market-seeking where the resource in this case is the presence of conflict and individuals requiring training, and the market is, as described by Avant (2005), the market for force. Additional to these market conditions, Varese (2020) identifies low levels of social trust and geographically constrained locales as other supply-side conditions that are necessary for a Mafia to "transplant" into a new location. Again, we see anecdotal evidence that states facing domestic conflict tend to have lower levels of inter-group trust (as well as trust in the government) and tend to be places where PMC activity is rife. While disentangling any causal mechanisms is fraught given the current lack of data, these mechanisms are worth testing qualitatively.

Varese (2020) also defines three mechanisms that explain Mafia behaviour: transplantation, the process of moving to a new location for a substantial period of time in order to continue operations; functional diversification, changing operations depending on the market in which the organisation operates; and separation, gaining autonomy from the so-called "motherland". Using these three mechanisms as a framework, transplantation can be considered analogous between PMCs and Mafias; both have incentives to operate in a new locale in order to tap into the respective markets. Functional diversification is less supported by robust evidence in the existing literature on PMCs. It is not yet clear whether PMCs provide new services (for example, shifting from training to combat support) in different contexts, though I hope that my data collection efforts will help to begin to answer this question. Lastly, it is not clear whether the concept of separation is necessary in understanding PMC organisation in the sense that it is not clear whether PMCs have an incentive to separate themselves from either their country of origin or the country in which they operate. There is no clear evidence of a PMC brand being entirely apolitical, so it is unlikely that this mechanism applies. With that said, it is worth considering the incentives that PMCs have to remain administratively "separated" from both the home state and area of operations, given that PMCs are efficiency oriented and would not want to be bound by bureaucratic constraints.

We can thus think of PMCs and PSCs and these other latent forms non-state security forces as existing on a continuum of autonomy from the state. Figure 2.1 presents a stylised overview of this continuum, with a state's military and police force having the lowest levels of autonomy, and Mafias and cartels having the highest amount of autonomy and separation from the state. Private military companies thus exist in this liminal space, often having ties to a government through a formal contract, though frequently departing from or extending the remit of the contract (Tonkin 2012a). As I will discuss in Chapter 4, autonomy from the state and control over coercive capabilities allow non-state security actors to operate as entrepreneurs, often with the incentive to prolong conflict to ensure financial gain; a key component in explaining why non-state security is proliferating.

Figure 2.1: Continuum of Autonomy for Security Apparatus



2.4 What We Do Not Know

There remain many fundamental questions regarding non-state actors. In this section, I discuss the number of non-state security actors that might exist and provide descriptive statistics on where non-state actors operate, the services they provide, and the domains in which they operate.

2.4.1 Probabilistically Estimating Non-State Security Actor Prevalence

The study of private military companies focuses primarily on descriptive case study, descriptive regression analysis, and broad typology where the evidence of a PMC is often linked to a single source such as a newspaper article. The secrecy with which PMCs conduct operations means that any research conducted is a sort of rare events study (Bennett and Elman 2006; King and Zeng 2001). I believe that the literatures' tendency to focus on a certain set of PMCs which tend to have more available data and evidence (such as Executive Outcomes, Blackwater, or, more recently, the Wagner Group), obfuscates the actual prevalence of these organisations. While these individual organisations are important to study, the generalisability of such studies would be improved if we had some estimate of the prevalence of these organisations, even if we lack comprehensive data on their prevalence and location.

To this end, I statistically infer the "true" number of non-state security actors by conducting multiple systems estimation (MSE) on the current datasets

on private military companies and related non-state security actors. Bayesian multiple systems estimation is a method of estimating a closed population size from multiple and incomplete records, though the inspiration behind this methodological approach comes from Ball and Price (2019) and Madigan and York (1997).[7]

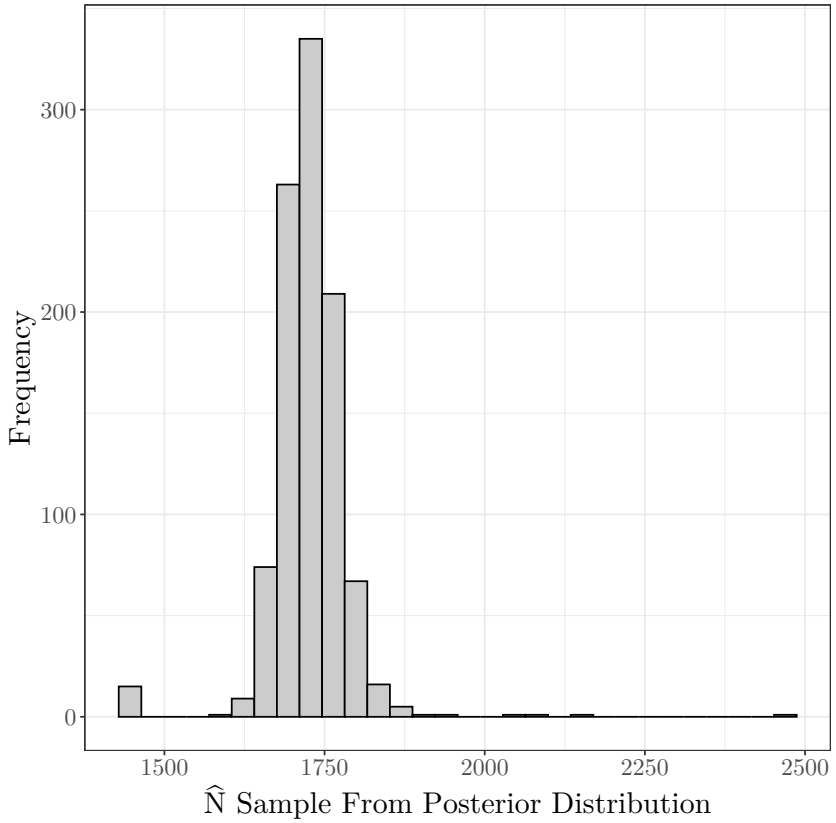
I use the data from Avant and Neu (2019), Carey, N. J. Mitchell, et al. (2013), Petersohn et al. (2022), and Radziszewski and Akcinaroglu (2020), to infer the true population of non-state security actors. Each dataset contains the names of non-state security actors which I link together, comparing which actors appear in which datasets. Several actors, such as Executive Outcomes and Sandline International, are present across all records, while many actors only appear across three or fewer datasets. Multiple systems analysis can tell us what the distribution of potential populations might be, given the extent of overlapping entries across datasets. While additional covariates can be used to probabilistically link records (to match observations from one record to another, as in Ball and Price (2019)), I use a simple string matching algorithm after cleaning and standardising names in order to match common non-state actor names across the datasets.[8]

Figure 2.2 presents a distribution of the estimated universe of non-state security actors ($\hat{N}$) drawn from a posterior distribution. The 95% confidence interval of this estimate suggests that there exists or existed between 1645 and 1818 non-state security forces, with a mean estimate of 1724. These findings, though preliminary, are striking. The datasets with the largest number of uniquely identified non-state security actors is Petersohn et al. (2022)'s Commercial Military Actor Dataset, with 1004 entries; over 600 fewer than the most conservative estimate produced by the MSE analysis. This suggests that there are still hundreds of private security and military companies, pro-government militias, and other non-state security actors which have yet to be discovered and systematically recorded. Moreover, it suggests

[7] In Ball and Price (2019), the authors pairwise-match death records from Guatemala's internal armed conflict from 1960 to 1996. They then infer the true number of causalities based on the proportion of names matched across each record.

[8] I check the number of full and partial matches to ensure that the string matching algorithm works correctly. Only one organisation is common to all four datasets used in the analysis: Executive Outcomes.

Figure 2.2: Bayesian DGM Estimate of Number of NSSAs



that existing quantitative research has so far fallen short in defining the universe of cases and operationalising what exactly are the actors they are analysing.

2.4.2 Descriptive Statistics In Comparative Perspective

My data collection efforts (described in more detail in Chapter 3 and Appendix B) allow for a more systematic descriptive analysis of non-state security actors across countries.[9] While not central to the arguments of this paper, Figure A.3, through Figure A.5 in the appendix present some descriptive findings which have yet to be discussed in the study of non-state security actors, and which add to our overall understanding of the nature of these organisations.

Where do non-state security actors come from? Anecdotally, research suggests that the United States, United Kingdom, and South Africa are some of the largest

[9]Note that for the time being the data is only cross-sectional. Future data collection efforts should focus on constructing a full panel of non-state security actor operations.

producers of non-state security actor but in the absence of systematic data, these claims are difficult to affirm. Figure A.3 presents the number of non-state security actors by country. Confirming the initial hypothesis, the majority of non-state actors are originating in the US, UK, and SA.

What services do non-state security actors provide, and across which domains do they operate? Figure A.4 plots the distribution of services provided by non-state security actors. Figure A.5 plots the distribution of domains provided by the actors in my dataset. The majority of these companies provide a single service (security) in a single domain (land), and the four most common service combinations are the provision of a single service (security, infrastructure, advisory, transportation).

These exploratory descriptive statistics provide a foray into understanding the general patterns of non-state security actors. This section aims to give the reader a more textured understanding of non-state security forces: naming conventions, longevity, and their countries of origin and of operation.

2.5 Conclusion

Though research on PMCs, mercenaries, and other non-state security forces has flourished in recent years, this brief overview of the literature highlights some of its shortcomings. It is difficult for us to generate broad conclusions and accumulate knowledge when the fundamental definition of what constitutes a PMC, PSC, or private security actor is not readily understood. Moreover, the paucity of data, coupled with the fact that existing data cannot readily be integrated with other datasets that purportedly analyse conceptually similar topics, further thwarts cumulative learning. In the next chapter, I use the literature and existing datasets to try to develop a unified theoretical and empirical definition of "non-state security forces" and see how this might serve to connect the disparate literature.

3

Conceptualising Non-State Security Actors

In this chapter, I propose an inductive method of conceptualising private military companies. I argue that existing approaches of conceptualising PMCs are too broad and rely too heavily on certain industry-standard typologies, such as services provided or military analogues. Looking back at table 2.1, we see that Executive Outcomes is considered a military training firm in Avant (2005) and a military provider firm in Singer (2001). Gurkha Security Guards are considered by Avant (2005) to focus on "Site and Personal Security" though they were hired in Sierra Leone to provide active combat services (Fredland 2004). In reality, many PMCs provide multiple services, vary greatly in size and scope, and have different relationships with their home governments and with the governments in which they operate. An inductive approach will uncover what variable or combinations of variables discriminate between different organisations. To this end, I collect data on PMCs, using existing datasets on PMC presence and activity as a baseline. In addition to collecting data on the number and types of service provided by each PMC, I also collect information on the number and types of domain in which the organisation operate, the estimated number of employees, the organisation's life span, the countries in which they operate, the country in which they are

headquartered, and whether they are affiliated with the government from where they originate.[1]

3.1 Data Collection

Appendix B provides a detailed overview of the data collection procedure, scope conditions, and coding rules before I began collecting the data. I expand my data collection efforts to include all "non-state security forces". In defining what I mean by non-state security forces, there exists a trade-off. Too broad a definition of non-state security forces will absorb the key variation in different groups; for example, I want to understand militias and private military companies as they are defined in the literature, but also want to understand in what ways they are similar or different to one another. Too tight a definition, and any findings would be difficult to generalise. Though there has been a renewed interest in understanding non-state military forces, there is little focus on conceptualising and theorising the differences within these military and security groups as well as across the different forms of security such as paramilitaries, militias, and private security outfits. For this reason, I define non-state security forces as *any organised or semi-organised outfit which operates outside the direct control of a state (either the host or home state) and which focuses on the provision of security or security-adjacent services.* This definition thus excludes state military forces, foreign military forces, and peacekeeping forces, but includes PMCs, mercenaries, and some militia organisations.

Data collection began by combining existing datasets on non-state security actors, including Branovic (2011), Avant and Neu (2019), Akcinaroglu and Radziszewski (2013), and Petersohn et al. (2022). Pulling actor names from these databases resulted in my initial frame. Throughout the data collection process, if I discover another non-state security actor, I then include this as a new row in the dataset. I collect data on each actors' location, year of origin, year of cessation of operations

[1]By affiliated, I mean whether the provider state specifically contracts out the actor for domestic or foreign operations, such as G4S being hired by the UK government to provide security for the Olympic games or DynCorp being contracted by the United States to provide security in Somalia.

(if applicable), number of employees, parent companies, other names, whether the company is explicitly affiliated with a government, the names of the countries of which there is evidence of the actor operating, whether the actor has a traditional mercenary structure,[2] the number and types of domains in which the actor operates,[3] the number and types of services the actor provides,[4] and whether these actors were originally recorded in any of the four original datasets I used to produce the initial data frame. These variables are used to create additional variables used for the typologies such as the lifespan of the company and the absolute number of services and domains. For each entry, I try to obtain at least five reliable sources (newspapers, academic articles, policy reports) to provide information on each of the individual entries. In some instances there only exists one source on given non-state security actors in these instances, one source must suffice.[5] Table 3.1 presents a random sample of five entries from my dataset.

[2]This is defined as whether the organisation is formed ad hoc for a specific mission, operates in a clandestine or anti-government manner, and is remunerated through natural resources or other unconventional ways.

[3]Land, air, sea, and cyber.

[4]training; de-mining and protective services; transportation and logistical support; infrastructure, research, and arms provision; advisory; active combat; misinformation; and anti-government operations.

[5]For example, many of the entries from the CMAD rely on the website **https://allafrica.com/** which tends to only mention specific non-state security actors in single articles.

Table 3.1: Random Sample of Dataset Entries

Variable Name	Strategic Concept	Nigeria Investigation and Security Company	Ashaka Security Company	Sepecol	Hi-Tec
Country of origin	South Africa	Nigeria	Nigeria	Colombia	South Africa
Year start	NA	1965	1965	NA	1996
Year end	NA	2024	2024	NA	2024
Parent company	NA	NA	NA	NA	NA
Employees	NA	NA	10000	NA	300
Alternative name(s)	NA	NA	ASCO	NA	NA
Affiliated with Government	NA	0	0	0	0
Country presence	South Africa	Nigeria	Nigeria	Colombia	South Africa
Traditional Mercenary	NA	0	0	0	0
Domain: land	NA	1	1	1	1
Domain: air	NA	0	0	0	0
Domain: sea	NA	0	0	0	0
Domain: cyber	NA	0	0	0	0
Service: training	NA	0	1	0	0
Service: protection	NA	1	1	1	1
Service: transportation	NA	0	1	0	0
Service: infrastructure	NA	0	0	0	0
Service: advisory	NA	1	0	0	0
Service: combat	NA	0	0	0	0
Service: misinformation	NA	0	0	0	0
Service: anti-government	NA	0	0	0	0
In Avant (2005)	No	No	No	No	No

In Singer (2003)	No	No	No	No	No
In McFate (2014)	No	No	No	No	No
In Carey (2013)	No	No	No	No	No
In Petersohn (2022)	Yes	Yes	Yes	Yes	Yes
In A&R (2013)	No	No	No	No	No

Though I believe I have attempted to address many of the potential threats to data collection through establishing a comprehensive collection plan, there are still a number of limitations to the data as it currently stands. First, though many of the non-state security forces in my dataset have websites (often accessible through the Wayback Machine (**https://archive.org/web/**)) and academic articles focusing on their operations, the final dataset still has a considerable amount of missing data. Future versions of this inductive method should treat missingness as a variable itself, given that many of these non-state security forces operate in a clandestine manner, perhaps with incentive to obscure the exact nature of their organisation and operations.[6]

Second, my Bayesian analysis in Chapter 2 indicates that there are, based on the prior existing datasets, around 1750 non-state security actors, with potentially even more having yet to be identified. Given that the current N of my dataset is 1169, less than the mean estimate of the Bayesian analysis suggests, there are still likely several hundred missing non-state security actors. I will focus future data collection efforts on expanding this dataset, both in terms of the number of observations identified, and the type of information collected for each non-state security actor.

Third, and again as a result of the difficulty of the data collection, the actual shape of the data prevents additional, potentially interesting, aspects of analysis. A future iteration of this dataset could take the form of a panel dataset (where the unit of analysis is country-year) as opposed to its current form of actor-level. The advantage of a panel dataset is that I could look at the different services and domains provided by actors in different country-year contexts. It would be interesting to see if given actors provide different services by country, and how the nature of their operations change over time. Currently, the temporal dynamics of non-state security actor cannot be assessed using this dataset, though we can use my data with existing datasets on non-state security actor, as described in Chapter 5.

[6] A Bayesian Latent Variables approach, as in Hanson and Sigman (2021), could be a fruitful area of future research, as these methods account for missingness more effectively than frequentist approaches.

The limitations highlighted above are not meant to discredit my own data collection efforts. I believe this database to be an important contribution in and of itself to the study of non-state security actors. First, it is, to date, the largest actor-based dataset focusing on non-state and privatised security. Second, it combines all existing datasets on non-state security actors and includes several hitherto ignored or overlooked actors. Third, it is designed to merge with these existing datasets for the purposes of re-analysis, and the large number of features collected for each actor allows for unsupervised cluster analysis, as will be described in more detail later in this chapter. This data represents the first iteration of what will hopefully be a long term data collection effort that will continue into my doctoral research and beyond.

3.2 Inductive Conceptualisation

Rather than manually attempt to coerce each non-state security force into a category based on the broad services they provide, their military analogues, or through some other categorisation method, I turn to unsupervised machine learning algorithms. The workhorse unsupervised machine learning tool is K-means clustering, whereby the researcher selects a (ideally theoretically informed) number of clusters and the algorithm groups observations into these clusters based on their covariates, essentially collapsing multivariate data into two-dimensional space (Fredland 2004; Kodinariya and Makwana 2013).[7] By feeding a number of theoretically relevant variables into the algorithm, the aim is that the algorithm will return a number of clusters of non-state actor types which are related through the underlying variables and variable interactions.

3.2.1 Ways of Typologising

It is a fair critique that unsupervised learning might be an unnecessary endeavour for a topic which already contains plenty of qualitative typologies. In the initial stages of my research on this topic, I failed to generate a qualitative typology

[7]DBSCAN was also considered but as I will show, the data in 2-D space do not necessitate the use of such methods.

which did not fall victim to the same issues of overlap that occur with existing conceptions of PMC. Hence, a quantitative approach, even if it aligns perfectly with existing typologies, is a useful exercise, either in uncovering new classes of non-state security actor, or serving as a robustness test of the existing typologies (D. Collier, LaPorte, et al. 2008; D. Collier, LaPorte, et al. 2012).

In the political science literature this method is not particularly common, though a handful of articles have described or deployed K-means as a way to generate typologies from large multidimensional datasets (Ahlquist and Breunig 2011; Grimmer et al. 2021; Wolfson et al. 2004). Of the existing quantitative typology studies, almost all focus on identifying latent clusters and classes of political phenomena such as democracy (Møller and Skaaning 2010) and political parties, party systems, and voters (Markaki 2016). As far as I know, this method has yet to be applied to the study of non-state actors. In this chapter, I test the robustness of the K-means algorithm by running a number of other unsupervised statistical tests, and then comparing the results to the qualitative typologies in the existing literature. I also run a number of additional unsupervised machine learning techniques to test the robustness of the underlying patterns behind the clusters of unconventional security forces.

I begin my inductive analysis by including variables on the types of services and domains, the absolute number of services and domains, the number of employees, and whether the company follows a traditional mercenary structure.[8] I run this algorithm at different cluster constraints from two to five.[9] Given that there is no clear number of clusters when looking at the within-groups sum of squares, it makes sense to test at a varying number of clusters, and then inductively select the cluster which is able to discriminate between different forms of non-state security actor

[8]By traditional mercenarism I mean the sub-category of non-state security actors present in post-colonial Africa, such as "Mad Mike" Hoare or Bob Denard. These are loosely organised, clandestine, and often had ulterior motives beyond providing combat support.

[9]The intuition behind this is that I want to understand whether there are two, three, four, or five latent types of non-state security force. Realistically, there might be another larger number of PMC types but by proliferating the number of clusters I am increasing the variance of each cluster. Moreover, it would be difficult to conceptually distinguish between two clusters with very few numbers of observations within each cluster.

while being parsimonious and interpretable. Figure 3.1 presents a visualisation of the K-means algorithm, where each panel (left to right, top to bottom) corresponds to the number of clusters I specify.[10]

A number of interesting patterns emerge. Panel 1 almost perfectly discriminates between two latent clusters of non-state security actor. The first cluster contains actors who provide a larger number of services, operate across a larger number of domains, and who operate in more countries. Organisations which operate like a traditional mercenary outfit (including actual mercenaries from the 1960s) are also included in the first cluster. These clusters seem to capture the difference between what existing research considers "private military companies" (cluster one) and "private security companies" (cluster two). To test whether the difference in values between the two clusters are statistically distinguishable, I run a simple ordinary least squares regression to obtain a p-value of the difference between the mean values of each cluster. As expected, the differences between variables included in the clustering algorithm are statistically distinguishable from zero. Results are reported in Table A.2 in Appendix A.

Panel 2 splits cluster two (conventionally understood to be private security companies) into two separate clusters, while the original first cluster remains roughly the same. However, this first cluster now only captures what appear to be more traditional "mercenary groups" as well as private military companies who have been reported as engaging in anti-government or misinformation operations. The two separated clusters distinguishes roughly between what the literature understands to be private security companies and defence contractors (large-scale organisations involved in the sale of armaments and the development of military-adjacent infrastructure). BAE Systems and Lockheed Martin are examples of such organisations.

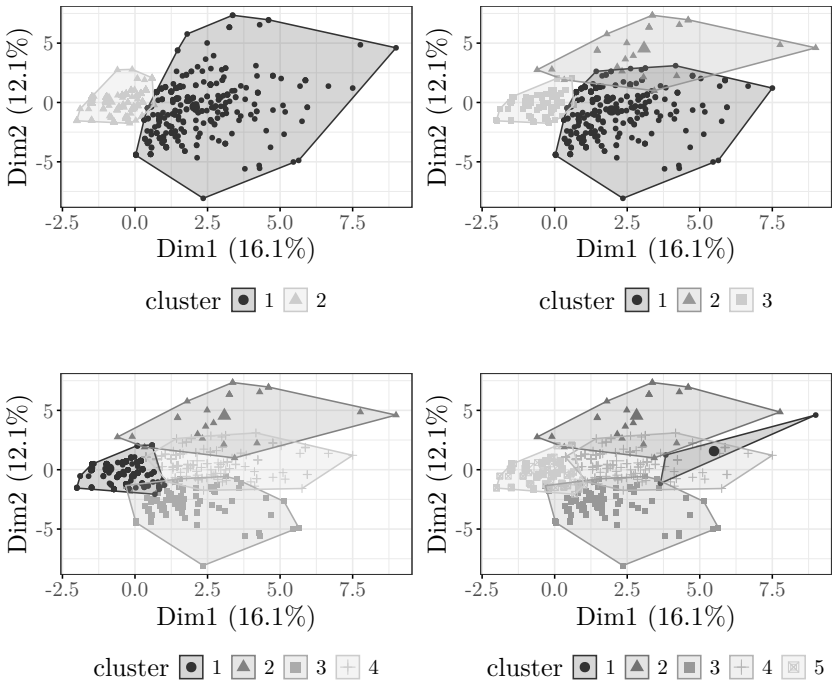
Panel 3 introduces a fourth cluster which splits cluster one and three from the previous panel. Cluster one now contains the traditional private military companies, cluster two contains the defence contractors previously mentioned, cluster three

[10]Appendix Figure A.6 presents a similar figure except it proliferates the number of clusters from six to nine. At these numbers, it becomes much more challenging to visually, and verbally, distinguish these clusters.

contain the private security companies, and cluster four contains the mercenaries previously discussed.

Finally, panel 4 introduces a very small cluster of only three observations. These are organised private military companies operating across multiple domains and services, and who engage in anti-government and misinformation campaigns. This final cluster essentially discriminates to the historical cases of mercenarism with modern clandestine military organisations.

Figure 3.1: Typologising NSSAs via K-means Clustering



Panel 4 provides less of a clear spatial pattern and the additional cluster only contains three non-state security actors. A cluster of three cases would not provide enough variation to conduct any meaningful analysis, thus, I ignore this panel for now. I present the values of each component across each cluster in Panel 3 confirms the underlying spatial patterns Table 3.2 presents the mean weighted values for each input variable for each cluster from the third panel of Figure 3.1. Negative values indicate that a given input variable is less likely to be included in a cluster, while positive values indicate the opposite. The most important aspect

of the fourth cluster specification is that the overall structure does not change considerably from the third, indicating that the third panel balances the trade-off between variation and parsimony most effectively.

Table 3.2: Cluster Characteristics (Figure 3.1, Panel 3)

Input Variable	**Cluster 1**	**Cluster 2**	**Cluster 3**	**Cluster 4**
Domain: land	0.16	0.23	-1.44	0.18
Domain: air	-0.26	0.32	1.44	0.14
Domain: sea	-0.18	-0.31	0.30	0.53
Domain: cyber	-0.23	-0.29	2.07	-0.23
Service: training	-0.36	0.36	-0.25	1.44
Service: protection	0.13	-0.51	-1.18	0.24
Service: transportation	-0.19	-0.16	0.06	0.72
Service: infrastructure	-0.13	-0.33	1.24	-0.16
Service: advisory	-0.27	-0.04	0.15	0.92
Service: combat	-0.16	2.55	-0.20	0.44
Service: misinformation	-0.05	0.76	0.11	0.03
Service: anti-government	-0.10	5.24	-0.13	-0.13
Number of domains	-0.33	0.28	1.17	0.56
Number of services	-0.44	1.06	0.06	1.48
Employees	0.00	-0.05	0.20	-0.10
Considered Traditional Mercenary	-0.12	6.12	-0.15	-0.15
Operates in One Country	0.18	-0.76	-0.16	-0.50

3.2.2 Finalising the Typology

What have we learned from this clustering exercise? First, the algorithm does a fairly good job of discriminating between latent forms of non-state security actor, as evidenced by the four panels in Figure 3.1. Second, there exists a trade-off between the number of clusters and the interpretability of the typology. Two clusters discriminates between our typical understanding of private military versus private security companies, while four allows us to understand non-state security forces in a more nuanced way. More than four clusters, though providing more nuance, becomes less readily interpretable, and the conceptual distinctions between each form of non-state security actor becomes less clear.

I thus select the four cluster model (Panels 3 of Figure 3.1) to be my baseline typology. While the two-cluster typology is the most parsimonious, the four-cluster typology provides the most nuance without being arbitrary and difficult

to interpret. This typology will provide the foundation to the rest of the analysis in this manuscript.

Some new terminology will now be used throughout this project that will be important to remember—these are the names I give to the different forms of non-state security actor. Instead of using terms like private military or private security, paramilitary or mercenary, I describe the different forms of non-state security actor in terms of their "type". This is captured in Table 3.3, which shows the non-state actor type (derived from the previous figure and table) based in the domains and services they provide. I also map this inductive typology back into the existing literature's conception of these actors in the `Equivalents` column.

Table 3.3: Inductive Typology

Non-State Security Actor	**Domains**	**Services**	**Key Service**	**Equivalents**
Type-1: Private Military	Multiple	Multiple	Protection	Private Military Company
Type-2: Private Security	Single	Multiple	Protection	Private Security Company
Type-3: Private Defence	Multiple	Single	Infrastructure	Defence Contractor
Type-4: Mercenary	Single	Multiple	Combat	Mercenary

3.2.3 Assessing Model Accuracy

I use several approaches to assessing the relative accuracies of each clustering specification. One issue with model assessment methods here is that we do not have value labels (that is, observed values) to compare the predicted clusters. Assessing model accuracy in this instance requires some researcher degree of freedom. As such, I rely on measures of the optimal number of clusters (elbow method, Figure A.7), the average silhouette (Figure A.8), and the gap statistic (Figure A.9), to gauge the quality of the clustering algorithm (Kaufman and Rousseeuw 2005; Tibshirani et al. 2001). As discussed in the previous chapter there is a tradeoff between

the "statistically correct" number of clusters, and the number of clusters that will be most useful first for other academics to interpret, and second for others to quantitatively analyse. As will be shown in the appendix, the statistically optimal number of clusters tends not to be a number that is useful for generating testable sub-classes of non-state security actors. As such, the final decision on the number of clusters to use is a mix of statistical tests and researcher degrees of freedom.

First, the elbow method captures the total within-cluster-sum-of-squares (WSS) as a function of the total number of clusters in each model. A good clustering algorithm is one that minimises the total WSS. The optimum number of clusters is one where adding an additional cluster does not further minimise the WSS. Graphically, if we plot the the number of clusters by the total WSS, the point at which the graph bends (or the elbow) corresponds to the optimum number of clusters. Second, the average silhouette statistic captures how well each observation fits within the cluster it is assigned to. A comparatively high average silhouette value indicates a more accurate clustering specification (Kaufman and Rousseeuw 2005). Third, the gap statistic is a little more complex, but essentially, contrary to the average silhouette, a comparatively smaller value is preferred. Mathematically, the gap statistic is defined as $Gap(k) = \frac{1}{B}\sum_{b=1}^{B} log(W^*_{kb}) - log(W_k)$: the deviation of the W_k (observed) from W_{kb} (expected) under the null hypothesis. A full description of these methods and results can be found in Appendix A.

These supplementary models suggest that four to five clusters is the optimum specification. The average silhouette score drops after five clusters, and increases thereafter with every additional cluster. However, we know that five or more clusters contain very few observations and become increasingly difficult to interpret. Similarly, the value of the gap statistic increases considerably after five clusters. The elbow method is more subjective, but the distance between each point increases from seven clusters and lower, indicating that this is roughly where the optimum number of clusters lies.

3.2.4 Robustness Tests

Due to space constraints, I relegate much of the interpretation of supplementary analyses to appendix A, though I briefly describe them here. For my second exploratory model, I run a hierarchical clustering algorithm, again varying the number of latent clusters in order to identify underlying patterns of PMC characteristics. Unlike K-means clustering, hierarchical clustering relies on a tree-based, or nested, approach to generating clusters. Given the nature of my dataset, there are no intrinsic benefits to hierarchical clustering other than the potential to apply limits on the number of clusters being used. I use hierarchical clustering here in order to see if the results differ significantly from my core clustering specification. Figure A.10 presents these results and provides a brief interpretation.

For my third model, I run principal component analysis on the components used in the clustering analysis. This method focuses on reducing the dimensionality of a dataset, that is, collapsing the number of features (variables) into two-dimensional space. I use the first two principal components as analogues of the distance matrices used for K-means clustering. Figure A.11 presents the results and interpretation.

In my fourth model, I run latent factor analysis on the component variables. Latent factor analysis is somewhat similar to principal component analysis, but whereas PCA focuses on collapsing a dataset using its observed values, LFA uses the structure of correlations between the observed variables to generate so-called latent factors. These latent factors can then be treated as being similar to, but not directly comparable with, K-means clusters. The results and interpretation are found in Figure A.12) in the appendix.

These three supplementary models uncover a similar pattern across each clustering specification which is encouraging insofar as it suggests that unsupervised machine learning is a useful and accurate way of formulating typologies. Given that K-means is the most parsimonious and easiest to interpret approach to unsupervised learning, I use this as my main specification and validate its use by finding similar results running more complex and less commonly used unsupervised methods.

3.3 Mapping Empirical Concepts onto the Literature

Now I have a conceptual framework which bridges the gap between existing typologies of non-state security actors, let us see how well this maps back into the existing literature. In other words, does my empirical typology qualitatively align with the typologies found in the existing literature? First, my typology includes the service categories outlined by Avant (2005), Singer (2001), McFate (2014) and tends to allocate these services to either one or two clusters, confirming that existing qualitative typologies do relatively well at discriminating between the different types of non-state security actor. This typology also accounts for the absolute number of services provided by a non-state security actor, a clear omission from the existing literature.

Second, my typology captures some categorisations that are implicit but not included in existing typologies. For example McFate discusses the presence of "indigenous" paramilitary firms operating in Afghanistan, capturing a specific form of security organisation which is born and operates exclusively in that country (McFate 2019, p.21). These organisational characteristics are incorporated into the algorithm, allowing for a more textured understanding of the types of non-state security force. And given that 43% of the non-state security actor operate in the same country they were established, this characteristic is conceptually important.

Another implicit characteristic is the domain(s) in which the non-state security actor operates. While Avant (2005) makes note of logistics and support organisations operating in multiple domains, they are not discriminated between. Similarly, McFate (2019) notes that private forces have proliferated in every domain except space, again implying that these are important characteristics to account for when typologising non-state security forces (McFate 2019, p.6).

3.4 Conclusion

This chapter has used novel data to develop an inductive typology of non-state security force characteristics. Using K-means clustering, I have identified four distinct forms of non-state security providers; organisations typically understood to be private security companies, private military companies, infrastructural companies, and clandestine military organisations. These results are supported by similar unsupervised learning methods, suggesting that these results are robust. Moreover, this inductive typology maps well to existing typologies, suggesting that this method allows for generalisation across studies without abstracting away from individual academic contributions. With this new measure of non-state security forces, I turn to presenting my theoretical arguments and hypotheses.

4

Theory and Hypotheses

Now I have reviewed the literature on non-state forces, state capacity, and conflict, I turn to developing a theory of why states may outsource their coercive capacity to a non-military outfit, and why might states choose different forms of non-state force depending on the nature of the task in hand.

4.1 Theoretical Mechanisms

4.1.1 Non-State Security Actors Engaging with the State

The first component of this theory asks why non-state actors engage with a state.[1] This is fairly straightforward. Non-state private actors are essentially profit-maximising firms, who have to balance the nature, scale, and risk of an operation (the costs of providing their services) with the potential financial gains that the host state may bestow upon them. Empirically, we expect to see non-state security actors engage with a state when either there is a clear contract between the two actors, or if that state has high levels of natural resources which the non-state security actor could plausibly access as a form of payment.

[1] This theory is not integrated into Figure 4.1, and I discuss only briefly here because it has not been explicitly theorised before.

Non-state actors will also be aware of public perceptions toward their operations, and will balance this in their decision to engage with a states' security needs. Tim Spicer, the founder and CEO of now-defunct PMC Sandline International, stated in his autobiography that Sandline declined several contracts as they believed them to be too risky and detrimental to the company's image of efficiency (Spicer 1999). Of course, though his claims should be viewed with scepticism given the source, they make logical sense. Perhaps though it is less about the image of efficiency and more about the certainty of their payment, but in any case, if an operation is too risky or the costs too high, then it would be reasonable to assume that non-state security actors would avoid engaging with a state.

In short, non-state security actors can be thought of as conflict entrepreneurs. Much literature has focused on entrepreneurism in conflict settings, from military entrepreneurs to ethnic entrepreneurs (Kemp 2004; Mani 2007; Shearer 1998; Tilly 1985). More recent work has sought to designate non-state security actors as conflict entrepreneurs (Daumann 2022). At one end of the spectrum, entrepreneurism can simply be the non-state actor filling a vacuum in security provision. At the most extreme, non-state security actor entrepreneurism could manifest as companies controlling mines or other natural resources in conflict states, such as Executive Outcomes in Angola, or, more recently, the Wagner Group in the CAR. In a sense, this form of non-state security is similar to Mafia groups filling in a gap in the provision of state security and seeking payments through existing state structures (Mirenda et al. 2022).

4.1.2 State Engagement with Non-State Security Actors

Figure 4.1 presents a stylised overview of states' interactions with different types of security forces. Panel A presents the interactions between states and different (but not complete) forms of defence actor. Other potential forms of security include the police, pro-government militias, or state-funded vigilantes. This theory assumes a relationship between two states, whereby a "host state", that is, a state which chooses to engage with a non-state security actor. The dotted line indicates a

conditional and multi-directional relationship between the state(s) and a private actor. First, a host state could either directly engage with a non-state security actor already present in the country. This would be the case with many home-grown private security companies. Second, the non-state actor could enter the host state independently, as is the case with many of the mercenary outfits in the 1960s. Third, a provider state could provision a non-state actor to operate in the host state. This is a typical behaviour of the United States, who sanctioned companies such as DynCorp to operate in post-invasion Iraq and Somalia.

Panel B presents the conditions for each form of security highlighted in panel A (non-state security, paramilitary, peacekeeping forces, regular military) that might precipitate their usage by the host state. Within panel B, `Capacity` refers to state capacity (operationalised in my analysis as military equipment diversity). Not making assumptions about the types of non-state security actor operating in a country, I expect that, on average, non-state security will be utilised in states with lower state capacity. More broadly, my theory suggests that regular military tend only to be utilised for domestic threats in cases where the host state has relatively high levels of state capacity. This seems logical, as the state would have more types of equipment at its disposal and would be able to deal with a wider range of threats.

`Operation Risk` refers to the potential financial or reputational costs for the host state (and the non-state security actor) associated with addressing the internal conflict. Generally, there is a higher risk associated with outsourcing security to actors outside of the state's control; these include non-state security actors and peacekeeping forces. This because, for peacekeeping forces especially, outsourcing can produce significant public backlash and incur high financial costs (Diehl 1988). In the case of non-state security, actors may go beyond the remit of their original contract, committing crimes against humanity which may similarly fuel public backlash. Similarly, for the actors themselves, more complex or violent conflicts are more likely to result in casualties or mission failure.

`Vacuum` refers to whether there is a power vacuum precipitated by the withdrawal of another form of state or non-state security. Again, this component of my

theory applies to both non-state security and peacekeeping forces, as both actors tend to operate following the withdrawal of a states own security forces. In the case of non-state security actors, power vacuums can be caused by other non-state security actors' contracts ending. The state may become reliant on foreign or private forms of security in the absence of a domestic security apparatus, as is the case with Somalia (Hansen 2008; Norman 2020; Norman 2023).[2]

`Public Demand` refers to public perceptions toward each form of security, where `High` indicates more public support for a particular security force.[3] In general, home-grown forces tend to be more favourably viewed by the public than peacekeeping and other non-state forces. This can be a direct result of their behaviour and perceived costs, as mentioned in the previous paragraphs, but there is also a more general suspicion towards non-state actors especially on the African continent (Bryden 2016). I will discuss each of the four components in turn and with specific reference to the types of security force identified in Chapter 3, though empirically testing each of these theories is outside the scope of this paper.

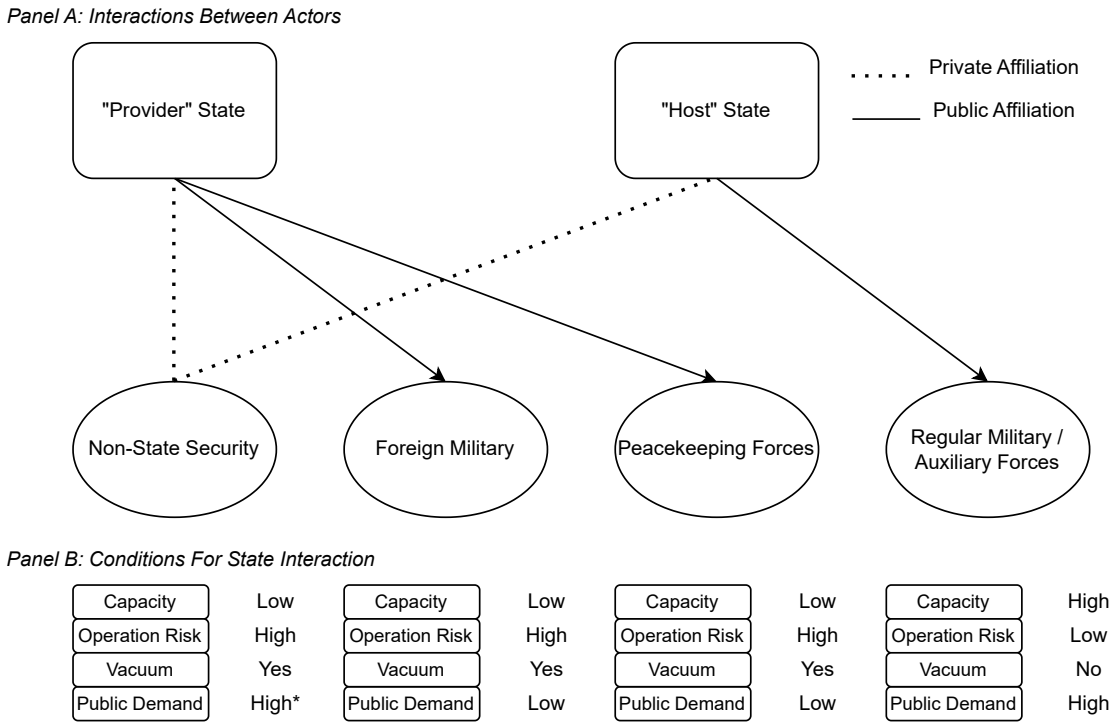
State Capacity

State capacity is a key mechanism in explaining why a state might outsource its coercive capabilities to a foreign actor, be that actor another country's military, a peacekeeping force, or another non-state actor (Ahram 2011; Bohmelt and Clayton 2018; Radziszewski and Akcinaroglu 2020). Outside options may have access to a larger number, or more diverse range, of military equipments. They may also have specific expertise which the host state may not be well-versed in. STTEP's military training program in Nigeria had nominally positive benefits for Nigeria's troops, and STTEP was able to provide Nigeria with several attack helicopters, bypassing US sanctions on other states' sale of military equipment to the Nigerian government (Adamo 2020). By proliferating the number of military equipment

[2]As I will discuss in Chapter 6, Somalia has relied on several non-state security actors in quick succession.

[3]The asterisk in the first column denotes the temporal dynamic of public perception regarding non-state actor; initially positively received, but increasingly negative if the status quo does not change.

Figure 4.1: Theoretical Framework



types, STTEP increased the military diversity and capacity of Nigeria, aiding its fight against Boko Haram.

Similarly, the Wagner Group gifted Mali two Mil Mi-35P attack helicopters, four Mi-8 helicopters, four Sukhoi Su-25s, and five Albatros L-39 aircraft, as well as a number of 59N6-TE mobile radar systems (Jaysim 2022; Pena 2022; Reuters 2021; Africanews 2022). Referring to the 2022 edition of the IISS's Military Balance (which Gannon (2023) uses to develop his Database of Military Capabilities), Mali is recorded as having 292 pieces of military equipment across four domains (The International Institute for Strategic Studies 2022). We can use this data structure to compute military "diversity" scores for each country-year observation. I take inspiration from the biological sciences to compute an index where states with larger numbers of military equipment types are considered to be more diverse (Shannon 1948).

Though Gannon (2023)'s data does not cover the 2020s, I have manually com-

puted these data and Mali would have a diversity score of 0.69.[4] The addition of these military equipments from the Wagner group would increase Mali's diversity score to 0.83, indicating a far more diversified military.[5] For context, from 2004 to 2014, Niger's military diversity score increased by 0.11, whereas Mali's diversity score increased by 0.13 in the space of a year as a result of the Wagner Group's entry into the state. Of course, the situation in Mali is highly dynamic, and so any military success or failure cannot causally be attributed to the Wagner Group's bestowal of additional military capabilities. Instead, this exercise is designed to highlight the power of non-state security actors have on states with weak military capacity by meaningfully increasing their equipment diversity.

Nature and Risk of Conflict

Perhaps one outcome that may be easier to capture in the existing data and literature is efficiency. Shearer argues that privatised companies offer efficient solutions to an increasingly prevalent form of low-intensity stochastic conflict, with the underdeveloped caveat that their behaviour should be better regulated (Shearer 1998, p.79). This seems to be a common argument; Cameron (2006) notes that industry lobbyists tend to highlight the value of efficiency when discussing non-state security actors, despite failing to address their inconsistent compliance with humanitarian rights (Cameron 2006, p.576). Howe takes the positive implications of efficiency a step further, describing how Executive Outcomes' operation in Angola and Sierra Leone highlighted various military inefficiencies within both countries' *own* militaries, concluding that African states should downsize their (already small and not diverse) military forces (Howe 1998, p.331).

Across measures of efficiency—cost of operations, speed of deployment—there does appear to be some consensus in the literature that non-state security actors have an advantage over conventional militaries. However, efficiency is not the only dimension over which we want to understand these actors. As discussed, if higher

[4]For comparison, the UK's diversity score in 2014 was 1.3 (Gannon 2023).

[5]The Statesman Yearbook 2022 provides more aggregated estimates of military capabilities, but suggests a similar level of military diversity (The Statesman's Yearbook 2022).

levels of operational efficiency mean that international humanitarian law is not adhered to, can we treat this as a positive consequence of PMC activity?

Plausible Deniabilty Another reason why states may opt for a non-state actor is to claim plausible deniability over a certain task. That task may have a negative effect on the state's image, or may simply be considered illegal according to domestic or international law. This theory is discussed in Singer (2001), who uses Dyncorp's "counter-guerilla" operations in Colombia which were effectively disguised as "anti-drug" operations to appear less controversial (Singer 2001, p.218). Baum argues that plausible deniability might serve as a positive externality of non-state security actor operations, suggesting that it allows states to accomplish "standing and urgent objectives" (Baum and McGahan 2013).

Using ACLED data, I map the number of violent events by type, disaggregating them by non-state security actor type (Raleigh et al. 2023). Given that ACLED does not group conflict actor by type, I manually bin actors into either "private security" or "private military" categories. Figure A.13 presents these results. For private military companies, the most frequent form of violence is, surprisingly, violence against civilians, followed by engagement in "battles". For private security companies, the most common form of violence is engagement in battles, followed by violence against civilians and, to a lesser extent, remote violence, riots, and protests.

The frequency with which these non-state security actors engage in violence against civilians suggests two possible explanations: first, states might be explicitly hiring non-state security actors for the purpose of engaging in politically and ethically questionable operations. Second, the non-state security actors themselves may be going beyond their remit given their autonomy from the state. There are some pieces of psychology research which look at the motivations and reasons behind atrocity (Doris and Murphy 2007; Zimbardo 2005). Reflecting on the Stanford Prison Experiment, and the [then] recent Abu Ghraib atrocities, Philip Zimbardo describes some of the conditions that might propagate extraordinary violence: "You had the dehumanization, the use of labels of the other as inferior, as

worthless. There was a diffusion of responsibility such that nobody was personally accountable" (Zimbardo 2005). Echoing this, McFate states that contractors "offer plausible deniability and brute force to those too weak or squeamish to wage war" (McFate 2017).

One issue with this summary statistic is the representativeness of the sample. ACLED do not cover many instances of violence perpetrated by non-state security actors, and so what is included is only a very small subset of the most high-profile instances of violence which may not be representative of the modal forms of violence committed by non-state security actors.

Power Vacuums

Non-state actors may also proliferate when other forms of security exit a state, either by their own accord or at the behest of the host state. Today, many west African countries, including Mali, Niger, and Burkina Faso, who have previously seen a large French military presence and a number of UN peacekeeping missions, have ordered these forces to conclude their operations and leave their countries, opting instead for private security solutions in the form of the Wagner Group.[6]

In Somalia, Bancroft, a US-owned PMC who also operates in Afghanistan, established themselves as a so-called "gatekeeper" security company following the withdrawal of Al-Shabaab (Norman 2020). Ahram (2011) describes how the withdrawal of peacekeeping and foreign military forces is often a result of inefficiencies and ground-level scepticism towards their intervention, particularly in states with a legacy of colonialism. While Ahram focuses on militia activity in Somaliland, his theory of the devolution of violence following the withdrawal of peacekeeping or state militaries perhaps in part explains the proliferation of PMCs in conflictual regions. Similar theoretical arguments concerning the rise of non-state forms of

[6]All three states are former French colonies and have faced a range of security threats in recent years. This, coupled with the Russia's own influence campaign in the region, has undoubtedly played a part in the security power vacuum and the states' shift to Russian-provided private security (Sukhankin 2019).

security in the absence of a strong state are explored in Acharya et al. (2020). Non-state security actors like PMCs are then simply another manifestation of coercive entrepreneurs filling a gap in the absence of a strong state.

Public Perceptions

Fourth, states may engage with a non-state security actor if there is a public demand, or if there is public dissatisfaction with the states' current security apparatus.[7] So, how do people on the ground feel about PMCs? Do they value the supposed efficiency of a PMC more than they value lack of oversight given to these organisations? There is *prima facie* evidence that the public have at least *some* influence on whether a state engages with a non-state form of security. Avant and Sigelman argue that the use of PMCs reduces transparency, which in turn erodes constitutionalism and public consent in military operations (Avant and Sigelman 2010, p.265). They find that public attitudes toward PMC casualties are no different to military casualties, but the covert nature of PMC operations means that the public are inherently less likely to be aware of PMC losses. Schooner and Swan contend that contractors should be better integrated into the media's coverage of, and the government's reporting of, military related casualties. They also present interview evidence contrary to Avant and Sigelman (2010)'s findings that the public "is no less sensitive to the human costs of war when they are borne by contractors" (Avant and Sigelman 2010, p.265).

Using a nationally representative survey, Ramirez and Wood find that when individuals believe that PMCs are more efficient, there is heightened support for both combat and non-combat operations, but when respondents understand PMCs to be profit-maximising actors with substantial operational autonomy, perceptions are more negative (Ramirez and Wood 2019, p.1435). Johnson et al. present more negative findings regarding the public's blame attribution towards fictionalised

[7] It is also likely that public perceptions toward privatised security is positive in the first instance, as it may represent a welcomed change to the status quo, becoming more negative over time if the security situation does not improve. This disillusionment is what Donini (2007) discusses in reference to aid interventions in Afghanistan.

missions involving a government's military or contractors (Johnson et al. 2019). The public, they suggest, view contractors as inferior security providers than regular militaries. However, it is possible that blame attribution might occur along partisan lines, a dimension not considered in Johnson's work (Lee 2022).

As far as I know, there is only one systematic analysis of government attitudes toward contractors. Casiraghi (2021) analyse parliamentary debates mentioning mercenaries and private military companies from 1805 to 2017, analysing the change in anti-mercenary norms over time. They find that after 1991, the anti-mercenary norm disappears, as the more legitimised term "PMSC" comes into parlance. These attitudes, I believe, are highly contingent on the PMC in question. While there may be a collective acceptance of private security companies providing transport and logistic assistance to diplomatic convoys in highly volatile areas (for example G4S in Nigeria and the Democratic Republic of Congo), there is also considerable anti-mercenary sentiment towards the Wagner Group, with some governments seeking to designate the group as a terrorist organisation (Wicker et al. 2023).[8]

There is a clear lack of consensus regarding public perceptions towards non-state security actors and their operation in conflict environments. Perhaps more concerning is the fact that existing research is limited only to western perceptions of these actors. Far more beneficial, I argue, is the collection and analysis of attitudes and opinions from individuals living in the regions where these actors are actually operating. Anecdotal evidence suggest that the Wagner Group has been warmly received by the public in west African states, and the Dyck Advisory Group was similarly well received when it began operations in Mozambique (Kimble and Bosch 2022; Amnesty International 2021). These individuals are directly affected by non-state security actors and so understanding whether respondents place similar

[8]Of course, recent action to designate the Wagner Group as a terrorist organisation is undoubtedly tied to their operations in the 2022 Ukrainian war. The Wagner Group had been operating in the Central African Republic, Mali, and Mozambique for several years prior to this legislative action. It is unlikely that this Senate proposal reflects Casiraghi (2021)'s discussion anti-mercenary norm, and is more likely a symbolic sanction against Russia. However, this example highlights that not all PMCs are the same, and their operations (and media coverage of those operations) will impact how PMCs are perceived, and how governments might respond to them.

weights on efficiency versus profit-seeking motives versus on-the-ground impacts is an important and essential strand of future research.

4.2 Hypotheses

With this theoretical framework in mind, I present my three hypotheses. I divide my hypotheses into predictive (quantitative) and explanatory (qualitative) hypotheses. The impetus behind this is to use the explanatory hypotheses to uncover the mechanisms that potentially explain my predictive models, described more in the next chapter (Gonzalez-Ocantos and LaPorte 2021; Humphreys and Jacobs 2015).

4.2.1 Predictive Hypotheses

The first hypothesis rests on my conceptualisation of non-state described in Chapter 3. It is really more of a confidence test, as it would be surprising to see the data show that non-state forces are more likely to operate in states with higher levels of state capacity given the findings of existing literature. Of course, there are studies such as Ong (2018) who find that states with high institutional capacity (specifically, China) may still outsource coercive capabilities in more rural and less developed areas within their territorial boundaries. Ong's finding relates more to my claims about different forms of non-state security, where states with higher institutional capacity are more likely to engage with Type-1 security companies rather than more military-oriented groups. It is unlikely that within-country variation would be picked up in empirical analysis as there are not, to my knowledge, and sub-national measures of state capacity. With all that said, the first confidence test hypothesis is:

- H_1: *non-state security actors are more likely to operate in states with lower state capacity.*

The second hypothesis concerns the types of non-state actor operating in a state. As I described in Chapter 3, there exists a specific form on non-state actor, one who provides a comparatively larger number of services, who operates in more domains,

and who operates in more than one country: Type-1 private militaries. These actors, through their ability to provide a diverse range of coercive capacities, have more autonomy from the state and are more likely to be employed by the state to replace their existing coercive forces. As such, I expect to see measures of low state capacity to predict the increased presence of Type 1 non-state actors. Similarly, I expect to see indicators of low state capacity to predict the presence of Type-2 private security companies, as these organisations present a cheap supplement to their existing coercive capacity. Type-4 mercenaries are also more likely to operate in regions with lower state capacity, but for a slightly different reason and one which my measure of state capacity can only serve as a proxy for. To be sure, Type-4 mercenaries are employed by states to provide additional military support or to fully replace a degraded military apparatus. However, Type-4 mercenaries are also likely to operate in states with low state capacity and accessible natural resources, as this is their main form of remuneration. As Type-4 mercenaries are less common today, it is unclear whether they will be picked up in the data analysis. Type-3 private defence companies operate across all levels of state capacity—given that their main focus is arms and infrastructure provision—and so I expect to see a more stable relationship between state capacity and state engagement with Type-3 private defence companies.

Note that this hypothesis is less concerned about the causality behind the presence of non-state actors and state outcomes, rather, I hope to ascertain under what circumstances we might see a non-state actor engage with a state in a purely predictive sense. As mentioned, existing literature does not provide a strong theory as to the conditions under which a state may engage with a non-state security actor, so in addition to being predictive in nature, this analysis is also theoretically inductive.

- H_2: *state capacity predicts states' engagement with Type-1 private military, Type-2 private security, and Type-4 mercenaries. State capacity is unlikely to impact the probability of a state engaging with Type-3 private defence*

4.2.2 Explanatory Hypotheses

The third set of hypotheses seek to uncover the mechanisms behind states' engagement with non-state security actors. This latter set of hypotheses relate to Figure 4.1. Given the paucity of data covering these topics, the third set of hypotheses are to be applied only to the case study in Chapter 6, and are not analysed quantitatively. Table 4.1 presents hypotheses for each of the four types of non-state security actor. Specifically, each cell corresponds to a different set of criteria that is necessary for a state choosing to engage with a non-state security actor. Briefly, for all actors except Type-3 private defence contractors, I expect to see low military diversity and the absence of functional security forces to explain why states choose to outsource to non-state security actors. I expect Type-2 private security to operate in less complex conflicts which span a single domain or service, while Type-1 and Type-4 actors will assume a full military role in the context of a more complex and multifaceted conflict. Public opinion may initially be high, as these actors are seen as a break from the status quo, but will quickly become negative if tangible and decisive military and security victories are not quickly secured. Type-3 non-state actors, as uncovered in my quantitative analysis, are more likely to be harnessed in contexts where the state is missing a specific military capability, irrespective of military diversity, conflict, or public perceptions.

Table 4.1: Case Study Conditions

Actor	Condition			
	State Capacity	Operation Risk	Vacuum	Public Demand
Type-1 Private Military	Low military diversity, limited state reach.	Insurgency, civil war, high political instability.	Collapse of existing domestic security forces.	Initial high demand, slowly decreasing.
Type-2 Private Security	Low military diversity, small number of military equipment.	Generic threats to security.	Withdrawal of comparable security force (e.g. police, other NSSA).	Initial low demand or indifference.
Type-3 Private Defence	Lower military diversity, especially in specific domains.	Not applicable.	Not applicable.	Not applicable.
Type-4 Mercenary	Very low military diversity, state breakup.	Insurgency, civil war, high political instability, anti-government operations.	Collapse of existing domestic security forces.	Usually low, high if seen as a move away from the status quo.

4.3 Conclusion

In this section, I have developed parallel theories of why non-state security actors choose to engage with a state, and why states may choose to outsource their coercive capabilities to non-state security actors. Combining this theoretical framework with my inductive conceptualisation exercise from Chapter 3, I posit three core hypotheses. In Chapter 5, I turn to quantitatively analysing the first two sets of hypotheses using existing datasets as well as my own dataset described in Chapter 3. In Chapter 6, I will test my third hypothesis.

5
Data Analysis

I now turn to empirically testing hypotheses H_1 and H_2, described in Chapter 4. As discussed, the goal of this research project is to both provide a novel empirical contribution (in the form of a dataset on non-state security actor characteristics) and also to bridge the gap between existing empirical contributions to the literature.

I combine my original dataset with existing datasets in the field of privatised security. The data used in this section comes from Radziszewski and Akcinaroglu (2020)'s dataset on private military company interventions in civil wars across the globe. Ideally, a panel dataset would exist covering all non-state security actor events and non-state security actors, irrespective of whether they occurred in the context of a civil war. This is because some non-state security actors, such as Type-2 private security, operate outside of conflict events. Indeed some forms on non-state actor, such as private defence companies, strictly do not operate in conflict zones and only provide weapons and other armaments without actually physically entering other countries. In other words, ideally I would want to treat the instance of conflict as an independent variable rather than a scope condition. Sadly, this data does not yet exist and the development of such a dataset is outside the scope of this project. As such, this analysis should be considered as a subset of the wider phenomenon on non-state security actor activity, and, in particular, a study of

Type-1 and Type-2 non-state actors, who are implicitly the predominant focus of existing quantitative studies. This exercise still allows me to directly respond to my theory's expectations, only with the caveat that I am studying a subset of my theory rather than the predictions of the entire theoretical model.

This chapter is organised as follows: first, I describe the data merging process and operationalise the variables used in each of the analyses; second, I describe estimation and modelling strategies; third, I present the output and interpretation of the models; fourth, I provide a discussion of the overall findings; and finally, I provide a brief summary of the chapter.

5.1 Operationalising Concepts

I use Radziszewski and Akcinaroglu (2020)'s data as a frame for my analysis, merging in my own dataset on non-state security characteristics and cluster identifiers. I also merge in Gannon (2023)'s data on military diversity as a measure of state capacity, discussed in a later paragraph. These three datasets serve as the core dataset for analysis in this chapter.

Dependent Variable 1: Non-State Security Presence. This variable is a binary measure for whether a non-state security force was present in a civil conflict and is found in Radziszewski and Akcinaroglu's original dataset. This variable captures the extensive margin of non-state security activity.

Dependent Variable 2: Non-State Security Type. This variable is derived from my own data, and captures what type of non-state security force is present in a conflict (that is, the intensive margin of non-state security presence). To create this variable, I code all of the different non-state actors operating in a conflict (there are often more than one present in any given conflict), and then reshape the data such that unit of analysis is conflict-non-state-security-type; any conflict without a non-state security actor is dropped from this analysis as I want to understand what predicts different forms of non-state security appearing in conflict settings.

Independent Variable: State Capacity. Operationalising state capacity is challenging given that it can be measured in a number of different ways and, as mentioned, existing measures tend to be national-level and ignore regional variation in institutionalisation, government control, and development. Some authors take the implementation of a national census to be a proxy for state capacity (Soifer 2013). Others conceptualise state capacity along economic lines, such as whether a state has an institutionalised tax apparatus (Rodríguez-Franco 2016). I am concerned with state capacity from a military perspective, in line with the work of Lyall (2020) and Gannon (2023). Using data from Gannon (2023), I create a diversity index for states' militaries based on the Shannon index, where a state with a larger number of military equipment types is considered to be more diversified (Shannon 1948). Continent-decade-level military diversity are presented in Figure A.14. This is the same procedure I describe in Chapter 4.

Independent Variable: Natural Resources. Natural resources are captured with two binary variables for oil and diamonds being main exports, and a categorical variable for whether a state has both resources as a main export, just one, or neither.

Independent Variable: Democratisation and Development. The main variable for democratisation is a state's PolityIV score (Marshall and Gurr 2020). I also include variables for the natural log of a country's gross domestic product (GDP).

Independent Variable: Nature of Conflict. Several variables capture the nature and scale of conflict in a state. These include variables for the size of a state's military, the size of the rebel force, ethnic fractionalisation, the number of factions involved in the conflict, whether there have been terrorist attacks.

Other Variables. I also include dummy variables for world region, an indicator for country name, elevation and logged population.

5.2 Estimators and Models

Using the data described above, I run a number of supervised machine learning algorithms and compare each models' relative predictive accuracy. For the most

accurate model, I present variable importance plots to highlight which features (covariates) are most important in predicting the presence of non-state security actors. I run six models: random forest, boosting, multivariate adaptive regression spline (MARS), bagging, support vector machine (SVM), and Bayesian additive regression tree (BART), and statistically compare their relative accuracy.

Supervised machine learning methods are increasingly used in the field of political science. For example, authors increasingly rely on ensemble methods to predict the onset of civil wars (Blair and Sambanis 2020; Ward et al. 2010). Given the intensely contested discussion around what might cause civil wars, machine learning approaches are useful as they allow researchers to study potentially hundreds of features (and interactions between features, as is particularly salient to my case) that may play a role in predicting civil war onset and termination. Moreover, given the relatively small number of observations, machine learning methods (especially models such as classifications trees and BART) can handle large numbers of features despite smaller numbers of rows (Chipman et al. 2012).[1] Though I believe ensemble machine learning to be a more robust way to engage in predictive modelling, Table A.3 in the appendix shows the results of a naive and fixed-effect linear probability model of the following form:

$$Y_{it} \sim \beta X_{it} + \gamma_i + \epsilon_{it}$$

Where Y_{it} represents a binary outcome variable (the presence of non-state security actors) for country i in time t. β is my estimate of the effect of each variable included in the analysis (discussed in the previous section) while γ_i are country fixed effects. ϵ_{it} is the error term. These results broadly find analogous results to the variable importance plots shown in the next subsection, and I describe the findings in more detail in the appendix.

Where there exist many competing theories, or where no strong a priori theories exist, machine learning can serve as a useful foray into disentangling complicated

[1] I use two datasets for this analysis, the smallest N is 262 and the largest N is 1208.

mechanisms (Grimmer et al. 2021; Choudhury et al. 2018). In the context of the study of non-state security actors, there simply does not exist enough data, nor have there been enough theories developed and tested, for researchers to claim to have a strong understanding of when states might engage with a conflict. Though I posit several theories in this research project, I cannot say with confidence that these serve to fully capture the variation in non-state security outsourcing, indeed, they are only an initial foray into understanding why states seek to outsource to non-state security actors. To this end, machine learning produces predictions of the conditions which might lead to a higher probability of a non-state security actor engaging in a conflict. Though not causal in nature, these models provide a set of variables which can then be tested using causal inference methods or through case studies—as this research project will present in the following chapter—or through quantitative techniques, contingent on the availability of data.

5.3 Results

5.3.1 Hypothesis 1

I will begin by tackling the first hypothesis, that non-state security actors are more likely to operate in contexts of low military diversity. Figure 5.1 presents the relative performance of each of my models. My accuracy metric of choice is the area under the receiver operator characteristic curve (ROC AUC, captured on the y-axis). For each model (captured on the x-axis), imagine a receiver operator curve with the false-positive rate on the x-axis and the true-positive rate on the y-axis. The AUC captures the probability that a given model ranks a randomly selected positive example more highly than randomly selected negative examples. The ROC AUC is measured from zero to one, where a value of one indicates a model which predicts the outcome correctly 100% of the time. Each model performs quite well: the worst performing model—the Support Vector Machine—has an AUC value of 0.82.

Figure 5.1: Hypothesis 1: Model Comparison

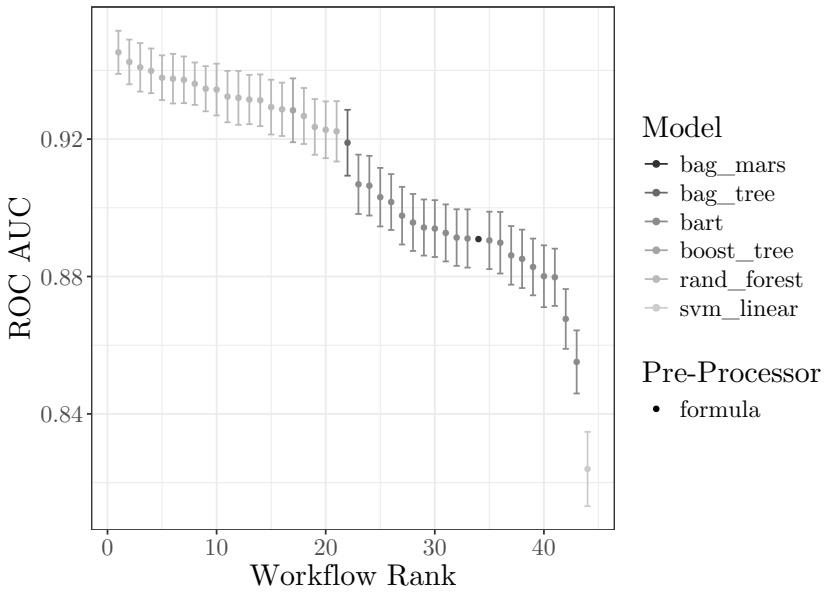
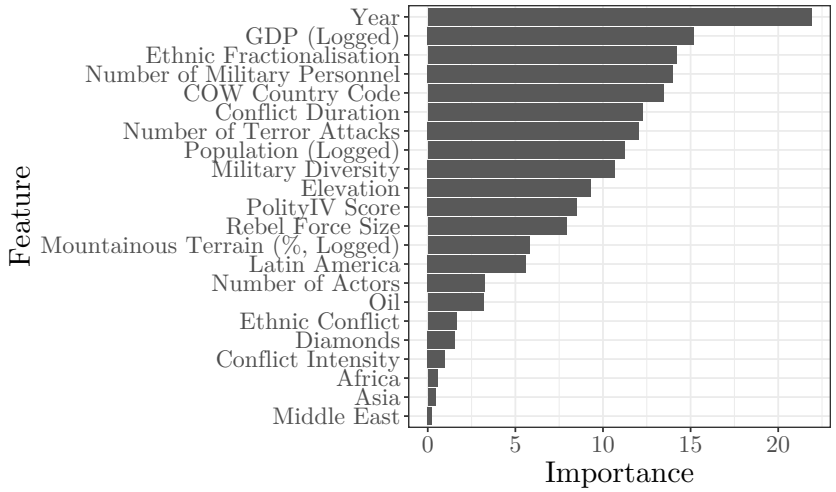


Figure 5.2 presents the relative importance of each of the variables in my most accurate model from the previous figure, the random forest. One can see that the year of the conflict is most predictive of the presence of non-state security actors, indicating that the number of non-state security actors has proliferated over time. A number of country-specific indicators are also highly positively predictive (GDP, COW Code, population, elevation, and ethnic fractionalisation). Military diversity is also a positive predictor of the presence of non-state security actors in conflicts. Lastly, conflict-specific characteristics, such as the number of military personnel, the duration of the conflict, and the number of terror attacks in a country, are also predictive of non-state security presence.

5.3.2 Hypothesis 2

While hypothesis one focused on the extensive margin of state engagement with non-state security actor—that is, whether or not a state chose to outsource their coercive

Figure 5.2: Hypothesis 1: Variable Importance



capabilities, irrespective of the type of actor they were outsourcing to—hypothesis two is focused on the intensive margin of outsourcing security; understanding how we can predict what types of non-state actor will be selected under which circumstances. This question, though a logical and natural next question in the theory of outsourcing security, is a lot more tricky to answer with existing data. Initially, I tried to reshape Akcinaroglu and Radziszewski's dataset such that the new unit of analysis was country-year-actor. From there, I would merge in my dataset on non-state security actor, and run the same set of machine learning algorithms as in the previous section, assessing which variables were predictive of the *types* of non-state security actors states chose to outsource to. Unfortunately, the mass of observations is 0—no non-state actor—and only 8 observations of 3 unique Type-4 mercenary actors exist in the dataset. This is far lower than the number of observations required to use re-sampling methods like the synthetic minority oversampling technique (SMOTE) or random over-sampling examples

(ROSE). As such, all six machine learning models attempting to predict the five different categories (no non-state actor, and the four latent clusters) fail to run.

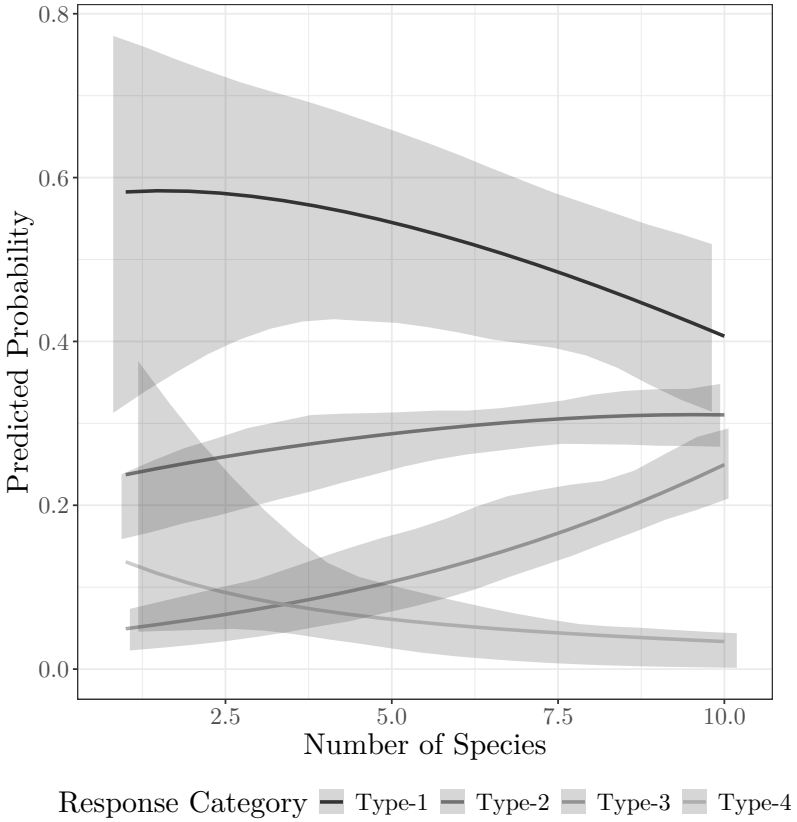
Though frustrating, this exercise highlights a very clear avenue for future research. As mentioned earlier in this chapter, the development of a panel dataset at the country-year level containing data on conflict and non-conflict instances, and non-state security actor presence, would be invaluable. This data should cover up to the present day, and back in time as far as the 1950s and 1960s, when Type-4 mercenary actors were more prevalent. Though this data does not yet exist, there are still some methods I can use to at least approximate the predictions made in my second hypothesis and corresponding theory.

Given that my theory, and much of the discussion surrounding non-state security actor deployment, discusses or implies the role of state capacity, I analyse the specific role of state capacity in predicting the presence of the different types of non-state security actor. Figure 5.3 plots the predicted probabilities of a Bayesian multinomial regression model (Fisher and McEvoy 2022). The advantage of a Bayesian approach in this context is that handles inference using small sample sizes much more effectively (Gelman et al. 2008). Additionally, given that I am concerned with prediction, Bayesian techniques allow for the quantification of uncertainty as opposed to assigning p-values (a similar logic to the multiple systems analysis described in Chapter 2). The outcome in this figure is the unordered categorical variable of non-state security actor type, where the reference category is Type-1 private military actors. The independent variables are those fed into the machine learning algorithms, described in more detail in the previous section. On the x-axis, I plot the potential number of military equipments, or species, ranging from 0 to 10, where 0 would imply a country with no military equipment. Larger values indicate higher levels of state capacity.[2]

This analysis uncovers some interesting patterns that provide *prima facie* evidence of my theory. Let us begin in reverse order: Type-4 mercenaries, which

[2]To quantitatively assess the intensive and extensive margin of non-state security actor presence, I also run a Heckman 2-step selection model (Table A.4) (Heckman 1974; Winship and Mare 1992). A full interpretation of this analysis can be found in the Appendix.

Figure 5.3: Hypothesis 2: Predicted Probabilities by State Capacity



have the fewest number of observations and so the lowest overall probability of engaging with any state. That said, the probability of their presence increases with decreasing measures of state military diversity, or the least capacious states.[3]

Type-3 private defence companies have an overall higher probability of appearing compared with Type-4 mercenaries, likely a result of the larger number of observations in the dataset. The distribution of predicted probabilities is more uniform (roughly between 0.1 and 0.2, though they do appear to engage more with states with higher military diversity) for Type-3 private defence companies, highlighting their universal usage by more and less capacious states. Remember that Type-3 private defence companies tend not to put boots on the ground, instead, they provide arms and infrastructural services to states. Examples in

[3]The three Type-4 mercenary organisations captured in Akcinaroglu and Radziszewski's dataset are Gurkha Security Guards, Intercon, and Keenie Meenie Services. Table A.5 tabulates the count of each unique NSSA present in the dataset used in the analysis in this chapter.

the dataset include Lockheed Martin in Colombia in 2006 or Trident Maritime in Nicaragua in the 1980s.

Type-2 private security actors also have an overall higher probability of appearing in states compared with Type-4 mercenaries, though the distribution of probabilities is no more pronounced than that of Type-3 defence contractors; they have roughly a 25% probability of operating in the least capacious states. This probability increases to about 30% in states with higher levels of capacity. This perhaps reflects the dual role that Type-2 private security actors play in states: where a state has lower levels of development, Type-2 actors can serve as an alternative to police or military forces; where a state has higher levels of development, Type-2 actors can serve as a supplement to existing military forces, such as G4S who provide armoured cash transit services in places like the United Kingdom.

Finally, Type-1 private military companies have the highest probability of appearing in middle- to high-capacity states. This makes sense, given that Akcinaroglu and Radziszewski's dataset focuses on what they define as private military companies. At low-capacity states, there is an almost 60% probability of a Type-1 private military company being present in the state and this decreases to about 40% in states with higher levels of military diversity. The reason I see a relatively high probability at high state capacity, a phenomenon which seems to somewhat contradict my theory, is likely a function of the scope of the data, and the fact the dataset records Blackwater as operating in the United States in 2004-2006. This increases the predicted probability at the higher levels of state capacity. Moreover, Type-1 organisations have operated in places like Pakistan, which have comparatively high measures of military diversity. Given their diverse range of services provided, and given the fact that Type-1 private military companies tend to be larger and better able to operate in different contexts than other forms of non-state security actor, these predicted probabilities are not as extreme as initially presented.

5.4 Discussion

This exercise has uncovered a number of interesting findings and implications. First, these results are the first quantitative estimates of the extensive and intensive margin of non-state security actor presence across the globe. Measures of state capacity and conflict intensity are positive predictors of the presence of non-state security actors and it appears that, on aggregate, non-state security actors are present across all continents (despite anecdotal evidence suggesting a higher concentration of contractors in the Middle East and the African continent). The trouble with this extensive margin analysis is that we cannot distinguish between the different types of non-state security actor, and it is clear that the dataset used in the analysis contains all of the four classes of actor identified in my inductive analysis.

Second, this analysis has generated a fruitful avenue for future research, namely, studying the individual variables which predict the presence of non-state security actors and how they differentially effect the presence of the different classes of these actors. We have seen clear differential patterns in the probability of non-state security actor presence by levels of state capacity. This analysis really only probes the surface of the relationship between country-level variables and non-state security actor presence. Future research should seek to causally analyse these patterns.

5.4.1 Limitations and Threats to Inference

One potential threat to the inference of this analysis is if the presence of non-state security actors are considered during the construction of any of the control variables (such as PolityIV's Polity Score) (Marshall and Gurr 2020). Having read through the codebooks of these other datasets, I am confident that this is not an issue. Of course, many of these variables might covary and be influenced by confounding variables, but I am certain that variables on non-state security actor presence and type are not factored in the construction of any other variables.

The second limitation is the scope of data, namely that it only covers civil conflicts. I have already discussed this limitation briefly, but future research should focus on developing a panel dataset whose scope condition is not civil wars, and whose unit of analysis captures non-state security actor name and presence in and outside of conflict scenarios.

Third, and another shortcoming in the data, there is a lack of coverage for Type-4 non-state actors. Because Type-4 mercenaries were more prevalent in the 1960s, and the data capture only a few historical conflicts, Type-4 mercenaries are under-represented in the data. Again, future work should expand the temporal scope of any analysis of non-state security actor presence.

Fourth, as this analysis is inductive—that is, I include a number of *a priori* important variables in my analysis without a specific theory as to the interaction or hierarchy of these variables—it is difficult to explicitly link these results back to my theory.

To be clear, these limitations are not to discredit my overall analysis, rather, they simply highlight what this analysis is currently unable to do, and what should be prioritised in the study of non-state security actors going forward.

5.5 Conclusion

In this chapter, I used my original dataset combined with existing datasets on private military companies and other non-state security actors in order to assess what country-level covariates predicted the presence of these actors in different states in the midst of civil conflicts. Broadly speaking, indicators of state capacity and conflict intensity positively predict the presence of non-state security actors, while region indicators and measures of natural resources seem to have less predictive power. At the intensive margin, Type-2 private security and Type-4 mercenaries are more likely to operate in states with lower levels of state capacity, while Type-1 private militaries are more likely to operate across a broader range of country

contexts. The probability of Type-3 private defence presence is more uniformly distributed across levels of state capacity.

With these findings in mind, and with my new empirical typology of non-state security actors described in Chapter 3, I turn to selecting and qualitatively analysing a number of cases in order to probe the theoretical mechanisms proposed in hypothesis H_3.

6

Case Selection and Case Study

Given that no systematically collected data on the reasons behind state engagement with non-state security actors exist, I use a nested case selection strategy to select cases to probe hypothesis H_3 (E. S. Lieberman 2005).[1] Nested case selection is a particularly useful method because it bypasses potential biases in case selection. As mentioned, existing studies tend to focus on cases which have existing literature surrounding them. By randomly selecting cases in a principled manner, I can explore unique and hitherto unexplored cases in order to generate evidence for my hypothesis (Seawright and Gerring 2008). Of course, random selection may produce cases which might not make sense to analyse (for example, there may simply not be enough evidence to analyse the case in sufficient detail). The selection algorithm is such that cases with significant missingness are not considered for selection, nor are actors who are currently still in operation. Having selected these cases, I then process trace the birth and death of these companies, focusing on the specific interaction they have with states and using academic and governmental sources to test whether each hypothesis in Table 4.1 passes either a straw-in-the-wind, hoop, smoking-gun, or doubly decisive test.[2] I seek to capture variation in the reasons

[1] This is by no means a critique of the literature. It would be essentially impossible to collect such data, and it would only allow for basic descriptive inference.

[2] Table A.6 adapts Table 1 in D. Collier (2011) to provide information on these different process tracing tests for causal inference.

behind why states choose to outsource security to the four different types of non-state security actor (Lieberson 1991; Lieberson 1994; Savolainen 1994). Process-tracing is advantageous in this setting as I am able to compare and contrast the births and deaths of each of the four types of non-state security actor in parallel, rather than studying a single case in a single time. I first outline the methodological procedure to arrive at my selected cases before diving into the case analysis.

6.1 Nested Case Selection

My case selection procedure is as follows: first, I start with the clustered non-state security data created in Chapter 3. This data has each row corresponding to a non-state security actor, and each column corresponding to characteristics of those actors. It also contains the cluster number (for two, three, and four cluster specifications) for each actor. Second, I remove observations which are still active companies.[3] I also filter out observations where I do not have information on their year of operations or number of employees. I take these as proxies for availability of information; if I was unable to obtain these basic statistics for that company, it is unlikely I will find information on, say, their operations or contracts. From there, I randomly sample one actor from each of the four clusters.[4] As far as I know, this is the first research project of its kind to use K-means clustering as the basis for nested case selection.[5]

Table 6.1 presents summary statistics on my four selected cases. The first four rows of the table correspond to the four different cluster specification panels presented in Figure 3.1 in Chapter 3, with the chosen specification highlighted in boldface. Each column value then represents which cluster each actor appears in for each of the four cluster specifications. Note that because I determined four

[3]The logic behind this is that I assume any findings regarding these actors might not generalise to the same actors later on in time. It is better to study a case which has ceased operations so I can get a more comprehensive understanding of their birth, operations, and death.

[4]For this randomisation procedure, I also select a seed (which determines how the sample will be randomised) which provides cases from different origin countries. Again, this is to ensure variation across the actors I study.

[5]Figure A.15 presents the selected cases in model space.

clusters to be the optimal number, there is no example of a fifth cluster non-state security actor captured in the `Panel 4` row.

The randomisation algorithm selects DynCorp, Al-Hababi Marine Services, SELEX Sistemi Integrati, and "Mad Mike" Hoare as my case studies. At face value, this selection provides good variation across cases in terms of country of origin, length of operations, and number of services and domains. Each group appears to have sufficient primary source information allowing for a relatively detailed comparative case study. Moreover, these actors are relatively understudied and appear to be instructive "representatives" of their respective clusters: DynCorp represents the literature's current description of private military companies; Al-Hababi represents a form of specialised private security company; SELEX represents typical "defence contractors", but is far less studied than companies such as Lockheed Martin or BAE Systems; and Mike Hoare exemplifies the traditional mercenaries which modern non-state security actors seek to distance themselves from. Some summary statistics of each of the cases are presented in Table 6.1.

Table 6.1: Case Selection

	DynCorp	**Al-Hababi Marine Services**	**SELEX Sistemi Integrati**	**Mike Hoare**
Panel 1	1	1	2	1
Panel 2	3	3	2	1
Panel 3	**1**	**2**	**3**	**4**
Panel 4	3	1	4	2
Country HQ	United States	Somalia	Italy	Ireland
Year of Origin	1946	2001	2005	1961
Year of Termination	2020	2006	2013	1981
Number of Employees	14000	1000	4500	300
Domain: Land	1	0	1	1
Domain: Air	1	0	0	0
Domain: Sea	0	1	0	0
Domain: Cyber	0	0	1	0
Services: Training	1	0	0	1
Services: Protection	1	1	0	0
Services: Logistcs	1	0	0	0
Services: Infrastructure	0	0	1	0
Services: Advisory	1	0	0	0
Services: Active Combat	1	1	0	1
Services: Misinformation	0	0	0	0
Services: Anti-Government	0	0	0	1
Domains: Total Domains	2	1	2	1
Services: Total Services	5	2	1	3
Other: Traditional Mercenary	0	0	0	1
Other: Operates in Single Country	0	1	0	0

6.2 Case Study

Having selected my four case studies, I now process-trace the birth of these non-state security actors and the conditions and motivations behind their engagement with different sovereign states (García-Montoya and J. Mahoney 2023). Table 6.2 builds off of Table 4.1, highlighting the evidence I would need to find in order to plausibly claim my hypotheses and each component of my hypothesis is accurate, and provides the countries I will be focusing on for each actor. I now analyse each actor in turn.

Table 6.2: Case Study Evidence

		Necessary Evidence			
Actor	Scope	State Capacity	Operation Risk	Vacuum	Public Demand
DynCorp	Somalia	State indicates that their current forces are lacking, a general sense of loss of control.	There is an ongoing or escalating conflict.	There is limited or no domestic security apparatus.	Reports of dissatisfaction towards the military or other security forces. Later reports of loss of faith in non-state security.
Al-Hababi	Somalia	State indicates that their current forces are lacking.	Reports of security threats.	Recent withdrawal of security apparatus (domestic or otherwise) from a region.	Reports of dissatisfaction towards current security situation.
SELEX	Libya	Lacking military equipment in a specific domain.	Not applicable.	Not applicable.	Not applicable.
Mike Hoare	Democratic Republic of Congo	Low military diversity or complete breakdown of state security apparatus.	There is an ongoing or escalating conflict.	Collapse of state security apparatus or withdrawal of other NSSA.	Reports that NSSA seen as a change to the status quo. Later reports of disatisfaction, accusations of racism or neo-colonialism.

6.2.1 DynCorp

DynCorp is classified as a Type-1 non-state security actor. These actors closely approximate what are considered to be private military companies in the existing literature, but Table 6.1 provides a little more nuance as to the characteristics which make this organisation a Type-1 non-state security actor. For example, DynCorp was a relatively old and well-established organisation; it had roughly 14,000 employees; it operated across multiple domains and provided multiple services; and it operated in multiple countries. Moreover, DynCorp received a significant amount of its two billion dollar revenue from the US government, and was a Fortune 500 company in 2002 and 2007 (CNN 2008). Far more literature exists on this organisation, in part because of its size, in part because of its ties to the US government. I am concerned with why multiple states engaged with DynCorp over the years, despite many public controversies.

DynCorp traces its origins to two companies; California Eastern Airways (CEA) and Land-Air Inc. They originally exclusively provided aircraft technical services, but diversified their services throughout the 1960s (as Dynalectron) and then throughout the 1980s as DynCorp. Records indicate that DynCorp has operated in several regions across the globe, including Somalia, Iraq, Afghanistan, Bosnia, and Mozambique. In 2021, the company was acquired by Amentum, a government services contractor, marking the end of the company as it was known. It would be too ambitious to attempt to apply my theory to the entirety of DynCorp's operations and interactions with states over their 78 year lifespan, so I will focus in on only a few key events in Dyncorp's lifetime. Namely, I will focus on evidence from DynCorps' operations in Somalia, with some reference to their operations in Bosnia, Colombia, and Iraq.

DynCorp had very strong and explicit ties to the US government. For example, the US State Department awarded DynCorp a one-year 50 million US dollar contract in a limited competition against a Type-3 defence contractor, Science Applications International Corporation (SAIC) in 2003 (Isenberg 2010). Around

this time, the US government had invaded Iraq and set up the Coalition Provisional Authority (CPA) government. The US then began outsourcing military-adjacent tasks, such as training Iraqi police and military forces, using US, rather than local Iraqi, forces. Given the size and power that DynCorp has amassed over the years, it is clear why they have been able to engage with multiple states over the years. Because of their power, and their ability to operate in multiple domains, and their provision of multiple types of service, they have been able to lobby governments and secure highly profitable contracts (BBC News 2007).

DynCorp can be viewed as a conflict entrepreneur, filling in a clear gap in security provision in the countries in which they operate. With little competition from other non-state security actors, DynCorp was able to use their multiple branches of operation to supplement weak and failed state coercive apparatuses. Indeed, there is evidence that these larger non-state security actors absorb smaller contractors quite frequently; examples include Amentum (who bought out DynCorp) and Triple Canopy, who acquired Blackwater.

State engagement with the non-state security actor. The cases of DynCorp in Somalia, and elsewhere offer an instructive overview of the conditions under which a state might choose to outsource their coercive capababilities. In all cases, DynCorp was contracted by a foreign force already operating in that country, in this case, the United States. In Somalia, the US contracted out services to Somalia to avoid having uniformed military forces on the ground (Tomlinson 2007). In Iraq, DynCorp was contracted by the US government and the CPA, in Colombia, it was the US government as part of "Plan Colombia", and in Bosnia, it was the United Nations Protection Force. In this sense, the host states themselves did not explicitly seek the services of DynCorp.

State capacity. Most non-US countries in which DynCorp has operated have had comparatively low levels of state capacity, especially in terms of military and police capacity. Somalia in particular had chronically low levels of military equipment, essentially lacking any form of structured security apparatus (Holager

2011). Iraq too did not have a functional military, instead security was provided almost exclusively by the US and its contractors.

Nature and risk of conflict. Given the nature of DynCorp's contracts in Somalia and elsewhere, that is, being contracted to explicitly supplement existing foreign military forces in the region, risk is not a salient factor in this case. In Somalia, DynCorp were contracted to provide multiple services including training, maintenance, and transportation. The primary services that DynCorp provided in the Bosnia and Iraq cases were infrastructural maintenance and police training, services that do not pose an explicit risk to the safety of the contractors. In Colombia, DynCorp engaged in more passive roles such as training Colombian police and military forces, but simultaneously engaged in more active military-adjacent roles, such as crop eradication missions in Revolutionary Armed Forces of Colombia (FARC) controlled territory.[6] In any case, in contrast to Type-2 private security companies, who tend to provide a single service in a single domain, DynCorp were able to provide multiple services across multiple domains, essentially fulfilling the role of a fully-fledged military force.

Power vacuums. In all of DynCorp's host countries, there is clear evidence of power vacuums; first being filled by US, UN, or other non-governmental forces, who then in turn rely on DynCorp to fill specific gaps in their operations. In Somalia, in the absence of a functional domestic security apparatus, and due to the US's caution toward putting troops on the ground, DynCorp filled these roles (McFate 2008).

Public perceptions. Little aggregated evidence exists of public perceptions toward DynCorp and their operations across the globe. However, the various lawsuits and accusations made against the company over the years speaks to their general dislike in the countries in which they operate. As one lawsuit states: "DynCorp has [...] been the most involved in the commission of crimes and human rights violations" of all contractors operating in Colombia (Collective 2007).

[6]DynCorp had conducted similar operations in Peru several years prior during which three DynCorp employees were killed when their helicopter was shot down by rebel forces. Details surrounding this incident, as well as the exact nature of DynCorp's operations in Peru, remain sketchy (Guma 2009).

Ramirez and Wood (2019)'s discussion of public perceptions being borne from a tradeoff between fiscal efficiency and accountability is an inherently western-oriented tradeoff. Realistically, individuals on the ground in countries where non-state security actors operate likely do not account for fiscal efficiency if their livelihoods have been directed by non-state security actors' operation. As previously mentioned, that no existing theory or study can capture citizen attitudes toward non-state security actor operations warrants further research.

In Bosnia in the 1990s, for example, DynCorp was contracted by the US government to provide training to the local police alongside the UN mission. As Simm notes in their chapter "Regulating Sex in Peace Operations", DynCorp operated in a legal gray zone: even after the US army conducted an investigation into DynCorp employees' trafficking of under-age women, neither they, nor the Bosnian authorities, decided to prosecute (Drahos 2017). While abhorrent, this instance highlights the "advantage" that non-state security actors have by not fitting within existing legal frameworks. While these detestable acts did not relate to the DynCorp mission in Bosnia explicitly, it is not hard to imagine how this sort of legal flexibility could be used to expand DynCorp's remit in Bosnia or advance US objectives in Bosnia without fear of recrimination.

Process-Tracing Tests

$H1_{Type-1}$: Low military diversity and limited state reach necessitates Somalia to engage with Type-1 private military companies.

Key Observations: The IISS, Statesman Yearbook, and Gannon's data show Somalia as having very low military diversity and essentially no standing army. Indeed, prior to 2009, data could not be collected in the region as it was in complete collapse. Government reports show the Somalian government seeking assistance from the the African Union and the United States. In addition to the presence of peacekeeping forces, the US outsourced military, training, and transportation duties to DynCorp. This was primary for political purposes on the US military

side, but in any case, DynCorp essentially assumed the role of Somalia's military across all services and domains during the late 2000s.

Inference: Because Somalia did not directly seek the assistance of a Type-1 private military company (it was instead outsourced by a supplier state), $\mathbf{H1_{Type-1}}$ passes a straw-in-the-wind test.

$\mathbf{H2_{Type-1}}$: Somalia will engage with Type-1 private military companies for military purposes in the context of a conflict spanning multiple domains.

Key Observations: Given that Somalia was in the midst of a civil war, and its own state capacity was so low, the government needed to supplement its own military force. As mentioned, this was partially filled by the African Union, but also by DynCorp. Diplomatic communiques suggest that Somalian officials asked DynCorp to provide attack helicopters and additional military equipment, which was ultimately denied (United Nations 2009). As the violent conflict essentially spanned all domains, as opposed to a threat in a specific domain (as was the case with Somalia's outsourcing of security to Al-Hababi, described in the next section), this necessitated outsourcing security to an organisation providing multiple services across multiple domains. There is no evidence of other forms of non-state actor operating at this time.

Inference: $\mathbf{H2_{Type-1}}$ passes the hoop test.

$\mathbf{H3_{Type-1}}$: Power-vacuums precipitated by the collapse of existing domestic security forces will lead to Somalia engaging with Type-1 non-state security forces.

Key Observations: Given that Somalia essentially had no state security apparatus prior to 2009, the US contracted DynCorp to serve as a military actor and a support to the existing peacekeeping forces in the region (Gannon 2023). The power-vacuum left behind by the Somalian military was first filled by the African Union mission, then by the United States military who then outsourced to DynCorp. Again, because the US is serving as an intermediary actor between the Somalian government and DynCorp, the causal chain is muddied slightly. That said, though indirectly, DynCorp did fill the military gap left by the collapse of Somalia's own security apparatus.

Inference: $\mathbf{H3_{Type-1}}$ passes the hoop test.

$\mathbf{H4_{Type-1}}$: Though there is a demand for Type-1 private militaries, the public will disapprove of their presence if they are from abroad.

Key Observations: Speaking with reference to DynCorp in Somalia, Hancock states that "most PMSCs are negatively regarded as mercenaries that have been given legitimacy by the TFG, AMISOM and the UN. There is general acknowledgement amongst Somalis that armed security is needed, but with Somali security sector institutions not able to provide the required security the prevalence of PMSCs is reluctantly accepted" (Hancock 2018, p.7). Somali member of parliament Awad Ahmed Ashereh is quoted as saying "[private militaries] are not well informed about the clan set up and the culture of Somalia", suggesting that the lack of context-specific knowledge of the area in which they are operating further ostracises non-state security actors from the host state population (Grav 2012; Holmqvist 2005). These pieces of evidence point to the dichotomy in public perceptions of non-state security actor; they are recognised as necessary by a public in the midst of civil conflict but are simultaneously reviled by the public. Though no specific reports or evidence exists of DynCorp failing to engage with the culture of Somalia, their record in other countries like Bosnia sets a precedent of concern.

Inference: $\mathbf{H4_{Type-1}}$ passes the hoop test.

6.2.2 Al-Hababi Marine Services

Al-Hababi[7] is a marine-focused private military company which originated from Saudi Arabia and operated in Somalia. Very few details surrounding Al-Hababi's contracts and interactions with the government exist, and only a few academic and news sources actually cite the company and its operations. With this in mind, I summarise all the literature on Al-Hababi I can find, provide a brief overview of the situation in Somalia around the time that it decided to hire Al-Hababi, and discuss Al-Hababi's contract in relation to my theoretical framework described in chapter 4.

[7]Anglicised as Al-Habeeb, Al-Habibi, and Al-Habiibi.

Al-Hababi was owned by Saudi Arabian businessman Qalid Mohamed Al-Hababi. It is not entirely clear when the organisation formed, nor when it disbanded, if it disbanded at all. In my typology, Al-Hababi is considered a Type-2 non-state security actor, which, as discussed in chapter 3, is defined as an organisation operating in one domain and providing only a few non-combat, but military-adjacent, services. In this case, Al-Hababi operates only in the sea domain, and there is evidence that the company provided both protection services but also engaged in active combat against illegal fishermen and pirates (Hansen 2008). Type-2 organisations tend only to operate in a single country and have fewer than $10,000$ employees.

Somalia has a long history of engaging with non-state and private security. Between 2005 and 2008 alone, the Transitional National Government (TNG) of Somalia engaged with at least five non-state security actors, including Al-Hababi. These other organisations include Top Cat, Northbridge Services Group, Hart Security, and Secopex (Cullen n.d.; Persson et al. 2015). Other companies, such as American Select Armor and ATS Worldwide, also lobbied the TNG but did not make it to the contract negotiations stage.

A number of theories have been put forward as to why Somalia has cycled through so many non-state security actors in such a short space of time. First, many of the contracts fell through before the companies could begin their operations. This can be a result of an absence of financial backing, or as a result of contractors falsifying evidence. As Cullen notes, despite individual contract negotiations ranging between 50 and 150 million US dollars, the absence of financial backing from either private or governmental donors meant that the numbers were "meaningless" and the contracts remained unfulfilled (Cullen n.d.). Fulloon describes this situation more specifically. They note that Top Cat had essentially no experience in the military security field, forfeiting their contract in 2006 after falsifying evidence that they had received financial backing from the United States government (Fulloon 2011). A similar fate met Northbridge, whose 77 million US dollar contract which would have seen the development of a 900-strong army fell through due to a lack

of financial support from the US. These episodes are reminiscent of Typhon, a marine security provider, described in Chapter 2. Despite never actually having completed any operations, and having failed to secure financial legitimation from any state or private donor, Typhon managed to generate generous media coverage during the negotiations stage.

Second, it appears that political and social dynamics have determined the success of non-state security actors in Somalia. Both Hart Security and Al-Hababi are cited as falling victim to "local clan politics" and the publics' perception that these organisations were ultimately politically aligned (Hansen 2008; Persson et al. 2015). If politicians determine that their affiliation with these companies—irrespective of whether that affiliation is real—could prevent them from winning future elections, then they may be more likely to either cut ties with that company or prevent the company from operating in their territory.

Third, and related, it may be that non-home-grown non-state security actors lack the local knowledge that would allow them to be successful. For example, Hart Security only ever arrested four fishing vessels; most simply sailed into international waters—on account of their expert knowledge of territorial boundaries—thus preventing their capture. Hart's inability to produce sufficient arrests ultimately led to the termination of their contract (Persson et al. 2015; Hansen 2008; Kinsey et al. 2009). Interestingly, Hart actually sought legal advice, incorporating FAO fisheries guidelines into their operations (Cullen n.d.). This highlights the tradeoff that sits at the heart of the discussion of non-state security effectiveness: one advantage of being separate from the state is that companies have more flexibility and autonomy over their operations. On the other hand, these actors may still need to adhere to existing legal frameworks in order to be considered legitimate, which may in turn hamper their relative ease of operations.

Al-Hababi provided some initial successes, but soon became mired in controversy when it emerged that members of the Puntland government are shareholders in the company and locals perceived Al-Hababi as being a vehicle for pursuing

the president's—General Mohamud "Adde" Muse—clan's interests (Garowe Online 2007; Hansen 2008).

2008 was an election year in Somalia. It also coincided with a spike in pirate attacks. That year, the head of Al-Hababi was expelled for refusing to visit the location of a hijacked tug-boat (Pearl 2008). This is the last piece of evidence regarding Al-Hababi's existence, and so I have to assume that the organisation collapsed or closed following the removal of its leader. It is also likely that, if Al-Hababi did indeed have ties to the incumbent government, that it would cease operations when President Muse was ousted in the 2008 elections.

Non-state security actor engaging with the state. Let us turn now to analysing the birth and death of Al-Hababi in line with my theoretical framework and in line with my third hypothesis. The first component of the theory looks at the conditions that might lead a non-state security to seek to engage with a state. In the case of Somalia, there was a clear power-vacuum following the collapse of the Northbridge and Hart contracts. Al-Hababi was one of many non-state actors vying for contracts to provide security for a state absent of a traditional security apparatus.

State engagement with the non-state security actor. Why was Al-Hababi selected by the Somalian government to provide security services? First, an aspect not covered in my original theoretical framework, is Al-Hababi's explict ties to the TNG. If the non-state security actor is simply an extension of the governments own forces, but are "masked" to look like private military or security companies, then this might allow the incumbent to reap the benefits of a non-state security actor (increased autonomy, plausible deniability, for example) while also retaining a certain level of control over their operations.

State capacity. Somalia has infamously weak levels of state capacity and a highly fragmented government system. Somalia ranks number one in the Fragile States Index (Turner et al. 2023). In 2009, three years after Al-Hababi began its operations, Somalia had 4 "species" of equipment (*The military balance 2009*

2017).[8] [9] This is considerably lower than the all-African average (6.43) and the global average (7.86) for that year.

Nature and risk of conflict. The nature of the security threat in the case of Al-Hababi was single-service and single-domain; maritime protection against piracy. Piracy has claimed the lives of less than 100 people over the past thirty years; while by no means an insignificant number, these are not comparable to the number of casualties experienced during Somalia's civil war (Lloyd's List 2022). As such, in addition to being single-issue, the risk of piracy is comparatively low.

Power vacuums. Power vacuums in the Somali government's attempt to combat piracy are created by the exit of other Type-2 private security companies. As Hansen notes, there is concrete evidence that Hart and SOMCAN operated in the Puntland region, while Top Cat and other non-state actors allegedly competed, and ultimately failed, to gain a contract in the region (Hansen 2008). While essentially no evidence exists of Hart's (allegedly the first Type-2 actor to operate in Somalia) operations in the early 2000s, it can be assumed that they were hired to fill a gap in security owing to the failure of Somalia's domestic forces.

Public perceptions. A common theme in Hansen's research is that each of the non-state security actors' demise related to their failure to understand the delicate clan-based dynamics of Somalia: "These local political struggles also divided the Hart trained coast guard, which split into different factions, and when fighting erupted close to Hart's bases of operation, the company decided to withdraw" (Hansen 2008, p.588). As mentioned, Al-Hababi, though not directly embroiled in physical violence, likely shut down as a result of their perceived allegiance to the president. Briefly, though limited data exists on public perceptions vis-a-vis non-state security actors, the perception of impartiality is likely an important feature of non-state security actors' success.

[8] IISS does not have data on Somalia before 2009.

[9] By species, I mean different categories of equipment. Somalia's military is recorded as being comprised of armoured fighting vehicles, artillery, patrol and coastal combatants, and anti-tank/anti-infrastructure weapons (such as missile launchers).

Process-Tracing Tests

$H1_{Type-2}$: The Somalian government has low levels of military diversity and seeks a Type-2 private security company to increase military diversity.

Key Observations: Somalia in the mid-2000s had chronically low levels of military diversity. Specifically in the maritime domain, Somalia only had seven boats and the condition of these vessels is questionable (Gannon 2023). Irrespective of whether Al-Hababi had ties to the incumbent government, their services were sought to offset the lack of suitable military equipment held by the Somalian government.

Inference: $H1_{Type-2}$ passes the smoking-gun test.

$H2_{Type-2}$: Somalia faces a generic threat to security and seeks a specialised security force to address the issue, rather than a combat-oriented or mercenary outfit.

Key Observations: Al-Hababi (and previous Type-2 private security companies) was hired to deal specifically with the growing piracy threat off of the coast of Somalia's Puntland. Al-Hababi provided security exclusively in the maritime domain and was not equipped to engage in full-blown combat. Instead, they purported to provide marine protective services including escort services and maritime policing. What makes this hypothesis difficult to fully confirm is that almost simultaneously, Somalia was engaging with other forms of non-state and foreign security (see my discussion of DynCorp and the African Union missions in Somalia).

Inference: $H2_{Type-2}$ passes the hoop test.

$H3_{Type-2}$: The withdrawal of comparable security force such as domestic security, peacekeeping, or other Type-2 private security companies precipitates the arrival of other Type-2 private security companies.

Key Observations: Al-Hababi was one of several private security companies which the Somalian government sought assistance from. As mentioned, while this is indicative of a power vacuum *within* the non-state security space, these organisations were operating while US and African Union forces were present in the

state. In this sense, there is suggestive but not confirmatory evidence of hypothesis 3, given the simultaneous presence of other foreign security forces.

Inference: $\mathbf{H3_{Type-2}}$ passes the hoop test.

$\mathbf{H4_{Type-2}}$: There is an indifference or negative sentiment towards Type-2 private security companies from the general public which will negatively affect their operational prospects.

Key Observations: Though there is no direct evidence of public perceptions toward Al-Hababi specifically, there are reports that the Somalian public become wary of non-state security actors when they are seen as either not engaging with local social dynamics or are seen as being embedded in the government. If their impartiality is called into question, then public attitudes become more negative. This likely played a part in the downfall of Al-Hababi, who went silent following the ousting of incumbent President Muse.

Inference: $\mathbf{H4_{Type-2}}$ passes the hoop test.

6.2.3 SELEX Sistemi Integrati

SELEX Sistemi Integrati (henceforth, SELEX), is a Type-3 non-state security actor. These actors are akin to defence contractors, such as BAE Systems and Lockheed Martin. Type-3 actors are characterised as operating in multiple domains but predominantly providing infrastructural (physical infrastructure or equipment) services. SELEX predominantly produces static ground and naval radars, as well as some unmanned aerial vehicles (UAVs). These organisations do not put troops on the ground so to speak, but provide military-adjacent services such as transportation, weapons development, procurement, and sale, and the development of military static infrastructure such as airbases, vehicle storage units, or detention centres (C. W. Mahoney 2020). SELEX formed in 2005. In 2013, SELEX in its present form ceased operations, merging with sister companies SELEX Galileo and SELEX Elsag to form SELEX ES. This marks the temporal scope of this case study.

Several countries have outsourced military infrastructural development to SELEX over the years, including India, Algeria, China, and Libya. Little evidence

exists on SELEX's operations, but for the purposes of this study I will focus in particular on their sale of radars to Libya in the early 2010s.

Non-state security actor engaging with the state. Like DynCorp, and the more established Type-1 non-state security actors, SELEX established itself as a legitimate provider of military infrastructure. Moreover, given that they did not engage with actual combat or on-the-ground security, SELEX did not face the same government or public scrutiny than did corporations like DynCorp. In fact, there is no evidence (media reports or legal documents) which indicate that SELEX has engaged in any form of illegal activity, or has been embroiled in any form of controversy.

State engagement with the non-state security actor. SELEX follows a similar contracting procedure to Type-1 organisations, whereby they compete against similar defence contractors in order to provide a given service required by a state. Given that SELEX has engaged with relatively more developed states, most of their contracts, and related legal documentation, are publicly available.[10] This is in direct contrast to the Type-1 and Type-4 non-state actors, whose contracts with the state are seldom ever made public. Media reports tend to cover which countries have sought SELEX's services, and the exact services that SELEX have provided.

State capacity. My empirical analysis in Chapter 5 suggests that Type-3 private defence companies tend to operate uniformly across states regardless of their state capacity. This is likely because Type-3 private defence companies provide specialised infrastructural services. SELEX is no exception: regardless of state capacity, it tends to be cheaper for states to outsource the development and implementation of specialised military infrastructure or armaments to third parties. WikiLeaks documents show that in 2009, SELEX signed a 13-million-Euro deal with Libya to provide gun-targeting equipment. Then, in 2010, SELEX signed a 150-million-Euro deal to provide border control systems to the Libyan government. Both of these are in essence radar systems. The contract stipulated that in addition

[10]See, for example, Ezrachi (2016) and Lundqvist (2014) for overviews of the development of anti-trust and competition laws with specific reference to SELEX-led case law.

to the construction, implementation, and maintenance of these border security systems, SELEX would also be in charge of training staff. Libya in the very early 2010s had relatively high levels of military diversity but the equipment the government sought from SELEX was highly specialised.

According to Gannon's data, Libya in the 2010s did not own any radar equipment (Gannon 2023). Outsourcing equipment provision to non-state actors thus increased Libya's military diversity, and was likely less costly compared with developing radar equipment in-house (that is, through government funded research and development programs).

Nature and risk of conflict. The nature and risk associated with a state's internal conflicts are unlikely to affect the decision to outsource coercive capabilities to a Type-3 non-state actor. In fact, almost all states contract out military infrastructure needs to private companies (Hayward 2001)? If a weapon manufactured by, say, SELEX or BAE Systems was used by a state and its use caused controversy, it is unlikely that the contractor itself would receive backlash or legal ramifications.

Power vacuums. Similarly, power vacuums do not serve to engage why a state might engage with a Type-3 non-state security actor in the conventional sense. One could argue that SELEX is serving as a private solution in the absence of government-owned defence or security contractors.

Public perceptions. As mentioned in previous sections, public perceptions also matter less for Type-3 companies. Given their relative ubiquity and less overt relationship to violent conflict, the use of Type-3 defence contractors has become normalised. Some contractors have drawn negative public attention (if, for example, their weapons are used during highly publicised conflicts), but their size and government-embeddedness has rendered them relatively immune to public backlash. Indeed, if one searches "SELEX Sistemi Integrati" on Google, only twenty-two hits are returned, all of which focus on their contracts and mergers as opposed to controversies. Type-3 private defence companies then do not receive the same attention as other forms of non-state security actor.

More generally, the most common public complaint regarding Type-3 non-state security actors is their expense to taxpayers. Defence contractors are incredibly profitable organisations, and when governments buy contracts for the development of munitions and other military equipment, they tend to be funded through the taxpayer (Adams 1981). Adams also notes how the more financial manoeuvrability an actor has, the more they can engage in public advertisement and grass-roots campaigns to foster both public and governmental support (Adams 1981).

A note on conceptualisation. SELEX, and essentially all Type-3 non-state security actors, present somewhat of an anomaly in the study of non-state security more broadly. States tend not to choose Type-3 organisations as a function of the conflict they are involved in; often times states are not involved in a conflict when engaging with Type-3 actors. As such, to discuss Type-3 actors through the lens of home-grown versus foreign security and plausible deniability is a fruitless endeavour. We can, however, understand Type-3 non-state actors to serve as supplements to coercive institutions in a more general sense. The basic economic principal of comparative advantage (Hartley 2023). Indeed, the ten most lucrative defence contractors are based in the United States, United Kingdom, and China (Hayward 2001; SIPRI 2022).

Given that Type-3 appear to be an anomaly in my theoretical framework, we need to address whether organisations like SELEX should be considered non-state security actors. The first question to ask is why are Type-3 private defence companies in the dataset in the first place? The answer is because of my data collection procedure which involves combining all existing data which purport to capture non-state security actors, as well as my minimal definition for what constitutes a non-state security actor (specifically, SELEX came from Petersohn's dataset) (Petersohn et al. 2022). Petersohn's definition of a commercial military actor is, as I discussed in Chapter 2, very broad. My own definition is slightly more constrained, but applying this definition to SELEX would still mean that it is considered a non-state security actor, as well as a commercial military actor from Petersohn's perspective.

Ultimately, this research project argues that there exist many types of non-state actor, which, until now, have yet to be sufficiently disaggregated. What this case study shows is that there is no one theory that explains states' outsourcing of different coercive capabilities to non-state and private actors. That this company, and other Type-3 organisations were included in empirical studies of private security actors suggests a failure of existing literature to sufficiently address these differences in actor type. While SELEX fits in to the scope conditions of my study, it is important to address how their operations are different to, say, Type-1, Type-2, or Type-4 non-state actors.

Process-Tracing Tests

There is only one hypothesis highlighted in Table 4.1 pertaining to Type-3 private defence companies which I address below.

$H1_{Type-3}$: States outsource to Type-3 private defence companies when they seek to increase their military diversity, especially in more specialised areas.

Key Observations: Multiple sources, not related to Libyan or Italian media, nor linked to SELEX, suggest that SELEX, in providing specialised radar technologies to Libya, were filling a gap in Libya's military diversity (WikiLeaks 2012). Moreover, data on military diversity suggests that prior to engaging with SELEX, the Libyan government, though owning a diverse range of military equipment, did not own any form of military radar, providing a compelling reason for their engagement with SELEX. There is no evidence of collusion between the Libyan and Italian governments suggesting that SELEX was granted preferential access to Libyan markets

Inference: $H1_{Type-3}$ passes the smoking-gun test.

6.2.4 "Mad Mike" Hoare

"Mad Mike" Hoare (born Thomas Michael Hoare) is commonly described as a mercenary. Operating at the height of mercenarism in Sub-Saharan Africa, Hoare was

involved in several battles in the Democratic Republic of Congo, and was arrested and sentenced to ten years in prison following the 1981 Seychelles coup attempt.[11]

Hoare served in the Royal Ulster Rifles during World War II. At the end of the war, he was demobilised as a major, and relocated to Durban, South Africa. After training as a chartered accountant, Hoare worked in various roles such as a mechanic and Safari guide. His first experience with mercenarism was when Katanga, a province in the Democratic Republic of Congo, seceded from the state. During this time, Hoare led the so-called "4 Commando". Three years later, Hoare led the US- and Belgian-funded mercenary outfit "5 Commando", often referred to as The Wild Geese. Despite the moniker "Mad Mike", Hoare was reportedly a strict and mild-mannered individual. The Economist wrote of Hoare:

> As the man in charge of 5 Commando, he did not tolerate beards or swearing. The men's hair had to be as short as his own, barely showing below the black beret—which, combined with his wiriness and hawkishness, gave him a decent resemblance to Montgomery of Alamein. On Sundays, boots cleaned, they lined up for church parade (The Economist 2020).

Following the successful campaign of The Wild Geese, Hoare sought and was recruited into various mercenary outfits with limited success. His final operation was the attempted overthrow of the Seychelles government in 1981, which landed him ten years in prison, though he would only serve 33 months of his sentence.[12] Following his release from prison, Hoare returned to South Africa to be with family, passing in February of 2020 aged 100.

Hoare and his men are categorised as a Type-4 non-state security actor. This cluster captures the traditional mercenaries of the 1960s, such as Rafa Gan-Ganowicz,[13]

[11] One issue brought to my attention regarding data collection is that the mercenaries in the dataset are mentioned by name rather than organisation. So in this case, the entry in my dataset should be 5 Commando rather than "Mad Mike" Hoare. This will distinguish between the different outfits operated by Hoare in different countries, rather than group all mercenary outfits run by Hoare under his name. I will correct this error in future iterations of this dataset.

[12] Hoare and his men boarded a flight from South Africa bound for the Seychelles with weapons concealed in secret compartments in their luggage. When another passenger was found to have banned fruit in their luggage, all passengers had their luggage searched, leading to the discovery of Hoare and his men's intentions.

[13] Gan-Ganowicz fought alongside Hoare during the Congo Crisis, and would later travel to Yemen to fight against Soviet-backed insurgents.

Jack Schramme, and Bob Denard, as well as the Russian modern mercenaries (Slavonic Corps, Wagner Group, Orel Anti-Terror), and other suspected mercenary organisations and companies charged with seeking to explicitly undermine state consolidation.

Non-state security actor engaging with the state. Anecdotally, we see profit and a desire to use existing skill-sets as predominant drivers of Type-4 mercenary engagement with the state. As Hoare notes in his own biography, he had honed a specific set of skills as a solider during WWII and was "an adventurer at heart" (Hoare 1967). Hoare and his men were paid 1,100 US dollars per month for their services in the Congo, roughly equivalent to 10,000 USD today (The Economist 2020). Hoare stated in an interview "[a]ll right, the motive is probably the high money they'll earn, but they all want to do it. They're all volunteers," indicating the interaction of profit and intrinsic motivation to engage in combat (Burke 2018, p.110).

State engagement with the non-state security actor. There are a number of reasons why states might seek to employ mercenaries. These factors are similar to those states choosing to outsource to Type-1 private militaries, namely, issues of military capacity, complex civil conflict, and the exit of existing security apparatuses. Moïse Tshombe, the US-aligned anti-communist leader of the secessionist state of Katanga in the Democratic Republic of the Congo, sought the services of Hoare and other guns-for-hire; a seemingly cost effective solution to quell the Simba rebels in the absence of a functioning central state and military allies (Burke 2018).

State capacity. Though not accurately captured in datasets, state capacity fluctuates in times of political crisis. During a coup, the central state is unable to carry out its usual tasks—taxing citizens, providing security, and other public provisions—leaving it vulnerable to exploitation by non-state actors. As Clarke notes, prior to Hoare and the other mercenaries arrival, there was a contingent of around 400 Nigerian police, and by 1964 most other allied forces (such as the United Nations Operation in Congo) had exited the state (Clarke 1968, p, 39). Hoare and

his men sought to fill this gap in military state capacity by providing combat support, as well as providing training to what was left of the Congolese army.

Nature and risk of conflict. The Simba rebellion in the DRC was a high-risk conflict for Hoare and his men. The number of combatants and fragmented nature of the conflict was undoubtedly exacerbated by the topography of the DRC; mountainous terrain, dense forest coverage, and high rainfall. Moreover, the existing military forces had broken apart, and in-fighting was common following independence (Clarke 1968). The advantage of Type-4 non-state actors is that they don't have a brand to uphold, they are ad hoc and operate wherever they receive the best payment. These men were highly skilled (and were subject to a rigorous training programme led by Hoare and presented a plausible solution to quelling the communist insurgencies in the DRC (Burke 2018).

Power vacuums. As mentioned, prime minister Cyrille Adoula made requests to Nigeria and Tunisia to provide military services. Both refused. Neither the US, UN, nor Belgium chose to assist by providing boots on the ground. At this time, Tshombe was exiled to Spain, he could not rely on the state's military apparatus and so non-state security options were a viable alternative (Dodenhoff 1969; Clarke 1968; Crawford Young 1963).

Public perceptions. Little evidence capturing public perceptions toward the Wild Geese and other mercenary activities in the DRC, or in any other African state around that time. However, much legal work has focused on the global decline of the acceptance of mercenarism due to change legal and political norms. As discussed in chapter 2, the consolidation of states and the rise of citizen armies in the seventeenth and eighteenth centuries reduced states' reliance on mercenaries. This, coupled with the emerging laws of state neutrality in war and the adoption of the Charter of the United Nations, dispossessed and demobilised mercenaries and their operations abroad. On the African in particular, there was a strong anti-mercenary sentiment who were seen as perpetuating colonialist ideologies in the wake of African independence movements (Clarke 1968). This public anti-mercenary sentiment is corroborated by diplomatic communiques in which the then

US ambassador to the DRC, George Godley was told to take measures to "avoid publicity such as keeping mercenaries out of Leo[poldville and] impressing upon Hoare [the] necessity [of] keep[ing] quiet" (Gleijeses 1994).

Process-Tracing Tests

H1$_{\mathbf{Type-4}}$: States with low military diversity or who are facing a complete breakdown of state security apparatus will outsource to Type-4 mercenaries.

Key Observations: There is a similar relationship here as with Type-1 non-state actors.[14] Mike Hoare and his 5 Commando proved an efficient and cost effective solution to the DRC's low military state capacity, bringing over 300 trained troops and at least a dozen combat-ready vehicles (Hoare 1967).

Inference: H1$_{\mathbf{Type-4}}$ passes the hoop test.

H2$_{\mathbf{Type-4}}$: States are more likely to outsource security to Type-4 mercenaries in the midst of an ongoing or escalating conflict.

Key Observations: The exiled Tshombe specifically requested Hoare and his men to quell the Simba rebellion on his return to the DRC, and had previously relied on Jean Schramme and Jerry Puren—two other mercenary leaders—during the secession of Katanga (Clarke 1968). This was not the first time Hoare had been requested by governments to provide military and combat services in the midst of civil conflict. It is not clear if Hoare and his men were a second best option, given that the US, UK, and Belgium refused to offer military support during the Simba rebellion, but this hypothesis does not make claims as to the order or transitivity of states' preferences when outsourcing security to non-state actors.

Inference: H2$_{\mathbf{Type-4}}$ passes the hoop test.

H3$_{\mathbf{Type-4}}$: The complete collapse of state security apparatus or withdrawal of other non-state security actors predict the presence of Type-4 mercenaries.

Key Observations: Again, like Type-1 private militaries, Type-4 mercenaries are more likely to operate in contexts characterised by weak military capacity across

[14] Indeed, many scholars consider Type-1 non-state security actors to be "descendants" or direct consequences of these more classical mercenaries (McFate 2014; Gaston 2008; Coleman 2004).

multiple domains. While there is no evidence of a power-vacuum in the DRC (that is, one actor leaving and then being replaced by Hoare and his men), the refusal of foreign states to intervene militarily, coupled with evidence of the DRC's own domestic security apparatus, suggests there was a clear demand that could have been filled by a number of different state or non-state actors (Dodenhoff 1969).

Inference: $\mathbf{H3_{Type-4}}$ passes a straw-in-the-wind test.

$\mathbf{H4_{Type-4}}$: Though there may be an initial positive response to the actor, this will be followed by reports of dissatisfaction, accusations of racism or neo-colonialism.

Key Observations: Unfortunately, there are no records of interviews with individuals directly affected by the operations of Hoare and 5 Commando in the DRC. As mentioned, I only have access to communiques at the government level but this evidence corroborates the claim that there was significant anti-mercenary sentiment in post-independence Africa even in spite of the decisive victory that Hoare and his men led against the Simba rebels. The DRC was accused of allowing colonial powers to seep back into the state with the arrival of these mercenaries (Clarke 1968). Again, despite a recognition of the need of improved security, Hoare and the other mercenaries operating around the 1960s received public and political backlash, and were quickly extricated from the state after they fulfilled their contracts.[15]

Inference: $\mathbf{H4_{Type-4}}$ passes a straw-in-the-wind test.

6.3 Discussion

This brief comparative case study has uncovered several continuities and discontinuities between these four actors, and the four latent clusters of non-state security actor more broadly. In short, the interplay between military state capacity and the domains over which a conflict occurs seem to be the biggest determinants of

[15]Indeed, Hoare left the DRC one day after the conflict had ended. See Fitzsimmons (2012) and Mockler (1985) for more detail.

state engagement with non-state security actors. These qualitative findings dovetail nicely with the quantitative analysis presented in Chapter 5.

What are the continuities and discontinuities that link and separate these actors and clusters more broadly? First, with all four actors, the distribution of states' military capabilities plays a pivotal role in determining whether states choose to outsource security, and this holds across all levels of state capacity: low capacity states tend to outsource to non-state security actors who provide multiple services across multiple domains, while high capacity states outsource to more specialised non-state actors.

Second, it seems clear that, despite their desire to distance themselves from historical controversy, Type-1 private militaries share many similar characteristics to Type-4 mercenaries. Given that they operate across multiple domains and provide multiple military and military-adjacent services, Type-1 and Type-4 actors are able to supplant themselves in more complex conflict scenarios, rather than providing security in a specific domain (as is the case with Type-2 private security actors). Type-3 defence contractors remain a conceptually distinct phenomena, operating across all levels of military state capacity and remaining distant from conflict events on the ground.

Before concluding, I briefly address the limitations of the comparative process-tracing method, especially as it relates to the study of clandestine actors and in the context of a lack of verifiable data. In short, without access to archival data or interviewees, obtaining accurate information on the circumstances surrounding state interactions with non-state security actors is challenging. As such, I have relied predominantly on existing primary research, biographies, and diplomatic communiques and other formerly classified documents available on websites such as WikiLeaks. I will discuss avenues for future qualitative research in the next chapter.

6.4 Conclusion

This section has presented the logic behind nested case selection and has analysed four forms of non-state security actor, each corresponding to a different cluster identified in my inductive typology. I have sought to understand, in line with my third set of hypotheses, why states have chosen to outsource their coercive capabilities to these actors. I have found suggestive evidence that state capacity, political instability, power-vacuums, and public perceptions, play necessary but not sufficient roles for explaining state engagement with Type-1, Type-2, and Type-4 non-state security. Low state capacity—specifically, military diversity—is neither a necessary nor sufficient condition for states' engagement with Type-3 private defence companies. Indeed, SELEX has provided radar systems for states across the spectrum of military diversity. As I discuss, there is significant conceptual and theoretical difference between Type-3 private defence and the other identified forms of non-state security, raising questions as to whether these actors should be included in my analysis at all. Ultimately, because these actors fit my minimal definition of non-state security actor, and because many of these actors have appeared in existing datasets analysing private military companies, it seems reasonable to include these actors in my analysis.

7
Conclusion

In this thesis, I have contributed to two main gaps in the existing literature on non-state actors, conflict, and state capacity. The first, that non-state security actors are under-conceptualised actors, has implications for both academia and the policy-making space. How can the regulation of these organisations be discussed if we do not know what distinguishes one form of actor from another? My empirical analysis has uncovered vast differences in the services and domains provided by the four different forms of non-state security actor, and so current legal and policy attempts to understand and regulate these actors, capturing them under the umbrella term "private military and security companies", seems fruitless.

The second, that there exists a set of theories that explains why states choose to engage with different forms of non-state security actor, is similarly under-researched and equally important to a range of different fields both inside and outside of academia. Do states have different reasons to engage with these different forms of security, or are their blanket theories that can explain all four forms of non-state actor? My quantitative and qualitative analysis suggests the former; military diversity, power-vacuums, complex (and sometimes unethical) operations, and public perceptions of existing security forces seem to explain, to varying degrees, states' decisions to outsource their coercive capabilities.

Using unsupervised machine learning approaches, I identify four latent clusters of non-state security actor. These clusters are based on a number of theoretically important variables which were collected as part of a large-scale data collection effort and which sought to capture as many non-state security actors and their characteristics as possible. I then take these clusters and join with existing data to predict the conditions under which states engage with different forms of non-state security. I find that measures of conflict type and state capacity are the most predictive of state engagement at the extensive margin, while state capacity (military diversity) explains a states' differential engagement with different forms of non-state security at the intensive margin. Then, to get a more fine grained understanding of the mechanisms at play, I conduct a qualitative analysis of four randomly selected non-state security actors from each of the four clusters. I find suggestive evidence of the role of state capacity, conflict intensity, power vacuums, and public perceptions in predicting state engagement with non-state security actors.

This research, aside from being substantively important, has presented a roadmap for future analysis of the causes and consequences of non-state security.[1] My research has identified the limitations of existing quantitative studies' treating all non-state security actors as a single phenomena, and has made the argument for the marriage of unsupervised machine learning for typologies and case selection. Understanding the different services and domains in which non-state security actors operate in is essential for understanding why states choose to engage with these different actors, and, eventually, understanding what the differential consequences of these actors are.

7.1 Limitations

A number of limitations have been addressed throughout, but I summarise them here for completeness. First, concerning my dataset contribution, the universe

[1] For more detail on this roadmap of future analysis, focusing only on Type-1 private military and Type-2 private security, see Figure A.16 in the appendix.

of cases is incomplete. This has implications for my typology and case selection, though it was not feasible to collect and verify all known non-state security actors within the time frame of this research project.

Second, despite my data contributions, data on non-state security actors is lacking. There are currently no experimental or quasi-experimental approaches to studying state engagement with non-state security actors available. As such, my analysis is constrained to descriptive and predictive analysis. While this is not a shortcoming per se, the current "gold standard" and zeitgeist of political research is causal inference.

Third, in the absence of access to archives or interviews, my case studies lack some of the key pieces of evidence required to draw causal conclusions from process tracing. As mentioned, most non-state security actors have a strategic incentive to obscure a lot of their operations and contracts, additional time could have been spent focusing on more in-depth approaches to studying the operations and organisations of non-state security actors, such as the aforementioned archival and interview approaches.

7.2 Looking Forward

I believe a number of avenues of future research should be explored, both to address the shortcomings of my own research and to extend the study of non-state security actors further. First, future research should address the weaknesses of this research project, namely, by collecting data on more non-state security actors and collecting more information on their characteristics beyond just services and domains. Additionally, time should be taken to develop a panel dataset that captures the presence of non-state security actors in and outside of conflict scenarios.

Second, using this panel dataset, future work should focus on the substantive impacts of these non-state security actors, again conditional on actor type. A

panel dataset will allow for a variety of new methods to assess different outcomes, from conflict instances, to public attitudes toward privatisation, to measures of state capacity.

Third, future research should seek more broadly to integrate the existing literature on non-state security actors—from politics, to anthropology, to law—with this new typology of non-state security actors in mind. In particular, regulation of these actors is made infinitely more challenging when we cannot distinguish one actor from another. Knowing along which dimensions we can partition non-state security allows for targeted and differential responses to their activities.

This research project has clarified our understanding of what constitutes a non-state security actor, and how existing non-state security actors can be categorised. I have also shown the logics behind why states choose to outsource their own coercive capabilities to the different forms of non-state security actor using quantitative and qualitative methodologies. In the context of downsizing standing armies and domestic security apparatuses, a rejection of foreign military and peacekeeping intervention across the African continent, and the commodification of security, the allure of non-state security is only increasing. This research project has both provided a conceptual and theoretical framework and presented a future research agenda for the study of these actors. This agenda will only become more relevant as the number of non-state security actors proliferate over the next decade.

Appendices

A

Supplementary Exhibits

A.1 Chapter 1

No additional material is cited in Chapter 1.

A.2 Chapter 2

A.2.1 Global Summary Statistics of NSSA Data

The exhibits in this chapter mainly present summary statistics of the dataset, described in full in Chapter 3 and Appendix B. Table A.1 takes each NSSA name from my primary data, breaks the string into individual words and removes any general and context-specific stop-words (such as 'and'), and then plots the frequency of each word. Anecdotally, and perhaps as expected, we see words such as "security", "services", and other neutral to positive words used in the names of these actors, perhaps reflecting their desire to appear commercial.

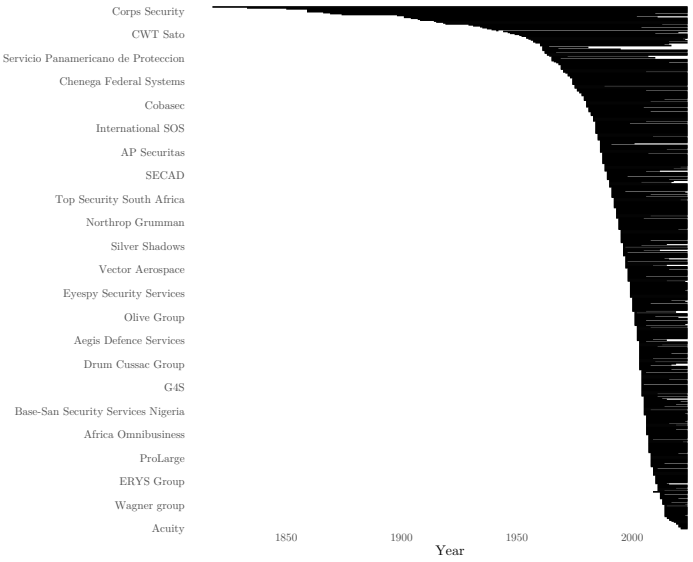
Table A.1: Non-State Security Actor Name Frequency

Word	Frequency
Security	307
Services	113
Group	88
International	87
Global	37
Company	33
Guards	28
Protection	28
Management	25
Risk	24

Figure A.1 visualises the survival time of each NSSA in my primary data. The x-axis plots the year from the oldest NSSA in the data through to today. The y-axis presents the name of each NSSA but is ordered in terms of it's starting year, as opposed to, say, alphabetically. Names are shown for every 25th NSSA ordered by start date. The mass of observations is towards the latter half of the 20th century, reflecting the boom in mercenaries in the 1960s and the rise of the modern private military company in the 1990s and early 2000s.

Next, Figure A.2 visualises the distribution of the longevity of NSSAs in my primary data. The x-axis plots the number of years a PMC has existed, while the y-axis plots the count of the number of NSSAs that fall into each year. The dashed line represents the median duration of the dataset as it stands. The mass

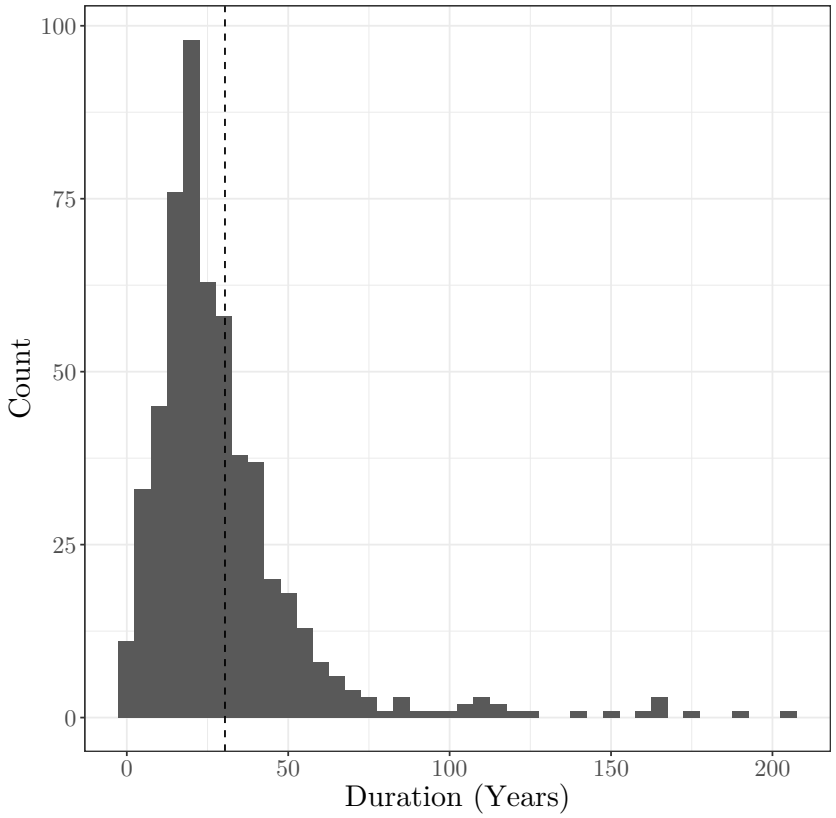
Figure A.1: Timeline of NSSAs



of observations falls between 0 and 50 years, indicating that most of the non-state security actors present in the dataset are relatively young. Again, this is capturing the rise of the modern private military and security (Type-1 and Type-2) NSSAs in the 1990s to the present day.

Figure A.3 visualises the frequency (denoted by shade) of the number of non-state security actors present in each country, again based on my data collection efforts. The biggest provider states are the United States, the United Kingdom, South Africa, Nigeria, and Afghanistan. These results align with existing literature on non-state security actors, but they could also be driven by the underlying datasets used to construct the data. For example Petersohn et al. (2022) relies on only a few sources which appear to disproportionately mention South African and Nigeria private security companies.

Figure A.2: Distribution of NSSA Longevity



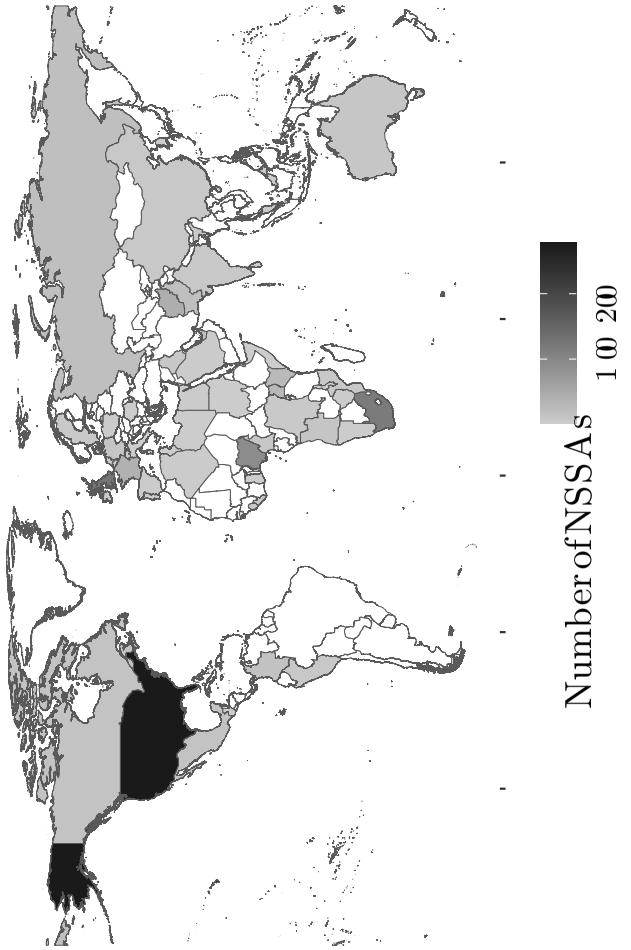


Figure A.3: Non-State Security Actor Country of Origin

A.2.2 Services and Domains

These last two figures focus on the characteristics of the non-state security actors themselves. Figure A.4 presents the frequency of the different services provided by each non-state security actor. The x-axis shows which services are provided using an "Upset" chart, where each filled-in circle indicates a service provided. In some cases non-state security actors provide only a single service, while others provide multiple. The y-axis shows the frequency of these actors. The most common type of non-state security actor are those providing on protection as a service. This is followed by infrastructural non-state security actors, advisory groups, and transportation groups. From there, we see different combinations of services, often indicating a Type-1 non-state security actor, who tend to provide multiple services across multiple domains.

Figure A.4: Non-State Security Actor Services

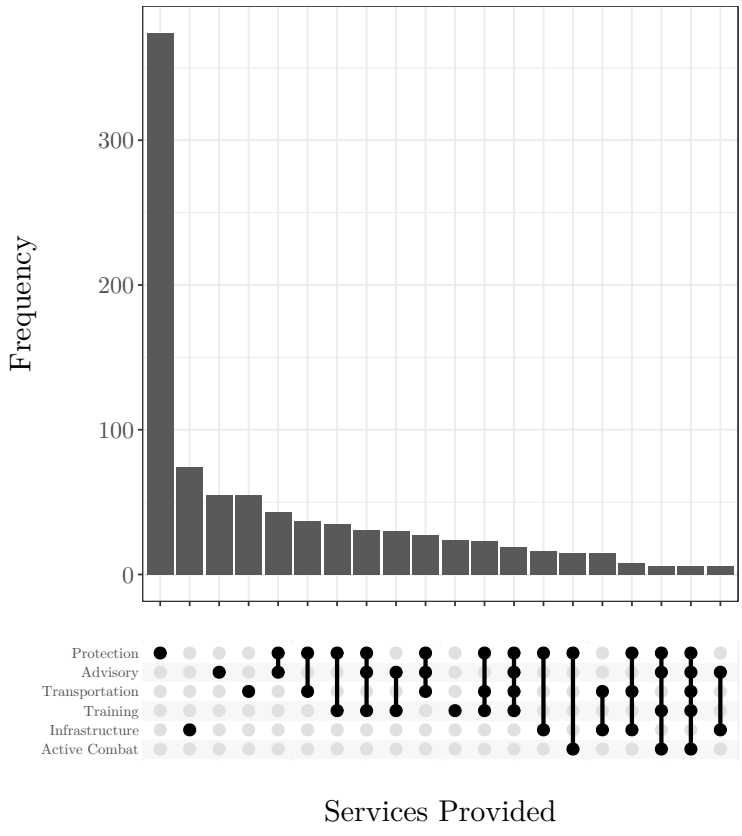
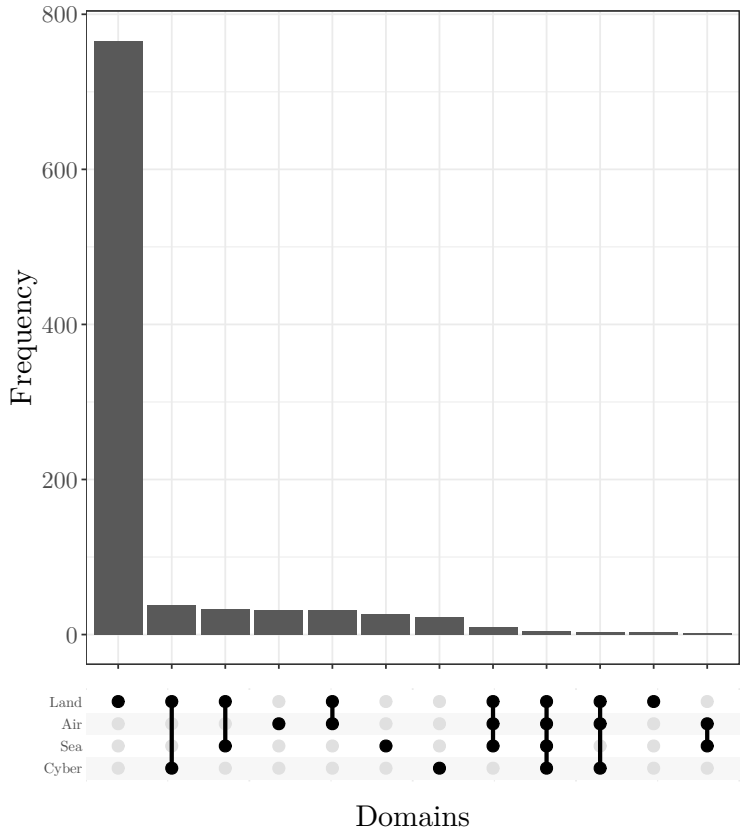


Figure A.5 presents the frequency of the different domains operated in by each

non-state security actor in a similar fashion to the plot above. The x-axis shows which domains a non-state security actor operates (in some cases non-state security actors only operate in a single domain, while others operate in multiple domains), while the y-axis shows the frequency of these actors. The vast majority of actors operate exclusively on land, while the remainder operate on land but also operate over another domain, such as in cyberspace, sea, or air.

Figure A.5: Non-State Security Actor Domains



A.3 Chapter 3

This section of the appendix focuses predominantly on stress-testing my K-means clustering algorithm.

Figure A.6 presents the K-means clustering algorithm for six to nine clusters. The x- and y-axes present the first two principal components. As one can see, as we proliferate the number of clusters, spatially distinguishing each cluster becomes a lot more challenging, and the clusters themselves have very few observations. This supports my claim that beyond four or five clusters, we cannot get a good sense of the nature of these non-state security actors.

Figure A.6: Hierarchical Clustering of NSSA Type

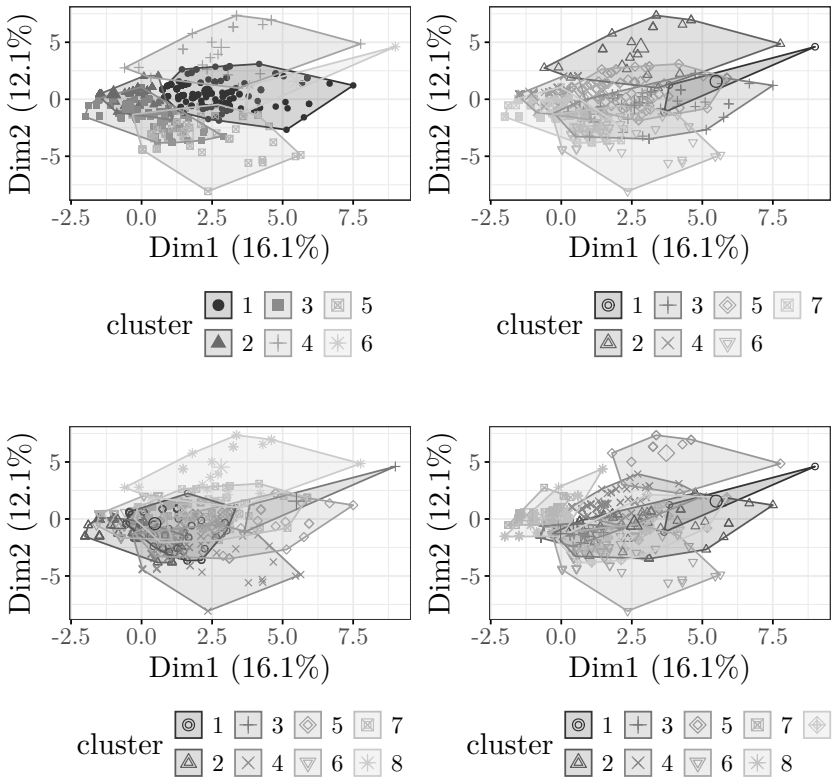


Table A.2 presents a balance test of the different clusters for each cluster specification presented in Figure 3.1. For the column `Cluster`, where the value takes 1, column `Coefficient 1` compares the second cluster to the first. In other words, the `Coefficient N` column compares each additional cluster to the first,

baseline cluster. Stars denote statistical significance for at least the 10% level. As expected, the clustering algorithm is partitioning the data such that the differences between the input variables across clusters is statistically significant.

Table A.2: Balance Across Clusters

Cluster	Variable	Coefficient 1	Coefficient 2	Coefficient 3	Coefficient 4
1	year_origin	3.53			
1	year_end	1.33			
1	lifespan	-0.53			
1	employee	-6375.61			
1	government_affiliated	-0.18*			
1	mercenary	-0.04*			
1	domain_land	0.16*			
1	domain_air	-0.23*			
1	domain_sea	-0.16*			
1	domain_cyber	-0.18*			
1	services_training	-0.43*			
1	services_demining_protection	0.25*			
1	services_transportation_and_logistics	-0.33*			
1	services_infrastructure	-0.24*			
1	services_advisory	-0.41*			
1	services_active_combat	-0.13*			
1	services_misinformation	-0.01			
1	services_anti_government_operations	-0.04*			
1	n_domains	-0.62*			
1	n_services	-1.57*			
2	year_origin	-6.92	2.96		
2	year_end	-24.47*	-0.49		
2	lifespan	-19.18*	-1.89		
2	employee	-10121.3	-6762.76		
2	government_affiliated	0.29	-0.16*		
2	mercenary	0.79*	0*		
2	domain_land	0.18*	0.17*		
2	domain_air	-0.07	-0.23*		

2	domain_sea	-0.19*	-0.18*	
2	domain_cyber	-0.2*	-0.19*	
2	services_training	-0.14	-0.43*	
2	services_demining_protection	-0.07	0.24*	
2	services_transportation_and_logistics	-0.29*	-0.35*	
2	services_infrastructure	-0.28*	-0.26*	
2	services_advisory	-0.29*	-0.42*	
2	services_active_combat	0.52*	-0.09*	
2	services_misinformation	0.04	-0.01	
2	services_anti_government_operations	0.58*	0	
2	n_domains	-0.28*	-0.63*	
2	n_services	0.06	-1.56*	
3	year_origin	-8.27	-5.1	3.63
3	year_end	-23.99*	0.71	0.35
3	lifespan	-19.06*	4.3	-5.33
3	employee	-6559.53	13444.79	-9024.84
3	government_affiliated	0.44*	0.23*	0.08
3	mercenary	0.79*	0*	0
3	domain_land	0.01	-0.47*	0
3	domain_air	0.17	0.45*	0.12*
3	domain_sea	-0.02*	0.13*	0.19*
3	domain_cyber	0	0.55*	0.01
3	services_training	0.32*	0.08	0.74*
3	services_demining_protection	-0.29	-0.58*	0.04
3	services_transportation_and_logistics	0.03	0.12	0.38*
3	services_infrastructure	-0.06	0.46*	0
3	services_advisory	0.12	0.2*	0.52*
3	services_active_combat	0.61*	0	0.14*
3	services_misinformation	0.04	0.01	0
3	services_anti_government_operations	0.58*	0*	0*
3	n_domains	0.35*	0.87*	0.52*
3	n_services	1.61*	0.54*	2.06*

4	year_origin	-21.63	-16.84	-8.05	-11.68
4	year_end	-26.26*	-0.07	-0.46	-0.81
4	lifespan	-5.56	17.73	7.99	13.33
4	employee	271.83	20237.32	-2232.31	6792.53
4	government_affiliated	-0.35*	-0.54*	-0.69*	-0.77*
4	mercenary	0.83*	0	0	0
4	domain_land	-0.04	-0.53*	-0.06*	-0.05*
4	domain_air	-0.2	0.12	-0.21	-0.33
4	domain_sea	0	0.15*	0.21*	0.02*
4	domain_cyber	-0.33	0.22	-0.32	-0.33
4	services_training	-0.32	-0.53	0.13	-0.61
4	services_demining_protection	0.48*	0.17*	0.79*	0.75*
4	services_transportation_and_logistics	0.17	0.25*	0.51*	0.13*
4	services_infrastructure	0.04	0.57*	0.1*	0.1*
4	services_advisory	-0.78*	-0.68*	-0.36*	-0.87*
4	services_active_combat	0.28	-0.32	-0.18	-0.32
4	services_misinformation	-1*	-1*	-1*	-1*
4	services_anti_government_operations	0.23	-0.33	-0.33	-0.33
4	n_domains	-0.58	-0.03	-0.38	-0.9
4	n_services	-0.9	-1.87	-0.34	-2.4

A.3.1 Accuracy Tests For Main Clustering Specification

I now turn to describing in more detail the accuracy tests for the main clustering specification. Figure A.7 presents the within-group or within-cluster-sum-of-squares for each cluster specification from 2 to 20. As mentioned in Chapter 3, the x-axis plots the number of clusters and the y-axis plots the total WSS; the point at which the graph bends (or the elbow) corresponds to the optimum number of clusters. This is a fairly subjective way to measure the optimum number of clusters, and there is less of a clear "elbow" in the plot. However, we see from seven or fewer clusters the distance between each point increase, suggesting that the elbow lay somewhere around seven clusters.

Figure A.8 plots the average silhouette value by the number of clusters (again from 2 to 20). A comparatively high average silhouette value indicates a more accurate clustering specification, but this empirical fact must be balanced with how parsimonious the cluster specification is. Six is clearly the optimum number of clusters by this metric, but if we refer back to Figure A.6, the six cluster model contains two clusters with very few observations, and which overlap considerably with other clusters. Balancing the statistical tests with parsimony, fewer than six clusters is likely a better option.

Finally, Figure A.9 plots the gap statistic for each number of clusters (from 1 to 20). A comparatively smaller gap statistic indicates a optimal cluster specification. Here, one to six clusters are the best performing, but as mentioned, we must balance statistical performance with interpretability.

Figure A.7: Within-Group Sum of Squares

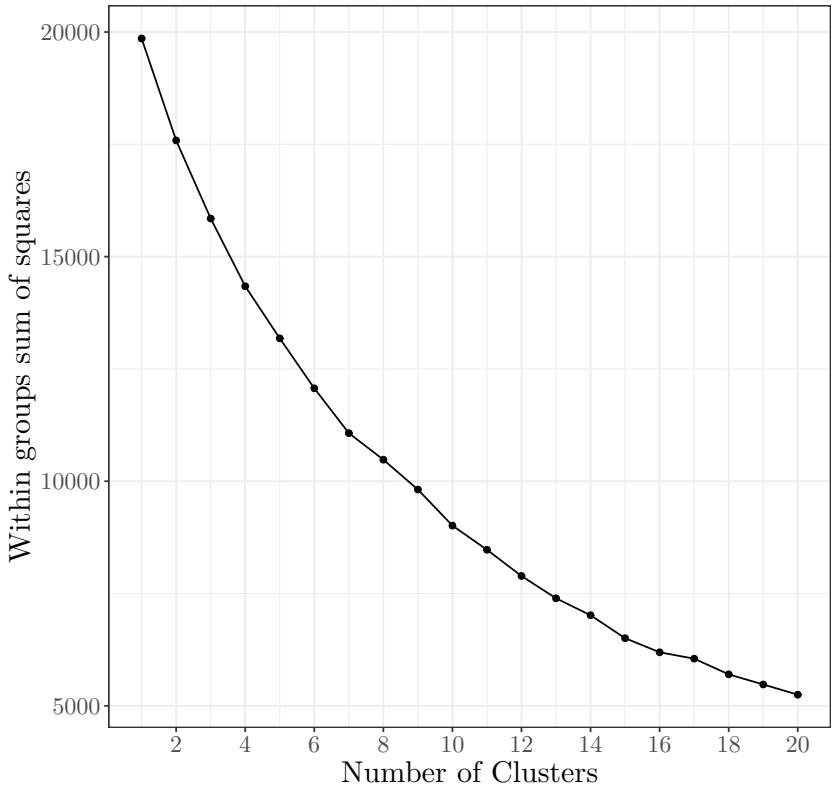


Figure A.8: Average Silhouette

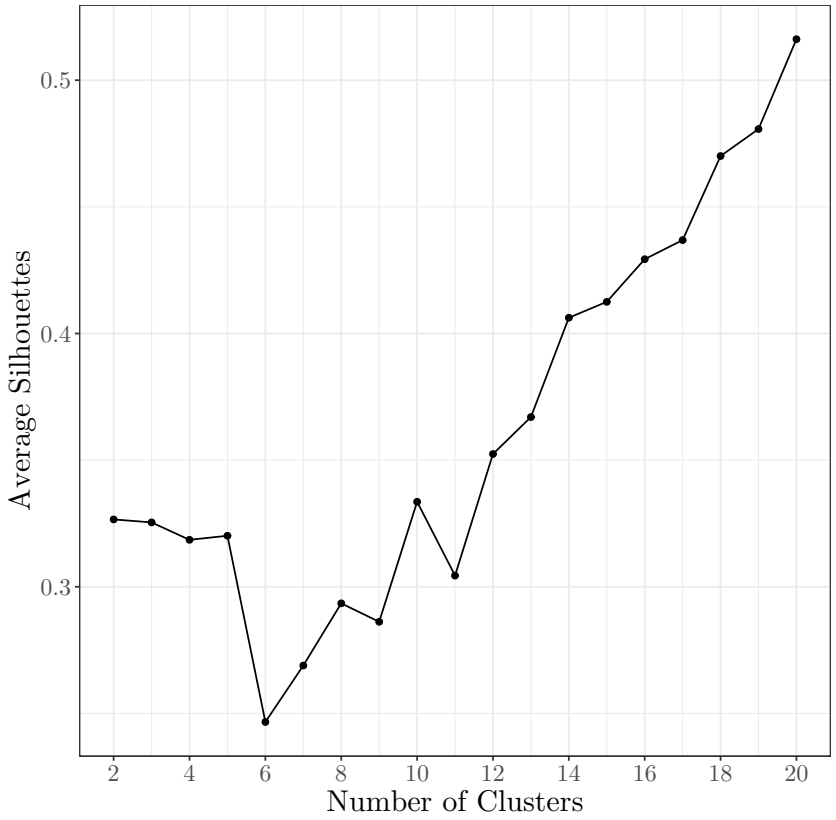
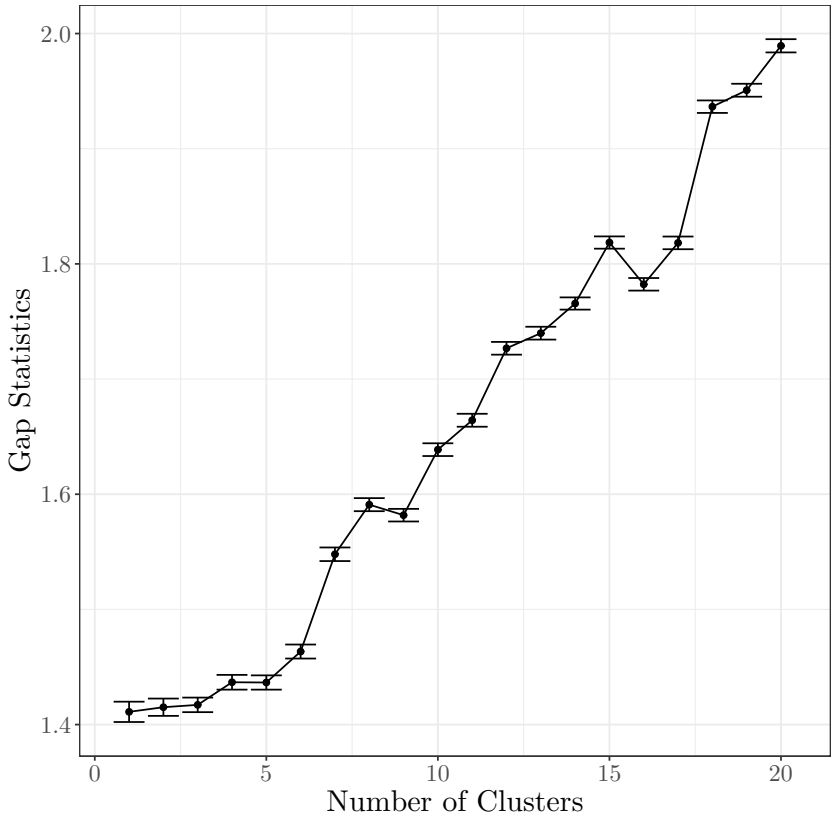


Figure A.9: Gap Statistic



A.3.2 Robustness Tests

This subsection deals with the robustness tests of my main clustering specification. As mentioned in Chapter 3, I run a number of alternative unsupervised and latent models to assess the generalisability and accuracy of my model. Figure A.10 presents an alternative estimation to Figure 3.1. I run a hierarchical clustering algorithm with a cluster size constraint of 250 for each cluster, producing a comparable set of four clusters. The x-axis presents the four clusters while the shade of each cell corresponds to the mean normalised value of each input variable in a given cluster. These values are comparable to those presented in Table 3.2.

Figure A.11 presents an alternative estimation to Figure 3.1. I run principal component analysis on the input variables used in the cluster analysis, using these values as the basis for the clustering analysis. The x-axis presents the four clusters while the shade of each cell corresponds to the mean normalised value of each input variable in a given cluster. Again, these values can be compared to those presented in Table 3.2.

Lastly, Figure A.12 presents another alternative estimation to Figure 3.1. I run latent factor analysis with an imposed constraint of four latent factors in order to make the results comparable to the other unsupervised analyses. Here, the x-axis presents the four clusters while the shade of each cell corresponds to the mean normalised value of each input variable in a given cluster. Once again, these values are comparable to those presented in Table 3.2.

Figure A.10: Hierarchical Clustering of NSSA Type

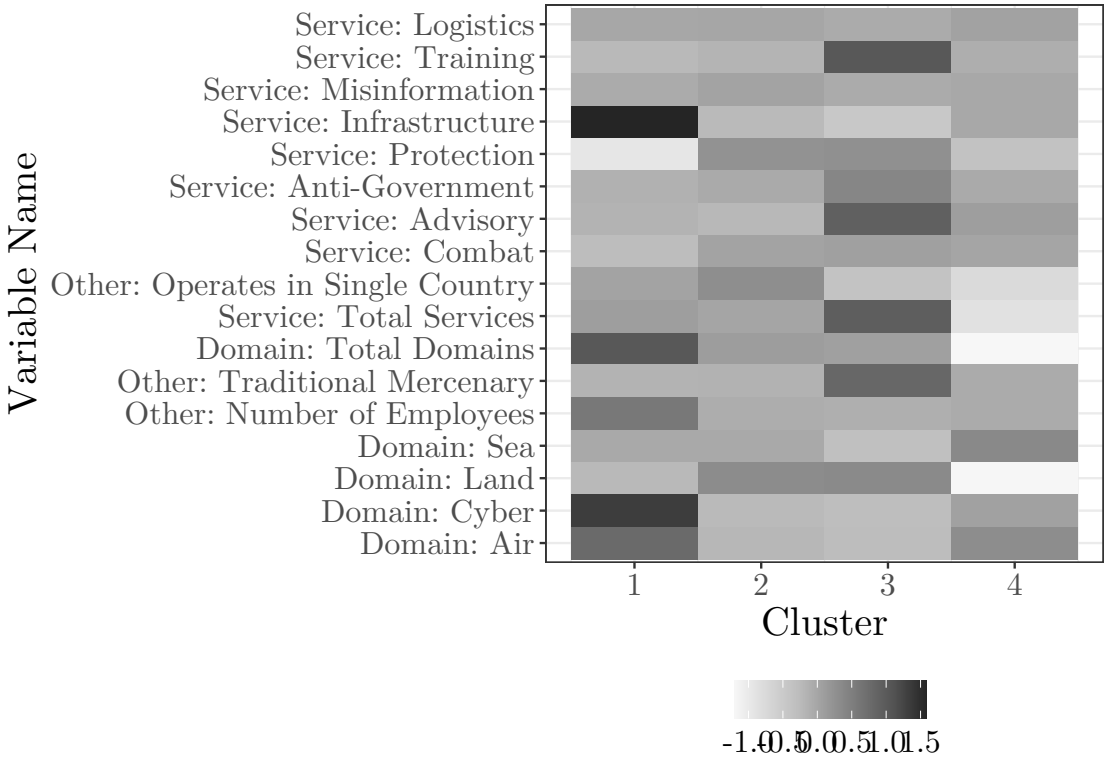


Figure A.11: Principal Component Analysis of NSSA Type

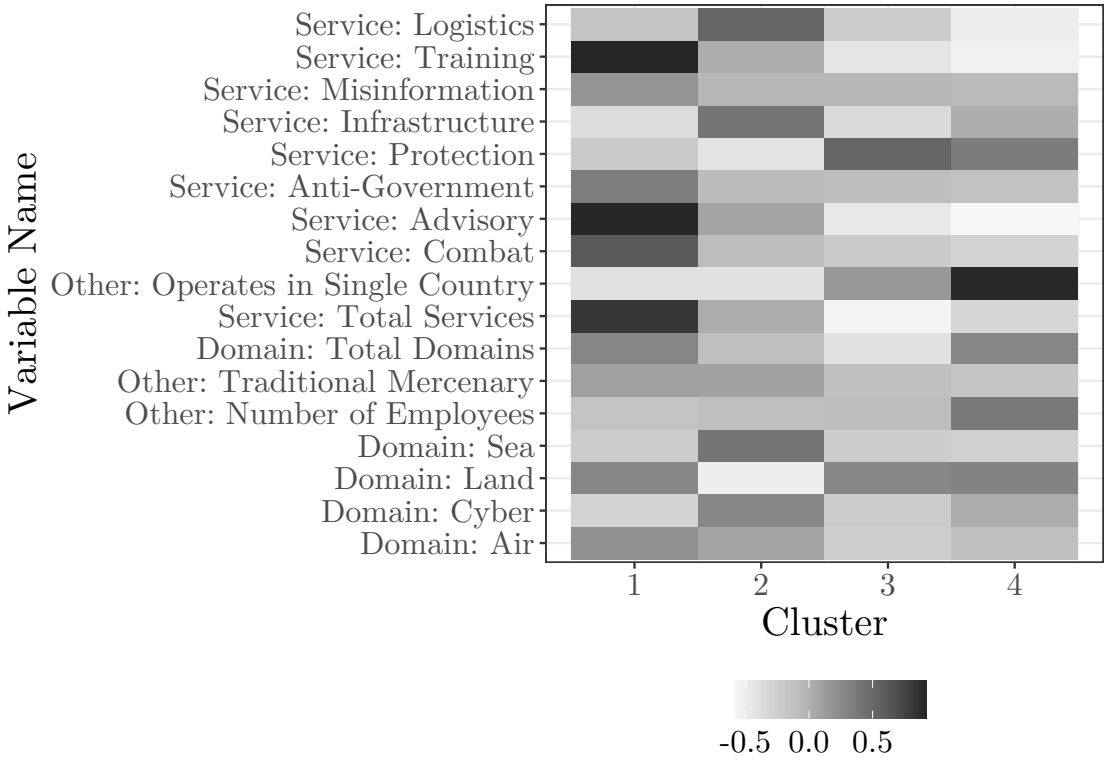
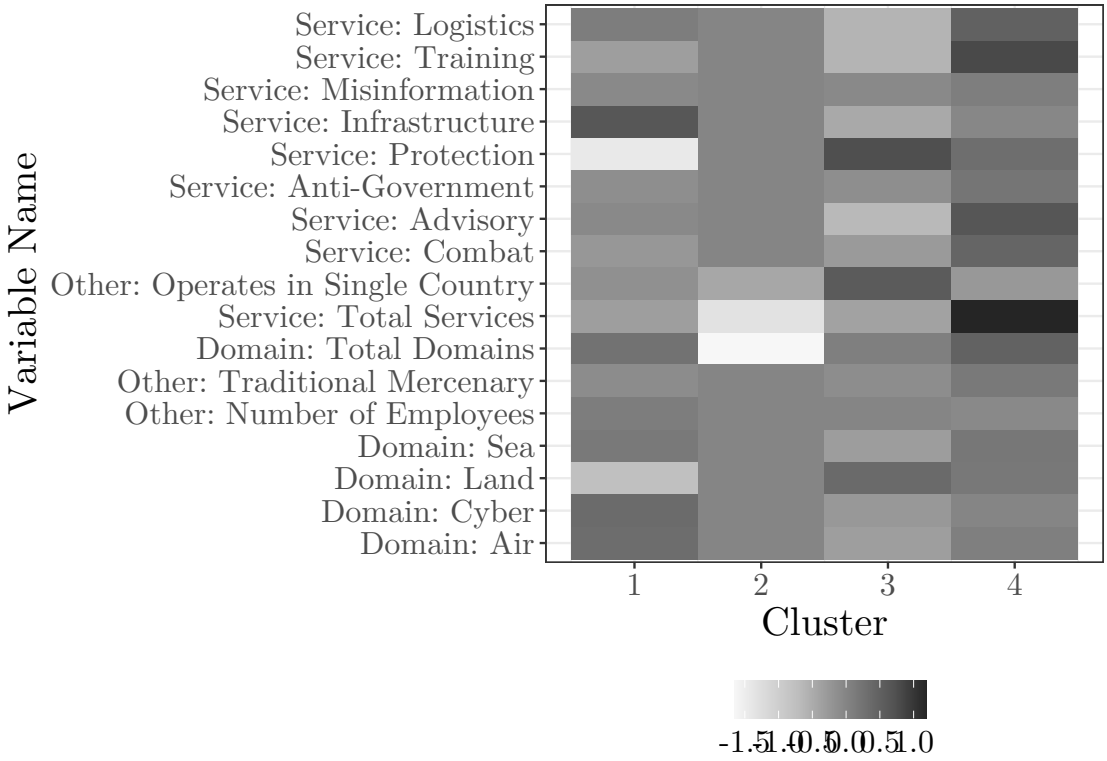


Figure A.12: Latent Factor Analysis of NSSA Type

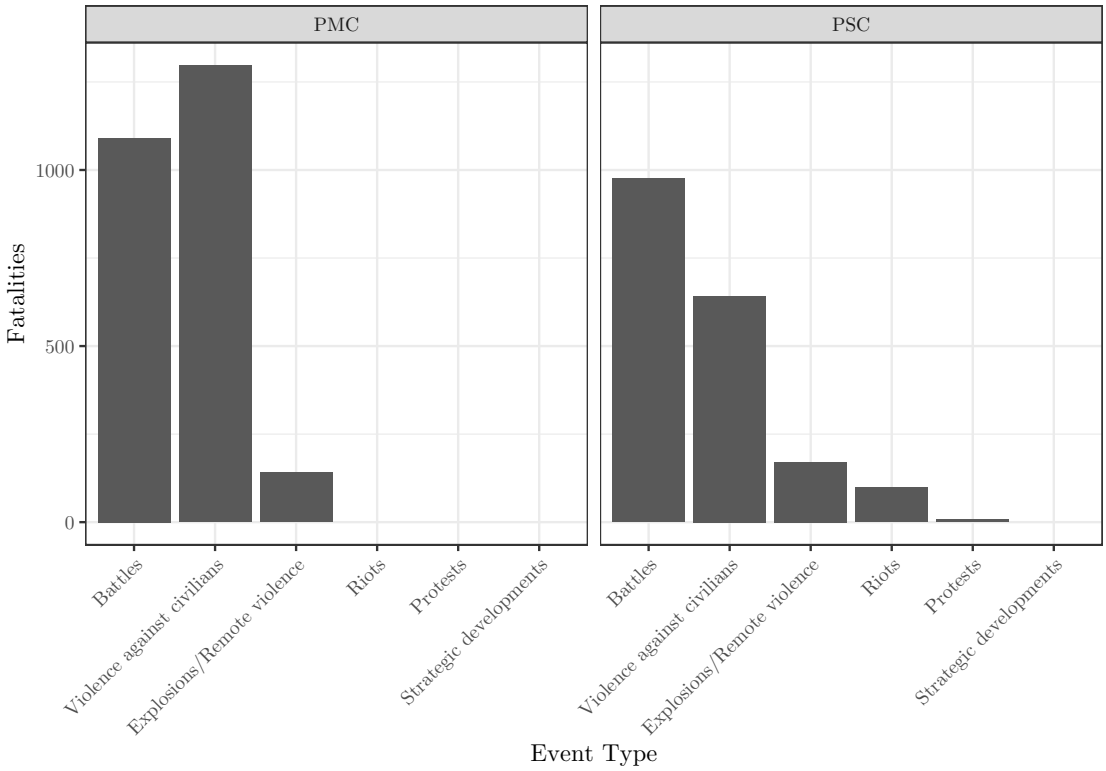


A.4 Chapter 4

Figure A.13 uses data from Raleigh (2016) to plot the different categories of violence perpetrated by different non-state security actors. Given that ACLED do not have a systematised method for organising types of non-state security actor, I do my best to bin actors based on their name into existing typologies of non-state security actor.[1] The x-axis plots the violence categories while the y-axis plots the frequency of these events. Each panel corresponds to private military companies or private security companies.

[1]Interestingly, ACLED mentioned "private security company" as a generic actor name across countries, but mentions private military companies, such as the Wagner Group and Dyck Advisory Group, by name. This suggests to me that, outside of datasets specifically studying private military companies, the distinction between these organisations and other forms of non-state security actors are either not well understood or not seen as important. The term "mercenary" is mentioned, but again not in a systematic manner.

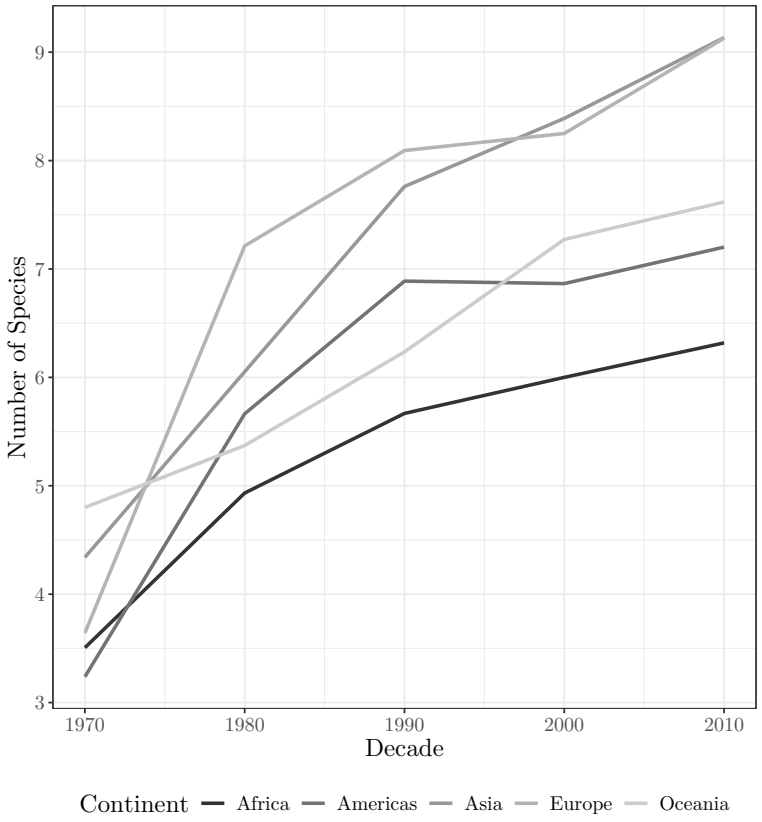
Figure A.13: Violence Perpetrated by Non-State Security Forces



A.5 Chapter 5

Figure A.14 presents decade-region-average levels of military diversity using data from Gannon (2023). For simplicity, the raw number of "species", or military equipment types, are used as a measure of military diversity. In the analysis, different measures (such as the Shannon diversity index) are used, and results are robust to these different empirical measures.

Figure A.14: Military Diversity by Decade



A.5.1 Supplementary Analysis to Machine Learning Approach

In this subsection, I briefly describe additional models and estimators used to supplement the analysis in Chapter 5. Table A.3 presents the results of two ordinary least squares regression models. The first is a multivariate model with no fixed

effects while the second includes country and year fixed effects. The fixed effects model (the most constrained model), takes the following functional form:

$$Y_{it} \sim \beta X_{it} + \gamma_i + \lambda_t + \epsilon_{it}$$

Where Y_{it} represents a binary outcome variable (the presence of non-state security actors) for country i in time t. β is my estimate of the effect of each variable included in the analysis (discussed in the previous section) while γ_i and λ_t are country and year fixed effects, respectively. ϵ_{it} is the error term.

Looking at column two, the fixed-effects model, only four variables are statistically significant ($p < 0.1$ and $p < 0.05$), number of military personnel, Polity IV score, size of rebel group, and an indicator for whether the conflict is an ethnic conflict. Number of military personnel and rebel group size are both positive predictors, while ethnic conflict and Polity IV score are negative predictors. This is somewhat of a useful finding given that the variable importance plots are agnostic to directionality. Moreover, the machine learning analysis does not report traditional measures of statistical significance, and so reporting statistical significance in the form of p-values in this section is useful for frequentist statisticians.

Table A.4 presents Heckman 2-step estimates of non-state security actor presence. As mentioned briefly in Chapter 5, the Heckman estimator allows me to essentially answer hypothesis one and two concurrently, by assessing selection (NSSA presence) and outcome (NSSA type) in a single model. The first estimating equation for the Heckman 2-step is as follows:

$$Prob(D = 1|Z) = \phi(Z\gamma)$$

Where $D = 1$ indicates that an NSSA is present for a given observation. Z is a vector of control variable, γ is a vector of unknown parameters, and ϕ is the cumulative distribution function of the normal distribution. This equation tests the extensive margin of NSSA presence (that is, whether they are present or not, irrespective of the types of NSSA present). The results can be seen in column 1.

A. Supplementary Exhibits

Table A.3: Predicting NSSA Presence (OLS)

	Multivariate OLS	Fixed Effects OLS
GDP (Logged)	0.002	0.003
	(0.008)	(0.007)
Number of Military Personnel	0.000***	0.000**
	(0.000)	(0.000)
Ethnic Fractionalisation	0.010	−17.015
	(0.047)	(15.297)
Conflict Duration	0.003***	0.001
	(0.001)	(0.001)
Number of Terror Attacks	0.000***	0.000
	(0.000)	(0.000)
Population (Logged)	−0.022+	0.324**
	(0.013)	(0.123)
Military Diversity	0.015**	0.012
	(0.004)	(0.014)
Elevation	0.000**	−0.001
	(0.000)	(0.001)
PolityIV Score	−0.001**	−0.002*
	(0.000)	(0.001)
Rebel Force Size	0.000+	0.000**
	(0.000)	(0.000)
Mountainous Terrain (%, Logged)	−0.007+	−3.906
	(0.004)	(4.259)
Latin America	0.034	8.829
	(0.052)	(7.869)
Number of Actors	0.021+	−0.002
	(0.011)	(0.024)
Oil	0.087***	−0.072+
	(0.022)	(0.041)
Ethnic Conflict	−0.018	−0.033
	(0.020)	(0.020)
Diamonds	0.052	2.132*
	(0.032)	(1.056)
Conflict Intensity	−0.007	0.027
	(0.021)	(0.037)
Africa	−0.010	−3.779
	(0.043)	(4.268)
Asia	−0.075+	2.446
	(0.042)	(1.574)
Middle East	−0.146***	−17.842
	(0.042)	(19.071)
Num.Obs.	1208	1208
R2 Adj.	0.114	
RMSE	0.28	

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

The second stage of the Heckman 2-step analyses the intensive margin of NSSA presence, subsetting the analysis to only observations where $D = 1$. The second estimating equation is as follows:

$$w^* = X\beta + u$$

Where w^* is, in my case, a binary variable indicating the four different NSSA

types (that is, I run the second stage four times, once for each NSSA). These results correspond to the remaining four columns in the table. Note that military diversity positively and statistically significantly predicts the presence of *any* non-state security actor, but does not provide clear predictive power of the types of NSSA that may be present in a given country-year observation. In fact, few of the variables included in the analysis are predictive of different types of NSSA operating across states. Remember, that this is a truncated sample looking only at civil wars and without complete coverage of non-state security actor presence.

Though the results for Type-4 mercenaries are statistically significant, this is likely a function of the small number of Type-4 mercenaries present in the dataset. Table A.5 shows the number of occurrences of each non-state security actor type in the A&R dataset. As mentioned, there are only three unique Type-4 mercenaries in the dataset, and eight occurrences total in the data, captured in the fourth row. Thus, the statistically significant results we see in column five are likely a result of the highly skewed distribution of positive and negative cases, coupled with the small number of observations ($N = 101$). This is why the Bayesian estimates are the more appropriate choice for this analysis. Until a full panel dataset is introduced, Bayesian estimates of small sample sizes must suffice.

A. Supplementary Exhibits

Table A.4: Heckman Estimates of NSSA Presence and Type

	First Stage	Type-1	Type-2	Type-3	Type-4
Military Diversity	0.064*	0.032	0.005	0.170	0.103
	(0.029)	(0.110)	(0.108)	(0.116)	(0.069)
GDP (Logged)	0.049	−0.008	0.114	−0.009	−0.129+
	(0.067)	(0.105)	(0.103)	(0.111)	(0.066)
Ethnic Fractionalisation	0.298	0.991	−0.630	0.007	0.344
	(0.328)	(0.604)	(0.595)	(0.640)	(0.382)
COW Country Code	−0.002+	−0.004	0.001	−0.004	−0.005+
	(0.001)	(0.004)	(0.004)	(0.004)	(0.002)
Conflict Duration	0.020**	0.043	−0.007	0.044	0.032
	(0.007)	(0.031)	(0.030)	(0.033)	(0.019)
Number of Terror Attacks	0.000	0.000	0.001+	0.001	0.001
	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Population (Logged)	−0.122*	−0.149	0.016	−0.298	−0.166
	(0.050)	(0.226)	(0.223)	(0.239)	(0.143)
Elevation	0.000**	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
PolityIV Score	−0.003	−0.006	−0.006	−0.003	−0.005+
	(0.003)	(0.004)	(0.004)	(0.005)	(0.003)
Rebel Force Size	0.000	0.000	0.000	0.000	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Mountainous Terrain (%, Logged)	−0.020	−0.010	−0.071	−0.084+	−0.034
	(0.032)	(0.044)	(0.043)	(0.046)	(0.028)
Latin America	−0.621	−1.478	0.723	−1.156	−1.420+
	(0.413)	(1.202)	(1.184)	(1.272)	(0.760)
Number of Actors	0.029	−0.120	−0.059	0.124	0.084
	(0.070)	(0.086)	(0.084)	(0.091)	(0.054)
Oil	0.305+	0.675	−0.384	0.372	0.583
	(0.181)	(0.556)	(0.548)	(0.589)	(0.352)
Diamonds	0.066	0.044	0.441*	0.432+	0.358*
	(0.206)	(0.217)	(0.213)	(0.229)	(0.137)
Conflict Intensity	−0.012	−0.187+	0.002	0.208*	0.066
	(0.162)	(0.096)	(0.094)	(0.102)	(0.061)
Africa	0.361	−0.179	0.379	0.512	0.341
	(0.462)	(0.646)	(0.636)	(0.683)	(0.408)
Asia	0.537	0.314	0.062	0.685	1.215+
	(0.747)	(1.099)	(1.083)	(1.164)	(0.695)
Middle East	−0.716	−0.945	−0.148	−2.048	−1.522+
	(0.595)	(1.254)	(1.235)	(1.327)	(0.792)
Nuclear Weapons	−0.715+	−0.478	−0.085	−1.597	−1.314+
	(0.370)	(1.102)	(1.085)	(1.167)	(0.696)
Num.Obs.	855	101	101	101	101
R2 Adj.		0.831	0.611	0.316	0.360
RMSE	0.30	0.32	0.31	0.34	0.20

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A.5: NSSA Presence in A&R (2013)

Cluster	Count
Type-1	76
Type-2	32
Type-3	21
Type-4	8

Taken together, these results present suggestive, but not completely satisfactory,

evidence of the relationship between military diversity and the presence of non-state security actors. As I have mentioned, the main limitation here is the data, but these preliminary findings, which at least directionally appear to support the findings in Chapter 5 is encouraging. Future research using a complete panel of non-state security actor presence is essential to confirm or reject the overall conclusions made in this paper.

A.6 Chapter 6

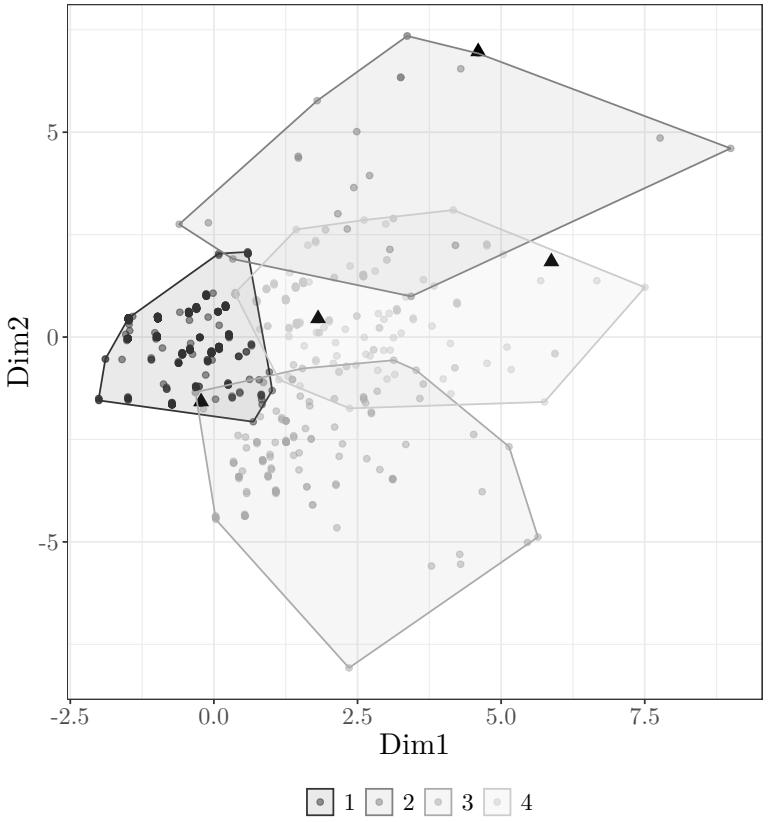
Table A.6 presents a simplified version of Table 1 in D. Collier (2011). Each column presents a different test which each piece of evidence in my case study is subject to. The "gold standard", that is, the most convincing piece of evidence will pass the doubly-decisive test, though several pieces of evidence which each pass "weaker" tests (such as the straw-in-the-wind) can combine to create a convincing causal narrative. Throughout the case study section, I mention whether I believe the hypotheses I present pass the tests.

Table A.6: Process-Tracing Tests

Necessary/Sufficient for Affirming Causal Inference			
No/No	Yes/No	No/Yes	Yes/Yes
Straw-in-the-Wind	**Hoop**	**Smoking-Gun**	**Doubly Decisive**
Affirms relevance of hypothesis, does not confirm. Failure weakens hypothesis.	Affirms relevance of hypothesis, does not confirm. Failure eliminates hypothesis.	Confirms hypothesis. Failure weakens hypothesis.	Confirms hypothesis and eliminates others. Failure eliminates hypothesis.

Figure A.15 shows the four actors selected in my case study (DynCorp, Al-Hababi Marine Services, SELEX Sistemi Integrati, and "Mad Mike" Hoare) in the context of all non-state security actors plotted in Panel 3 of Figure 3.1. The black triangles correspond to the four actors. This figure helps to visualise my approach to the nested case selection method posited by E. S. Lieberman (2005), whereby I randomly select one actor (contingent on the completeness of the data) from each of the four clusters in order to conduct a controlled comparative case study.

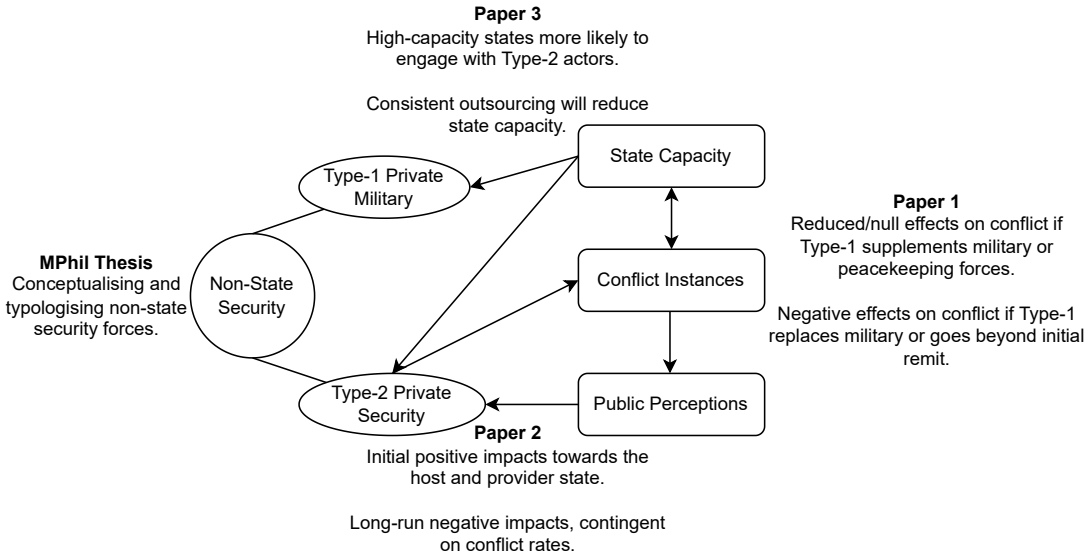
Figure A.15: Case Selection in Model Space



A.7 Chapter 7

Figure A.16 presents my proposed research agenda on non-state security actors. Using the theoretical and conceptual foundations developed in this research project, I will move to study the substantive outcomes caused by the presence and operations of non-state security actors. Specifically, I am concerned with three core outcomes, the proliferation of conflict, public perceptions toward non-state security, and long-run implications for state capacity. While I intend to study many other outcomes and mechanisms in the future, these are core outcomes that I believe existing literature has failed to address sufficiently.

Figure A.16: Roadmap of Future Research



B

Data Description

B.1 Data Collection Procedures

This section describes the data collection procedures and checks, with the aim being that someone could follow these rules and generate a dataset that looks similar to the one that I have constructed. A link to the dataset will be provided upon request.

B.1.1 Step 1: Compiling existing sources of data

The first round of data collection involves compiling actors cited in the text and data of existing research. The articles that I have relied on in obtaining private military actors are as follows: Avant (2005), McFate (2014), Singer (2001), Akcinaroglu and Radziszewski (2013), Petersohn et al. (2022).

I extract the names of the companies, and any other relevant information. If the organisation does not meet my minimal definition as described in section 3, I still add the company name but set the `keep` variable to 0, indicating that this observation should not be included in the analysis. Usually, and unfortunately, existing research simply mentions the company by name, but provides no additional information, nor a source from where the company was discovered. This necessitates validation of each author's work[1].

[1]For example, a PMC named UPES—originally cited in Singer (2001)—has been repeatedly

I also include variables on how other authors class each actor. For example, I want to collect information on whether PMC X is considered a pro-government militia in one paper and a private military company in another.

B.1.2 Step 2: Validating existing sources

This step requires combing through the data multiple times; it is a cyclical process. While validating the existing collections of PMCs, it is often the case that websites containing information on hitherto unknown private military companies are discovered. If a new PMC is added to the data using this method, then a second and third source must be found to ensure its validity and to extract as much information about the company as possible.

The websites I have consulted thus far are included in the dataset in the `sources` column, but are listed here in .pdf form to avoid link rot.

B.1.3 Step 3: Random sample check

Once the manual data collection stage has been completed, I will draw a random sample of the data and ask a research assistant or MTurk worker to conduct steps 1 and 2 to see whether they draw the same information as I do. If their findings for the subset of observations are similar to mine, then I can be fairly confident that my data collection procedures are valid. If not, then I shall redevelop my data collection procedure in line with the feedback received from the research assistant or MTurk worker.

B.1.4 Step 4: Merging in other variables

Once I have my final validated dataset, I will merge in other variables from existing datasets in order to create a "ready for analysis" dataset. The logic behind this is

cited in subsequent papers as an organisation operating in the Middle East and North Africa. The issue is that none of the papers have described any details about the organisation beyond where it is reported to have operated. Having done some research, I have found that UPES stands for La Union de Periodistas y Escritores Saharauis (The Union of Sahrawi Journalists and Writers), a non-governmental organisation which provides translation services for militaries and other governmental and non-governmental organisations.

having a dataset with all the relevant controls cleaned and prepared for regression analysis. Moreover, I will create long and wide forms of the data—differing the unit of analysis—for additional analysis.

B.1.5 Step 5: Correlation tests

As a final step, I will use this new dataset to benchmark existing datasets in a bid to test the measurement and construct validity of the measures I create (Adcock and D. Collier 2001). This will involve merging in the classification of each PMC that appears in existing datasets.

B.2 Codebook

pmc_name	Name of the private military company (character)
employee	Most recent estimate of the number of employees (numeric)
parent_company	Parent company of the PMC (character)
other_name	What other names does the PMC go by (character)
government_affiliated	Does the PMC have explicit connections with a state in which it is not operating? (binary)
country_presence	Countries in which the PMC operates (character)
keep	Whether the observation should be kept in the data (cases that do not meet the minimal defintion of PMC will be removed, so should always be 1) (numeric)
mercenary	Is this actor an individual, as opposed to an actual company? (binary)
domain_land	Is a primary domain of this actor land? (binary)

domain_air	Is a primary domain of this actor air? (binary)
domain_sea	Is a primary domain of this actor sea? (binary)
domain_cyber	Is a primary domain of this actor cyberspace? (binary)
services_military_training	Is a primary service provided by the actor military training? (binary)
services_demining_conflict_adjacent	Is a primary service provided by the actor de-mining or other conflict-adjacent activities? (binary)
services_transportation_and_logistics	Is a primary service provided by the actor transportation and logistics? (binary)
services_infrastructure	Is a primary service provided by the actor infrastructure development? (binary)
services_advisory	Is a primary service provided by the actor advisory and military strategy planning? (binary)
services_active_combat	Is a primary service provided by the actor active combat? (binary)
services_misinformation	Is a primary service provided by the actor misinformation campaigns? (binary)
services_anti_government_operations	Is a primary service provided by the actor operations against the state in which they are operating? (binary)
sources	What are the sources that provide the information for this entry? (character)
notes	Are there any other important things to know about this entry? (character)

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