MILITARY FORCE STRUCTURES IN SMALL STATES:
PROVIDING FOR RELEVANT AND CREDIBLE MILITARY CAPABILITY

BY

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This thesis has been completed as private study undertaken by the author. Except where explicitly stated and cited, the views expressed in this thesis are the author's own and do not reflect the views or policy of the New Zealand Defence Force, the New Zealand Government, or any agency thereof.

ABSTRACT

Small states are perceived as lacking military power. Nevertheless, most maintain military forces. Given their shortfalls in power and capacity what choices do small states make about maintaining military forces and what utility do they gain from them? This issue is not well addressed in small state literature which considers the security of small states but focuses less on their defence planning or the military instruments they maintain. This thesis addresses that issue by examining how small states structure their military forces, why they do so, and whether they provide for relevant and credible military capabilities.

This is achieved by examining the structural balance of small state military forces; developing and applying a methodology to describe the process and priorities within the military systems of small states; and developing expectations for military forces in small states from small state literature and military theory as testable propositions to provide a basis for comparison of their military capabilities. The results of this comparison are then analysed with regard to the utility that small states may gain from their military forces and related to wider themes within the field of small state studies to ascertain the benefit that they may gain from them.

Four cases of small state military force structures are used. Ireland provides limited military capabilities to meet discrete tasks and roles within a benign strategic environment and its policy of military neutrality. New Zealand, like Ireland, does not face a direct military threat but it has a wide range of security interests. This is reflected in a broad force structure, albeit with modest capabilities based on utility and the benefits of its international partnerships. Norway, on the other hand, does perceive a direct military threat and functions within the NATO security alliance. It maintains forces that are able to operate throughout the conflict continuum as part of the NATO framework but, as a small member of the alliance, it faces the challenges of balancing defence concerns within the alliance framework. Singapore also perceives itself to be strategically and militarily vulnerable. However, unlike Norway, it does not participate in a military alliance and instead provides the most capable military forces of the four cases as it aims to be self-reliant in the face of perceived vulnerability.

The four cases possess markedly different military force structures as a result of their varying assessments of strategic discretion and differences in their approaches to the various security

environments they encounter. All four face challenges with economies of scale, critical mass and fixed costs in providing for their military capabilities. However, the extent of these challenges differs between each of the four cases and they gain different utility and benefit from maintaining their military instruments. Hence while small states have some common military characteristics they cannot be considered as a homogenous group. This should affect the manner in which they, other states and international organisations perceive them.

To Kathryn

ACKNOWLEDGEMENTS

<u>CONTENTS</u>

<u>Page</u>

LIST OF FIGURES

The maps shown as Figures 3-1, 4-1, 5-1, and 6-1 are used with permission.

LIST OF TABLES

LIST OF ABBREVIATIONS

3G	third generation
4G	fourth generation
AA	anti-aircraft
ABCA	American, British, Canadian, Australian and New Zealand Armies' Program
ABCANZ	American, British, Canadian, Australian and New Zealand Armies' Program
ADB	Asian Development Bank
AEW	airborne early warning
AIIB	Asian Infrastructure Investment Bank
ANZUS	The Australia, New Zealand, United States Security Treaty
APC	Armoured Personnel Carrier
ASEAN	Association of Southeast Asian Nations
ASIC	Air and Space Interoperability Council
ATCA	aid to the civil authority
AUSCANNZUKUS	Australia, Canada, New Zealand, United Kingdom and United States Naval Agreement
AWACS	airborne warning and control system
BG	battle group
C2	command and control
C4	command, control, communications and computers
C4I	command, control, communications, computers and intelligence
CIED	counter improvised explosive device
CSDP	Common Security and Defence Policy
CSS	combat service support
CT	combatting terrorism
CT	counter terrorism
CTF	Combined Task Force

DLOC	Directed Level(s) of Capability
EDA	European Development Agency
EEZ	exclusive economic zone
EOD	explosive ordnance disposal
EU	European Union
FPDA	Five Power Defence Arrangements
GASU	Garda Air Support Unit
GDP	gross domestic product
GNZ	GEOINT New Zealand
HADR	humanitarian assistance and disaster relief
IEDD	improvised explosive device disposal
IISS	International Institute for Strategic Studies
IKC2	Integrated Knowledge-based Command and Control
IMF	International Monetary Fund
ISR	intelligence, surveillance and reconnaissance
ISTAR	intelligence, surveillance, target acquisition and reconnaissance
JSF	Joint Strike Fighter
MATS	Ministerial Air Transport Service
MINDEF	Ministry of Defence (Singapore)
MOU	memorandum of understanding
MPA	maritime patrol aircraft
NAF	Norwegian Armed Forces
NATO	North Atlantic Treaty Organization
NJHQ	Norwegian Joint Headquarters
NOK	Norwegian Krone
NORDEFCO	Nordic Defence Cooperation
NZDF	New Zealand Defence Force
NZD	New Zealand dollar
OECD	Organisation for Economic Co-operation and Development

OLOC	Operational Level(s) of Capability
OOTW	operations other than war
OPV	offshore patrol vessel
OSCE	Organization for Security and Co-operation in Europe
PCRS	Peacekeeping Capability Readiness System (UN)
PDF	Permanent Defence Force
PfP	Partnership for Peace
PIF	Pacific Islands Forum
PSO	peace support operations
R&D	research and development
RDF	Reserve Defence Force
RMA	revolution in military affairs
RNZAF	Royal New Zealand Air Force
RNZN	Royal New Zealand Navy
RSAF	Republic of Singapore Air Force
RSN	Republic of Singapore Navy
SAF	Singapore Armed Forces
SAFTI	Singapore Armed Forces Training Institute
SAR	search and rescue
SGD	Singapore dollar
SIPRI	Stockholm International Peace Research Institute
SLA	service level agreement(s)
SLOC	seal lines of communication
SOF	special operation(s) force(s)
SRR	search and rescue region
ST	Singapore Technology
TTCP	The Technical Cooperation Program
UK	United Kingdom
UN	United Nations

UNIFIL	United Nations Interim Force in Lebanon
UNSAS	United Nations Standby Arrangements System
USA	United States of America
USD	United States dollar
USSR	Union of Soviet Socialist Republics
VIP	very important person (people)
WTO	World Trade Organization

CHAPTER ONE: SMALL STATES, INTERNATIONAL RELATIONS AND SECURITY

This thesis aims to examine how small states structure their military forces. This will help to develop an understanding of why small states structure their forces in the manner that they do and support the further assessment of whether they can provide for relevant and credible military capabilities. This in turn provides an opportunity to consider the viability, agency and resilience of small states as actors within the wider scope of international affairs.

The focus of the study is the nature and composition of small state military force structures. This is examined through the structural balance of those forces and the processes that small states employ in providing for their forces. This relates the breadth and depth of the military force structures to the decisions that small states make in how they design, maintain and employ their forces, and the priorities that they establish between the requirements of military readiness, operations and modernisation. The results of this analysis are then evaluated with regard to expectations for small state military forces that are developed from small state and military theory. Understanding the points of commonality and difference that result from this consideration forms the theoretical basis to the thesis as it indicates the relationships between the internal and external factors that influence how small states structure their military forces. The import of these relationships are then considered with regard to wider themes in small state theory through the utility that small states may gain from their military capabilities as they pursue their wider security, foreign policy and national goals and interests.

The context for this study is based on Maurice East's work in 1973 in which he noted that states have long been categorised according to size within world politics and that "empirical studies have shown size to be an important factor underlying variations in the international behaviour of nation-states" (East, 1973, p. 556). Small states have traditionally been defined in this context as holding a relative deficit of power; particularly with regards to that which they may express through their military capabilities or forces (Chong & Maass, 2010, p. 381; Robert O. Keohane, 1969, p. 291; Steinmetz & Wivel, 2010b, pp. 4-5). Nevertheless, most states, including small states, maintain military forces.

The decisions that states make in providing for their military capabilities are not simple calculations of resource and intent; and the wide range of potential military roles and tasks

adds complexity to how they design, maintain and employ their forces. This complexity has been influenced by the changing dynamics of international relations over the past thirty years which has enabled wider conceptions of security, the expression of different modes of power, and greater variation in the role and utility of military force. However, maintaining the military instrument of a state's power represents costs to those states – both in absolute terms with respect to the forces themselves and with regard to the trade-offs required between the state's military and its other diplomatic, informational and economic instruments. This is a particular concern for small states as they may reach the limits of their state capacity quicker than larger states. They may also have less capacity to absorb the consequences of poor decisions or to provide for economies of scale and meet fixed costs in building upon the core functions of the state to provide for their national, foreign policy and security goals and interests. The issue then arises that, given their shortfalls in power and capacity, what choices do small states make about maintaining military forces and what utility do they gain from them?

This issue is not well addressed in small state literature which considers the security of small states but focuses less on their defence planning or the military instruments they maintain. Furthermore, the research that has been completed in this area has focused on military theory as the subject (with small states as the context) or provided analysis on specific aspects of defence and military planning in small states. This means that current research and literature has not fully explored or explained how small states respond to the challenges that they face in providing for their military instruments or why they do so in the manner that they do. As a result, there is opportunity for further research in this area to contribute to both small state and military theory; and this study addresses the issue from the perspective of small state theory - developing further understanding of the context of small states and how they relate to their wider environment through the lens of their military capabilities.

Recent research into defence and military planning in small states has included studies based on specific aspects of force and capability development – such as the procurement focus of Stefan Markowski, Peter Hall and Robert Wylie's (2010) work on defence procurement and industry policy - and the analysis of how small states apply modern military concepts such as the revolution in military affairs (as developed in the work of Francis Domingo (2014), Tim Huxley (2004), Bernard Loo (2009b) and Michael Raska (2016)). This is complemented by consideration of the form and effect of small state defence policies (as shown by Håkon Lunde Saxi's (2010a, 2010b) comparative analysis of Norwegian and Danish defence

policies); with additional studies further considering the role of small states in current operations[1] and how they may develop their capabilities through innovation and development[2]. In addition to the issue focused nature of this research, a further form of research comprises studies of selected small states, such as Shang-su Wu's (2016) analysis of the defence capabilities of Singapore and Taiwan, that examine how these states provide for their security and defence. These studies bridge the gap between military and small state theory, although they may not specifically address the key themes in small state theory and the wider relevance of the defence decisions that they make.

This study examines the choices that small states make about maintaining their military forces and the utility that they gain from them from the basis of small state studies. It examines the tangible outputs that small states achieve through their military force structures while testing and assessing expectations for the ability of small states to design, maintain and employ those force structures as the foundation of their military capabilities. This force structure approach differs from previous research and provides the context through which to realise the outcomes of small state military capabilities within the wider themes of small state studies.

The wider relevance of this study is then founded upon modern research into the role of small states within international relations and how they manage their relative power and capacity to pursue their wider security, foreign policy and national interests. Previous consideration of the viability of small states has been complemented by further study into how they respond to their environments. This encompasses the influence of internal and external factors on their policies and actions, the degree to which they may achieve autonomy or influence, and how they may react to factors of vulnerability and develop forms of resilience. The outcome for this research, therefore, is to relate the manner in which small states provide for their military forces to support further understanding of these wider considerations with regard to their role within international affairs.

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[1] Recent work in this area includes Toruun Laugen Haaland's (2007) study of Norway's participation in Peace Support Operations and Jan Angstrom and Jan Willem Honig's (2012) description of small state involvement in Afghanistan.
[2] This is a theme that Michael Raska (2016) considers in his consideration of military innovation in Israel, the Republic of Korea and Singapore; and is present in Haaland's (2016) analysis of Norwegian military learning and adaptation in Afghanistan. The opportunity for research into military innovation has recently been summarised by Stuart Griffin (2017) and there is scope to include the specific analysis of small states as a strand within this field.

The organisation of this study is structured around understanding the context of small states and how they relate to their wider environment through the lens of their military capabilities. It is based upon the examination of a central research question and consideration of propositions regarding how small states provide for their military capabilities through the conduct of case studies. The results of these studies are then compared to support further consideration of the relative influence of internal and external factors in determining or shaping the roles of small states within international affairs and then propose a theoretical relationship between those factors in determining the small state military force structures. This provides understanding to why small states structure their military capabilities in the way that they do and what may be expected of small states as a result.

Chapter One of the thesis discusses the concept of small states and establishes the study within the wider context of the role of small states within international affairs and modern conceptions of security. This establishes the practical problem for considering military capabilities within small states. Chapter One then concludes by describing the research methodology used in the study. This leads into Chapter Two which establishes the theoretical framework for the study by describing the structure, maintenance and utility of modern military forces as an instrument of state power. This establishes the measures and indicators that will be employed as the analytical framework within the study. Chapter Two concludes by describing expectations for the military forces of small states as these form propositions that will be examined through the subsequent case studies.

The majority of this thesis, Chapters Three to Six, is based on the conduct of four case studies that describe how four selected small states (Ireland, New Zealand, Norway and Singapore) design, maintain and employ their military force structures. Each case study describes its subject as a small state, outlines its military force structures, and then explains how the resultant military capabilities conform to the expectations of small state military forces. The results of these cases are aggregated and analysed in Chapter Seven. This addresses the central research question of how small states structure their military forces and considers the relationship between the internal and external factors that influence the manner in which small states structure their forces. The understanding that this analysis provides is then related to the wider themes of the viability, agency and resilience of small states within international affairs in Chapter Eight. This in turn relates back to the context for the study and considerations of the characteristics and capacity of small states and the issues that face them as they develop their military force structures.

UNDERSTANDING SMALL STATES

In 1969, Robert Keohane examined the role of small states within international politics and noted that, "[if] Lilliputians can tie up Gulliver, or make him do their fighting for them, they must be studied as carefully as the giant." (Robert O. Keohane, 1969, p. 310) In this Keohane sought to broaden the traditional focus of international relations from the great powers, particularly in light of the superpower relations during the Cold War, to one that encompassed the full range of actors within the international system. Five decades later the imperative to study the roles and effects of the smaller players within the international system has increased as the post-Cold War period has seen small states become more numerous, more prominent, and play a greater role in international relations (Hey, 2003a, p. 1; Neumann & Gstöhl, 2006, p. 1; Steinmetz & Wivel, 2010b, p. 8). The rise in prominence has led to an increased interest in the concept of small states as it is noted that the level of "analytic and policy attention towards those states has not matched their proliferation" (Cooper & Shaw, 2009, p. 1) and small state studies is now an expanding field of research.

The relevance of the study of small states is based upon their frequency, the characteristics that they display, and the insights that they can offer in the wider fields of International Relations and International Politics. Godfrey Baldacchino (2009, p. 23) notes the frequency of small states in that they are "the typical state size", while Iver Neumann and Sieglinde Gstöhl (2006, p. 16) establish their utility for academic enquiry as they "are not just "mini versions" of great powers but may pursue different goals and policies worth studying." In this regard, the study of small states is seen as offering the potential to provide fresh empirical data in the study of International Relations (Kassimeris, 2009, p. 87) and offer insights to the study of power (Ingebritsen, 2006, p. 286); particularly as their problems are shared to an extent by larger powers (Handel, 1981, p. 7). The study of small states in this context is also seen as having relevance for wider interdisciplinary studies and recognises the importance of the diversity of size within International Relations and other fields and conceptual paradigms (N. Smith, Pace, & Lee, 2005, pp. ii-iii).

A further attribute framing the study of small states within the modern international system is that they possess sovereign and legal, but not political, equality with large states (Neumann & Gstöhl, 2006, p. 5). Their traits and characteristics are different from the large states that traditionally shape the dynamics of international politics; as is the manner in which they

express forms of power and influence, seek to maintain their own security, or set objectives and pursue their interests. The capacity of small states to achieve these ends is shown through how they resource and apply their diplomatic, informational, military and economic instruments of state power[3]. Of these instruments, the military forces of a small state are a visible indicator of how they manifest their capacity in support of their wider interests and goals as those forces can be objectively identified and then described in terms of how they are designed, maintained and employed. The context for such study has evolved during the post-Cold War period as the traditional perspectives of small states have expanded to include wider conceptions of security and greater variations in the role and utility of military forces. This is also reflected in an evolving focus for the study of those forces.

During the Cold War Michael Handel (1981, p. 78) noted key questions with regard to the military force structures of small states in asking, "[w]hat problems face the weak states in developing military forces? How useful are such forces in wartime?" These questions represent a traditional focus on the capability of small states. However, with the continuing development of small state studies it is appropriate to also consider the utility of the small states' military forces and whether they can provide relevant and credible military capabilities to support their national, foreign policy and security goals and interests. This provides the opportunity to describe how a small state may resource its instruments of state power, how they may apply them, and to what end.

This section of the thesis establishes the basis for the study of small states. It describes how small states are defined or perceived, outlines the research conducted into small states, and relates this research to modern security and military contexts. This in turn establishes the practical problem that forms the basis of this study and shapes the research methodology that is used to address it. The first step in this process is to consider the forms of research conducted into small states and how this shapes our understanding of them.

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[3] Terry Deibel describes how the instruments of state power represent mobilised forms of that power, where resources have been converted into instruments. He further notes how these instruments are not fungible, as they represent a commitment of resources, and that resourcing decisions (such as equipping the military) may have long-term effects on future policies or actions. (Deibel, 2007, pp. 158, 171-172, 207-209)

RESEARCHING SMALL STATES WITHIN INTERNATIONAL RELATIONS

Research into small states within the fields of international relations and security has sought to relate the capabilities of those states to the ends that they may achieve. This research has examined what small states are, what influences them, and how they are perceived to act within the wider international forum. Research into small states employs the concept of the state as the unit of analysis (Knudsen, 2002, p. 184) but it may operate at different levels of analysis. Jeanne Hey (2003a, p. 9) identifies three such levels incorporating domestic, statist and system levels of analysis. Although Hey (2003b, p. 186) subsequently describes the system level as "a key explanatory factor in small state foreign policy" and authors such as Matthias Maass (2014, p. 710) support the use of system levels of analysis in researching how small states operate within the international system, this degree of focus presupposes a theoretical understanding based on small states as subject to international forces. As such, it may not give due regard to the intrinsic capacity of the state, or the decisions that it makes, as factors that shape how it sets and acts to achieve its national, security and foreign policy goals and interests. Furthermore, a purely systemic view may focus on tangible or hard expressions of state power and capacity but underplay the effect and intentions of softer, persuasive and/or normative forms of power and expression, and the mechanisms and motivations by which small states allocate resources between each of the instruments of the state. Therefore, research should encompass expanded levels of analysis. These issues are reflected in how the study of small states has developed and the key approaches that are employed.

Although the concept of small states was considered following the Congress of Vienna and, then, the dissolution of certain European empires after the First World War; the modern study of small states gains its foundations from the end of the Second World War as the number of small states rapidly increased through decolonisation and the breakup of the formal global empires. Scholars came to examine the phenomenon of small states, defining their features, scope of action and limitations within the international system (Kosáry, 1987, p. 77). Initially these states were considered with regard to the new dynamics of the Cold War, particularly with regard to how these states would survive amongst the bigger powers (Neumann & Gstöhl, 2006, p. 10) and their role in the international system while being relatively limited in power and capability (Hey, 2003a, p. 4). This field of study developed during the 1960s to

peak in the mid-1970s, with a relative decline in focus in the 1980s and 1990s (Neumann & Gstöhl, 2006, pp. 11-12). However, these efforts failed to create a 'common research agenda' (Steinmetz & Wivel, 2010b, p. 8) and the great expansion in the number of small states from the 1990s has meant that they cannot be seen simply as constitute elements of a system controlled by bigger and stronger states (Cooper & Shaw, 2009, p. 4), but has increased interest in how they respond to challenges and the roles that they fulfil (Steinmetz & Wivel, 2010b, p. 8). The expansion in the number of small states has also seen the parameters of the field develop beyond an initial focus on European small states to now encompass states in all regions of the globe with a wide variety of characteristics, levels of capacity and states of development (Jesse & Dryer, 2016, pp. 14-16; Neumann & Gstöhl, 2006, p. 13). This expansion in the subjects of the study of small states is also reflected in how that study is conducted.

Jean-Marc Rickli (Rickli, 2008, pp. 308-309) describes four generations of scholars defining small states; these scholars encompassing realist, neoliberal, constructivist and relational perspectives to the study of small states. These perspectives shape the conduct of research into small states as they use different conceptions of the role of power and the instruments that small states can resource and apply; they realise different conceptions of the role and conduct of small states within international relations; and they consider different degrees of the agency of small states being able to formulate and pursue their own national, security and foreign policy interests and goals. These perspectives also shape how researchers study small states. Neumann & Gstöhl identify three approaches to the study of small states – through the analysis of capabilities, institutions and relations (Neumann & Gstöhl, 2006, pp. 16-17). The focus on capabilities, however, emphasises the relative weakness of small states; while consideration of institutions and relations examines the actions that they may take in a more purposeful context. This indicates that a combined approach would be better placed to understand the broader sum of a small state's international relations. The outcomes of these approaches are also reflected in the different theories and focus areas that have been developed through research into small states.

The main theories within the field of small state studies relate to the perspectives of each of the schools. Realist theories emphasise traditional views of international relations and focus on state survival within an anarchic world. As such they expect that small states maintain relative deficits of power that limit their options and influence with other states, with little independent capacity for action and being forced to balance, bandwagon or rely on forms of

neutrality for survival (Browning, 2006, pp. 670-671; Jesse & Dryer, 2016, pp. 21-34). Liberal theories expand past these limitations to emphasise the preference of small states for an international rules-based order and the empowerment or protection that they may gain by participation within international organisations (Archer, 2010, p. 55; Neumann & Gstöhl, 2006, p. 9; Steinmetz & Wivel, 2010b, p. 10). Social constructivist theories move even further from realist conceptions of international structures to emphasise the role of identity, culture and norms within the motivations and actions of small states (Archer, 2010, pp. 56-57; Jesse & Dryer, 2016, pp. 39-47). As a result, there is no unified theory of small states (Knudsen, 2002, p. 184), and research in the field may instead be seen as contributing to the wider body of knowledge rather than establishing universal predictors of behaviour and consequences. This is further reflected in a wide variety of focus areas or research questions within small state studies. These include the effect of limits of capacity in shaping small state actions; whether they can generate economies of scale; what trade-offs they may have to make in apportioning resources between instruments of state power; their ability to face challenges or exploit opportunities; and the relationship between internal/domestic and external factors in shaping and guiding their policies. However, first of all, these theories and perspectives have a greater effect in shaping the definitions that are employed in describing the nature and form of small states as subjects of such research.

DEFINING SMALL STATES WITHIN INTERNATIONAL RELATIONS

Neal Jesse and John Dreyer (2016, p. 16) acknowledge that "[d]efining the small state is simultaneously both obvious and difficult." This occurs as the field encompasses a large variety of forms and characteristics, with the nomenclature of small states applied to both Small Island Developing States in the Caribbean and Pacific (Sutton & Payne, 1993) and the industrialised economies of Australia and Canada (Markowski, et al., 2010). Furthermore, there is no common agreement on whether small states should be defined according to geographic, demographic or economic criteria, or whether other characteristics may hold the key (N. Smith, et al., 2005, p. ii). This issue has also been clouded as the field has related the quantitative aspects of smallness with the qualitative aspects of weakness (Neumann & Gstöhl, 2006, pp. 7-8) (although the term weak state has latterly come to refer to the fragility of a state's internal governance more so than its posture within International Relations). As a

result, a key feature of the study of small states is that there is no agreed definition of what a small state is (Hey, 2003a, p. 2; Maass, 2009, p. 65; Neumann & Gstöhl, 2006, p. 9; Payne, 2009, p. 279; Steinmetz & Wivel, 2010b, p. 4; Sutton, 2011, p. 150).

Consequently, the field of small state studies encompasses a wide range of definitional forms. Maass (2009, pp. 65-66) has described this range as a "fundamental divide … between those definitions that rely on quantifiable criteria to capture the essence of the small state on the one hand, and those that are constructed using qualitative criteria to encapsulate the key characteristics of small states on the other…." These definitions represent a scale between the internal and external features of small states founded upon the attributes, capabilities, contexts and effects of those states within the international system. The major consideration with this range is the utility or appropriateness of definitions that may be developed. Peter Baehr (1975, p. 459) described the implications of this as,

> *Often the preferred solution may be clear and unambiguous, but at the same time arbitrary and intellectually difficult to defend; more sophisticated definitions, on the other hand, are often more ambiguous and difficult to apply to concrete cases.*

The issue thus becomes one of how to realise the multiple natures of small states in a form that allows the entirety of their attributes, characteristics and circumstances to be considered. The basis for this is the foundation of the term *small state* as a comparative measure (Neumann & Gstöhl, 2006, p. 6); implying a relative position with regard to other states. Authors such as James Vellut (1967, pp. 253-254) and Michael Handel (Handel, 1981, pp. 10-11) have expressed this relationship through a continuum of size, capability and relative strength. More recently, Jesse and Dryer (2016, p. 10) have presented this continuum as a typology that relates states at global, regional and sub-regional levels from microstates, through small and middle states, to great states and superpowers[4]. However, the positions of states on this continuum are not fixed in place as they follow different cycles of growth and development, and express their capabilities in different forms. Furthermore, it is possible for a state to be relatively larger than other states in its immediate region but still be perceived as small in wider international affairs – relating the qualitative difference between *small* and *smaller* within the typology of small states (New Zealand's relationship with the South Pacific Island states and then its main economic and strategic partners in the wider

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[4] The exact terminology of states along the continuum may vary, with notable examples being the use of *middle power* and/or *regional power* with regard to the term middle state.

international community being a case in point). In this regard, the concept of smallness is contextual (Rostoks, 2010, p. 87) and, as Sutton (2011, p. 151) explains,

> *What is seen as "small" in international trade is not necessarily the same as what is seen as "small" in international security, and what is regarded as a "small" developing country may not be the same as a "small developed" one.*

This means that the term small states should not be seen as a unitary whole but may instead be categorised into classes and sub-elements based upon factors such as their physical or population size, location, geographic composition (be they island, maritime or landlocked states), form of government, status of development, diplomatic influence, and/or economic and military capability and size. It also shows how, while there is a broad range of definitions proposed for small states, they cannot be fixed to a single reification but need to incorporate a range of perspectives. This provides flexibility for researchers in selecting the subjects of their study and may be achieved by considering small states as a concept rather than as an objective definition. The strength of this approach is reflected in Maass' (2009, p. 66) statement that, "[since] small states exist in all kinds of forms, shapes and sizes, international relations has to account for that and apply different conceptualizations of the small states as needed and appropriate." The concept of the small state can therefore be described in different perspectives, examining different characteristics, as required by the terms of the study.

I have previously referred to Rickli's (2008, pp. 308-309) description of four generations of scholars defining small states. In this passage he further notes that their definitions or conceptions are based on factors such as size and GDP, role and influence, perceptions, and relations to power. This offers a useful taxonomy of small states as it encompasses their key characteristics across a wide range of analysis and provides a mechanism to define and select certain elements of the field for further study; although I expand the criteria slightly to operationalise the concept through a state's physical characteristics, power, relations, perceptions (including identity, norms and status) and roles. In doing so I also distinguish between a small state's intrinsic and contingent characteristics, as those that provide the state's base capacity and those that shape its forms of international engagement, as a basis for understanding the wider concept of small states through their interactions within the international system. This concept is shown in Figure 1-1 below and described in the following paragraphs.

INTRINSIC CHARACTERISTICS [base capacity]	CONTINGENT CHARACTERISTICS [forms of international engagement]	
Physical Characteristics (land area, population size, location, resources, organisational capabilities, economic and/or military capacity)		
	Power (the ability to generate and maintain the instruments of state; the manner in which they are employed)	
		Relations (relative standing or influence with regard to other states)
		Perceptions (internal and external perceptions of size and influence, and norms and status)
		Roles (activities and outcomes within the wider continuum of states)
There is a dynamic relationship between the two characteristics as the intrinsic characteristics provide the base capacity that shapes the forms of international engagement while the contingent characteristics influence the state's decisions on resource allocation and priorities for allocating this capacity to certain objectives and ends.		

Figure 1-1: An Operationalised Concept of Small States

The physical characteristics of a small state represent the quantifiable criteria of its attributes - such as its land area, population, location, resources, organisational capabilities, and economic and/or military capacity (East, 1973, p. 557; Handel, 1981, p. 68). These form the intrinsic characteristics of the state – its base capacity through which it resources its diplomatic, informational, military and economic instruments. They also provide a means to assess the basis of a state's power through the instruments that it can create. Nevertheless, these criteria by themselves do not provide an accurate understanding of small states, as power is not solely an attribute but is also a relative measure and best understood through how it is used. Thus the consideration of the forms and types of power that a small state employs forms part of the contingent aspects of the wider concept – adding value to simple quantitative definitions by describing how and why small states act in the manner that they do.

The contingent aspects of the concept of small states are based upon relations, perceptions and roles. Small states are commonly defined in relative terms (Browning, 2006, p. 670) - presented with regard to larger states or in terms of what they are not (Maass, 2009, p. 77; Neumann & Gstöhl, 2006, p. 6). Relational definitions of small states emphasise the disparity

or lack of influence that they may have in comparison with larger states, such as Olav Knudsen's (2002, p. 184) definition of small states as "any state in a relationship of a marked inferiority of power *vis-à-vis* another state", and Robert Steinmetz and Anders Wivel's (2010b, p. 6) definition of small states as "the weak part in an asymmetric relationship". However, such definitions describe the condition of being *smaller* and not necessarily the status of being a *small* state. Therefore, it is not just the fact of these relations that define small states, but also the perception of what they mean.

Hey (2003a, p. 3) notes that "states are deemed small not by any objective definition, but by their perceived role in the international hierarchy"; such perception being both internal and external. This also relates the state's perceived identity and the norms that it supports within the international system to the roles that it may fulfil. In many regards a state is small if it, or others, considers it to be so. However, Hey's definition does provide a degree of agency to small states as it enables consideration of how they may act beyond their apparent means or reinforces consideration of their status within the international system. This also informs the roles that a state may play within this system - such consideration forming the basis of Keohane's (1969, pp. 295-296) definition of small states as he assessed the outcome that they may achieve by determining, influencing, affecting or being ineffectual within the wider continuum of states and powers.

The concept that has been described here provides a framework for identifying the intrinsic and contingent characteristics of a small state as a basis for research. It recognises that these characteristics cannot be considered in isolation and supports Anthony Payne's (2009, p. 279) imperative of recognising "the multiple natures of small state phenomenon and focus on their variations in practice." Furthermore, the use of a conceptual approach to establish and define the criteria for the small states that will be studied serves as a focusing device or organising element for study within the field (as suggested by Knudsen (1996, p. 4), Pantev (2010, pp. 103-104), and Wivel, Bailes and Archer (2014, pp. 8-9)) and counters concerns that small states form too broad a category for analysis[5] by enabling researchers to select classifications within the wider category for more focused study. Although the use of the concept of small states as a focusing device in this manner will not provide discrete theories that represent all small states within international relations it will, perhaps, be more effective in developing the

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[5] These concerns have been expressed by William T.R. Fox in his foreword to Rothstein's work on *Alliances and Small Powers* (Rothstein, 1968, p. vii) and by Peter Baehr (1975, p. 466).

wider body of knowledge within the field of study. It also means that researchers will need to be clear about the intrinsic and/or contingent characteristics and the wider classifications that they use to select and define states along the continuum of state size as the basis for their particular study of small states.

To put it simply, there is no single definition that adequately describes all small states. However, researchers are able to define certain classifications or categories of small states within a wider concept to guide the selection of subjects of their research and to provide a focusing device so that the results of their study can be related back to the wider field of small states. The forms of such research are found in the assessed characteristics of small states with regard to the key themes that frame the study.

ESTABLISHING THE CONTEXT OF THE STUDY

Research on small states focuses on the roles that they may play in the international system, what causes them to act in the manner that they do, and what may be expected of them as a result. This study develops upon that research to relate the characteristics (or expectations) of small states to their involvement in international affairs through three key themes that have been established within small state studies: viability and survival, autonomy and influence, and vulnerability and resilience. This provides the context to select and develop a distinct focus area to be examined through the thesis itself.

Small states have traditionally been viewed as having fewer and smaller capabilities than larger states and as being less capable in the international environment as a result (Baker Fox, 1959, pp. 1-2; Browning, 2006, p. 1; Neumann & de Carvalho, 2015, p. 9). Common perspectives emphasise the relatively small capacity that small states have in terms of their economic, diplomatic and military functions (Kosáry, 1987, p. 77; Vital, 1967, p. 117). This is reflected in a narrow economic base, a lack of depth in organisational capacity, and small diplomatic and military capabilities (East, 1973, p. 557; Kattel, Kalvet, & Randma-Liiv, 2010, p. 67). This small capacity is also seen as restricting what small states can do as they lack the ability to provide for their own security or to pursue a wide range of interests concurrently. As a result, the behaviours of small states are perceived as either reflecting, or seeking to mitigate, the limits to their capacity and capabilities.

The behaviours that characterise small states are perceived as varying from supporting their survival within the international system to pursuing their own interests in a purposive manner. Small states have been characterised as maintaining a narrow or regional scope to international engagement, more commonly employing soft forms of power, seeking cooperation within the international forum or the support of larger powers, and more commonly executing rather than formulating policy (Burton, 2013, p. 220; East, 1973, p. 557; Hey, 2003a, p. 5; Kassimeris, 2009, p. 96; Kosáry, 1987, p. 77; Maass, 2009, p. 77; Schmidl, 2001, p. 85; Vital, 1967, p. 29). However, small states are also seen as taking a more purposive stance in international relations through emphasising multilateral agreements, an international rules-based order, and membership of international organisations as this provides both a degree of security (or surety) and a facility to pursue action that would ordinarily be outside of their capabilities (Archer, 2010, p. 55; Maass, 2009, p. 69; Neumann & Gstöhl, 2006, p. 20). In this regard, small states are also perceived as using the flexibility and opportunity offered by such forums to promote norms and values in areas where they can achieve influence (Hey, 2003b, p. 187; Neumann & Gstöhl, 2006, p. 20) – focusing on areas of soft or smart power to further their identity and status and offset relative deficiencies in size and capability.

The behaviours of small states occur not just with regard to their goals and interests but also with respect to the constraints and advantages that they may have within the international system. The constraints facing small states may accrue from their capacity and location. Their size means that they can be exposed to international political and economic fluctuations with a low capacity to absorb shocks or negative effects (Baldacchino, 2014, p. 246). Their location and relation with other states may create situations of dependence or an asymmetric imbalance in their relationships. As a result, the scope of their foreign policies can be limited and they may lack the ability to shape events or position themselves as advantageously as possible (Rickli, 2008, p. 322). However, the size and relative influence of small states can also provide them with advantages. As noted by Erwin Schmidl (2001, p. 86), they may be more flexible and agile than larger states, and better able to improvise or take advantage of developing opportunities; whilst their international political stance may be less polarised and they may be seen as honest brokers in international relations. This can provide a degree of influence and position them as agents of utility within international relations. Nevertheless, these advantages and constraints, and the capabilities and behaviours that relate to them, are not realised or examined purely with regard to themselves. Instead, they form points of

analysis in examining the roles and actions that small states may employ in supporting their interests in the international system; as expressed through the key themes of the state's viability and survival, the relationship between its autonomy and influence, and its conditions of vulnerability and resilience.

The viability and survivability of small states forms an enduring theme within small state studies. This theme is founded upon traditional conceptions of small states with regard to their ability to exist and function within the international system, and relates to the actions that small states may take to overcome their weaknesses and survive in that system (Baehr, 1975, p. 458; Maass, 2014, p. 711; Vital, 1967, pp. 4-5). However, modern research agendas realise new forms beyond power politics in how small states may act to pursue their goals or interests. This links to a second key theme in small state studies; namely the influence and autonomy that they may achieve, and considerations of what degree of agency that they may have as a result.

Small states have been characterised as having a deficit in autonomy and influence (Baechler, 1998, p. 271; Goetschel, 1998, p. 15; Lewis, 2009, p. xii). In this regard it has been noted that they face a dilemma in that actions to increase their autonomy may decrease their influence, and vice versa (Baechler, 1998, p. 271; Goetschel, 1998, p. 17). This occurs as small states may gain influence through participation in international forums, multilateral/bilateral relationships, and/or alliances. However, participation in those bodies can constrain what policies and actions that they conduct, whilst non-participation may give them more policy freedom but less ability to enact it. This dilemma may also be compounded by the asymmetric nature of relations with larger states as the relationship is more important to the small state than its partner (Knudsen, 2002, p. 190). Furthermore, although small states do not structure the rules of the international system, it is recognised that they are players in that system and may provide a moral balance of power or authority (Ingebritsen, 2006, pp. 289-290). This also leads to consideration of the degree of agency that a small state may have – its ability to pursue its own interests and the forms of influence that it may exert (such as through hard, soft or smart power[6]). The capacity and opportunity of a state to present a

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[6]   Robert Keohane and Joseph Nye (1998, p. 86) defined hard power as "the ability to get others to do what they otherwise would not do through threats or rewards" and soft power as "the ability to get desired outcomes because others want what you want." Joseph Nye (2011, p. xiii) further defines smart power as "the combination of the hard power of coercion and payment with the soft power of persuasion and attraction" and "the ability to combine hard and soft power into effective strategies in varying contexts." These concepts form a basis for describing how power may be expressed and the ends that states may aim to achieve in doing so.

degree of agency is also linked to the challenges that it faces and the capabilities that it maintains. This forms the basis of the theme of vulnerability and resilience within small state studies.

The theme of vulnerability and resilience indicates the viability and agency of small states within the international system. In this regard vulnerability forms a condition whereas resilience is the product of responses to that condition. A state's vulnerability may be a function of its own internal capacity and/or the effects of its external environment, and has been described as a core condition of small states (Sutton, 2011, p. 151). Michael Keating (2015, p. xii) has summarised this condition:

> *Small states are vulnerable in regard to international security, unable to provide for their own defence. They are economically vulnerable, lacking large domestic markets and subject to global trading rules. They may have difficulty defending their own social model in the face of competitive pressures. Their culture and language may similarly be exposed to dangers from without.*

The manner in which small states respond to this condition forms the basis of the resilience that they may achieve. Keating (2015, pp. xii-xiii) further notes that external shelters and internal buffers form part of those responses, while Payne (2009, p. 283) describes resilience as a strategy – ascribing a purposive focus to how small states may seek to overcome the effects of their perceived vulnerability. In developing this line of thought, resilience may be fostered through efforts to increase the state's capacity (through both internal development and external support), or to position the state within international relations so that its vulnerabilities are protected and/or its capabilities enhanced. This in turn informs consideration of the relationship between the internal and external influences on small state policies: are the actions of small states shaped by their external environment, as researchers such as Handel (1981, pp. 3-4) suggest, or do domestic factors have a greater role and influence (as proposed by Miriam Elman (1995, p. 211))?

The themes of viability, agency and resilience provide a context for considering the role of small states within international relations. These themes are frequently examined through small state foreign policy - including their relations with other states and their modes of interaction with international organisations. The topic of security has been a traditional focus within this context as it reflects the capacity of small states to provide for a basic element of

their sovereignty and statehood; while modern conceptions of security also realise a wider range of political and economic relationships that may affect them. This is also reflected in the how small states develop their strategies and employ their instruments in support of their security objectives. Furthermore, whereas a lack of military power has long been considered one of the defining characteristics of small states, the context in which states may employ their military instruments has evolved over recent decades. Military power is no longer tied to zero-sum structures of the Cold War and small states have a greater range of opportunity to employ their military capabilities in support of national objectives. This provides the basis of a distinct focus area to consider the themes of small state research within the wider context of their international relations.

CONSIDERING THE SECURITY OF SMALL STATES

The study of small states has implied, from its earliest days, a concern with their problems of survival. By definition, a small state - whether measured by absolute or relative size - has limited assets, and probably limited competencies, of the kind that have traditionally brought power and influence in the international system. At the same time, it may well have something that bigger states want: natural resources, strategic location, or its allegiance, voice, and vote on the international scene. A major focus of small state studies to date has been to explore the predicament created by this combination of factors, and to discuss how the small state can best hope to protect its territorial integrity, political sovereignty, national identity and freedom of action.

Alyson J.K. Bailes, Jean-Marc Rickli and Baldur Thorhallsson (2014, p. 26)

Security has long been a central consideration within the field of small state studies. Small states are often conceived with regard to their security capabilities, and their inability to provide for their own security has been placed as their defining characteristic[7]. The relevance

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[7] Robert Rothstein (1968, p. 29) provides one example of this in describing how a "Small Power is a state which recognizes that it cannot obtain security primarily by use of its own capabilities, and that it must rely fundamentally on the aid of other states, institutions, processes, or developments to do so".

of security within small state studies has also been recognised as "where the drawbacks of being a small state within the international system are most glaringly obvious." (Bailes, 2015, p. 23) Security has a central importance to state sovereignty and is a field where the constraints of size and limited power may most easily be recognised. Furthermore, the form in which security is considered has evolved as traditional conceptions of state security have been characterised as being outdated (Hey, 2003a, p. 8) as the field has expanded to include a greater range of factors and mechanisms beyond an interstate focus on military forces. A state's security capabilities may be used to support a wider range of interests than just to safeguard territorial integrity; although such protection does remain a key requirement of security interests. Nonetheless security is an enduring consideration within small state studies as it offers the opportunity to relate the characteristics and behaviours of those states to the wider themes of viability, agency and resilience. This is shown through how small states define their security interests and the capacity that they have, or the decisions they make, to pursue these interests.

Writing on small states and alliances in 2001, Erich Reiter (2001, p. 13) noted that the real issue is "[h]ow, in general, can small states pursue their own, objective security interests?" Traditional studies in international relations, especially those based on a realist point of view, emphasise the role of military power in determining a state's place within the international system (Archer, 2010, p. 53; Nye, 2011, p. 19). However, modern conceptualisations of security have come to include a wider range of determinants above and beyond interstate sovereign threat. These include economic, ecological, political and societal threats to a state's well-being and development (Wiberg, 1996, pp. 23-27) – encompassing an array of traditional and emergent actors (including state, non-state, sub-state and ethnic groups). Furthermore, whereas realist perspectives portrayed small states as playing a marginal role in international security (Wivel, et al., 2014, p. 6), those states are now seen as being able to more actively contribute to security in various issue areas (Steinmetz & Wivel, 2010b, p. 8) and having wider security options (Raska, 2016, p. 13). In this regard there are greater opportunities for small states to pursue their security interests as a state's interests may not be directly founded on expressions of hard power (Pahlavi, 2008, p. 141) or through a direct correlation with size and strength (Bailes, 2015, p. 24) but may be fulfilled through other forms of engagement. Those opportunities, however, are not common to all small states and reflect both their capacity and their circumstances.

Alyson Bailes (Bailes, 2015, pp. 39-40) notes that small states vary too much to allow a single security prescript as they face different threats and may apply different methods in response. This not only reflects the different characteristics of each state but also points to an essential variation in their location and relations. Although small states in Europe were seen to be free of existential security threats (Steinmetz & Wivel, 2010a, p. 217), the same cannot necessarily be said for states in other regions (such as Africa or central Asia) which may have more porous sovereign identities, fragile societies and governance; and for whom existence is a key security concern. This variation will also affect the actions of small states as those who perceive greater threats may have to maintain the greater proportion of their resources within traditional military and diplomatic structures (and therefore have relatively less freedom to act or manoeuvre within the wider realm of international relations), while those in more stable environments have the opportunity to allocate a greater proportion of their resources to other forms of security engagement. Furthermore, certain states may perceive a greater internal threat to their security, with such concerns having a higher prominence than external considerations. Consequently, there is great potential variation in the forms of decisions and responses that small states may make to provide for their security; as reflected in the approaches that they follow, the strategies that they implement and the instruments that they maintain.

A small state's capacity to act with regard to its security will therefore depend upon its particular situation, its resources, and the types of roles that it can adopt within the international system. These circumstances help to shape the decisions and actions that small states may take in providing for their security. Traditionally these decisions have focused on ensuring their survival within the international system by balancing or bandwaggoning to mitigate the threats posed by larger powers (Baldersheim, 2015, p. 228; Browning, 2006, p. 671; Cooper & Shaw, 2009, p. 4). The formal security options available to small states have included variations of neutrality or non-alignment, partnerships and alliances, and/or collective security through international institutions and multilateral arrangements (Burton, 2013, pp. 218-220; Wiberg, 1996, p. 36). Small states have frequently been characterised within these contexts as net importers or consumers of security (Knudsen, 2002, p. 187), or as states that gain a free-ride off the security efforts or guarantees of others (Grimes & Rolfe, 2002, p. 273; Männik, 2004, pp. 30-31; Walt, 1990, p. 30). However, there are potential costs to these approaches as small states face the prospects of entrapment or abandonment (Gärtner, 2001, p. 2; Rickli, 2008, p. 310), with a consequent loss of autonomy or influence.

Conversely, small states may be able to employ their security mechanisms to support a wider range of national and foreign policy interests - seeking the rewards of fostering international peace and security (Neumann & de Carvalho, 2015, p. 11) or promoting the state's identity and status (Græger, 2015, p. 93). The security policies that small states employ can also change depending upon the form of relationship being considered – a circumstance that Jesse and Dreyer (2016, p. 175) have identified by showing that small state interactions with larger powers may relate to social constructivist theories while they may exhibit realist behaviours when managing security relations with other small states. One impact of these factors is that the range of strategies or techniques that a small state may employ in support of its security interests will also affect the size and capability of the instruments that it employs.

Modern multidimensional conceptions of security and the methods through which it can be achieved provide the potential for states to employ aspects of their diplomatic, informational, military and economic instruments through forms of hard, soft and smart power to meet their security interests. However, although modern conceptions of security have expanded beyond traditional interstate conceptions of military threat and response, the employment of military forces retains a central role in security considerations (Sheehan, 2010, p. 170). Furthermore, most small states maintain military forces and in doing so they make decisions concerning the purpose and structure of those forces, and how they will resource and employ them. Although all states face such decisions, the emphasis in small states differs (Grimes & Rolfe, 2002, p. 271) as they have limited budgets and small defence bureaucracies (de Wijk, 2004, p. 144), and therefore less capacity than larger states to maintain the full scope of military capabilities. These factors may also be reflected in the nature of the state's relations and the strategies or approaches that it follows regarding its security interests, and have led to characterisations of small states as free-riders in security arrangements. However, the modern utility of military forces are not found solely through a zero sum comparison with other states as they may be employed through a range of roles and tasks in support of the state's domestic and international interests. In this regard, a small state's military forces may therefore serve more as an indicator of political intent rather than as an instrument of hard power.

The utility of military forces within this context is founded upon the relevance and credibility of the capabilities that they provide to the state with respect to their security, foreign policy and wider national interests. In this regard, the relevance of the forces indicates their suitability for the roles that they will be tasked to fulfil, the environments that they will

operate in, and the strategic circumstances for which they are maintained. It is a function of force design, composition and structure. The credibility of those forces, however, encompasses two aspects based upon how those forces are perceived and assessed. The first is the intrinsic ability of the force as a military force in its own right and its proficiency in the conduct of military activities against adversaries and/or with partners. The second aspect of credibility is whether the military force, as an instrument of state, is able to achieve the strategic ends for which it is maintained (such as independent action, a constituent element of an alliance, and/or a contribution to collective security endeavours). Both of these aspects of credibility take the design and composition of the military force structures and consider them with regard to the ability of the state to resource, maintain and employ those forces.

These considerations apply to all states with regard to the utility and benefit that they seek through resourcing and employing their military instruments. However, the issues of relevance and credibility form a pertinent consideration for small states with respect to their relative size. Essentially, can small states, with regards to their capacity and circumstances, provide for military capabilities that are seen to be relevant and credible? These considerations may shape both the manner in which small states provide for their military capabilities and also how they are perceived in the international forum. This in turn leads to consideration of whether small states need to have balanced and fully capable military forces or, with regard to their relative capacity and geostrategic concerns, are they better placed to focus their efforts through specific military structures and innovative solutions?

The practical problem for small states in this regard is that, although they are perceived as having a deficit in military power[8], they require relevant and credible military capabilities in order to maximise the utility and benefit from their investment in them. However, do they have the ability to provide these capabilities and what defence, security and strategic decisions do they make as a result? Are they able to function as viable sovereign states within the modern international system or are they beholden to others – in essence, are the military force structures that they develop ones that resign them to passively consuming the security guarantees of others or do they demonstrate a greater degree of agency in countering concerns of 'free-riding', supporting strategies of international cooperation, or providing the basis for wider policies of influence or autonomy? Do the military capabilities that they develop assist in providing resilience to mitigate perceived vulnerabilities? These are issues

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[8] As described in the introduction to this chapter.

that can be addressed by examining how small states structure their military forces as the realisation of the balance of those forces and the capabilities that they provide for the state establish a basis for determining the state's military power and how it may participate within the wider international system.

EXAMINING MILITARY FORCE STRUCTURES IN SMALL STATES

This thesis examines how small states structure their military forces to ascertain whether they can provide for relevant and credible military capabilities. It treats the composition and characteristics of small state military forces as a visible indicator of both their capacity and the decisions they make in providing for this instrument of state power. This study specifically examines the degree of balance in small state military force structures to understand both the military capabilities that they develop and their ability to maintain and employ them. This provides the basis for assessing how small states structure their military forces and for considering how and whether the expected characteristics of small states are manifested through these forces. This helps us understand why small states maintain their military capabilities as they do and forms the theoretical basis to the study within the wider themes of small state studies and international relations. This is achieved through building a research framework which is applied and tested through a comparative case study approach.

RESEARCH FRAMEWORK

The research framework used within this study is based upon a structure established by Booth, Colomb and Williams (2003, pp. 58-60) whereby a practical problem motivates a research question which then defines a research problem; the examination of which finds a research answer which in turn helps to solve the practical problem. Within this study, the practical problem is that small states lacking in military power require that the military capabilities that they do maintain are both relevant and credible. This generates the research question of *how do small states structure their military forces?* As the development of military structures represents a process of decision making within a state, particularly with

regard to the aims that they seek to achieve and the manner in which they apportion their resources to do so, this research question then establishes the research problem of understanding *why small states structure their military forces in the way that they do.* This problem exists with regard to both their capacity and circumstances within international affairs, and in recognition of the differences between the military force structures of small states themselves. The research answer that then flows from that problem relates back to the practical problem (as the purpose of the research) and addresses whether small states provide relevant and credible military capabilities to support their national, security and foreign policy goals and interests: indeed, are small states able to achieve sufficient relevance and credibility or are they truly constrained by a relative deficit in military power? This framework provides a clear causal chain for the conduct of the research and maintains a clear focus on the outcomes that are achieved. This in turn establishes the parameters for the design and conduct of the research itself.

RESEARCH DESIGN

The study explains why small states structure their military forces in the way that they do through the development and verification of a theory that explains the relationship between key variables in their defence planning process. This is supported by elements of qualitative research design through the conduct of comparative case studies. This approach sets firm parameters for the conduct of the study but provides sufficient flexibility so that it can respond to the data and relate the findings to wider constructs within international relations – thereby supporting the purpose of the research from the identification of the practical problem through to the development of an appropriate research answer.

The study is based on concepts of the state as the unit of analysis as states remain a key element of analysis within international relations (Lake, 2008, p. 41) and are the foundation of conceptions of small states. The study also operates the three levels of analysis as previously identified by Hey – being domestic, statist and system levels. This relates to the research framework with the central focus being at the statist level through considering how small states structure their military forces, but also incorporates domestic and system levels of analysis in relating the *how* of the research question to the *why* of the research problem and

the wider context of the research answer. This provides the opportunity to overcome the limitations inherent in applying only one level of analysis and allows a wider range of factors to be considered when examining the capacity and utility of small state military capabilities.

The range of levels of analysis is complemented by the approaches employed within the study. I referred earlier to three approaches identified by Neumann and Gstöhl – namely the analysis of capabilities, institutions and relations. This study does employ a capabilities approach as it examines small state military capabilities. However, these are not considered in isolation, and they are examined with regard to the relations that the small states maintain and the institutions that they participate within. This also enables a greater degree of understanding to be developed through the hypothesis that is proposed and the propositions that are developed.

The theoretical relationship that is examined in this study is based upon three variables: the dependent (criterion) variable of the <u>small state military forces</u>, and the variables represented by the <u>intrinsic characteristics</u> and <u>contingent characteristics</u> of small states[9]. The small state's military forces are the outcome of the relationships and processes that will be examined in this study. They provide the basis for considering the relevance and credibility of the small state's military capabilities with regard to the viability, agency and resilience of those states within international relations. The relationships and processes that shape the small state military forces are drawn from the concept of small states developed earlier in the study; with the intrinsic characteristics reflecting the internal and physical elements of the state's size, capacity and potential for power; while the contingent characteristics incorporate external influences such as the state's relations, perceptions and roles. Although it is acknowledged that these characteristics do influence each other, it is hypothesised that the intrinsic (internal) characteristics of a small state form the independent (predictor) variable in determining the nature of the state's military forces as they represent the foundation capacity of the state in providing for those forces.

The question then becomes one of whether the contingent characteristics of small states act to moderate or mediate the relationship between their intrinsic characteristics and their military forces. Moderating variables act to influence the form and magnitude of the effect of an independent (predictor) variable on a dependent (criterion) one (Baron & Kenny, 1986, p. 1174; Judd, 2015, p. 672). Mediating variables, on the other hand, form part of the causal

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[9] The intrinsic and contingent characteristics of small states are outlined in Figure 1-1.

process between the independent and dependent variables (MacKinnon, 2015, p. 64) - functioning as what Reuben Baron and David Kenney (1986, p. 1173) describe as "the generative mechanism through which the focal independent variable is able to influence the dependent variable of interest." This recognises a causal effect between the independent variable and the mediating variable, and then the mediating variable and the dependent variable, while still providing for a direct relationship between the independent and dependent variables (Hayes, 2013, pp. 86-87; MacKinnon, 2015, p. 64).

Therefore, as a moderating variable, the small state's contingent characteristics would shape or influence the manner in which it structures its military forces – describing the effect of the contingent characteristics on the composition and balance of those forces. [This relationship is shown at Figure 1-2 below.]
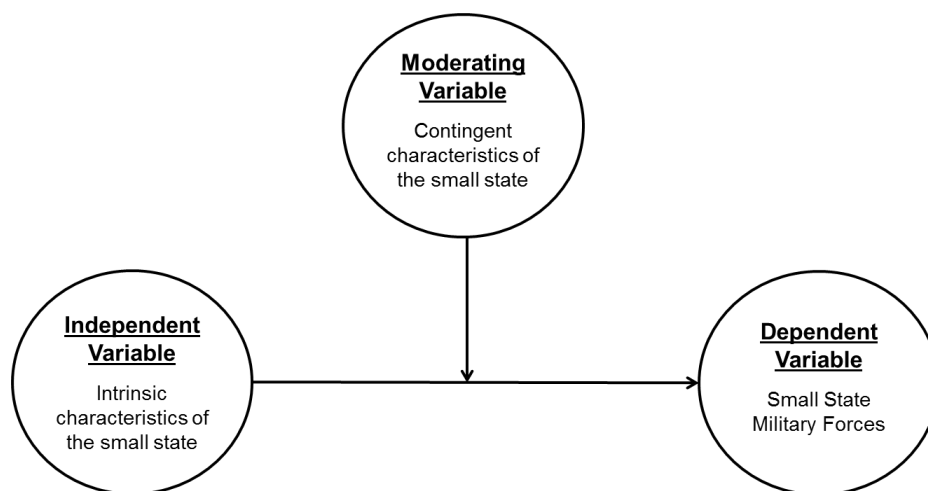
Figure 1-2: Theoretical relationship based on a Moderating Variable[10]

However, such a relationship would indicate that a causal relationship would exist between the small state's intrinsic characteristics and its military forces even with no or minimal effect from the contingent characteristics. In considering the concept and nature of small states this does not appear to be a viable explanation of the relationship between the three variables. This thesis instead proposes the hypothesis that the contingent characteristics act as a mediating variable in the relationship between the ability of a small state to provide for its military forces and the forces that it maintains (shown at Figure 1-3 below). In this regard it is

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[10] This figure is based on the simple moderation model described by Hayes (2013, pp. 208-209).

expected that the small state's contingent characteristics form an essential component of the relationship and help to generate the final form of the military force structures, while the specific nature of these characteristics (and the strength of the path through the mediating variable) may help to explain the differences between the military force structures of small states themselves.
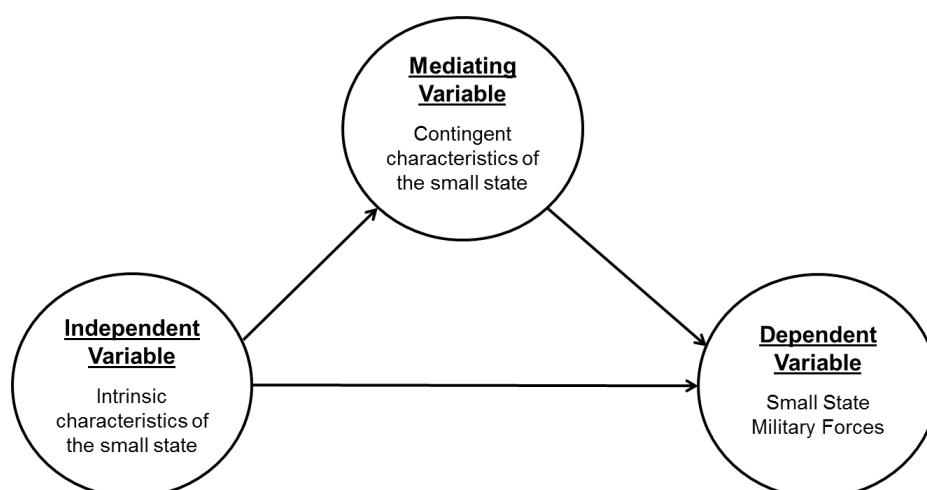
Figure 1-3: Hypothesised theoretical relationship of Small State Military Force Structures[11]

The question of how small states structure their military forces within this theoretical relationship is addressed through a description of those forces and analysis of the nature and composition of their force structures – both with regard to the structural balance (breadth and depth) of the forces and the processes and priorities that they employ in providing for those forces. This is conducted through applying measures and indicators to describe the military force structures and testing propositions to explain how small states develop these military capabilities. The measures that frame the description of the force structures are based on the design, maintenance and employment of those forces. The rationale for these measures, and the identification of the indicators that support them, are described in the theoretical framework for the study in the next chapter. These measures and indicators provide the structure for data collection and analysis. This analysis is complemented by the consideration of a number of propositions concerning the expectations for, and characteristics of, small

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[11] This figure is based on the simple mediation model described by Hayes (2013, pp. 86-89).

states with regard to their military force structures which are also developed in the next chapter. These provide the mechanism to verify the results of the analysis and then relate those results to the research hypothesis as a basis for then ascertaining whether small states are able to provide for relevant and credible military capabilities. This is conducted through the application of a case study strategy based upon the description and comparative analysis of four cases of military force structures in small states.

CASE STUDY STRATEGY

Two main options were considered in the selection of a research strategy for this study: a wide, general, holistic overview of small states to determine common themes; or a more focused, in-depth analysis of a smaller number of cases. Of the two approaches, the case study strategy provides the greatest benefit for examining the research hypothesis as, although the sample size is smaller and less representative, it allows for a closer examination of the variables and the relationship between them. Furthermore, a case study strategy acknowledges the definitional issues within the field of small state studies and the multifaceted nature of the concept itself. In this regard the cases can be selected to represent a certain classification or genus of small states rather than attempt to synthesise analysis across a wide and disparate concept. Employing case studies has the advantages of supporting a more focused approach within the research and realising the complexity of the contexts in which they occur (Denscombe, 2003, p. 38; Punch, 2005, p. 76), although it is acknowledged that the credibility of any generalisations drawn from the analysis may be a possible weakness. However, it is expected that the generalisability, or external validity, of the study will be enhanced by employing a comparative case study approach which analyses a number of cases to determine the relationship between the dependent and independent variables (Spray & Roselle, 2011, p. 33).

I have noted within this study that there is no agreed definition of small states and that researchers will need to be clear about the intrinsic and/or contingent characteristics and the wider classifications that they use to select and define states along the continuum of state size as the basis for their particular study of small states. This is reflected in the sample that I have selected for the case studies as it includes the states of Ireland, New Zealand, Norway and

Singapore. These states are similar in that they have a population of between 4.5 and 5.5 million, are developed states with market economies, and maintain the full range of governance organisation and structures. Furthermore, each state has a maritime focus to its location, perceives itself as a small state within wider international affairs, actively supports a rules-based international order, and also seeks to enhance its status through normative issues or by fostering international peace and security. These similarities sit within the concept of small states described in this study and provide the ability to establish a base level of comparison between the cases. However, there are also key differences between the four states that offer great scope for examining how small states structure their military forces and the relevance and credibility of their resultant military capabilities.

Although Ireland, New Zealand, Norway and Singapore share certain similarities they do have marked differences with regard to their historical and cultural experiences, the effects of their location, perceptions of vulnerability, and the composition of their economic sectors. This is reflected in different motivation and capacity to provide for their military forces, and also in the divergent approaches that they take to providing for their security. In this regard, although each state seeks security through international norms and institutions, Ireland is an example of a state that seeks security through forms of neutrality, New Zealand works in partnership with other states, Norway is a formal member of a military alliance, and Singapore is prepared to conduct an independent defence if so required. Furthermore, there is great variation in the size and form of their military capabilities. Ireland and New Zealand maintain relatively small military forces that lack substantive combat capabilities, although the composition and structure of their forces also reflects a different appreciation of the role and utility of their military. Norway and Singapore, on the other hand, maintain forces that possess modern combat capabilities; although there is a marked difference in size and capability between the smaller and more limited Norwegian Armed Forces and the much larger and potentially capable Singaporean Armed Forces.

The diverse force structures found within Ireland, New Zealand, Norway and Singapore provide the opportunity to examine what is different about them in order to ascertain whether it is their size and capacity, or the effects of their roles and relations, that have the greater influence on their military force structures. It is acknowledged that the homogeneity of the cases may affect the generalisability of the results of the study - particularly as they do not include underdeveloped or landlocked states, or states that use their military forces in a highly active manner for internal security and regime stability. However, it is believed that

the variations present between each of the identified cases provide sufficient contrast to examine the propositions and verify the hypotheses developed in the study.

Each of the cases is structured to support this analysis. As shown at Table 1-1, each case describes the characteristics of each state as a small state and the particular strategic influences and security policies of those states. This leads to a description of the state's military capabilities and an assessment of the balance of its military force structures, before describing how the state provides for its military capabilities. Each case then concludes with an examination of the characteristics of each state as a small state military force with regard to the expectations that have been developed in the theoretical framework. This provides the basis for subsequent comparison and analysis as the results of the examination of each state's military capabilities are related to the wider issues of relevance and credibility within international affairs as achieved through the conduct of the research.

STRUCTURE	CONTENT
INTRODUCTION	
CHARACTERISTICS AS A SMALL STATE	Description of the case's characteristics as a small state
STRATEGIC INFLUENCES AND SECURITY POLICY	Description of the case's strategic influences, location and history Description of the case's security policy
MILITARY CAPABILITIES	Description of the case's defence policy Description of the case's military force structures Examination of the structural balance of the case's military forces Description of the case's military capabilities
PROVIDING FOR MILITARY CAPABILITIES	Description of how the case provides for its military capabilities through the framework of Design, Maintain and Employ (as developed in Chapter Two)
❑ **Priorities within the Military System**	Description of how the case apportions resources within its military system to provide for the military requirements of readiness, operations and modernisation
CHARACTERISTICS AS A SMALL STATE MILITARY FORCE	Summary of the case's characteristics as a small state military force with regard to considerations of relevance and credibility, and in relation to the expectations established for small states (as developed in Chapter Two)
CONCLUSION	

Table 1-1. Structure of the Cases

CONDUCT OF THE RESEARCH

The conduct of the research is shaped by the forms of data collection and analysis employed. The introduction and theoretical framework chapters were completed through literature reviews and the focused examination of key concepts and constructs with regard to small state studies and military force structures. The data collection for each of the cases was based on an initial review of the literature on each case and the development of specific research questions based upon the measures and indicators developed for the study. Subsequent data collection addressed these indicators through published government policies, academic and governmental analysis, and published reports. This was complemented by comparative information published by reputable sources (such as the Stockholm International Peace Research Institute [SIPRI], the Jane's Information Group [IHS Janes] and the International Institute for Strategic Studies [IISS]). It was decided to use publically available open source information from secondary and tertiary sources in order to maintain a consistent basis for data collection across each of the cases. This also had the effect of further indicating the relative perceptions or vulnerabilities of each of the states as those with a higher degree of perceived threat (such as Singapore) publish less information about the shape and capability of their military force structures. These forms of data collection proved appropriate for the study as they supported a macro level of analysis and understanding of the nature and characteristics of the military force structures in the selected states that could then be examined with regard to wider themes within small state studies; rather than attempting to examine the detailed structures and explicit capabilities of those states. The data collection was conducted until August 2017. No further materials on force structures were collected after this date to enable the final integration and analysis of all data and information.

The analysis conducted in each of the cases is based upon the terms and constructs established in both the introduction (regarding the general nature of small states) and in the theoretical framework (regarding the measures and indicators for military capabilities). This is complemented by the propositions developed in the theoretical framework in Chapter Two to provide testable criteria for assessing how the small states structure their military forces. These analytical techniques allow a wider understanding of the ability of small states to provide for relevant and credible military capabilities by relating the cases to the wider field of small state studies. Furthermore, providing for comparative case study analysis in this way

provides for the reliability and validity of the research. The consistent structure of the case studies and comparable data sources provide for a measure of reliability in the research. The structure of the cases also supports the external validity of the results of the research as they can provide the basis for generalisations in the wider field of small state studies, and the same formats and techniques could be applied to studying the military force structures of other classifications of small states (such as landlocked states, underdeveloped states, or microstates as a related category within international relations). This offers the potential to expand the results of this research within the fields of small state studies and international relations. The first step in this research, however, is to develop an understanding of the construct of military forces, their role within security and international relations, and what may be expected of small states in this regard. This is conducted through the description of the theoretical framework for the study in the next Chapter.

CHAPTER TWO: UNDERSTANDING AND ANALYSING MILITARY FORCE STRUCTURES

INTRODUCTION

Examining defence planning by skimming the Military Balance is misleading, however, as it does not capture the rationale for a capability which, in any case, consists also of more intangible factors including doctrine, readiness and sustainability. Without information about defence planning frameworks and concepts that determine what a capability is for, there is no meaningful defence transparency, and a discussion about the purpose and merits of specific force structure elements is impossible.

Stephan Frühling (2014, pp. 196-197)

In 2006, Michael Evans analysed the globalised security environment that had developed since the end of the Cold War and noted that it presented "a complex and multidimensional spectrum of armed conflict." (M. Evans, 2006, p. 39) He then determined the implications of the range of operations that military forces may conduct, or the circumstances in which they are employed, by suggesting that "Western military force structures are likely to become more modular over the next decade in order to be capable of rapid task-force organisation while providing a 'golf bag', or variety, of military capabilities." (M. Evans, 2006, p. 52) Evans demonstrated two key facets of military force structures in providing this analysis: first, they provide the basis for the military capabilities that a state may employ in support of its wider national, security and foreign policy goals and interests; and, second, the composition of the force structures are greatly influenced by the context in which they will be employed and the outcomes that they are to achieve. As such, the nature and composition of a state's military forces reflects the capacity and motivations of the state as it acts on the international stage.

This chapter establishes the theoretical framework for the thesis. First, it describes military forces as an instrument of state power within the modern global environment. This is based on discussion of the context for military activities, the conduct of defence planning, and the

structures and capabilities that result. The second part of the chapter describes the concepts and terms that will be used throughout the remainder of the study to analyse and compare the military force structures of the selected small states. It provides the framework for assessing the nature and composition of those military forces with regard to what the forces are and the decisions that states make in providing for them. This relates the breadth and depth of the structural balance of those military forces to the systems that states employ to provide for them. Considering the structural and systemic characteristics of a state's military forces in this way provides for a greater depth of analysis in the subsequent case studies and captures the rationale for their military capabilities as outlined in the passage from Stephan Frühling at the start of this section.

The third part of this framework describes what the current literature expects of military force structures in small states. These expectations form the propositions that will be examined in the case studies. They support the examination of how small states structure their military forces and provide the context for analysing why they structure their forces in the way that they do and then assessing the relevance and credibility of their military capabilities. Following this, the outcome of the chapter is a frame of reference for the examination of military force structures in small states that relates to the wider paradigms of military thought, realises the effects of both the military structures and systems maintained by the small states, and provides a basis for comparing their force structures and military capabilities.

A salient feature of this theoretical framework is that it is founded upon Western military concepts and models. Although these could entail a Western-centric focus to the subject, they provide a recognised exemplar for military structure and capabilities. This occurs as a result of the pre-eminence of the United States of America within international military affairs and the manner in which American force design and employment has shaped academic and professional discourse on the provision and use of military force.[12] In this

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[12] The primacy of the United States Armed Forces is a salient characteristic of modern military affairs as they serve as the exemplar of, or benchmark for, modern military forces. This occurs as the American defence budget is far greater than other states (O'Hanlon, 2009, p. 8), and its capacity and economies of scale provides it with a 'singular capability' to conduct and maintain the full spectrum of military effects in a global setting (E. Cohen, 2009, p. 17). As such it embodies the full characteristics of the modern military system and has come to lead development of military concepts, doctrines, structures and equipment. In this regard, the example of the United States Armed Forces forms one consideration by which states shape their military force structures – as may be conducted to replicate or adapt the example of American military capability, to provide the capacity to work alongside the Americans or like-minded states, or even to counter or nullify American military power. Not all

regard, these concepts and models provide a basis for examining and understanding the context in which military forces may be developed and employed as an instrument of state power within the global political environment.

MILITARY FORCES WITHIN THE GLOBAL POLITICAL ENVIRONMENT

The term *military* relates to the theory and use of armed force, and the conduct of war and warfare. The term *military forces* describes the instruments of these actions and encompasses the armed forces and/or defence forces of states within the international system. Military forces have traditionally been defined in terms of the state with regards to its status as a sovereign and legal entity. However, recent conflicts and the broadening of the security paradigm within international relations have seen the state's monopoly of organised force challenged by a variety of non-state, sub-state and commercial actors who employ military-type capabilities and can come to dominate weak or fragile states or influence established military powers (Lambert, 2008, pp. 49-50). Nevertheless, these actors do not supplant the state's role as a legitimate provider of military force in modern international relations and they may more appropriately be seen as part of the wider circumstances in which states employ their forces. The nature of modern military forces, therefore, is one that is based upon their legitimacy as instruments of sovereign states. This is expressed through the manner that states develop and employ their military forces as an instrument of power and influence within international relations.

THE MILITARY INSTRUMENT

Military forces form one of the visible symbols of the state (Wiberg, 1987, p. 350) and represent a means by which it maintains a monopoly on organised violence within its domain (Freedman, 2006, p. 32). Most states maintain formal military forces or, if not, may ascribe

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states and military establishments emulate American military theory and practice, but it does form a key consideration in the development and maintenance of military power.

paramilitary capabilities to their law and security agencies. These forces are characterised by hierarchical structures, centralised funding and the legal authority to use force on behalf of the state (Rupert Smith, 2005, p. 8). They provide the state with an ability to both defend its territory or interests against other military forces or armed threats and also to support its wider foreign policy (Chuter, 2006, p. 51; Rothstein, 1968, p. 424; Sheehan, 2010, p. 170). As such, military forces form a key instrument of state power within international affairs and provide the ability to express this power in hard, soft and smart forms[13].

Developing and maintaining military forces represents a major commitment for the state as they are expensive and pose opportunity costs with regard to the resources made available to the other instruments of power (Hartley, 2011, p. 12; Sheehan, 2010, p. 181). As a result defence spending is contentious in peacetime (Cleary & McConville, 2006, p. 9) and states prefer to devote resources to other sectors unless there is a high degree of threat (Hartley, 2011, p. 267). However, the basis of the challenge faced by states is reflected in Terry Deibel's (2007, p. 172) discussion of the military as a form of mobilised power as such power lacks fungibility once established but it can take a long time to develop military capabilities. Put simply, it often takes longer to develop the appropriate military force than it takes for threats and requirements to manifest. Thus the actual military power available to a state's leadership will be greatly impacted by decisions made by previous administrations and the framework of the military system that they provide.

The organisation of a state's military forces may take a number of forms, with states expressing different preferences and comparative advantages in providing for them (Hartley, 2011, p. 124). The conventional rationale for the development of military forces has been the requirement to defeat the military forces of other states with respect to the comparative or marginal advantage that they can establish over adversaries (Rasmussen, 2015, p. 180; Ron Smith, 2009, pp. 111, 149). This has resulted in what Mikkel Rasmussen (2015, p. 39) describes as the modern Western military system - one that provides for combined arms operations with capital-intensive forces and a large logistic and administrative tail. This

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[13] Joseph Nye (2011, p. 41) describes the implementation of military power as, "[m]ilitary forces can implement four types of actions that are the modalities or currencies of military power. Military resources can be used to (1) physically fight and destroy; (2) back up threats in coercive diplomacy; (3) promise protection, including peacekeeping; and (4) provide many forms of assistance." He then relates this to the forms of power through saying that "[i]n short, military resources can produce both hard and soft power, and the mix varies with which of the four modalities are employed. The important point is that the soft power that arises from qualities of benignity, competence, legitimacy, and trust can add leverage to the hard power of military force. Strategies that combine the two successfully represent smart military power." (Nye, 2011, p. 48).

system has utility as it is the one instrument of the state that can directly counter the military instruments of other states. However, this utility is constrained as the Western military system is beset by increasing costs and diminishing returns (Rasmussen, 2015, p. 153). Furthermore, states recognise the tremendous investment that they make in their military capabilities and they employ them in a much wider range of situations than just warfighting roles. This is reflected in the context for military activities and the manner in which expressions of hard power through warfare are complemented by other forms of expression and utility.

THE CONTEXT FOR MILITARY ACTIVITIES

The context for military activities reflects the range of circumstances in which states may employ military power and the requirements for military capabilities and force structures that result. It affects the force development process as it provides the purposes for which states maintain their military forces and the effects that they task them to achieve. Conventional conceptions of military power based upon the industrial warfare paradigms of the nineteenth and twentieth centuries focused on the employment of modern military systems through interstate war to defend against existential threats or coerce other states. However, as Chris Brown and Kirsten Ainley (2009, p. 119) have identified, such perspectives are not typical of warfare or the employment of military force. This has become particularly apparent since the end of the Cold War with military forces employed in limited war (such as Operation Desert Storm in 1991), and operations short of war through the peace support and humanitarian assistance operations of the 1990s, and the counter terrorist, security assistance and nation-building operations of the 2000s. Furthermore, military forces may be employed within the state to complement other state capabilities (such as resource protection) or provide for security capabilities when civil agencies prove to be insufficient[14]. As a result, the context of employment for military forces reflects the range of purposes for which states may employ their military instrument – be it for civil assistance, internal security, territorial defence, and supporting state interests within the international environment.

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[14] Current examples include the employment of military forces in internal security and police support roles in Mexico, Columbia and Brazil.

Modern Western military doctrines have responded to the willingness of states to use their military forces in a wide range of situations by noting both the existence of a continuum of conflict and the consequent range of military operations. This is shown in Figure 2-1 and stated in current American Joint Operations doctrine (United States Department of Defense, 2017, p. x) as follows,

> *US national leaders can use military capabilities in a wide variety of activities, tasks, missions, and operations that vary in purpose, scale, risk, and combat intensity along the conflict continuum. The potential range of military activities and operations extends from military engagement, security cooperation, and deterrence in times of relative peace up through major operations and campaigns that typically involve large-scale combat.*
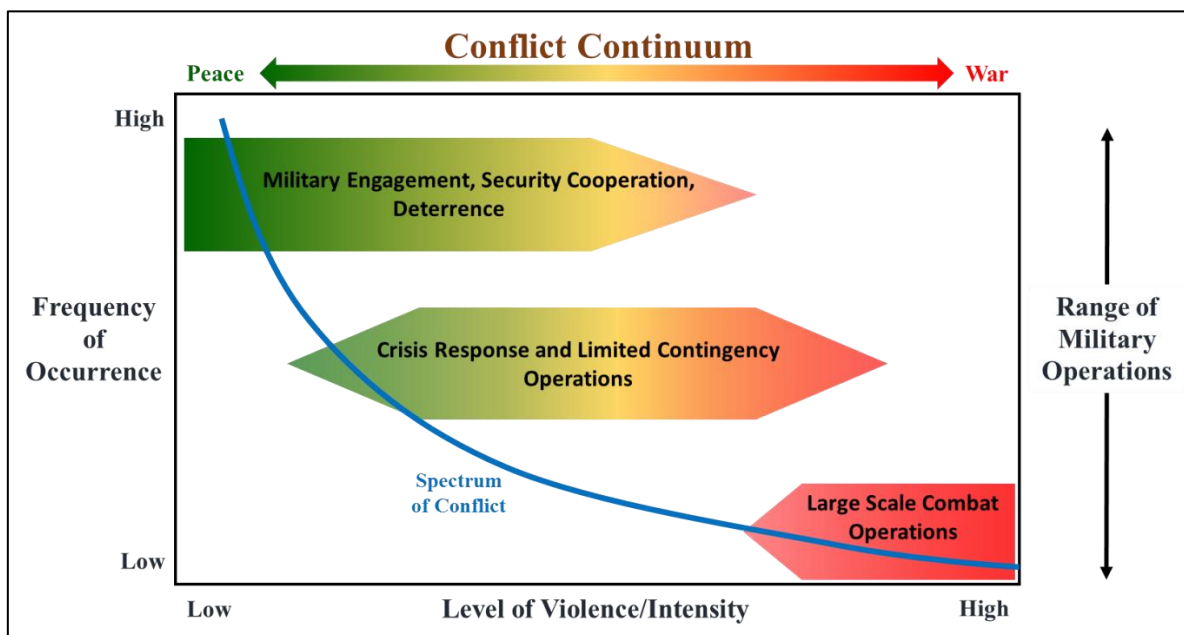
Figure 2-1. Representation of the Conflict Continuum incorporating the Range of Military Operations and Spectrum of Conflict[15]

This shows the context and the potential utility of military forces. In the first case, the concept of a conflict continuum represents an escalating range of events and activities that progressively increase the scale and consequence of conflict and in which there is no clear

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[15] This figure is developed from the Conflict Continuum as portrayed in current United States doctrine (United States Department of Defense, 2017, pp. V-4 and VI-2) and the Spectrum of Conflict as portrayed by Bartlett, Holman & Somes (2004b, p. 498).

distinction between peace and war (NATO, 2010, pp. 2-9; United States Department of Defense, 2017, pp. V-1). In this way it includes circumstances of interstate war but steps back through decreasing levels of violence and crisis to encompass situations without conflict. In the second case, the concept of the range of military operations indicates the scope and purpose of military activities that may be conducted within this continuum. As shown at Table 2-1 they include high intensity combat operations but also step back through situations with greater constraints on the use of force or limited political/military objectives to more benign circumstances of peaceful military engagement and cooperation. This also includes the use of military capabilities for wider political and altruistic objectives, such as through humanitarian assistance, disaster relief and capacity building.

Military Engagement, Security Cooperation, and Deterrence	Crisis Response and Limited Contingency Operations
Military Engagement Activities Emergency Preparedness Arms control, non-proliferation and disarmament Combatting Terrorism • Antiterrorism • Counterterrorism Support to counterdrug operations Sanction enforcement Enforcement of Exclusion Zones Freedom of Navigation and Overflight Foreign assistance Security force assistance Foreign internal defense Humanitarian assistance Protection of shipping Show of force operations Support to insurgency Counter insurgency	Noncombatant evacuation operations Peace Operations • Peacekeeping operations • Peace enforcement operations • Peace building • Peace making Foreign humanitarian assistance Strikes and Raids Homeland defense Defense support of civil authorities
	Large-Scale Combat Operations
	Offensive operations Defensive operations ❖ Conventional War ❖ Nuclear War

Table 2-1. The Range of Military Operations[16]

This representation of the conflict continuum is completed by overlaying the spectrum of conflict. This spectrum relates the likelihood of a type of operation being conducted to the

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[16] This Table is compiled from chapters V to VIII of the current American Joint Operations doctrine (United States Department of Defense, 2017, pp. V-1 - VIII-30).

consequences of the situations and scenarios that frame those operations. It indicates that military forces are more likely to operate in situations with lower degrees of intensity but the risk remains for the tremendous destructive consequences of conventional war. However, although this representation provides a useful frame of analysis for defence planners as they design and shape a state's military forces, it does not represent all factors of the context for military activities, such as those found in the characteristics of conflict and military operations.

The characteristics of modern conflict reflect the nature of the threats or operating environment that military forces may operate within. This has been captured through such terms as hybrid threats (Rathmell, 2011, p. 82; H. Smith, 2004) and war amongst the people (Rupert Smith, 2005, p. 3) as conflict has become multidimensional with the increasing diffusion of technological and military capabilities enabling a wider range of actors to pose conventional, asymmetric and cyber threats to varying degrees of scale and intensity (Bedford, 2009, pp. viii-ix; Davis & Wilson, 2011, p. 1). A second effect of the multidimensional character of operations is that military forces are more likely to operate in concert with other states and agencies and employ integrated, comprehensive or all-of government approaches (Soeters, Fenema, & Beeres, 2010, pp. 8-10) rather than unique military doctrines. As a result, it has become necessary for states and their military establishments to broaden their conceptions for the composition and employment of military force in response to these modern requirements (Moreland & Mattox, 2009, p. 79; Ziliotto, 2008, p. 396). These factors, in conjunction with the conflict continuum and range of military operations, form the wider context for the employment of military force and establish key considerations for the conduct of a state's defence planning and the design of its military structures and capabilities.

DEFENCE PLANNING

> *Planning ... military force structure is an arduous task. It consists of appraising the security needs of a nation, establishing military requirements, and selecting military forces within resource constraints.*
>
> *Henry C. Bartlett, G. Paul Holman and Timothy E. Somes (2004b, p. 497)*

Defence planning is a decision-making process that relates what states want to achieve to their capacity to do so as they design and resource their military instruments. It provides the framework in which states consider their security, foreign policy and national goals and objectives, determine the policy and strategies that they may implement to achieve those ends, and develop the military capabilities that form one of the means of doing so. As such, it is an input-output process that links budgets, forces, capability and security at the national level (Ron Smith, 2009, pp. 24-25), but also recognises the opportunity costs and trade-offs that result from funding the military with respect to other sectors of government spending (Bartlett, Holman, & Somes, 2004a, p. 22; Hartley, 2011, p. 12; Ron Smith, 2009, p. 159). In effect, it considers the context and requirements for their military forces with regard to their capacity to provide for them. Furthermore, although defence plans may be established to meet short, mid and long-term horizons (Tagarev, 2009, pp. 48-51) they may be best characterised by their long-term nature with regard to the time taken to develop military capability. In this regard, the conduct of defence planning is not a simple linear process as it is both iterative and recursive in nature as current iterations build upon the geopolitical relationships, strategies, military structures and sunk costs established through previous defence policies and plans. What may change however is the situations that states are faced with and how they respond to circumstances of uncertainty and risk.

Defence planning is conducted in conditions of uncertainty (Hartley, 2011, p. 267) and functions as the management of strategic risk (Frühling, 2014, p. 1). States are not fully aware of all threats and contingencies that they may face and need to determine the capabilities that they will maintain and the resources that they are willing to commit to provide for their security and defence interests; particularly in circumstances where threats (and opportunities) may manifest faster than states can respond through upgrading or

refocusing their military capabilities. Furthermore, there is a degree of discretion inherent in defence decisions as states require capabilities to meet autonomous (or non-discretionary) obligations and primary interests while having greater choice in the resources that they commit to support contributory (or discretionary) obligations or secondary interests (Codner, 2011, pp. 157-160; Freedman, 2006, p. 41). States may need dedicated military capabilities to provide for non-discretionary requirements but may choose to provide fewer capabilities, or less specialised forces, to meet discretionary outcomes. The willingness of states to accept risks or exercise degrees of discretion may also be influenced by the state's size and the domestic political and historical factors that shape the considerations made during defence planning (Angstrom & Widen, 2015, pp. 37-38; Owens, 2007, p. 121). Thus, the degree of discretion that a state perceives in its requirements to provide for its military instrument forms a key element of defence planning and force design.

The techniques that states use to conduct defence planning can take a number of forms and defence planning systems may incorporate top-down, bottom-up, and threat, fiscal, technology and capability based approaches (Srivastava, 2000, pp. 620-621; Tagarev, 2009, pp. 53-54). Of these, the two main forms of force design are threat-based and capability-based approaches. However, whereas formal threat based systems were a hallmark of industrial warfare paradigms during the Cold War, capability-based approaches offer greater flexibility in uncertain environments as they provide for the effects or ends that states aim to achieve across a range of contingencies (Jasper, 2009, pp. 2-7; Webb, Richter, & Bonsper, 2010, p. 389). In these circumstances, the defence planning process is likely to result in a diversified force structure with flexible and adaptive military capabilities (Davis, 2003, pp. 142-143; Hartley, 2011, p. 14) while at the same time providing guidance for how that structure would be maintained and employed (through organisation, maintenance, training and equipment) (Chu & Berstein, 2003, p. 14). In this regard, the outcomes of the defence planning process are not just the policy and strategic factors that shape force design, but also decisions on what effects that states want to achieve from their military structures and capabilities that will provide those effects. These then form the outputs of the defence planning process.

FORCE STRUCTURES AND MILITARY CAPABILITIES

A state's military force structures comprise the organisations and equipment that underpin its military capabilities. The force structures denote the composition, organisation and equipment of the state's military forces (Department of National Defence Canada, 2009, pp. GL-3); while the military capabilities express what those forces can do, how they may do it, and the effects that they may achieve. The utility of a state's military forces is based upon these structures and capabilities, and the options that they provide the state in fulfilling its wider security, foreign policy and national interests.

Military forces are arranged along environmental lines (land, sea and air) based upon the domains that individual services operate in and the equipment that they use. These organisations generally comprise armies, navies, and air forces, while some states may also maintain marine, coast guard and/or cyber forces as separate services. The composition of these services vary between volunteer or conscript personnel (Hartley, 2011, p. 216), and regular or reserve forces. Conscription may be used by states to provide a large military capability to meet perceived threats at less cost than an equivalent sized professional volunteer force; while volunteer forces enable states to provide a professional military capability for a wide range of contingencies (other than just national defence). These factors are also reflected in the relationship between a state's regular and reserve forces as the reserves may be maintained as formed units upon mobilisation or serve in a more limited capacity to provide specialist skills and roles to supplement the regular forces (H. Smith, 2004, p. 195). In this regard, the composition of a state's military forces is based upon consideration of threats and contingencies, the roles and tasks that it may require of those forces, and its capacity to provide for them.

Military forces are also arranged in hierarchical functional systems (a representation of the American hierarchical organisation is shown at Table 2-2). The United States Department of Defense (2018, p. 97) defines a *function* as "[t]he broad, general, and enduring role for which an organization is designed, equipped, and trained." The military allocates functions to separate elements within its structures and groups them according to the roles that they conduct with respect to combat, combat support or service support. In this regard, the military structures may include naval combat forces, naval combat support forces and naval support forces – although the final terminology employed varies between states. Furthermore, related

capabilities and activities may be grouped into what are termed as *Joint Functions* to help commanders integrate, synchronise and direct operations (United States Department of Defense, 2017, pp. III-1). (A depiction of military functions, incorporating the joint functions, is shown at Table 2-3.) This nomenclature, however, relates to the operational elements of a military force while the wider force structure also includes the training, administrative, logistic and policy components that support the deployable military elements.

Land	Sea	Air
Corps Multiple divisions and specialised brigades	**Fleet** Regionally organised	**Major Commands** One or more Numbered Air Forces and a Headquarters
Division 3+ Brigades	**Strike Groups** A range of naval capabilities organised into a formation	**"Numbered" Air Forces** 2+ Wings
Brigade 3+ Battalions	**Task Force** Formed temporarily for a specific mission	**Wing** Multifunctional formation of four groups
Battalion 3-5 Companies	**Squadron** A small number of ships of the same type	**Group** 3 or more Squadrons
Company 4 Platoons	**Flotilla** Two or more ships	**Squadron** Basic fighting organisation of the Air Force, 18-24 aircraft
Platoon 4 Squads		**Flight** Small organisational grouping of personnel or a tactical formation of two aircraft
Squad		

Table 2-2: A Representation of the American Military Organisation[17]

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[17] Derived from Michael Moran (2006).

Function	Joint Function	Land Forces	Naval Forces	Air Forces	Space Forces	Cyber Forces
Combat	**Movement and Manoeuvre**					
	• Combat	x	x	x		
	• Amphibious operations	x	x			
	• Airborne operations	x		x		
Combat / Combat Support	**Fires**					
	• Targeting	x	x	x	x	x
	• Fire support	x	x	x		
	• Counter air and missile threats	x	x	x	x	
	• Interdiction	x	x	x		
	• Strategic attack		x	x		x
	• Nonlethal attack					x
Combat / Combat Support	**Protection**					
	• Force protection	x	x	x		
	• Air, space and missile defence	x	x	x	x	
	• Security operations	x	x	x		x
	• Physical protection	x				
	• Chemical, biological, radiological and nuclear defence	x	x	x		
Combat Support	**Command and Control**					
	• Command	x	x	x	x	x
	• Communications	x	x	x	x	x
Combat Support	**Intelligence**					
	• Surveillance	x	x	x	x	x
	• Reconnaissance	x	x	x	x	x
	• Intelligence	x	x	x	x	x
Service Support	**Sustainment**					
	• Supply	x	x	x		
	• Maintenance	x	x	x		
	• Personnel support	x	x	x		
	• Medical	x	x	x		
	• Construction	x	x	x		
	• Movement	x	x	x		
	• Projection (strategic/operational)		x	x		
	• Civil Military Cooperation	x				

Table 2-3: Military Functions[18]

The form of the organisation also varies with regard to the range of military functions that the force can complete and the manner in which it completes them. Full spectrum forces are able

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[18] This Table has been compiled from a structure provided by Collins (2002, p. 40) with regard to the form and conduct of typical military functions relating to combat, combat support and service support. It has been expanded to include the main elements of the United States' Joint Functions (United States Department of Defense, 2017, pp. III-1 - III-48) and the environments identified by Bartlett, Holman & Somes (2004b, p. 504). The mapping of functions to environments was completed by the author based upon Collins' example. The composition and responsibilities of these functions will vary between states.

to complete the full range of military functions throughout the conflict continuum, with a high degree of proficiency within each.[19] Such forces are also a function of size as they are able to maintain a core of basic military capabilities while providing the specialist assets required to complete the particular military tasks and functions of each type of operation. These specialist assets include what are termed as force multiplier or enabling capabilities – those systems, assets or technologies that enhance the effects of other military assets to greatly increase the military effect; such as may be provided by Special Operations Forces (SOF), surveillance and reconnaissance platforms, or ship-to-ship or air-to-air refuelling capabilities. States that cannot provide full spectrum forces may instead provide general forces that maintain a base of core capabilities; multirole assets that can complete a range of functions and tasks (albeit with less proficiency than specialist elements); or niche forces that specialise in select military roles and may support alliance and coalition frameworks but do not provide the state with a truly independent military capability (de Durand, 2011, p. 115). The organisation of the forces may provide for combined arms and joint effects (as they achieve synergies across roles and environments), while they may also be arranged as permanent units or combined as required to meet contingencies as task-organised modular structures (Fenema, Soeters, & Beeres, 2010, p. 256; Waard & Kramer, 2010, p. 72).

The composition and organisation of a state's military force structures forms the basis of the capabilities that they provide. Scott Jasper (2009, p. 7) states that "[a] *capability* can be defined as "the ability to generate a desired effect" in a military operation, under a set of conditions, and to a specific standard." In this regard the term *military capabilities* describes what the forces are able to do and the outcomes that they may accomplish relative to a circumstance, role or task. It explains the military functions that the forces can achieve or the processes they conduct (Fenema, et al., 2010, p. 258); the types of roles that they may fulfil (such as offensive, defensive and/or stability operations); or the wider abilities of the force (such as the capability to conduct expeditionary operations or long-range offensive strike). The effects that the military forces achieve include the results of military activities (such as sea denial or maintaining lines of communication) or the outcomes created by military activity (such as deterrence, assistance or coercion). An example of how these military

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[19] The United States defines full spectrum superiority as the "cumulative effect of dominance in the air, land, maritime, and space domains, electromagnetic spectrum, and information environment (which includes cyberspace) that permits the conduct of joint operations without effective opposition or prohibitive interference." (United States Department of Defense, 2017, pp. GL-10)

capabilities may be considered through the effects that they provide a state is shown through Rob de Wijk's classification of military capabilities at Table 2-4 below.

A full spectrum force comprises the full array of assets and capabilities, allowing a member state to deal with all contingencies. It allows sustained combat operations against an opponent's irregular or regular forces, and to carry out stability and reconstruction operations in an effort to keep or bring the peace in different places. A country with a full spectrum force could provide the framework for coalition operations as well. A *framework nation* provides the backbone of an operation. Other nations "plug in".
Broad expeditionary capabilities allow a country to carry out similar operations, albeit on a more modest scale. These countries could act as a lead nation for less demanding operations. A *lead nation* is responsible for planning the campaign, it directs the strategic decision making process and provides the key elements of C4I.
Focused expeditionary capabilities allow countries to contribute to a wide variety of military operations with a limited range of capabilities. Some countries may even be able to act as a lead nation for small stabilization operations in a permissive environment.
Selective expeditionary capabilities allow countries to contribute some force elements to coalition operations. The development of *niche capabilities* is the obvious choice. Niche capabilities are those scarce capabilities that complement and enhance the performance of the entire coalition and cannot usually be commonly owned.
Stabilization capabilities allow countries to make a contribution to peace keeping. These countries could help funding *collective capabilities*. These collectively owned military capabilities, such as AWACS, are a prerequisite for coalition operations.

Table 2-4: Rob de Wijk's Classification of Military Capabilities[20]

De Wijk's classification provides a practical framework to understand a state's military capabilities. However, it reflects recent European perspectives founded on regional stability by focusing on capabilities for deployed and expeditionary operations but not through describing the ability of states to provide for their own territorial defence. Therefore a more complete framework for describing a state's military capabilities would also include an assessment of its defence capabilities for those states that perceive a direct military threat to their territorial integrity and sovereignty. This provides the context for understanding the role and utility of military forces within the global political environment.

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[20] Adapted from Rob de Wijk (2004, pp. 118-119).

ANALYSING MILITARY FORCE STRUCTURES

The preceding discussion of military forces within the global political environment provides the basis for understanding the *why* and *what* of military force structures and their associated capabilities. However, the nature and composition of military forces is not found in just *what is seen* but also through understanding *how* states provide for their military capabilities. This provides the opportunity to identify the effects of a state's capacity on their ability to resource and sustain their military forces, consider this with regard to other influences on their decision-making process, and relate this to the utility that they may gain from employing them as an instrument of state power. This thesis examines military force structures by considering the balance that states achieve in those structures and the systems that they employ in doing so. In this regard, examining a force's structural balance facilitates understanding of what those forces are and the capabilities that they offer, while examining the processes that states use to provide for those structures and the priorities that they apply between the underlying military requirements indicates the capacity and function of the state's military and defence planning systems. This provides the forum for identifying the key issues that may affect a state's force structures and then serves as a basis for considering the military force structures of small states.

THE CONCEPT OF BALANCE WITHIN MILITARY FORCES

The concept of balance, as it applies to military forces, is commonly taken to reflect the range of military functions that a force can conduct, as derived from paradigms of conventional or industrial warfare. Although it has been noted that the concept is not well defined (Grimes & Rolfe, 2002, pp. 271-272), a balanced force in this context includes combat, combat support and service support capabilities across the domains represented by the individual services. It reflects the ability of those forces to conduct combined arms and/or joint operations – either independently or in conjunction with allies or other partners. However, the concept of balance may be limited as it is based on conventional military capabilities and may not reflect either the wider range of tasks inherent within the contemporary operating environment, or the wider range of threats presented by hybrid or asymmetrical adversaries (Rasmussen,

2015, p. 174). It also presupposes that states maintain their military forces for interstate conventional conflict and does not reflect what may be a primacy towards other roles or uses where proficiency in modern combined arms warfare is less relevant than other forms of operations. Nonetheless, the concept of balance is a viable analytical framework for this study as it provides a basis for comparison between military forces and - with regard to how they are designed, maintained and employed - a means to understanding why states maintain their military forces in the manner that they do.

This thesis applies the concept of balance through considering the *structural balance* of a state's military forces. This examines the breadth and depth of those forces with regard to the range of military functions that they can complete, the span of capabilities within each of those functions[21], and their ability to sustain operations within each functional area or to complete a number of operations concurrently. The structural balance of the forces provides a visible indicator of the military capabilities that a state maintains and forms one medium for assessing the utility or effectiveness of those forces. This analysis is complemented through considering how states provide for their military forces as this represents the capacity of the states and the decisions that they make in doing so.

PROVIDING FOR A STATE'S MILITARY CAPABILITIES

The defence planning process described earlier in this chapter relates objectives to capacity. This study takes the basic parameters of that process and considers how states determine what is to be done with their military forces, how they will allocate resources to them, and how the military capabilities will be used. This establishes a descriptive framework based on how states design, maintain and employ their military capabilities through the ends, ways and means of their defence and security strategies. The descriptive framework that was developed as part of this study is shown at Table 2-5 below and described in the following sections. It should be noted, however, that the framework does not have a linear left to right flow as each category affects the considerations for the other two. In this regard the framework should be viewed as an interdependent and iterative process.

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[21] Such as naval combat forces either being based on a single class of ship or comprising a range of ship types such as submarines, destroyers, aircraft carriers, etc.

	DESIGN **What is to be done with the military forces?**	**MAINTAIN** **How will resources be allocated to the military forces?**	**EMPLOY** **How will the military forces be used?**
Outcomes	**Force Structure** **Military Capabilities**	**Defence Budget** **Acquisition Policy** **Personnel Policy**	**Operations** **(missions and tasks)** **Concepts and Doctrine**
Considerations	Policy and Strategic Objectives Geostrategic Influences Roles and Tasks Operational Environments and Threats Requirements Concepts (Force Development and Capability) International treaties and alliances Risk Assessment	Cost Technology Defence Industrial Base Opportunity Costs and Trade-offs Political Influences Sunk Costs and Legacy Structures/Equipment Potential for International Cooperation Risk Assessment	Operating Concepts Operational Environments and Threats Training International Cooperation Interoperability Operational Tempo Risk Assessment

Table 2-5: Descriptive Framework of how a State provides for its Military Capabilities

Designing Military Forces

The function of design relates the roles and purpose of a state's military forces and results in the force structure and associated military capabilities. The design of the forces is mainly drawn from the defence planning process as it develops policy and strategic objectives; analyses the effects of the state's geostrategic environment, threats and influences; and determines the roles and tasks that the military should conduct. These considerations also incorporate the relative discretion that states have regarding activities within the wider continuum of conflict and reflect the state's priorities in conducting those activities. The force design is further influenced by what the state aims to achieve in its international relations, the requirements of any international treaties and alliances, and the assessment that the state makes about the likelihood and consequence of military contingencies. However, the purposes for maintaining the state's military forces may not be based on such deliberate forms of appreciation; and the force design also may be shaped by considerations of status or prestige, to confirm alliances, support domestic industries, or support nation-building policies within the state (Ron Smith, 2009, p. 97; Spear & Cooper, 2010, p. 398)[22].

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[22] Examples of the nation-building roles for military forces within the state are described with regard to various states in David Horner (1995).

A further consideration for the design of a state's military capabilities lies in the concepts used to portray modern military operations. These concepts have major implications for the form and costs of the state's military capabilities. This is shown through modern concepts of the Revolution in Military Affairs (RMA) as a systemic approach to leverage the military advantage of information technologies and precision weapons (Horowitz & Rosen, 2005, p. 441; Ron Smith, 2009, pp. 132-133), and force transformation as a shift towards professional, expeditionary and technologically sophisticated forces (Moreland & Mattox, 2009, p. 79). However, adopting these concepts poses additional costs to providing for a state's military forces (de Wijk, 2004, p. 130; Ferris, 2010, p. 255); this being reflected in the challenges that states face in maintaining their military instrument.

Maintaining Military Forces

The decisions that states make in maintaining their military forces are reflected in their defence budgets, acquisition policies and personnel policies. These give effect to the force design by shaping the size, composition and capabilities of the force, while also providing the means for its employment. Defence budgets form the main tool through which states resource their military forces. The budgets support both short-term (operating and maintenance) and long-term (force design and equipment acquisition) plans. They are developed and apportioned with regards to the state's wider economic policies through allocating funds between different state sectors, and between the components of the military forces themselves (Owens, 2007, p. 121; Toft & Imlay, 2006, pp. 6-7). As such, the development of defence budgets represents a political process with regard to both national politics and interservice rivalries. The size of a state's defence budget and the relative amount of the resources that it is willing to commit to defence varies based upon the state's size, location, threat perception, national interests and political decisions (Ron Smith, 2009, p. 95; Till, 2011, p. 132). Ron Smith (2009, p. 95) has identified that most states spend about 1% of their GDP on their military even with low perceptions of threat, although current figures from the Stockholm International Peace Research Institute (SIPRI) indicate a median figure of 1.5% in a range between 0.2% and 16.7% of GDP for those states that maintain defence budgets. (The current SIPRI figures are shown at Appendix 1.)

The defence budget is influenced by, but also helps to set the parameters for, the state's military equipment acquisition policy. Hartley (2011, p. 127) identifies four broad policy

choices for acquisition through independent manufacture, licenced production, international collaboration (such as joint development and production) and purchase from foreign sources. However, Trevor Taylor (2006, p. 201) notes that governments are challenged by the effective acquisition of military equipment – particularly as technological development can increase unit costs, the pace of technological development can outstrip procurement cycles , and few nations can afford to be self-sufficient (Ferris, 2010, p. 261; Ron Smith, 2009, pp. 119, 166). Furthermore, each form of acquisition has economic and political effects as states may aim to support their own defence industrial capabilities (Hartley, 2011, p. 8; Ron Smith, 2009, p. 138), or use major purchases as a method to establish or maintain relations with other states.

These economic and political challenges are also found in military personnel policy as it not only provides the labour pool for the military forces but personnel costs form a large component of defence budgets. The pool of personnel available for military service, particularly in Western states, is decreasing as populations age and growth rates decline (Wirtz, 2010, p. 341), and there is increased competition in the labour market for volunteer personnel (Rupert Smith, 2005, p. 293) – although this is offset by greater willingness to employ women in military services. The increasing health care and pension costs of costs of aging populations also places additional pressures on the size of defence budgets (Wirtz, 2010, p. 341). These factors have a consequent effect on the size and composition of the forces. Furthermore, while conscript forces may appear less expensive than volunteer forces, there is an economic opportunity cost to conscription (Ron Smith, 2009, p. 20) and states also need to consider the political implications of such forces: balancing the anticipated benefits of nation-building and social cohesion with any possible costs or constraints accruing from the resultant social contract.

A common factor that influences how states maintain their military forces through defence budgets, acquisition and personnel policies is the issue of cost. It is noted that costs for military capital procurement, personnel and operating expenses are increasing (Hartley, 2010, p. 410; Rasmussen, 2015, p. 153). These increased costs affect the form and scale of military forces that states can develop, and the range of operations that they may be prepared to conduct. This effect is particularly apparent with regard to equipment acquisition if defence budgets are unable to keep pace with the increasing costs of technological development as states may be forced to acquire fewer weapon systems or equipment types to meet budget constraints (Ron Smith, 2009, p. 133; Spear & Cooper, 2010, p. 398). This has two

consequences for military forces: a form of structural disarmament as states cannot afford to replace old equipment with an equivalent number of new systems (B. Loo, 2009a, p. 6) (particularly with regard to naval and air platforms (Ferris, 2010, p. 261)); and unintended role specialisation as states choose not to replace certain functional capabilities (Mölling, 2011, pp. 3-4) - prioritising other elements of the defence budget. These effects can also increase operating costs with an increase in the relative support costs of smaller fleets (Alexander & Garden, 2001, p. 516) - particularly if states maintain a range of small fleets. Furthermore, the maintenance of military capabilities could also be restricted as a result of sunk costs and legacy equipment/infrastructure if states are unwilling to sacrifice previous investments, which can in turn restrict force development or future acquisition initiatives (Montgomery, 2009, p. 6).

States respond to these effects in a number of ways. Some states have maintained or increased their levels of defence spending, although wider economic effects (such as the global financial crisis of 2008) has limited the ability of many states to do so. States may also seek to reduce costs or prioritise spending within their defence budgets. This has included reducing the size of the forces (a notable feature of West European defence expenditure following the end of the Cold War (Rasmussen, 2015, pp. 164-165; Rickli, 2008, p. 319)) and seeking greater efficiencies in how their military forces are run (Hartley, 2010, p. 411; B. Loo, 2009a, p. 6). Equipment acquisition policies may also seek to reduce costs through the introduction of dual-use (civilian/military) technologies, the selection of multirole platforms, and the modernisation of current equipment to extend service life or increase its utility (Jermy, 2011, p. 135; Spear & Cooper, 2010, pp. 407-409). Furthermore, the past quarter century has also witnessed a greater use of private companies in security and support roles for deployed forces, and some states make greater use of partnerships with private enterprise for base support and maintenance functions at home (Hartley, 2011, p. 233). The objective of increasing efficiency through partnerships is also found through international cooperation as states may establish collaborative research and development, logistic, and acquisition arrangements with other states through bilateral or multilateral arrangements[23]. These initiatives offer the prospect of increasing the capabilities of the military forces without a

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[23] One example of this is the range of Pooling and Sharing activities conducted by members of the European Defence Agency which incorporates research and development, and sharing military equipment and capabilities (European Defence Agency, 2013).

commensurate increase in cost and are not limited to just how states maintain their forces but are also present in how they employ them.

Employing Military Forces

The third element to this descriptive framework is how states intend to use their military forces. This includes the form of employment and operations (or missions and tasks) that the forces conduct, and the concepts and doctrines that they employ while doing so. It also reflects the ability of the forces to develop and maintain military proficiency; including their ability to counter threats and work with other forces or agencies.

The manner in which states employ their military forces relates the roles and purposes of their security and defence policies to the types of operations conducted within the continuum of conflict. States may employ their military capabilities as a *force in being* – either through formed structures or the demonstrated ability to mobilise reserves – to deter or respond to potential threats. Their capabilities may also be employed as contributions to bilateral and multilateral structures in support of allies and partners. They may be held as expeditionary forces that can project power and influence, or assist others; or they may be focused on supporting the civil agencies of the state. These roles establish the missions and tasks that a state's military forces are required to achieve, and the range of operations that they may conduct.

The manner in which states conduct these operations are provided through the concepts and doctrines that they use. These provide the basis for how the military forces conduct their activities and employ the equipment and capabilities that they maintain. Wider concepts that shape force design (such as RMA and force transformation) are complemented by operational and tactical concepts and related doctrines (such as the three block war or the AirSea battle), depending upon the nature of the situation and mission that forces are required to complete. These concepts and doctrines identify which elements of the military force will be employed, what threats will be countered, and the types of activities that it will conduct. Indeed, doctrines are frequently tailored to each type of military operation to provide specific guidance to forces. States may develop these concepts and doctrines by themselves, or they may contribute to or adapt the doctrines of other states or multinational forums.[24] However,

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[24] The NATO Partnership for Peace (PfP) Programme provides one example of this.

the utility of these concepts and doctrines is not just found in how they guide operations but also in how states prepare to meet them and the level of military proficiency that they develop.

The foundation of military proficiency is the ability of forces to employ their structures, equipment and personnel to complete the mission or task that they have been set. This is found to a large degree through the training and preparation that those forces do. Training systems provide for both individual and collective training – the ability for members of the military forces to do their jobs and the ability of the force to function effectively as formed units or task groups. Modern training systems require large investments in technology and infrastructure to gain a force's full potential, and training systems exhibit economies of scale whereby an investment in training can achieve a comparatively greater effect with regard to the trained state or military capability of the force. Although states may meet the basis of this investment themselves it is also common for high-end or specialist training to be provided through international cooperation to develop greater scale and realise the comparative advantage of states in different equipment types or operating techniques.

A corollary to the proficiency achieved by training is the ability to work effectively with other military forces and agencies. This is represented by the term interoperability and reflects the degree to which forces can operate with each other through compatible doctrine, training, systems and procedures (Department of National Defence Canada, 2009, pp. 6-5). This reflects the results of strategic and military relationships as forces may work alongside each other, may be commanded by other forces, or may be fully integrated into the military system of the other force. The form of these relationships also reflect the type of operations being conducted as, for example, forces may work alongside each other in different areas of operation in UN peacekeeping missions, may share command relationships in coalitions, or may be more formally integrated through alliance relationships (such as NATO). In this regard, the degree of interoperability that a military force demonstrates may indicate the effects of the state's policies and strategies, capabilities, structures and equipment. The ability of a state to realise the full potential of those capabilities may in turn be affected by the operations that it conducts and the level of operational tempo exhibited by each element of the force. Not only does this show the rate of effort of the force but it also indicates challenges and constraints to how it maintains its functioning as a military system through the underlying requirements of readiness, operations and modernisation.

PRIORITISING MILITARY REQUIREMENTS

The descriptive framework described in the preceding section outlines how a state's military and defence planning systems provides for its force structures and military capabilities. It describes how states design, maintain and employ their military capabilities through the ends, ways and means of their defence and security strategies. It also frames these actions as an interdependent and iterative process that establishes the basis for the composition and balance of a state's military force structures. As a result it represents the inputs and processes by which a state's military force structures are developed and maintained. However, the utility of those structures and the capabilities that they embody are not sustained solely by this process but also by the priorities or weight of effort that the state may place between the three underlying requirements of the military system itself.

Etienne de Durand (2011, p. 106) identifies the requirements for military systems in noting that, "[s]ince the end of the Cold War, it has proved challenging for Western militaries to satisfy equally the three perennial requirements of readiness, modernisation and operations." These three requirements complete the systems view of a military force as each represents an outcome of how the state provides for that force (through the processes of design, maintain and employ). Furthermore, the comparison of a state's ability to meet readiness, operations and modernisation requirements provides an avenue to consider the capacity of its military system and the decisions that the state makes in determining what to resource, the discretion that it has in its security and defence policies, whether it takes a short or long-term view on military outcomes, and where its priorities lie.

Michael O'Hanlon (2009, p. 31) defines military readiness as "prompt and immediate response capability for plausible missions." It describes the ability of a military force to fulfil potential or likely tasks and relates the time to turn military potential into actual capability with regard to response times and sustainment requirements. Richard Betts (1995, pp. 41-42) describes two aspects to readiness: *operational readiness* which refers to military units being sufficiently trained, manned and equipped; and *structural readiness* which refers to having sufficient numbers and types of military units. The ability of a state to maintain degrees of readiness is important to the credibility of the wider effect that they aim to achieve, and while

states that aim to deter potential threats need to demonstrate the ability to mobilise sufficient combat power quickly, other states that contribute to international operations may have longer response times.

These contexts then link directly to the second requirement for military forces – operations. This refers to the actual employment of a military capability or force and differs from readiness for whereas the former is a form of latent power that may be used for a variety of tasks, the latter represents military power mobilised for a particular task. As a result, a force conducting operations lacks fungibility as it cannot be easily employed for other purposes without compromising the task it is completing. This may also be true of activities conducted to modernise the force. Modernisation refers to an evolutionary process to maintain the technological relevance of the force (with regard to equipment, capabilities, doctrines and strategies) (de Wijk, 2004, p. 116; B. Loo, 2009a, p. 3). It represents an issue for defence planners as modernisation activities may draw on the same budgets, structures and personnel that are required to conduct operations or maintain readiness. However, modernisation is an important process as it maintains the continued relevance and relative capability of the force.

This in turn links back to priorities that states may establish for the requirements of their military systems. The utility of a military system includes its ability to complete current tasks, meet likely contingencies and maintain its continued relevance. However, states can be challenged in providing for each requirement simultaneously through resource scarcity and competing demands. Therefore, evaluating the priorities that states establish between the military requirements complements the assessment of structural balance by indicating the state's capacity and its motivations in providing for its military instrument. The impact of these considerations finds further form in the issues for force structure that result.

ISSUES FOR FORCE STRUCTURE

The development of the analytical framework for military force structures indicates further considerations for force structures and military capability. In the first instance, the state's capacity has a large effect on the shape and balance of its military forces. This occurs with regard to the economies of scale that it can achieve and is reflected in the size of the forces and the number of specialist military elements that it builds upon its core military

capabilities. These effects are further indicated through the depth and degree of doctrinal development and training that the forces undertake; as larger forces with greater investments in research and development, personnel and infrastructure have the potential to build a greater cumulative effect and proficiency within their military capabilities. Furthermore, forces with greater economies of scale have greater potential to address considerations of critical mass (providing sufficient structures to maintain a specific capability), minimum scale and fixed costs as they provide for the forces and meet the requirements of readiness, operations and modernisation.

A second element to considering force structures is the effect that they have on a state's policies and strategic decisions. Balanced forces provide states with the potential to complete a wide range of actions and roles through their military instruments. However, if a state lacks scale or structural balance then it may find limits to the range of situations in which it can employ its military capabilities. Furthermore, deficiencies in force structure may encourage role specialisation with international partners: this offers both the potential to enhance the state's resources but may also limit the state's independence and relative agency in applying its military power (de Durand, 2011, p. 115). In that case, a small or unbalanced force structure may constrain the actions that states take in the international environment and states may instead seek to maintain breadth in their military capabilities in order to provide for a greater range of options in international affairs.

These effects also link to the concepts of relevance and credibility. Both terms relate to the context of the state being considered, what it aims to achieve, and the utility or benefit that it seeks to gain from its military forces. This study examines the relevance of a state's military forces with respect to the physical and strategic environment that it surrounds it, the range of tasks or military operations that the state intends to conduct, and the form and composition of the military forces themselves – as evidenced by the force design and structural balance. This assessment provides the opportunity to consider whether a state's military forces are appropriate for their situation, whether they have too many forces or possess capabilities that they may not require, or whether they appear to lack any necessary structures and equipment. If a state's military forces are relevant then this would indicate that they are able to provide the forces that are necessary to satisfy their requirements with respect to their particular context, aims and objectives.

The credibility of a state's military forces develops from this assessment of necessity to consider issues of sufficiency and capability. Credibility is a matter of perception and is based on the assessment that the subject is able to do what it says it will do. Although the concept of credibility is found within deterrence theory – being the "process whereby threats are made operational" (G. Evans & Newnham, 1998, p. 127) – this study applies the concept in a wider perspective that reflects how defence planning methodologies have shifted from threat-based to capability-based methodologies since the end of the Cold War. Therefore, the credibility of a state's military forces is not only a measure of technical proficiency but may be realised in a wider context with regard to the state's ability to maintain and employ those forces with respect to the purposes for which they are retained. In this regard, the subject audiences have also moved beyond the targets of deterrence to include a wider range of actors such as the state itself, partners and allies, potential adversaries (both state and non-state), and third parties or other actors.

Furthermore, whereas the question of relevance is based on the design and structure of a state's military forces, questions of credibility develop from how the state can maintain and employ those forces – including considerations of size, equipment, training, funding, interoperability and proficiency. The credibility of a state's military forces also relates to the roles and tasks that it is maintained to fulfil, the types of operations that it can conduct, and the manner in which it meets the military requirements of readiness, operations and modernisation. In this way a military force may provide credible capabilities as a specialised contribution to multilateral, alliance or coalition structures although it may itself lack the ability to operate throughout the conflict continuum. Thus the relevance and credibility of a state's military capabilities are founded upon purpose, capacity and capability. These issues are of particular consequence to small states as they lack capacity and have may have fewer options than larger states with regard to the decisions that they make about their military capabilities and force structures.

EXPECTATIONS FOR MILITARY FORCES IN SMALL STATES

Nation size becomes relevant where force structures involve significant fixed costs and economies of scale and scope. Such costs will also determine the operational capability of small nations Armed Forces. Small nations are likely to select low-intensity force structures and equipment: they will not be able to afford costly high technology equipment such as stealth aircraft. Also, small nations have more incentives to consider joint force solutions, interoperability and opportunities for sharing assets with other government agencies.

Keith Hartley (2010, p. 421)

The expectations for military forces in small states relate perceptions of the characteristics and general situations of those states through the defence challenges they face and the responses they make. These expectations are found in the purposes for which small states maintain their military forces – reflecting the policy and strategic options that they take – and the form of those forces themselves. This latter consideration relates the military capabilities of small states to their capacity and willingness to provide for them. In this regard, it is expected that the physical force structures and military capabilities of small states will be limited by the capacity of those states. This section develops the expectations for military forces in small states and forms propositions that describe the process and outcomes of how small states provide for their military forces. These propositions will then be considered through the case studies to support the examination of how small states structure their military forces. In this manner, the expectations for small state military forces form the final part of the theoretical framework for examining military force structures in small states.

PERCEIVED CHARACTERISTICS AND ANTICIPATED RESULTS

This study has previously described how small states are perceived as having a deficit in military power. As a result they are frequently perceived as 'free riding' within security relationships (Grimes & Rolfe, 2002, p. 273; Männik, 2004, pp. 30-31); lacking capacity to provide for modern military forces and functioning as states that consume the security

guarantees of others or benefit from security as a common good. Realist conceptions of small states during the Cold War identified the difficulties that they faced in maintaining modern conventional military forces and the dilemmas that seeking external assistance posed for their independence (Handel, 1981, p. 84; Vital, 1967, p. 63). In the modern environment, small states are still limited by small budgets and defence bureaucracies (de Wijk, 2004, p. 144) but the opportunities for employing their military capabilities have expanded and greatly increased their scope for gaining status and influence (Græger, 2015, p. 86; Honig, 2016, pp. 261-262). In this regard, the primary purpose for military forces in small states may no longer be a credible expectation of warfighting, but instead be focused on other contingencies within the range of military operations that serve the meet the state's political intent and support the international rules-based order. These considerations are shaped by both the state's domestic and external environments and are reflected in the forms of security or defence policies and strategies that small states adopt.

The security or defence options for small states are often seen as being limited to ones that seek the support of others or rely on the precepts of the international rules-based order. Although there is a range of alternatives open to small states, each is based on some form of external assistance or guarantee. Francis Domingo (2014, p. 48) describes the categories of survival strategies for small states as including "international organizations, self-reliance, alliance building, and hedging." However, this does not fully realise the ubiquity of international organisations such as the United Nations throughout the policy and strategic domain, and does not specifically include neutrality as an option. To this end, this study considers the range of security and defence options for small states as extending from neutrality or non-involvement, through forms of cooperation and collaboration (in international, multinational or bilateral relationships or partnerships), up to membership in formal alliances. Each approach carries a range of implications for the small states relating to the roles and requirements of their military forces, the breadth and depth of those forces, and the obligations or support available to develop and sustain them. However, notwithstanding which approach small states employ in providing for their security and defence, it is expected that the limits to their capacity will challenge the manner in which they provide for their military forces.

Small states may be challenged in a variety of forms as they provide for their military forces. They have often been characterised as lacking strategic depth (Handel, 1981, p. 71), although this should be seen in more than just terms of geographical size and location but also with

regard to their economic, technological and demographic capacity. These challenges manifest themselves in the state's ability to develop economies of scale, provide for critical mass and manage the effects of fixed costs. This is demonstrated in the manner in which small states maintain their military forces as they generally lack the ability to develop their own military equipment (Berkok, 2005, p. 198), they may lack the resource base to keep up with modern technologies (B. Loo, 2009a, p. 3), or they may be constrained in that the equipment that they do acquire from other states may not be best suited for their requirements (Handel, 1981, p. 84; Vital, 1967, p. 72). Furthermore, the effects of fixed costs and economy of scale can limit the domestic infrastructure that they develop for military training and support – restricting the degree of military proficiency that they can develop. These challenges raise the potential for opportunity costs and Stuart Cohen (writing from the Israeli experience) notes that increasing levels of military expenditure invariably leads to economic and social costs (S. A. Cohen, 1995, p. 79). Effects such as these help to shape the responses that small states make in addressing their challenges and affect the manner in which they provide for their military forces.

The manner in which small states respond to the challenges of their capacity and environment affects the size, scale and scope of their military forces. They are not expected to provide balanced military forces capable of full spectrum expeditionary operations (Rickli, 2008, p. 316) but instead to design small, focused capabilities that specialise in certain roles within multinational or cooperative environments (de Wijk, 2004, p. 127; Grimes & Rolfe, 2002, p. 275; Rickli, 2008, p. 318). The balance of these forces reflects the wider defence policy that the state maintains as forces in formal alliance relationships may be more specialised than those of states that seek to retain a greater capacity for independent action. However, the design of small state military forces is not likely to include offensive or high intensity combat capabilities but instead seek to provide greater utility across the conflict continuum – with a greater focus on non-discretionary requirements and less capability apportioned to discretionary contingencies and employment. They are unlikely to be capable of independent operations away from national territory and may require external support to meet likely threats or contingencies in their sovereign area.

This restricted capacity will also be found in how states maintain and employ their military forces. They are unlikely to lead equipment, concept or doctrine development as they cannot

absorb the costs and risks involved[25]; instead focusing on adapting or modifying these to their use. In this regard they are unlikely to maintain unique military equipment where they are the sole user, and will maintain relatively few (if any) force multipliers or specialist military capabilities in their structures. Furthermore, they are expected to seek to defray costs and gain economies of scale through collaborative acquisition, maintenance, research and development, and training agreements. This may also be reflected in how small states conduct operations as they use the capabilities or sunk costs of larger military systems to support their own deployments[26], or they conduct operations with the intention of demonstrating commitment to multinational partnerships or alliances[27]. This demonstration of commitment may not only be found in the operations conducted but also through the military equipment that small states may acquire; particularly if it is conducted to ensure interoperability or is purchased from an international partner in order to maintain a visible and favourable profile with them.

PROPOSITIONS REGARDING MILITARY FORCE STRUCTURES IN SMALL STATES

The expectations for military forces in small states described in the preceding section form the context for examining how small states structure their military forces. They relate perceptions of the characteristics and circumstances of small states to their ability to respond to defence challenges and the actions that they take. This study develops upon those expectations by taking the expected results for the nature and composition of small state military force structures and posing them as propositions that explain how small states structure their military forces. These propositions are described below.

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[25] Jan Willem Honig (2016, p. 275) notes the ability of small states to experiment and innovate with regard to doctrine and strategy but their risks of failure are cushioned by the support of larger partners. This indicates that while the may be organisationally or conceptually agile they cannot (or do not) absorb the full consequences of negative effects.

[26] Rasmussen (2015, p. 191) describes how Denmark reduced costs by deploying combat forces in Afghanistan and using the logistics tail maintained by partner states.

[27] This has been cited as a reason why Estonia has participated in Peace Support Operations and NATO missions outside of Europe (Männik, 2004, p. 29).

Proposition One: **Small states lack the economy of scale and critical mass to provide for comprehensive force structures.**

Small states lack the size and resource base to provide for comprehensive force structures. This is reflected in unbalanced force structures as broad structures lack depth or sustainability whilst structures based on a few capabilities do not span the full range of military functions. As a result, small states do not maintain full spectrum or broad expeditionary military capabilities, but instead are limited to focused/selective expeditionary and/or stabilisation roles.

Proposition Two: **Small states rely on international collaboration and support to provide for their military capabilities.**

Small states seek to maximise their military investment and gain economies of scale through collaborative acquisition, concept and doctrine development, and training with other states. They may increase capability by contributing to shared military capabilities, and seek to reduce costs through international logistic and support arrangements. The forces are designed to be interoperable with likely partners and small states structure their security and defence policies to maintain international collaboration and support through equipment selection, training, and operations.

Proposition Three: **Small states design their forces to maximise utility over military effect.**

Small states structure and maintain their military forces based on those roles that have a higher probability of occurrence rather than maintaining high-end military capabilities that may not be used as often (if at all). They focus on forces capable of conducting low and mid-intensity operations, provide multirole capabilities that can be used in a wide range of contingencies, and tailor their forces to

complete non-discretionary tasks before providing a wider residual capability for discretionary operations. The military forces are designed and equipped with regard to civil requirements and governments will maximise the investment in their forces to complement or act in place of civil security, border protection and surveillance (in effect designing the military forces to complete civil as well as military tasks).

These propositions form testable criteria for assessing how small states structure their military forces. They serve to relate the theoretical framework for analysing military force structures to the specific context and expectations of small states. In this regard they provide the means to not only consider the apparent structure of small state military forces as evidenced by their form and composition, but also to understand the challenges and responses of small states in designing, maintaining and employing their military instruments. This provides the ability to not only consider the balance of small state military forces, but also the relevance and credibility of the military capabilities that result. As a result, this provides a frame of reference for the examination of military force structures in small states that relates to the wider paradigms of military thought, realises the effects of both the military structures and systems maintained by the small states, and provides a basis for comparing their force structures and military capabilities. This will be conducted through the description, comparison and analysis of four separate small states through the following case studies of military force structures in Ireland, New Zealand, Norway and Singapore.

CHAPTER THREE: MILITARY FORCE STRUCTURES IN IRELAND - LIMITED MILITARY CAPABILITIES WITHIN A RELATIVELY BENIGN STRATEGIC ENVIRONMENT

Following the end of the Cold War, the curse of Irish geography has given way to a blessing. In both European and international contexts, Ireland is comparatively far removed from sources of potential conflict. That does not mean that Ireland is immune from the consequences of conflict and insecurity. In an interdependent world this can rarely be the case. But it does mean that in core, traditional, military security terms Ireland enjoys, perhaps for the first time in its history, an almost wholly benign local security environment.

Ben Tonra (2012, pp. 221-222)

INTRODUCTION

The examination of the Republic of Ireland's military force structures provides an example of how a small state seeks to provide for its security and defence within the constraints of its size and capacity. Ireland does not envisage an existential threat to its sovereignty or territorial integrity and maintains a policy of military neutrality; acting to preserve the conditions for peace and security through its participation within international organisations that support a rules-based international order. In this regard Ireland is a neutral state within a relatively benign strategic environment that has the latitude to select how it will employ its military capabilities. As a result, Ireland maintains a relatively small defence force with limited capabilities that functions to support the civil authority in domestic security and resource protection, while supporting the State's foreign policy through selected employment abroad.

This chapter examines Ireland's ability to provide for relevant and credible military capabilities by first describing its status as a small state and noting that, although it maintains an active internationalist role, it is limited by size and capacity. Ireland's motivations for the manner of its participation in international affairs are then explored through its strategic

influences, location and history. These factors are then reflected in the shape and characteristics of Ireland's security and defence policies that emphasise military neutrality but also support international cooperation in political, economic and security realms. The effects of these policies are then found in the description of Ireland's military force structures, the commitment of the State to provide for those forces, and the capabilities that result. The analysis of these capabilities show that they are limited in terms of their role and function and, although they can contribute to domestic and international security roles, they lack the ability to guarantee the security of Ireland as a neutral state. This effect is a function of the lack of size and balance within Ireland's military force structures but does show how a small state may design and resource its forces to meet distinct objectives. As a result, the relevance and credibility of the Irish Defence Forces are not founded on their combat ability but the roles in which they are used and the ability of the state to provide for them.

IRELAND'S CHARACTERISTICS AS A SMALL STATE

Ireland is a small island state based upon western political and economic models. It became independent in 1922, prior to severing its last formal links with Britain in 1949. Physically it is the 120th largest country in the world by surface area (Central Intelligence Agency, 2017) and its population of 4.641 million places it as the 121st most populated state in the world (World Bank, 2016), although it lays claim to a large expatriate population claiming some form of Irish heritage. Ireland historically had a weak economy (The Statesman's Yearbook, 2012, p. 681) but has benefited greatly from its membership of the European Union, with its economy demonstrating high rates of growth in the 1990s and 2000s (Department of Foreign Affairs and Trade (Ireland), 2014, p. 17). However, it was severely affected by the global financial crisis of 2008 with a sharp reduction in economic activity and resultant cuts in government spending under a regime of austerity and the provision of economic support from the European Union and International Monetary Fund. Ireland successfully exited this financial assistance programme in 2013 (OECD, 2015, p. 16) but the spectre of these economic challenges still looms large over the State's financial plans. Ireland currently maintains the 40th largest GDP by international comparison (World Bank, 2017) but this is

assessed as representing only 0.38% of global GDP[28]. Nevertheless, Ireland's economic growth of 5.2% in 2014 was the fastest in the OECD (OECD, 2015, p. 17) and it remains an open and trade dependent economy.

The open nature of Ireland's economy is also reflected in modes of participation in international affairs that seek to maintain strong international frameworks that can help to further its interests. It is a strong supporter of the United Nations, and this support has formed a cornerstone of Irish foreign policy since it joined in 1955 (Government of Ireland, 2015, p. 27). It also maintains membership of bodies such as the OECD, WTO, and IMF while supporting international trade and financial coordination. Ireland's participation in international frameworks is not only based upon its status as an independent sovereign state, but also occurs through the economic and political agency offered by its membership of the European Union – a union that not only supports Ireland's growth and development within a large common market but also offers it access to markets in other regions of the world to a degree that it could not achieve through bilateral relationships alone. As an EU member Ireland participates in the Union's Common Foreign and Security Policy and Common Security and Defence Policy (CSDP) but is also very active itself in seeking influence within the world through normative and humanitarian roles; applying forms of soft power through international development, the promotion of human rights and disarmament agendas, and active participation in United Nations (UN) peacekeeping missions (Tonra, 2012, p. 226). In this regard, Ireland promotes itself as a dedicated international citizen with a strong commitment to peace and cooperation, and it has been suggested that Ireland's participation in multilateral institutions is more than pragmatic self-interest but serves wider issues of justice, fairness and legitimacy (Tonra, Kennedy, Doyle, & Dorr, 2012, p. xviii). Indeed, Ireland perceives that its strong national image (based on this values approach) is one of its greatest assets, and that it has regained international credibility following its recovery from the 2008 financial crisis (Government of Ireland, 2015, pp. 58, 63). However, Ireland's role in the world is limited by its size and capacity – factors that are then shaped by Ireland's strategic influences and the policies that it enacts.

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[28] World Bank GDP figures for 2015 provide an aggregate global GDP of USD $74,152,476,000,000 and the Irish GDP as USD $283,703,000,000 (World Bank, 2017).

IRELAND'S STRATEGIC INFLUENCES AND SECURITY POLICY

There are perhaps four dimensions to the shape of Irish security and defence: Ireland's geopolitical position, the absence of a strong martial tradition, a commitment to collective security and international law and a tradition of military non-alignment or neutrality.

Ben Tonra (2012, p. 221)

Ireland's strategic location positions it as a small trade dependent state isolated on the north-western periphery of Europe (Figure 3-1). Historically, its strategic influences have been dominated by its proximity to, and relationship with, the United Kingdom (UK). Since independence these have included the political and security relationships arising from a common land border and partition between the Republic of Ireland and Northern Ireland, and the strong trade and labour links between Ireland and the UK. Ireland's position in the seaward shadow of the UK has also afforded it a degree of protection from direct conventional or existential threat whilst its proximity to the UK provided an implicit security guarantee by the NATO alliance during the Cold War (Jesse, 2012, p. 72; Sweeney & Derdzinski, 2010, pp. 41-42). Notwithstanding this lack of a direct conventional threat[29], Ireland has faced a range of security threats as a result of terrorist and criminal action during the conflict over Northern Ireland, with elements of those threats continuing to persist (Department of Defence, 2015c, p. 18; Department of Defence & Defence Forces Ireland, 2015b, p. 13; Tonra, 2012, p. 226). Furthermore, Ireland recognises that the interdependent nature of its political and economic relationships raises additional security concerns both domestically and internationally, and that its security and wider interests may be challenged by transnational crime, weapon proliferation, international terrorism, competition for scarce resources, and the effects of inter or intra state conflict (Department of Defence, 2015c, pp. 11-19). These strategic influences have influenced the development of Ireland's security policy in two ways. First, although Ireland maintains a policy of military neutrality and avoids formal military relationships, it recognises that it cannot defend itself and has not

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[29] The probability of a conventional threat to Ireland is assessed as being low, and likely to remain as such (Department of Defence, 2013, p. 30; 2015c, p. 17).
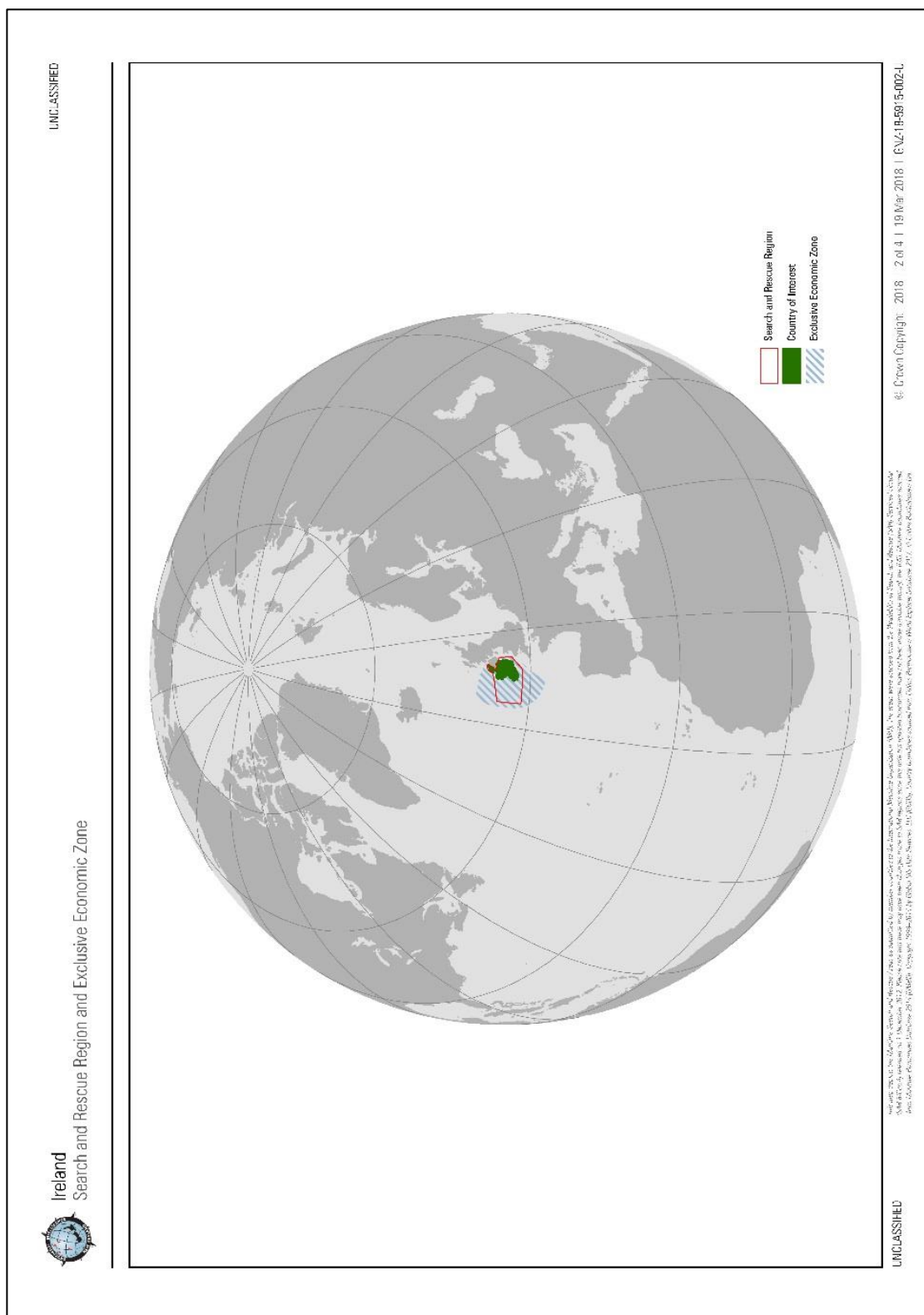
Figure 3-1: Ireland's geographic location and responsibilities[30]

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[30] The map contained in Figure 3-1 has been prepared by Geospatial Intelligence New Zealand (2018b) and is used with permission.

invested heavily in conventional defence. However, the second aspect is that the application of this neutrality has been modified through efforts to support international peace and security, and in recognition of the requirement to collaborate with other states and organisations in addressing current security challenges that transcend traditional state-based security concerns[31]. Thus Ireland's security policies comprise a mix of neutrality and collaboration that operate within the context of the State's capacity and interests.

Ireland's policy of military neutrality is a core element of its foreign policy (Government of Ireland, 2015, p. 29) and forms the basis of the State's security policy. Ireland implemented neutrality as a formal policy during the Second World War, although it may also be seen as part of a political desire to be independent of the UK (Jesse, 2012, pp. 67-68). However, the implementation of this policy is a function of the lack of direct threats in Ireland's strategic environment and it has used the flexibility that this provides to accede to domestic factors and not fund a credible military deterrent (Jesse, 2012, p. 76). Indeed, Ray Murphy explains the lack of a credible military deterrent that one would ordinarily find in a neutral state as, "the reality was that a country of Ireland's size with limited financial resources could not afford the required investment in its armed forces organised along conventional military lines" (Murphy, 2012, p. 173). So instead of implementing a policy of armed neutrality in the manner of continental states such as Switzerland, Ireland maintains what is described as a 'traditional policy of military neutrality' (Tonra, 2012, p. 223; Tonra, et al., 2012, p. xx) whereby the state does not meet the expense of large standing or conscript forces but instead maintains political and economic relationships while eschewing mutual defence pacts and the consequences that they bring (Keatinge, 2012, p. xii). This enables Ireland to select the manner and form of the employment of its military capabilities on the international stage as a form of discretion provided by the boon of its strategic environment: the commitment of Irish forces being subject to a 'triple lock' of required approval from the Government, Parliament and United Nations before forces may be deployed (Department of Defence, 2013, p. 15; Department of Defence & Defence Forces Ireland, 2015b, p. 21). Nevertheless, Ireland does play a military role on the international stage and in concert with a number of partners – this being a consequence of the nature and form of operations to support international peace and security.

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[31] The policy implications of this are discussed in the Green Paper on Defence (Department of Defence, 2013, pp. 8-9).

Ireland's foreign and security policies emphasise its interests in contributing to international peace and security and it has been a ready contributor to UN peacekeeping operations since 1958 (Murphy, 2012, p. 169). Participation in such operations forms an important part of perceptions of Ireland and has been described as "a matter of justified public pride and an integral element of how Ireland sees itself in the world" (Tonra, 2012, p. 227). However, changes to the form and function of multinational peace and security operations, such as the UN's recourse to more assertive mandates and requests for support from regional organisations (Murphy, 2012, pp. 182-183; Tonra, 2012, pp. 228-230), have challenged the mode of Ireland's military neutrality and posed a dilemma for Irish policy makers. Ireland has responded to these challenges by amending its Defence Act in 1993 and 2006 to provide a continued legal basis for continued Irish participation in multinational peace and security operations (Murphy, 2012, pp. 174, 176). This has maintained the utility of Irish forces through the range of modern peace support operations but also provided a framework by which it can collaborate with a range of other partners (such as the EU, OSCE and NATO's Partnership for Peace programme (PfP) (Department of Defence, 2015c, pp. 26-27)) and complete a Memorandum of Understanding on defence cooperation with the United Kingdom (Department of Defence, 2015b; Irish Times, 2015).

Ireland thus conducts security and military collaboration with both bilateral and multilateral partners, although this occurs under the framework of Ireland's policy of military neutrality and support for international peace and security. It has responded to the costs and challenges of modern peace support operations by forming composite military units on UN and multinational deployments with other nations; such as Sweden, the Netherlands, the UK and Finland (Department of Defence, 2015c, p. 29). It also contributes to the EU Battle Group (BG) standby forces under the EU CSDP and collaborates on capability and interoperability development relevant to peace support or domestic security interests with NATO's PfP. However, in the face of debate or opposition to these initiatives, the Irish Government consistently reiterates that the purpose of its military collaboration is to support the more effective conduct of peace support operations and that these bilateral and multilateral partners cannot compel Ireland to deploy forces in contravention of its neutrality and own security interests[32]. Ireland thus maintains a range of defence partnerships within the discrete scope of

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[32] For example, the current Irish Foreign Policy statement states that "The CSDP is oriented towards the external challenges of peacekeeping, conflict prevention and strengthening international security, and does not address territorial defence. The Lisbon Treaty maintained a commitment that the development of EU policy in this area would not affect or prejudice Ireland's traditional policy of military neutrality." (Government of Ireland, 2015,

its military neutrality and support for international peace and security. This is found within the context of Ireland's current defence policy that recognises that Ireland "must have well-trained, capable and interoperable military forces which are deployable overseas in support of crisis management and humanitarian operations" (Department of Defence, 2015c, p. 26). However, the provision of forces for international operations only forms one element of the military capabilities that Ireland maintains and its force structure is based on a range of roles and tasks that seek to maintain its autonomy and independence.

IRELAND'S MILITARY CAPABILITIES

In broad terms, the Government have decided that the Defence Forces will continue to retain a range of flexible conventional military capabilities, including Special Operations Forces (SOF), in order to meet the roles assigned and hedge to future uncertainty. These will continue to be vested in the Army, Air Corps and Naval Service, and augmented in crisis situations by Reserve Capabilities.

Ireland White Paper on Defence 2015 (Department of Defence, 2015c, pp. 61-62)

The Defence Forces are organised on conventional military lines providing a sufficiently flexible structure to carry out all roles assigned by Government. The Defence Forces consist of a Permanent Defence Force (PDF) and a Reserve Defence Force (RDF). The former is a standing force and provides the primary capabilities for military operations at home and military peace support operations abroad. The RDF provides a contingent conventional military capability to augment and assist the PDF in situations where such additional capabilities are required. In addition, civilian employees are engaged throughout the Defence Forces. These civilian employees provide a range of general operative, trade and other services in military installations.

Department of Defence (Department of Defence, 2014, p. 9)

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pp. 28-29). The current Defence White Paper also explains the rationale for Ireland's involvement in international collaboration , the partners that it works with, and reiterates the method of the 'triple lock'(Department of Defence, 2015c, pp. 25-28).

Ireland maintains small professional defence forces that are focused for employment within certain areas of the conflict continuum. The Defence Forces Ireland (Óglaigh na hÉireann) are established for 9,500 regular personnel in the Permanent Defence Force (PDF) and 4,069 reserve personnel in the Reserve Defence Force (RDF) (Department of Defence, 2015c, p. 6)[33]. The majority of these personnel are found in the Army, with the Air Corps and Naval Service being much smaller. In addition, the military personnel are supported by approximately 500 civilian employees in support roles (Department of Defence & Defence Forces Ireland, 2015a, p. 28; 2016, p. 32). Command and Control of the Irish Defence Forces is exercised through Defence Headquarters in Dublin which is co-located with the Department of Defence. The PDF and RDF provide Ireland with tailored capabilities that can support the civil authority at home and contribute to peace support operations abroad.

Ireland substantially re-shaped its military force structures over the past 16 years as it first sought to increase the Force's capabilities and adapt to changing operational requirements, and then responded to the effects of the 2008 financial crisis (Department of Defence, 2015c, p. 6). The focus of the development of the Irish Defence Forces was on reducing costs and using those efficiencies to provide for greater capability (Department of Defence, 2014, p. 13; Tonra, 2012, p. 233), both at home and whilst deployed abroad. This saw a marked increase in the level of capital investment within the Irish Defence Forces following the publication of Ireland's first Defence White Paper in 2000 and, although the scope of this investment was greatly curtailed following 2008, key elements of capability development have continued (albeit it at a slower pace) (Department of Defence, 2015c, pp. 116-117)[34]. More recent defence policies have further reduced the size of the force and established a single force concept where the reserves are combined into the permanent force structures to provide for greater efficiencies in training and reduce costs (Department of Defence, 2013, pp. 37-38; 2015c, pp. 98-99; Department of Defence & Defence Forces Ireland, 2014, p. 24). These structures and capabilities have been confirmed in Ireland's most recent Defence White Paper (2015). Within this policy guidance, the roles for the PDF have been provided as,

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[33] Although actual personnel strength as at 31 December 2015 was 9140 and 2520 respectively (Department of Defence & Defence Forces Ireland, 2016, p. 23).

[34] The main example of continued capability development is the conduct of the Offshore Patrol Vessel replacement project (International Institute of Strategic Studies, 2015; O'Halpin, 2011). However, other capital acquisition plans were delayed.

- *To provide for the military defence of the State from armed aggression;*

- *To participate in multi-national peace support, crisis management and humanitarian relief operations in accordance with Government direction and legislative provision;*

- *To aid the civil power - meaning in practice to assist, when requested, by the An Garda Siochána, who have primary responsibility for law and order, including the protection of the internal security of the State;*

- *To contribute to maritime security encompassing the delivery of a fishery protection service and the operation of the State's Fishery Monitoring Centre, and in co-operation with other agencies with responsibilities in the maritime domain, to contribute to a shared common maritime operational picture;*

- *To participate in the Joint Taskforce on Drugs interdiction;*

- *To contribute to national resilience through the provision of specified defence aid to the civil authority (ATCA) supports to lead agencies in response to major emergencies, including cyber security emergencies, and in the maintenance of essential services, as set out in MOUs and SLAs agreed by the Department of Defence;*

- *To provide a Ministerial air transport service (MATS);*

- *To provide ceremonial services on behalf of Government;*

- *To provide a range of other supports to government departments and agencies in line with MOUs and SLAs agreed by the Department of Defence e.g. search and rescue and air ambulance services;*

- *To contribute to Ireland's economic well being through engagement with industry, research and development and job initiatives, in support of government policy;*

- *To fulfil any other tasks that Government may assign from time to time.*

<div align="right">

Department of Defence (2015c, p. 59)

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The roles of the RDF are stated as,

- *To augment the PDF in crisis situations;*

- *To contribute to state ceremonial events.*

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Department of Defence (2015c, p. 59)

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A notable characteristic of this policy guidance is that only two of the 11 roles for the PDF are core military tasks within the range of military operations (military defence of the state and participation in multi-national operations). The remaining nine roles are better defined as constabulary, security support or general support tasks. Furthermore, although the Irish Defence Forces are expected to defend the state from armed aggression this is not in the nature of an enduring total defence but one in which time might be bought until the UN may respond under the terms of article 51 of the UN Charter[35]. However, given the lack of threat to Ireland's territorial sovereignty, Ireland has not maintained a credible defence of its territory (Jesse, 2012, p. 71) and this task may be better seen as countering low level threats or serving as a base for expansion if a credible threat were to manifest over time. Thus the true import of Ireland's defence policy is that the Defence Forces need to have the capability to provide resource protection, security assistance and military support services in Ireland and participate in directed multi-national operations abroad[36] – this latter task requiring a degree of deployability and interoperability. Ireland does not need military forces that can routinely operate throughout the continuum of conflict to meet these tasks and it has the ability to design and/or maintain discrete capabilities to meet certain tasks.

The command and control of the Irish Defence Forces is exercised by the strategic headquarters at Dublin and then by each of the subordinate headquarters (as shown at Table 3-1). Ireland does not yet have a Joint Headquarters, although the most recent White Paper stated that a review would be conducted into defence management that would include consideration of joint command and control capabilities (Department of Defence, 2015c, pp. 62-63, 113). The Irish Defence Forces also contribute to wider government cyber defence activities, focusing themselves on the protection of defence networks (Department of Defence, 2015c, p. 43).

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[35] The Irish Defence White paper of 2015 states the requirement "to retain armed forces to exercise the right of self-defence" and that, with regard to Ireland's policy of military neutrality, "Ireland must be prepared to act alone until the United Nations Security Council has taken appropriate measures." (Department of Defence, 2015c, p. 24)

[36] The current Irish Defence White Paper (Department of Defence, 2015c, p. 61) also lists war-fighting (defence of the state) in addition to these tasks. However, as will be shown in later sections, Ireland does not maintain forces that can credibly complete this task. Therefore, this study does not consider this task to be a prime determinant of Irish force structure.

IRELAND	Regular Forces	Reserve Forces	Total
	9,140	2,520	11,660
SERVICE	**ORGANISATION**	**MAJOR EQUIPMENT**	**REMARKS**
Headquarters:	Defence Forces Headquarters • 2 x Brigade Headquarters • Defence Forces Training Centre • Air Corps Headquarters • Naval Headquarters		
Land Forces • Regular: 7,309 • Reserve: 2,282 • Total: 9,591	Based on two combined arms Brigades 2 x Brigade Headquarters 1 x Armoured Cavalry Squadron 2 x Cavalry Reconnaissance Squadron. 7 x Infantry Battalion 1 x Mechanised Infantry Company 2 x Artillery Regiment 2 x Field Engineer Company 2 x Signals Company 3 x Military Police Company 2 x Ordnance Company 2 x Supply and Transport Battalion	14 x Scorpion Light Tank 15 x Piranha III Reconnaissance Vehicle 65 x Piranha III APC 27 x RG-32 Protected Mobility Vehicle 24 x 105mm Light Gun 95 X 120mm Mortar 7 x RBS 70 AA Missile 32 x 40mm AA Gun	The Armoured Cavalry Squadron and Mechanised Infantry Company are commanded by the Defence Forces Training Centre. The remaining units and sub-units are allocated to the Brigades. An additional logistics organisation is held at the Defence Forces Training Centre.
Naval Forces • Regular: 1,083 • Reserve: 210 • Total: 1,293	Naval Patrol Forces Diving Section	1 x Helicopter Patrol Vessel 3 x Offshore Patrol Vessel 2 x Large Patrol Vessel 2 x Coastal Patrol Vessel	
Air Forces • Regular: 748 • Reserve: 28 • Total: 776	Maritime Patrol Squadron Executive Transport Squadron Surveillance Squadron Utility / Transport Squadron Utility / Search and Rescue Squadron Training Squadron Flying Training School	2 x CN-235 Maritime Patrol Aircraft 1 x Learjet 45 5 x Cessna FR 172 1 x Pilatus Britten Norman Defender 2 x EC135T Light Helicopter 6 x AW139 Utility Helicopter 2 x EC 135P Light Helicopter 7 x PC-9M Training Aircraft	Operational control of the Pilatus Britten Norman Defender and the 2 x EC135T belongs to the Department of Justice, Equality and Law Reform. Both aircraft types operate in the Garda Support Unit with pilots provided by the Air Corps. PC-9M have the capability to be fitted with machine gun/rocket pods for close air support role.
Special Operations Forces	1 x Ranger Company		Army Ranger Wing.
Other Forces	The Defence Forces employed 490.9 equivalent civilian employees as at 31 December 2015 The Irish Defence Forces also provide support to Civil Defence and the Irish Red Cross Society.		

Table 3-1. Main Elements of Ireland's Military Force Structure[37]

The Irish Defence Forces' physical structures provide limited military capabilities. The Army provides deployable land forces for peace support, crisis management and humanitarian operations abroad and aid to the civil authority in Ireland (Department of Defence & Defence Forces Ireland, 2015b, p. 11). It maintains a capability for combined arms operations at up to Brigade level (albeit with limited armour and offensive fire support) and for providing peace

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[37] The information used in preparing this table was drawn from documentary sources (Defence Forces Ireland, 2017a, 2017b, 2017c; Department of Defence & Defence Forces Ireland, 2016, pp. 23, 32; International Institute of Strategic Studies, 2017, pp. 125-127; Keymer, 2016b, pp. 268-269; Peacock & Keymer, 2017, p. 294; Shatter, 2012). There is some minor disagreement between the sources used as to the final structure and composition of the Irish Defence Forces.

support or security assistance in contested environments. It can also apply its capabilities to a range of security assistance, asset protection and aid to the civil authority tasks within Ireland. This range of domestic tasks is also reflected in the Air Corps' role as it may provide personnel for deployed operations but its main tasks are to assist the other services through Army support and fishery protection patrols, provide a Ministerial Air Transport Service (MATS) and air ambulance, and provide technical support for the Garda [Police] Air Support Unit (GASU) (Department of Defence & Defence Forces Ireland, 2015b, p. 11). It has the ability to conduct maritime surveillance, limited general surveillance and limited air transport tasks. However, it lacks the ability to provide operational or strategic projection for Irish forces.

This lack is also reflected in the Naval Service capabilities. The Naval Service completes defence and support roles through fishery protection, surveillance, port security, drug interdiction, and diving support to the Garda (Department of Defence & Defence Forces Ireland, 2015b, pp. 11-12). It is capable of coastal and blue water patrol and resource protection, but can provide only very limited support to the projection of forces. Neither the Air Corps nor the Naval Service have a viable combat capability[38], although the patrol vessels are fitted with guns and the Air Corps' PC9 flight trainers can also be fitted with machine gun and rocket pods. The Defence Forces do maintain a special operations force (SOF) component and have advanced capabilities in explosive ordnance disposal (EOD) and counter improvised explosive device (CIED) functions. However, they do not maintain other force multipliers or niche capabilities.

The Irish Defence Forces, therefore, maintain an unbalanced military force structure that is capable of completing certain tasks or roles but is unable to operate throughout the complete range of military operations. To this end, the structure focuses on security assistance, resource protection, surveillance and general support roles. Ireland's ability to complete these roles, particularly if they were to occur concurrently in domestic and deployed contexts, would also be constrained by a lack of depth within parts of its force structures. The structure of the Army provides for light combined arms forces within each of the Brigades, complemented by additional capabilities at Army level (SOF, Armoured Cavalry and

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[38] Recent IHS Jane's publications state that the Naval Service "is far too small and lacking in modern armaments to [defend the state] against any credible foreign aggressor" (Keymer, 2016b, p. 268) and that the Air Corps "does not aspire to any serious military capabilities" (Peacock & Alexander von Rosenbach, 2014, p. 311).

Mechanised Infantry). This provides Ireland with the ability to maintain battalion group capabilities on deployment (whether with the UN or as part of EU BG force elements) and complete domestic tasks. The composition of the Naval Service's patrol flotilla provides the capacity to maintain continuous patrol with Ireland's EEZ and continental shelf but reduced capacity to maintain a vessel on station as part of a deployed commitment whilst also meeting these domestic tasks. The Air Corps, however, is most affected by the lack of depth within its capabilities as it has few aircraft within each role and whilst some may be tasked to support other functions (such as the CN 235 providing air transport) this would be at the cost of their primary role. The structure of the Irish Defence Forces, therefore, is one that focuses on the completion of current tasks in and around Ireland but which, apart from the maintenance of Army elements for international deployments, lacks the size or spare capacity to complete additional tasks, deployments or responsibilities without potentially compromising those current tasks. This is further reflected in the military capabilities that these forces provide the Government of Ireland.

The structure of the Irish Defence Forces provides Ireland with the ability to meet certain roles within the context of its national interests and policy objectives but not participate through the full range of military operations. In accordance with De Wijk's classification of military capabilities (Table 2-4), Ireland does not maintain *full spectrum forces* or *broad expeditionary capabilities* as it lacks the size and scope to operate throughout the conflict continuum and does not possess expeditionary capabilities. Ireland may be able to provide *focused expeditionary capabilities* within discrete contexts if they were to occur primarily at small scale in land based operations, but it may be more appropriate to describe Ireland's military capabilities in terms of niche elements (*selective expeditionary capabilities*) or as peace support and security assistance forces (*stabilization capabilities*). This latter characterisation is one that falls within the parameters of Ireland's policy of military neutrality and support for international peace and security; and its ability to sustain this capability while meeting domestic roles forms the basis of Ireland's military system.

PROVIDING FOR MILITARY CAPABILITIES IN IRELAND

The Irish Defence Forces are maintained to fill defined roles in support of the State's security and foreign policies. Their capabilities are based on an unbalanced force structure that emphasises the completion of domestic tasks with some capacity for supporting security assistance and peace support operations further afield. The question then becomes whether Ireland provides sufficient capacity to maintain relevant and credible military capabilities within the framework of its policy of military neutrality. This capacity is shown through how Ireland designs, maintains and employs its military forces and the relative priorities that it establishes between the functions of readiness, operations and modernisation. As will be seen, Ireland expects its forces to be professionally competent and make a worthwhile contribution wherever they are employed. However, the nature of Ireland's policy of military neutrality and the relative level of commitment of the state in providing for its military capabilities means that Ireland does not maintain a high level of ambition for what it aims to achieve through its military forces. In this regard, the forces that Ireland maintains are limited but appropriate for their specific roles and circumstances.

The current design of the Irish Defence Forces is based upon an organisational model proposed in the 2000 Defence White Paper, modified through Ireland's responses to the 2008 financial crisis, and confirmed in the 2015 Defence White Paper. Much of this design has been based on the need to rationalise legacy structures and modernise the force's capabilities following years of relative neglect and underinvestment[39], whilst operating within the restrictions of a constrained financial environment from 2008. Both of the 2000 and 2015 Defence White Papers also instituted new forms of defence management within Ireland and it is developing greater efficiencies through command and control reviews, joint operations, and the rationalisation of support structures (such as medical services) (Department of Defence, 2015c, pp. 62-71). A key design output for the Irish Defence Forces is the requirement to maintain a palette of forces for contribution to the United Nations (through the UN Peacekeeping Capability Readiness System [PCRS][40]) and the EU (Headline Goal), and this forms the basis of Ireland's deployable forces for either UN or EU service[41]. Ireland's

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[39] This is a consistent theme in Eunan O'Halpin's (2000) work on the Irish Defence Forces up until 2000.
[40] This was formerly known as the UN Standby Arrangements System (UNSAS).
[41] The palette of forces provides for the component elements of a 850 person combined arms land force with constituent force elements held at varying states of readiness of very high (1-20 days), high (21-60 days), and

ability to meet the design imperatives for its military structures has developed through government efforts since the late 1980s (O'Halpin, 2000, p. 340), and more particularly since the publication of the Defence White Paper 2000, with the result that Ireland now perceives its forces as being smaller but more efficient and effective (Department of Defence, 2013, p. 23; 2014, p. 18).

These design initiatives have also been supported by acquisition plans aiming to increase the effectiveness and capability of the Irish Defence Forces. Ireland mainly buys off-the-shelf military equipment (D. Keohane, 2013, p. 189), although it does note practical limitations in tailoring equipment to its particular requirements given the size of its orders and the need for equipment to encompass a number of roles (Department of Defence, 2015c, p. 114). Ireland's military equipment is generally sourced from European or American manufacturers and, although Ireland does not maintain a defence industry, it does participate in the European Development Agency (EDA) to gain benefits from economies of scale in R&D, purchasing, and 'pooling and sharing' arrangements (Department of Defence, 2013, pp. 24-25) whilst working to share the benefits of EDA membership with Irish companies and research organisations (Department of Defence, 2015c, pp. 53-54). The scope of defence acquisition over the past two decades has encompassed all three services but has most notably modernised and increased the capabilities of the Air Corps and Naval Service. The current Defence White Paper continues this development and, although priority is given to ensuring operational effectiveness and conducting overseas operations (Department of Defence & Defence Forces Ireland, 2013, p. 24; 2014, p. 30), planning is underway to replace and enhance existing naval and air platforms when they reach the end of their service life (Department of Defence, 2015c, pp. 61-68)[42]. However, the main constraint to Ireland's

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medium (61-90 days) (Department of Defence, 2013, p. 41). The 850 person figure represents the maximum forces that Ireland will have deployed at one time. Commitments to the UN and EU or other multinational missions will be drawn from this palette of forces (Department of Defence & Defence Forces Ireland, 2015b, p. 21), although elements of the 850 figure may be deployed to different missions (such as the forces currently serving with UNIFIL in South Lebanon and UNDOF in the Golan Heights). [It should be noted that this figure was developed before the recent commitment of Naval Service vessels to migrant search and rescue operations in the Mediterranean with the EU.]

[42] The planned capability enhancements include replacing the helicopter patrol vessel with a multi-role vessel that can also carry freight and provide a strategic sustainment capability (Department of Defence, 2015c, p. 67; Tonra, 2012, p. 235) and replacing the CN-235 maritime patrol aircraft with larger aircraft with greater utility for transport and cargo operations in addition to maritime patrol (Department of Defence, 2015c, p. 66). These are complemented by projects to replace the Air Corps five Cessna light aircraft with three larger and more capable aircraft equipped for ISTAR and upgrading or replacing the Army's APC fleet (Department of Defence, 2016, p. 35; Department of Defence & Defence Forces Ireland, 2016, p. 14).

defence acquisition and force modernisation plans is found in the Irish defence budget during a period of fiscal restraint, and the mechanisms that the government uses to fund the force.

Ireland's defence expenditure has generally increased since the end of the Cold War, although it did decrease in real terms following the 2008 financial crisis and resulting implementation of austerity measures within Ireland (Figure 3-2). However, the Irish government's relative commitment to defence spending has been low, currently sitting at under 0.5% of GDP and forming a very small element of government spending (Figure 3-3). This level of commitment to defence is also reflected by international comparison (shown at Table 3-2 and Appendix 1) where, although Ireland may have a relatively high level of total defence expenditure, it rates quite low as a percentage of the State's economic capacity. One effect of this level of commitment to defence expenditure is that the post-2000 capital acquisition and modernisation programme was funded by savings realised through reductions in the size of the Defence Forces and the money made available from the sale of surplus properties rather than an increase in the Defence Vote (Department of Defence, 2013, p. 23; O'Halpin, 2011, p. 15). Although this did provide funds for force development it was a one-off source of funding that cannot be replicated[43]; requiring the Government to identify other sources of funding to provide for future force upgrades or accept decreased capabilities[44].

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[43] Eunan O'Halpin (2011, p. 17) describes this situation as, "[e]ven in an age of affluence, this 'sell a site and buy a gun' approach was a curiously short-term way to finance such a long term requirement as national defence."

[44] This has been provided for following the publication of the 2015 White Paper as the most recent Annual Report states that "[a] specific defence funding study will be established to capture in a new way the expected long-term costs of meeting Ireland's defence requirements using a ten year planning horizon linked to the proposed new framework of fixed cycle reviews." (Department of Defence & Defence Forces Ireland, 2016, p. 15)
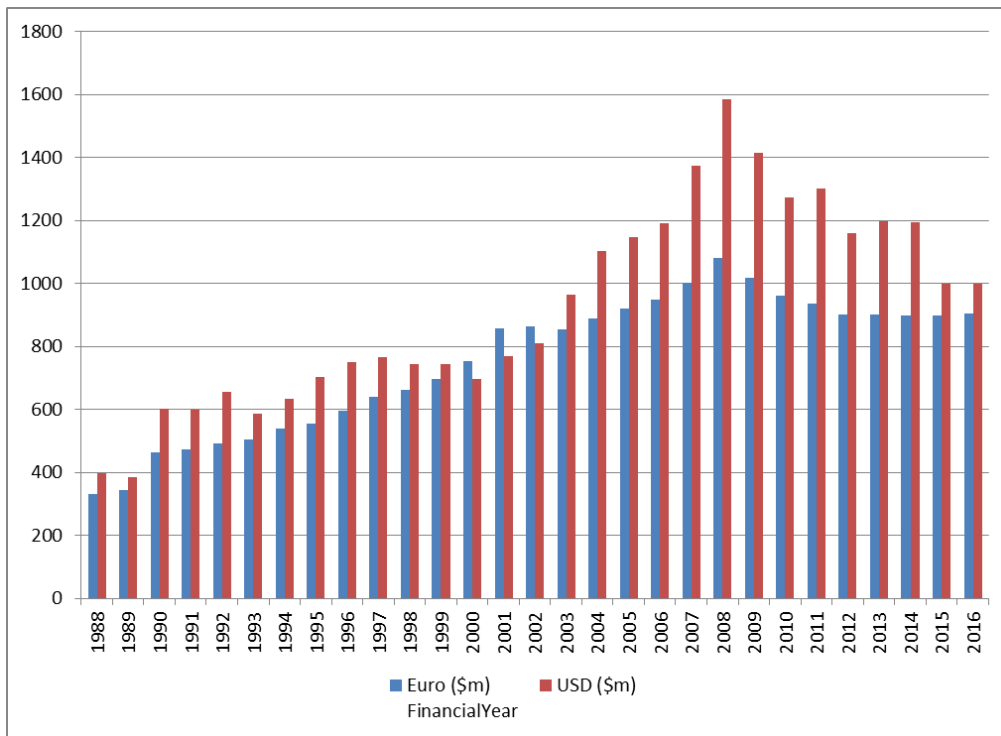
[Information drawn from SIPRI Military Expenditure Database (2017)]

Figure 3-2: Ireland's post-Cold War defence budget[45]
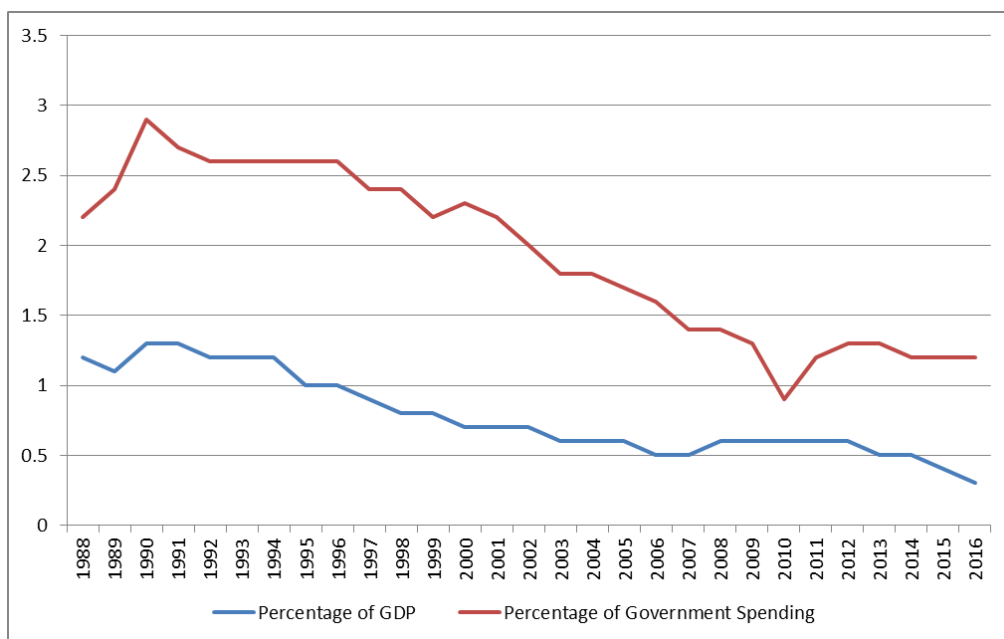
[Information drawn from SIPRI Military Expenditure Database (2017)]

Figure 3-3: Ireland's post-Cold War military expenditure[46]

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[45] Figures are estimated by SIPRI for the period 1994 – 2000.

[46] Figures are estimated by SIPRI for the periods 1994 - 2000 (percentage of GDP) and 1988 – 2000 (percentage of Government spending).

Comparison Area	Ireland's Rank Position	Remarks
2016 Military Expenditure (USD)	67	145 states ranked
2016 Military Expenditure per capita	42	
2016 Military Expenditure as % of GDP	142=	
2016 Military Expenditure as % of Government Spending	140=	

[Information drawn from SIPRI Military Expenditure Database (2017)]

Table 3-2. International comparison of Ireland's defence spending[47]

The effects of this situation were compounded by Ireland's recent economic challenges and the structure of the defence budget. Irish national budgets following the economic crisis of 2008 and the reduced resource envelope available for defence led to a further reduction in the size of the armed forces and the deferment of some planned capital acquisitions (Department of Defence, 2014, pp. 14-16; International Institute of Strategic Studies, 2015, p. 105; Peacock & Alexander von Rosenbach, 2014, p. 313), while the defence budgets themselves are heavily weighted towards personnel and pension costs with a small amount allocated to capital acquisition[48]. These factors led to a further challenge for the Irish Defence Forces as identified in the recent Defence White Paper (Department of Defence, 2015c, p. 117) which stated that "significant additional funding is required simply to maintain existing levels of capability and associated operational outputs"; indicating that Ireland faces a great challenge in sustaining, let alone developing, its military capabilities. One recent example of this occurred when the Gulfstream IV transport aircraft was found to require expensive maintenance and it was withdrawn from service rather than being repaired or replaced

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[47] SIPRI does not hold data for all states so the rank positions for Ireland are comparative only as some of the states not factored into the calculations are larger than Ireland or likely to spend more on their military forces (such as North Korea).

[48] The 2015 Annual Report (Department of Defence & Defence Forces Ireland, 2016, p. 53) states that the expenditure on PDF pay and allowances for 2015 was €417 million (62.1% of the Defence Vote), and expenditure on civilian staff and RDF pay and allowances was €24 Million (3.6% of the Defence Vote). Therefore personnel costs are €441 million (65.6% of the Defence Vote). The figure stated for defensive equipment is €24 million (3.6% of the Defence Vote), although additional expenditure on capital procurement for the Air Corps, Naval Service and military transport is included under these separate categories. Furthermore, although military pensions are funded separate to the Defence Vote it has been noted that savings in Defence have been used to provide additional funding to alleviate deficiencies in the Pension Vote (Department of Defence, 2016, p. 20).

(Department of Defence, 2015c, p. 49; Department of Defence & Defence Forces Ireland, 2015a, p. 46) – representing the loss of a key element of Ireland's air transport capability. However, the Irish Government has since moved to address some of the shortfalls through providing an additional €65 million over the 2016-2021 period to meet planned capital projects (Department of Defence, 2015a), and the Irish Defence Forces themselves are also well positioned in some respects to respond to these challenges.

The recent structural adjustments in terms of force composition and property holdings have reduced operating costs and provided for greater efficiencies in continued funding, maintenance and support. This has been complemented by the conduct of a number of reviews, such as the 2014 review of inventory management (Department of Defence & Defence Forces Ireland, 2015a, p. 23), that are designed to continue the development of efficiencies in the management and sustainment of the Defence Forces. This drive for efficiencies is also shown by the fact that the Irish Defence Forces became the first armed forces in the world to achieve full certification under international energy management standards (Department of Defence, 2015c, p. 56). Furthermore, the active refurbishment programme for remaining holdings of defence estate (as provided for in current capital funding plans (Department of Defence, 2015a)), combined with relatively young equipment fleet holdings[49], has the potential to contain maintenance costs in the short to medium-term. In addition, although the Irish Defence Force's numbers are below establishment figures, it has achieved relative stability in personnel replacement and training as recent release figures were around 500 per year in 2013-2014 (Department of Defence, 2015c, p. 82) [a loss rate of 5.3% for the PDF] and recruitment figures have generally matched these (Department of Defence & Defence Forces Ireland, 2014, p. 24; 2015a, p. 20; 2016, pp. 23-24); with the continuous turnover of personnel required to maintain the lowered age profile of the PDF (Department of Defence, 2015c, p. 78) (from a strategy implemented following the 2000 White Paper). These measures to sustain the capacity and capabilities of the Irish Defence Forces are complemented by its international defence cooperation.

Although Ireland's policy of military neutrality would appear to affect the scope and depth of military cooperation that it can conduct, it does maintain a range of bilateral and multinational defence relationships. These relationships enable Ireland to maintain levels of

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[49] This factor is present in the Air Corps (Peacock & Alexander von Rosenbach, 2014, p. 311) although the Naval Service will develop such benefits through its new OPVs.

interoperability with likely partners on peace support operations while also defraying some of the costs and risks associated with capability development. Collaboration with the EU provides Ireland with the ability to coordinate and share intelligence for maritime patrols as it works to meet its resource protection responsibilities. Furthermore, membership of the EU BGs provides the ability to benchmark and develop capabilities with partner states, whilst pooling and sharing arrangements through the EDA can offset costs for capability development. These advantages are also reflected in Ireland's membership of the NATO PfP as this provides it with access to capability and doctrine development within an advanced defence cooperation and standardisation framework. This cooperation encompasses a range of planning and procedural subjects within Ireland's priority areas of interest; namely international peacekeeping, humanitarian operations, search and rescue, protection of the environment and marine matters (Department of Defence, 2013, p. 26; 2016, p. 29; Tonra, 2012, p. 231). These cooperative links also provide support to the conduct of training and operations within the Irish Defence Force.

The majority of Ireland's military training is conducted by itself given the requirements of its policy of military neutrality. This applies to initial and individual training, and collective training including the conduct of Peace Support Operations (PSO) mission rehearsal exercises. Furthermore, Ireland does not permit foreign military units to train within its territory (Sweeney & Derdzinski, 2010, p. 44) although it does host a UN Training School (Tonra, 2012, p. 231) and conducts individual training in specialist skills (such as improvised explosive device disposal (IEDD) (Irish Times, 2015)). Ireland does participate in education and training activities offshore, including certification exercises for the EU BGs that it contributes to[50]. Furthermore, selected staff participate on EU, NATO and bilateral educational programmes (such as seminars and staff colleges) which has the effect of increasing the Irish Defence Forces' knowledge and understanding of modern operations. This understanding is also reflected in Irish doctrine which, although it is based on British antecedents and incorporates collaboration with the EU and NATO PfP, also reflects the particular experiences that Ireland has developed while serving on international peace support and domestic operations.

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[50] For example, Ireland participation in an EU BG certification exercise in Sweden in November 2014 (Department of Defence & Defence Forces Ireland, 2015a, p. 42).

The Irish Defence Forces maintain a high activity rate conducting tasks within Ireland and through deployments abroad. A key characteristic of their activities is the comprehensive range of domestic tasks unrelated to international or territorial security. In 2015 this encompassed aid to the civil power and aid to the civil authority tasks through fishery and resource protection patrols (air and maritime); maritime support to the drug interdiction task force; VIP transport; aeromedical evacuation and transfer; support to search and rescue; EOD; the provision of security at Portlaoise Prison, Shannon Airport and Government buildings; and ceremonial support (Department of Defence & Defence Forces Ireland, 2016, pp. 47-51). This work is a result of government policy to employ the Defence Forces to deliver a broad range of services to maximise the value for money accruing from the military capabilities as part of the policy implemented from 2000 White Paper (Department of Defence & Defence Forces Ireland, 2015b, p. 7). In 2015 this included 709 Naval Service patrol days for fishery protection, 10 patrol days in the North East Atlantic Fisheries Commission area (EU), 284 Air Corps maritime patrols and 397 emergency aeromedical support missions (Department of Defence & Defence Forces Ireland, 2016, pp. 48-50). In recent years the Air Corps and Naval Service have complemented this work by completing deployed operations in support of the evacuation of Irish nationals from Libya in 2011 (Department of Defence & Defence Forces Ireland, 2012, p. 24; Peacock & Alexander von Rosenbach, 2014, p. 311) and search and rescue for migrants in the Mediterranean since May 2015 (Department of Defence & Defence Forces Ireland, 2016, pp. 46-47). However, the bulk of deployed operations are conducted by the Army.

The vast majority of operational deployments are conducted by the Army (although air and naval personnel may participate) in peace support or security assistance operations. This includes active deployments and the maintenance of earmarked forces as part of EU BGs. The majority of overseas deployments since 1978 have been through contributions to the United Nations Interim Force in Lebanon (UNIFIL) (Murphy, 2012, p. 182), although they have been complemented by other armed peacekeeping, observer and small armed detachment service on other UN missions, and in UN mandated missions conducted by other organisations (such as the EU). Not only do such missions maintain Ireland's profile as committed to international peace and security and add credibility to the state's international posture, they also provide the armed forces with the ability to develop experience in forms of operations and levels of command that they could not gain domestically (Murphy, 2012, p. 175; Tonra, 2012, p. 230). Ireland has maintained a high rate of activity in recent years with

over 1000 personnel annually having served on overseas missions in 2013 - 2015 (Department of Defence & Defence Forces Ireland, 2014, p. 57; 2015a, p. 39; 2016, p. 43). This accounts for over 10% of the PDF each year, with this rate of activity being increased by participation in EU BGs. Ireland has contributed troops to a number of multinational EU BGs within the framework of the CSDP from 2008 (Department of Defence, 2016, pp. 27-28), with a preference to allocating an Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) task force as a high profile niche capability (Department of Defence, 2014, p. 27; Department of Defence & Defence Forces Ireland, 2013, p. 39; 2016, pp. 19, 46).

These preparations and activities enable Ireland to maintain a visible military presence within the UN and EU while supporting foreign and security policy goals. However, the high activity rate that they entail has the potential to compromise the Irish Defence Forces' ability to respond to new demands and maintain relevant military capabilities given the limited size and capacity of the force. This is reflected in the priorities that the Irish Defence Forces have achieved between the military requirements of readiness, operations and modernisation and where it focuses its weight of effort.

PRIORITIES WITHIN IRELAND'S MILITARY SYSTEM

Ireland's size, capacity and recent economic difficulties present practical difficulties in trying to apportion resources between the requirements of readiness, operations and modernisation within its military system. However, the policy of military neutrality and the discretionary nature of its overseas deployments mean that Ireland has the flexibility to focus resources onto one or two areas at a time. In this regard, Ireland does not need to maintain an even emphasis between the three military requirements but can respond to priority areas as required.

The base determinant for the readiness of the Irish Defence Forces is their ability to meet domestic tasks and maintain the capacity to meet commitments to UN PCRS/EU BG. They are not required to maintain high readiness or mobilisation forces geared to national defence but are instead structured to meet anticipated routines of domestic tasks and training, to provide specialist response capabilities (such as EOD), and be able to provide support to the

civil authority in times of emergency (such as floods and other natural disasters). The range and frequency of domestic tasks do impose a burden on the Air Corps and Naval Service in particular as the high rates of activity use most of their capacity and may affect training and maintenance schedules[51]. Although the Irish Defence Forces have proved responsive in providing support to the civil authority in recent years through flood relief and other civil support this has not required the commitment of high-end military capabilities. It is likely therefore that current fiscal constraints will continue to see scarce resources prioritised to preparing for and meeting specific outputs rather than maintaining a states of readiness in the wider Defence Force.

Ireland maintains a steady rate of activity on operations overseas, with over 10% of the force being deployed annually, in addition to completing domestic responsibilities. Ireland has been able to sustain a battalion group capability on deployment, or meet that level of commitment through smaller forces in multiple locations, and has recently provided naval assets to humanitarian patrols in the Mediterranean. However, the conduct of overseas deployments is a discretionary activity for the Republic of Ireland as they are conducted to meet wider policy objectives rather than as a matter of imperative for national security. This is a boon provided by Ireland's strategic location, its recognised policy of military neutrality, and the level of control that it maintains over its commitments through the 'triple lock'. This level of discretion was shown to good effect when Ireland withdrew its military commitment to peacekeeping duties in Cyprus in 1974 in order to provide greater forces to be available for security duties at home (O'Halpin, 2000, p. 340). Nevertheless, Ireland takes a lot of pride in the credibility of its international service and it has actively prioritised resources during the recent period of austerity to maintain its international commitments and ensure operational effectiveness. This prioritisation has not only sustained the level of commitment to international operations but has also had a consequent effect on the modernisation of the wider force.

Ireland embarked on this Millennium with an active programme of modernisation for its Defence Forces. However, the capability developments were funded from a non-renewable resource of property sales and savings from downsizing, and were then actively constrained by the period of austerity following the 2008 financial crisis. Ireland did enter this period of

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[51] For example, the Naval Service is committed to having three ships on patrol in the EEZ at one time which may stretch the capacity of the eight ship flotilla to complete other tasks (Keymer, 2016b, p. 268).

austerity with modernised capabilities but subsequent capability development plans were delayed, deferred or cancelled; with priority being placed on operations and completing the offshore patrol vessel (OPV) purchase for the Naval Service. This situation has been alleviated somewhat following the publication of the 2015 Defence White Paper and the subsequent increase of capital funding for the Irish Defence Forces. However, this funding has to cover a wide range of projects (replacing major platforms in the three services, refurbishing defence infrastructure, building facilities at the UN Training School, and acquiring Information and Communications Technology hardware (Department of Defence, 2015a)), and may be challenged if costs increase through project definition and acquisition as the Defence Forces seek to acquire more advanced technologies and platforms.

The Irish Defence Forces also face structural limitations within their modernisation plans. Ireland has sequenced the replacement of its large patrol boats and one OPV by decommissioning them prior to the delivery of the replacement vessel (Department of Defence & Defence Forces Ireland, 2014, p. 30). This is a logical process that ensures that the new vessels can be introduced effectively (with crew and facilities being made available from one vessel to the next) but the temporary diminution of the size of the flotilla means that fewer vessels are available for domestic and operational tasking. However, Ireland may not be able to sequence the introduction of the planned replacements for numerically smaller capabilities (such as the two CN-235 maritime patrol aircraft) in this manner – with a greater prospect for taskings not being met or additional stress being placed on other components of the force to support both current operations and the introduction of new capabilities. In this regard, the structural capacity of Ireland's military forces lack redundancy in certain key areas and may inhibit the completion of readiness or operational taskings as force development activities take place.

Nevertheless, the priorities within Ireland's military system appear to be weighted towards operational effectiveness and completing key domestic tasks. There has been less priority towards completing modernisation plans and maintaining readiness within Ireland's resource-constrained environment, although tensions may develop as Ireland comes to replace smaller military capabilities in the short to medium term. However, the discretionary nature of Ireland's international commitments provides flexibility in allocating priorities between the requirements of readiness, operations and modernisation; and Ireland does have the ability to redirect resources to its sovereign environment if so required. This occurs as Ireland lacks the strategic imperative to try and balance the readiness and modernisation of its forces with their

employment on operations and, as a small state, it instead maintains a limited but focused force to meet defined objectives and responsibilities.

IRELAND'S CHARACTERISTICS AS A SMALL STATE MILITARY FORCE

Ireland is a small state that seeks its security through international cooperation and a policy of military neutrality. As a result it has relatively little ambition for its military capabilities and does not provide for a conventional military defence – instead seeking to maintain a force that can support domestic security and meet discretionary tasks in support of international efforts to promote peace and security. The current structure of its military forces reflect these ends and are designed, with regard to the state's capacity and available resources, to be relevant and credible within that defined context.

Ireland maintains a small military force[52] where only the Army has a viable combat capability capable of operating at low and up to mid-levels of intensity. The Naval Service comprises a flotilla of patrol vessels and a dive team that are structured and equipped to conduct fishery patrols, maritime resource protection, and remove underwater hazards in support of other government agencies and international agreements. The Air Corps has the ability to conduct medium-range maritime patrol and domestic surveillance, support the Garda and other civil agencies, and provide limited transport capabilities. Both the naval and air capabilities are relevant to the defined range of tasks that they are required to achieve. This relevance is also found in the Army structures which can provide for combined arms capabilities at up to Brigade level but with a focus on battalion or company sized forces trained and equipped to conduct peace support and security assistance tasks. The relevance of Ireland's military capabilities is derived from the manner in which Ireland applies its policy of military neutrality. It does not attempt to meet the cost of armed neutrality and sovereign defence but focuses upon achieving security interests through supporting international peace and security. However, these force structures also reflect limitations based upon legacy structures, economic constraints and the state's capacity to maintain and/or modernise the force. The

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[52] As shown at Appendix 2, Ireland has the 119th largest size military forces in the world while having the 117th largest ratio of military forces to population.

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issue then is that, while the composition of the Irish Defence Forces may be appropriate to the roles they are required to fulfil, do they in fact have the ability to do so?

The Defence White Paper 2015 (Department of Defence, 2015b, p. 59) states the first role for the PDF as, "[t]o provide for the military defence of the State from armed aggression". However, Ireland does not maintain a defence force that can achieve this end from within its own resources – particularly as its air and naval elements lack a viable combat capability. Therefore, in this regard, Ireland does not maintain a credible defence. However, is it plausible to expect Ireland to have to defend itself in this way? Ireland is situated in a relatively benign strategic environment and its assessment remains that it can achieve its security and defence interests through its policy of military neutrality, and through support for international peace and security (either within UN peacekeeping operations or within the EU CSDP). In this regard are the Irish forces capable of meeting the other requirements set by government policy - based as they are on contributing to multi-national peace support, crisis management and humanitarian relief operations; and through completing a range of support, surveillance and resource protection roles? The structure and composition of the PDF appears to be credible in this regard in that the capabilities that it provides can contribute to meeting those roles. However, the main limitations appear to be the lack of size of the force (such as in maritime patrol aircraft and utility helicopters) and the lack of a strategic projection and sustainment capability (which limits the ability to support deployed forces by their own means or conduct short notice crisis management and humanitarian relief responses). Essentially, the Irish Defence Forces can conduct the limited range of tasks allocated to them, but their ability to complete these tasks and sustain their effects may be limited by size and capacity – especially if Ireland cannot sustain levels of defence funding for modernisation and capital acquisition. It is these limitations that form the main characteristics of Ireland's military capabilities as a small state.

The structure of Ireland's Defence Forces fulfils many of the expectations established for small states. Ireland maintains a small defence force with limited capabilities to fulfil defined roles. Its forces lack structural balance and it cannot effectively project military power. It does not expect its forces to conduct operations throughout the conflict continuum but instead to serve in close support of domestic and foreign policy goals. To this end the Irish Defence Forces are tailored to the roles that they will conduct (especially the air and naval components) and they will use specific military assets to complete a number of tasks (such as the CN-235 medium-range aircraft completing both maritime patrol and transport duties).

Furthermore, Ireland has limited its investment with few air and naval platforms, and it does not maintain the expense of specialist force multipliers. However, Ireland does gain economies of scale through collaborative R&D and acquisition where possible through the EDA and other arrangements; although its efforts are restricted to certain key areas in support of its goals in peace support and humanitarian operations and not for the generation of advanced warfighting capability. Nevertheless, Ireland is very active in employing its military capabilities, both in terms of domestic duties and through the large proportion of the force deployed overseas in support of foreign policy goals and wider security interests. It has also shaped its military commitments, such as through contribution of forces to the UN and EU BGs, in order to increase its own credibility and visibility within wider international forums[53]. This demonstrates how a small state can be an engaged international citizen while retaining control over its security and defence policies – in this case through the policy of military neutrality.

Ireland's military force structures reflect the state's relatively benign strategic location and the discretion offered by its traditional policy of military neutrality. This has resulted in the maintenance of a limited range of military capabilities based upon a relatively low level of commitment to defence expenditure - reflecting the State's size and capacity, the lack of a strategic imperative for defence, and the opportunity costs for defence spending. Although Ireland has worked within these limits to reshape and modernise a more effective military capability, the mechanisms that it employed were not sustainable and subsequently challenged as the public purse tightened. Even though Ireland has recently moved to increase the scale of resources that it provides to its Defence Forces, the size and capacity of the state remain the fundamental determinants of the relevance and credibility of the military capabilities that it can sustain.

CONCLUSION

Ireland provides limited military capabilities as a small independent state. It is located in a relatively benign strategic location with no direct threats and little imperative to sustain a

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[53] Ireland's continuing contribution of an ISTAR Task Force to the EU BG constructs is an example of a specialised and high value contribution to a combined force.

comprehensive national defence. Ireland maintains a policy of military neutrality in conjunction with a values based foreign policy and a determination to act as a dedicated international citizen with a strong commitment to peace and cooperation. Its defence policies have been based on supporting domestic security, supporting the civil authority, and providing visible and credible contributions to international peacekeeping, crisis management and humanitarian relief operations. However, a corollary to the lack of a strategic imperative for a strong national defence in Ireland is the relative lack of commitment to defence spending. This reflects the size and capacity of the Irish State, and the discretionary nature of its defence commitments under the policy of military neutrality. As a result, although Ireland has modernised its forces over the past two decades, they lack structural balance; instead being designed to meet defined roles and tasks. In this regard, even though Ireland's military capabilities are relevant and credible in the specific circumstances in which they are employed, their overriding characteristic is one of limitation – limited roles, limited capabilities, and limited levels of ambition. As a result, Ireland maintains limited military capabilities within a relatively benign strategic environment.

CHAPTER FOUR: MILITARY FORCE STRUCTURES IN NEW ZEALAND - MODEST CAPABILITIES BASED ON UTILITY AND PARTNERSHIP

For New Zealand, it seems as though there will always be the question of how a small state with limited resources can best contribute to global and regional security in ways which strengthens international community while safeguarding national interests.

Rhys Ball (2011, p. 136)

INTRODUCTION

New Zealand's military force structures provide an example of how a small state seeks to maintain the ability to pursue a wide range of interests while constrained by its size and capacity. New Zealand does not foresee a direct military threat to its territorial or sovereign integrity but it does maintain a wide range of geographic, political and economic responsibilities and interests. It seeks to maintain its own security and promote these interests by contributing to the rules-based international order; with the focus on being able to act within its own territorial and regional environments while still being able to contribute effectively with international partners or organisations further afield. As a result, New Zealand maintains a small defence force with a wide range of capabilities and works in partnership with other states to mitigate its limitations in scale and capacity.

This chapter examines New Zealand's ability to provide for relevant and credible military capabilities by first describing its status as a small state and noting that, although it maintains an active role internationally, it is limited by its size and capacity. The nature of New Zealand's participation within international affairs is then explored with regard to its strategic influences, location and history. The effects of these factors are then reflected in the form and characteristics of New Zealand's security and defence policies that emphasise the international rules-based order and the value of international partnerships, while maintaining some capacity for independent action. The effect of these policies are then found in the description of New Zealand's force structures, the expeditionary and interoperable nature of

those forces, the relative commitment of the State to provide for them, and the capabilities that result. The analysis of these capabilities shows that although they encompass a broad range of functions they are limited in terms of their structure and capacity. This effect is a function of both the level of ambition and the lack of size and balance within New Zealand's military force structures; but it does show how a small state may design and resource its forces to provide for a wide range of utility and relationships. As a result, the relevance and credibility of the New Zealand Defence Force (NZDF) is founded on its ability to provide viable military capabilities that can meet specific independent responsibilities and contribute to collective security with international partners.

NEW ZEALAND'S CHARACTERISTICS AS A SMALL STATE

New Zealand is a small maritime state located in a relatively isolated position in the South West Pacific Ocean. It is a former crown colony and dominion of the United Kingdom, becoming a sovereign state in 1947. It is based on western political and economic models, describing itself as having a "high degree of social and political stability." (New Zealand Government, 2016b, p. 6) Physically, New Zealand is the 76th largest country in the world by surface area (Central Intelligence Agency, 2017) and its population of 4.596 million places it as the 123rd most populated state in the world (World Bank, 2016). Even though New Zealand experienced economic recession following the 2008 global financial crisis (New Zealand Government, 2016b, p. 11) and has had to absorb the costs of the 2011 Canterbury and 2016 Kaikoura earthquakes, its economy has recovered to maintain positive growth rates. This is based on a highly developed open market economy in which trade comprises approximately 30% of its GDP (New Zealand Government, 2016b, p. 6) - although there is a noted imbalance in this trade as exports are based upon primary sectors (agriculture, forestry and fishing), with imports being manufactured and consumer goods which are not made locally (McKeogh, 2008, p. 525). Nevertheless, New Zealand currently maintains the 53rd largest GDP by international comparison (World Bank, 2017) (although this only represents

0.23% of global GDP[54]) and the promotion of international trade remains one of the key strands of its economic and foreign policies.

The open and globalised nature of New Zealand's economy is reflected through its participation within international affairs that focuses on peace, stability and the benefits of an international rules-based order. New Zealand is seen as a state with global economic interests (Patman, 2005, p. 53) and whose foreign policy passes through a "prism of trade" (Buchanan, 2010, p. 265). In this regard it maintains a multitrack trade policy that supports multilateral trade liberalisation, regional relationships, and both bilateral and plurilateral trade and free trade agreements (New Zealand Government, 2014, p. 7). This is reflected in the wide range of international economic bodies that New Zealand works within; such as the WTO, OECD, IMF, Asian Development Bank (ADB) and Asian Infrastructure Investment Bank (AIIB). However, New Zealand's foreign policy is much wider than a focus on trade and it seeks to promote its interests and values within the international environment and "contribute to a stable, peaceful and prosperous world." (New Zealand Government, 2016b, p. 6) This policy incorporates its status as a nuclear free state, its desire for increased representation of small states within international organisations, and its commitment to boost trade links (IHS Jane's Sentinel, 2014, p. 279).

New Zealand was a founding member of the UN and plays an active role in its agencies; recently completing a term as a non-permanent member of the UN Security Council. New Zealand also maintains roles within regional organisations such as its membership of the Pacific Islands Forum (PIF) and partnership with ASEAN. It complements these roles through a range of bilateral relationships in Asia and the Pacific – with the extensive relationship with Australia, its relative influence within the Southwest Pacific, the free trade agreement with China, and the developing strategic relationship with the USA perhaps being the most noteworthy. However, the form and manner of New Zealand's participation within these relationships is not based solely on the size and capacity of the state, but also on its isolated position and resulting strategic environment. Put simply, New Zealand is "a long way from the main centres of global power and influence" (Vitalis, 2012, p. 7) and this affects not only its foreign and trade policies but also its security and defence considerations.

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[54] World Bank GDP figures for 2015 provide an aggregate global GDP of USD $74,152,476,000,000 and the New Zealand GDP as USD $173,754,000,000 (World Bank, 2017).

NEW ZEALAND'S STRATEGIC INFLUENCES AND SECURITY POLICY

New Zealand is unique for its geographical isolation and absence of any direct security threat in the post-Cold War era. That situation is not typical for many states and has given Wellington some freedom of manoeuvre on a range of international issues.

Robert Patman (2005, pp. 49-50)

New Zealand's defence circumstances are unique. No other country of comparable size and political and economic standing has at a minimum to be able to deploy defence equipment and personnel from the equator to Antarctica. This is a low-threat environment but a vast space.

New Zealand Government (2010, p. 45)

New Zealand's strategic location positions it as a remote, isolated and relatively unremarked maritime state with a wide span of geographic responsibility and interest (Figure 4-1). This span includes the world's fourth largest exclusive economic zone (EEZ) and a search and rescue region (SRR) of 30 million square kilometres (New Zealand Defence Force, 2015, p. 22); and claims in Antarctica and formal responsibilities for the defence of Niue, Tokelau and the Cook Islands (New Zealand Government, 2016a, p. 19). In this regard, New Zealand is relatively significant in the context of the South Pacific (Patman, 2005, p. 49) and has a large geographical spread to its responsibilities. However, a continuing characteristic of New Zealand's strategic environment is the lack of an existential or direct military threat (New Zealand Government, 2016a, p. 10; James Rolfe, 1999, p. x). This characteristic, combined with New Zealand's isolation, is reflected in low levels of funding and a relative lack of influence for defence within New Zealand politics (Buchanan, 2010, p. 263; McCraw, 2011, p. 175). Furthermore, without a direct imperative for defence, New Zealand focuses on security interests rather than security threats (New Zealand Government, 1991, p. 7; 2016a, p. 10; Thakur, 1999, p. 308) - with this being expressed through support for collective security and the international rules-based order with a range of partners and international organisations.
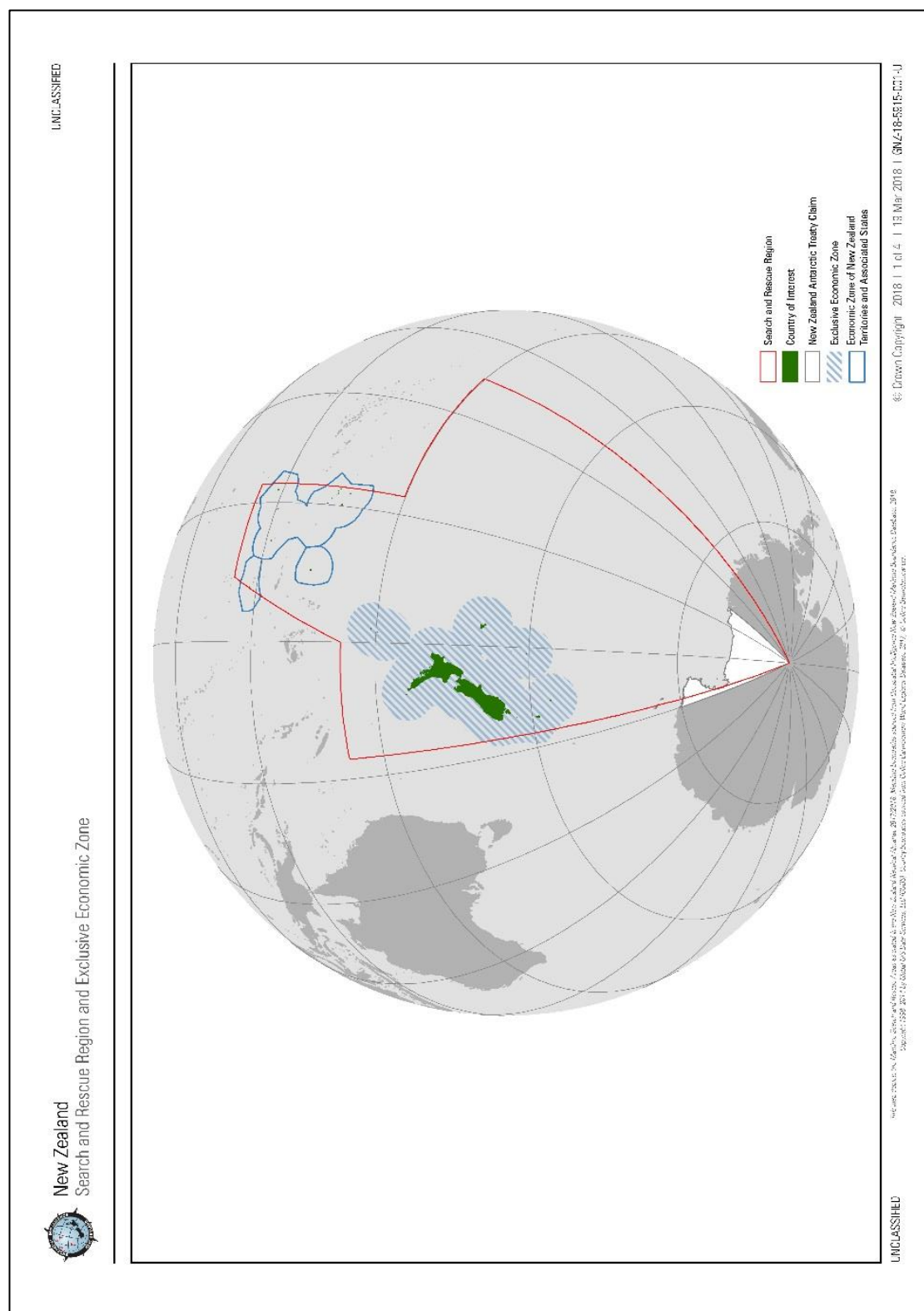
Figure 4-1: New Zealand's geographic location and responsibilities[55]

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[55] The map contained in Figure 4-1 has been prepared by Geospatial Intelligence New Zealand (2018a) and is used with permission.

Historically, New Zealand's security relationships have been dominated by the traditional partners of the United Kingdom, Australia and the United States. New Zealand supported the United Kingdom and British Empire during the Boer War and both World Wars through its relationship as a Dominion and a former colony. This established an expeditionary nature to its security actions as forces and resources were deployed away from territorial New Zealand. The security relationship with Australia also developed through this period and the two states formalised their relationship through the 1944 Canberra Pact (Ayson, 2006, p. 243). These relationships extended past the Second World War where New Zealand joined the United Kingdom and Australia in the Commonwealth Strategic Reserve with forces earmarked for the Middle Eastern and then Southeast Asian regions (Fenton, 1998, Chapters 2 and 3). A tangible manifestation of this was the basing of forces in Malaysia and then Singapore from the 1950s until the late 1980s, and the creation of a wider security relationship with Malaysia and Singapore through the Five Power Defence Arrangements (FPDA). This period was also characterised by the developing security relationship with the United States and the signing of the Australia, New Zealand and United States (ANZUS) Treaty in 1951. In this regard, New Zealand's security policies reflected the support (and guarantee) of a great or superpower, a continuing relationship with Australia, and a focus on forward defence away from New Zealand's territories. However, New Zealand also actively supported multinational organisations such as the UN; and the changing nature of its relationships during the 1970s and 1980s witnessed an evolution in New Zealand's security policy away from its traditional base.

The accession of the United Kingdom to the European Economic Community in 1973 and its concurrent withdrawal of security capabilities East of Suez caused great changes in New Zealand's international policies as it lacked its traditional recourse to British support. The ability to maintain external support was further affected as the United States reduced its security assistance to New Zealand following New Zealand's implementation of its nuclear free policy and the dislocation of the ANZUS relationship mid-1980s. This consequently led to a greater reliance on Australia in security and defence matters (Ayson, 2006, p. 246). These events and the diminution of traditional security assistance gave further impetus to New Zealand's interests in maintaining the international rules-based system, with deployments of force elements under the UN badge[56] and, following the 2001 Government

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[56] These included troop contributions to UN missions in Cambodia, Namibia, Bosnia Herzegovina and East Timor (Timor Leste). These contributions notably provided a greater degree of support and commitment to UN

Statement on Defence (New Zealand Government, 2001), a reorientation of the Defence Force's structure from a force based on contributing combat capabilities to allied forces to one that provides for a greater degree of capability and independence in meeting national, regional and international interests. New Zealand also increased or expanded security relations with a wider range of partners (including developing a strong defence relationship with Singapore); although it is noted that Australia continues as its primary security partner (Buchanan, 2010, p. 271; New Zealand Ministry of Defence, 2015a, pp. 32-33). These evolving security relationships have more recently included a rapprochement and strategic partnership with the United States, the reinvigoration of the Five-Eyes relationship, and a formal relationship with NATO (IHS Jane's Sentinel, 2014, p. 279; New Zealand Ministry of Defence, 2015a, p. 50). As a result, New Zealand currently maintains a wide range of traditional, emerging, and multinational security relationships that it seeks to use to meet its interests and objectives.

New Zealand's national security objectives are defined in the current Defence White Paper (New Zealand Government, 2016a, p. 17) as:

- preserving sovereign and territorial integrity;
- protecting lines of communication;
- strengthening international order to promote security;
- sustaining economic prosperity;
- maintaining democratic institutions and national values;
- ensuring public safety; and
- protecting the natural environment

These objectives reflect the level of discretion afforded by the state's strategic isolation; its emphasis on multilateralism and the rules-based international order; and cooperation in economic, political and security spheres. New Zealand's defence policy develops from these influences to emphasise the priority accorded to its Defence Force's ability to operate either independently or as a lead nation in New Zealand, its EEZ, the South Pacific and the Southern Ocean (New Zealand Government, 2016a, pp. 11, 43); although it also states that New Zealand is committed to respond to a direct military attack on Australia (New Zealand Government, 2016a, p. 38). New Zealand's support to security efforts in the Asia-Pacific and

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missions than the provision of military observers and specialist detachments (such as demining trainers and EOD teams).

further afield are more discretionary in nature and likely to be conducted in conjunction with various partners (New Zealand Government, 2016a, pp. 10, 12, 49). The effects of New Zealand's strategic influences and the broad (and graduated) scope of its security and defence policies are found in the roles and expectations that it sets for its Defence Force, and the structures of the military forces that it maintains.

NEW ZEALAND'S MILITARY CAPABILITIES

The Defence Force will maintain a range of land and naval combat, strategic projection and logistics, intelligence and reconnaissance capabilities. These capabilities will enable the Defence Force to undertake the roles and tasks expected of it, and to continue providing credible deployment options, including combat capable forces, to the Government.

As the only agency of state that maintains disciplined forces and fleets of vehicles, ships and aircraft available at short notice, the Defence Force is a critical part of the whole of government approach to disaster relief, search and rescue, maritime resource protection and counter-terrorism.

New Zealand Government (2016a, pp. 2, 19)

New Zealand maintains a small professional defence force that can be employed in many roles throughout the conflict continuum. The NZDF comprises 9,072 regular, 2,319 reserve and 2,798 civilian personnel spread across the Royal New Zealand Navy, New Zealand Army, Royal New Zealand Air Force and Headquarters[57]. Command and control of the NZDF is exercised by the Headquarters, NZDF in Wellington which is co-located with the New Zealand Ministry of Defence. The NZDF provides New Zealand with a range of military capabilities which can be employed – sometimes independently, but more frequently with partners – throughout the conflict continuum in support of New Zealand's wider security interests and objectives.

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[57] These figures are correct as at 30 June 2016 (New Zealand Defence Force, 2016, p. 21).

New Zealand has gradually evolved the form of its military force structures over the last thirty years. The force structures during the Cold War were based on concepts of force mobilisation (a small professional cadre and large reserve forces) and the ability to provide combat capabilities in support of partner states (Fenton, 1998, Chapters 2 and 3). In this regard, New Zealand's military forces were not designed for the defence of New Zealand but to contribute to collective security (James Rolfe, 1999, p. 18). However, the security estrangement from the US from the late 1980s, budgetary pressures, the requirement to recapitalise substantial elements of the force, and an evolving understanding of New Zealand's security requirements led to a re-evaluation of force requirements and the state's ability to support them. This led to a decrease in specific combat capabilities (such as the disbanding of the air combat force and the reduction of the naval frigate fleet) and an emphasis on assets and capabilities that could enhance New Zealand's ability to support its territorial and regional responsibilities and contribute to collective security operations (such as peace support and security assistance) further afield. These themes have been continued through the most recent Defence White Papers of 2010 and 2016, although the most recent paper notes new the capability challenges arising from New Zealand's maritime domain, interests in Antarctica, and cyber threats (New Zealand Government, 2016a, p. 12).

Within the bounds of this evolving security and defence policy, the purpose of the NZDF is established in the Defence Act 1990 (Defence Act 1990 (Reprint as at 7 December 2014), 1990, s5) and includes the following functions:

(a) *the defence of New Zealand, and of any area for the defence of which New Zealand is responsible under any Act;* [58]

(b) *the protection of the interests of New Zealand, whether in New Zealand or elsewhere;*

(c) *the contribution of forces under collective security treaties, agreements, or arrangements;*

(d) *the contribution of forces to, or for any of the purposes of, the United Nations, or in association with other organisations or States and in accordance with the principles of the Charter of the United Nations;*

(e) *the provision of assistance to the civil power either in New Zealand or elsewhere in time of emergency; and*

(f) *the provision of any public service.*

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[58] This includes the Cook Islands, Niue and Tokelau.

The 2016 Defence White Paper (New Zealand Government, 2016a, p. 11) relates these purposes to current policy guidance through expressing the following principal roles for the NZDF:

- *Defend New Zealand's sovereign territory;*
- *Contribute to national resilience and whole of government security objectives;*
- *Meet New Zealand's commitment as an ally of Australia;*
- *Support New Zealand's civilian presence in the Ross Dependency of Antarctica, and participate in whole of government efforts to monitor and respond to activity in the Southern Ocean;*
- *Contribute to, and where necessary lead, operations in the South Pacific;*
- *Make a credible contribution in support of peace and security in the Asia-Pacific region;*
- *Protect New Zealand's wider interests by contributing to international peace and security, and the international rule of law;*
- *Contribute to the advancement of New Zealand's security partnerships;*
- *Participate in whole of government efforts to monitor the strategic environment and*
- *Be prepared to respond to sudden shifts in the strategic environment.*

These purposes and guidance have the effect of establishing a tremendous geographical span of responsibility for the NZDF (from the Antarctic to the equator) and build the expectation that the NZDF will operate throughout the conflict continuum with a wide variety of partners (be they New Zealand Government agencies, other states or international organisations). The roles established in the 2016 Defence White Paper are also noteworthy for the ambition of being able to lead operations in the South Pacific and make credible contributions further afield. These aims establish a level of capacity and capability for the NZDF that needs to be met from within current and planned force structures.

The current structure of the NZDF is shown at Table 4-1 below.

NEW ZEALAND	Regular Forces	Reserve Forces	Total
	9,072	2,319	**11,391**
SERVICE	**ORGANISATION**	**MAJOR EQUIPMENT**	**REMARKS**
Headquarters:	Headquarters New Zealand Defence Force. Headquarters Joint Forces New Zealand. Headquarters Deployable Joint Interagency Task Force.		
Land Forces • Regular: 4,523 • Reserve: 1,666 • Total: 6,189	Brigade Headquarters. 1 x Armoured Reconnaissance Regiment. 2 x Infantry Battalion. 1 x Artillery Regiment. 1 x Signals Regiment. 1 x Engineer Regiment. 2 x Logistic Battalion. Training and Doctrine Command. • 3 x Territorial Force (Reserve) Infantry Battalion.	105 x NZLAV Infantry Fighting Vehicles (and variants). 326 x Pinzgauer Light Operational Vehicle (60 are armoured). 24 x 105mm Light Gun. 50 x 81mm Mortar. 24 x Javelin Anti Armour Missile System.	Brigade Headquarters is non-operational. Forces are task organised from these structures as required for operations. A number of NZLAV are held in storage.
Naval Forces • Regular: 2,116 • Reserve: 440 • Total: 2,556	Naval Combat Forces. Naval Patrol Forces. Naval Support Forces. Littoral Warfare Support Forces.	2 x Frigate (ANZAC Class). 2 x Offshore Patrol Vessel. 4 x Inshore Patrol Vessel. 1 x Multi Role Vessel. • 2 x Landing Craft Mechanised. 1 x Fleet Replenishment Tanker. 1 x Diving Support Vessel Operational Diving Team. Mine Countermeasures Team. Maritime Survey Team.	One additional Offshore Patrol Vessel to be procured. Inshore Patrol Vessels to be removed from service as Offshore Patrol Vessel fleet increases. Replacement Tanker under procurement. Littoral Operations Support Craft to be procured(to replace both the Diving Support Vessel and previous Hydrographic Vessel).
Air Forces • Regular: 2,433 • Reserve: 213 • Total: 2,646	Utility/Search and Rescue/Training Squadron. Maritime Patrol Squadron. Naval Helicopter Squadron. Transport Squadron. Multi-engine Training Squadron. Flying Training Squadron/Flying School.	8 x NH90 Medium Helicopter. 5 x AW109 Light Helicopter. 6 x P3K2 Orion Maritime Patrol Aircraft. 8 x SH-2(G)I Super Seasprite Maritime Helicopter. 5 x C-130H Transport Aircraft. 2 x B757-200 Transport Aircraft. 4 x King Air Trainer Aircraft. 11 x T-6C Texan Training Aircraft.	1 x NH90 additional as attrition reserve 1 x AW109 additional as attrition reserve. Operated on lease.
Special Operations Forces	Special Operations Component Command. Special Forces Regiment.		1st NZSAS Regiment.
Other Forces	1 x Health Services Support Battalion. 1 x Military Police Company. Civilian Staff within Defence Headquarters and the three Single Services: 2,798.		Health Services and Military Police maintained as Joint capabilities across the three Services.

Table 4-1. Main Elements of New Zealand's Military Force Structure[59]

The command and control of the NZDF is exercised by the strategic headquarters in Wellington (incorporating the headquarters of the navy, army and air force) and an operational level headquarters (Headquarters Joint Forces New Zealand). It also maintains a separate command and control element for deployed operations (Headquarters Deployable Joint Interagency Task Force). Furthermore, the NZDF is in the process of enhancing its

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[59] The information used in preparing this table was drawn from documentary sources (International Institute of Strategic Studies, 2017, pp. 318-319; Keymer, 2016a, pp. 518-522; 2016b, pp. 400-403; New Zealand Defence Force, 2014, pp. 56-125; 2016, p. 21; New Zealand Government, 2016a, pp. 45-53; New Zealand Ministry of Defence, 2016a, p. 34; Peacock & Keymer, 2017, pp. 437-440).

surveillance, intelligence and (protective) cyber support capabilities following the publication of the 2016 Defence White Paper (New Zealand Government, 2016a, pp. 45-46; New Zealand Ministry of Defence, 2016a, pp. 22, 24). This is complemented by a programme of joint enablers where select enabling functions (such as health, intelligence and military police) are integrated across the three services in order to achieve greater synergy and depth (New Zealand Defence Force, 2015, p. 19), with less duplication of function or effort.

The NZDF's physical structures (as shown at Table 4-1) provide a range of military capabilities that can conduct activities throughout the conflict continuum in both domestic and expeditionary settings. The maritime forces provide the capability to conduct surveillance and patrol, assist resource protection and border security functions, effect search and rescue, project and sustain military forces (including operations over the shore), and participate in combat operations in blue water environments. These naval platforms operate under national direction and may also be attached to regional, coalition and/or multinational forces. The Royal New Zealand Air Force (RNZAF) supports the navy through maritime patrol and the provision of embarked helicopters for the frigates, offshore patrol vessels and the multi role vessel. Its surveillance and reconnaissance capabilities can also support resource protection and border security functions, assist with search and rescue operations, and support international security assistance and combat operations. The air force also has the ability to project and sustain forces at strategic, operational and tactical levels and can be deployed as individual aircraft or task organised detachments in national, coalition and multinational command structures. The RNZAF, however, does not maintain an air combat capability.

The New Zealand Army, on the other hand, provides deployable land forces that can operate throughout the conflict continuum in peace support, security assistance and combat operations abroad and aid to the civil authority activities in New Zealand. It maintains the ability to conduct combined arms operations at up to battalion level (albeit with limitations in armoured combat) and provide task organised structures or force elements to national, coalition or multinational formations. In addition, New Zealand's SOF provide the state's domestic EOD capability and a counter terrorist function. They can also support operations throughout the conflict continuum as part of a joint or land force commitment, or as an individual force element for national or coalition tasks.

These force structures provide the NZDF with a basic range of capabilities which can be employed in a variety of operational contexts and environments. Furthermore, the NZDF is

currently developing its ability to conduct independent operations in low intensity contingencies through the Joint Task Force concept embodied in current defence policy and force development strategies (New Zealand Ministry of Defence, 2016a, pp. 10-11), and it does maintain certain force elements as combat capable contributions to other partners – namely land combat, SOF, the ANZAC frigates and the P3K2 Orion patrol aircraft (White, 2011, pp. 49-50). However, the basic range of capabilities that the NZDF maintains is limited as it possesses few force multipliers – with the exception of maritime underway replenishment and SOF – and its forces lack long-range offensive capabilities as its weapon systems focus on protection and manoeuvre. These factors limit the NZDF's ability to act independently (whether on operations by itself or in a separate area of responsibility within a larger force) or to provide unique and high-value contributions to coalition and multinational operations.

The structure of the NZDF reflects the aim to be able to conduct a wide variety of tasks and activities but also the constraints caused by the size of the force. The NZDF appears to have a relatively balanced force structure as, apart from the lack of air combat capabilities, it has the breadth to conduct most of the range of joint and military functions: although the lack of combat aircraft and offensive weaponry on the naval platforms limits its ability to conduct maritime strike or interdiction. This also means that the NZDF has forces that can operate within most contingencies throughout the conflict continuum. In this regard the NZDF maintains a wide base of potential utility and versatility in its force as it has not specialised in certain roles or functions – in effect, seeking breadth over specialisation. However, the breadth of the NZDF's structures may be a false indicator as it lacks depth and diversity within those structures.

Except for individual airframes, the NZDF is limited to one or two major force elements or equipment types within each of its structures (such as two frigates for naval combat or one multi role vessel for projection and sustainment). This provides a single dimension to many of the NZDF's capabilities with the result that it cannot maintain continuous deployments of naval platforms, army units or air task units. Although it can deploy single airframes or sub-unit sized land forces (companies rather than battalions) and sustain them over time, these may be insufficient to conduct the scale of activity required or provide a credible national profile in a coalition operation. The lack of depth may also be found when single platforms (such as the multi role vessel or fleet replenishment ship) or small fleets (such as the transport aircraft) cannot be used as they are required to be withdrawn for maintenance or are deployed

on other tasks. This will have particular effects on the NZDF's ability to generate and sustain operations; meaning that the NZDF's reaction time to contingencies will be extended or it may require support from other states to project and sustain its forces. It would also limit the NZDF's ability to conduct concurrent operations and poses the risk that New Zealand will exhaust certain of its force elements and not be able to maintain the task or mission that they were conducting. In this regard, New Zealand's intention to seek breadth in its small military force structures has the effect of reducing the depth and degree of guarantee of those structures. A further effect of the emphasis of breadth over depth in the NZDF's structure means that it has a relatively large number of equipment types when compared with the number of platforms[60]. This creates potential inefficiencies and greater costs for training and maintenance, and further constraints for the conduct and sustainment of operations.

The structure of the NZDF, therefore, provides New Zealand with limited military capabilities. In accordance with De Wijk's classification of military capabilities, it does not provide New Zealand with a *full spectrum* force and instead limits what military actions may be conducted throughout the conflict continuum. In some regards, the NZDF may have *broad expeditionary capabilities* as it plans to be able to conduct independent operations within its region. However, it is more appropriate to say that the NZDF possesses *focused expeditionary capabilities* – the ability to contribute to a wide variety of military operations with a limited range of capabilities, and to act as a lead nation for stabilisation operations in a permissive environment (such as the South West Pacific). The NZDF also has the ability to develop and deploy *selective expeditionary (niche) capabilities* and *employ stabilization capabilities* for such tasks as peacekeeping. These roles reflect both New Zealand's policy of supporting its security interests with modest capabilities and the manner in which it provides for its forces.

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[60] The Royal New Zealand Navy maintains a fleet of 11 vessels consisting of six separate types while the Royal New Zealand Air Force maintains 49 aircraft across 8 types.

PROVIDING FOR NEW ZEALAND'S MILITARY FORCES

The NZDF fills a number of roles within New Zealand's security and foreign policies. Its capabilities are based on a force structure that provides versatility and flexibility as they have the potential to operate throughout the conflict continuum. However, this versatility may also represent a constraint as the NZDF lacks structural depth with consequent effects on its ability to conduct or sustain operations. The question then becomes whether New Zealand is able to maintain relevant and credible military capabilities throughout the range of its security responsibilities and interests. New Zealand's capacity to do so is shown through how it provides for its military forces and the priorities that it maintains in doing so. As will be seen, New Zealand has large ambition and expectations for what are modest military capabilities, and it recognises that it cannot meet these expectations by itself. In this regard, New Zealand seeks to enhance the modest capabilities of its military forces through partnership with other states and multinational/international organisations.

The current design of the NZDF is based upon the organisational model enacted in the early 2000s (New Zealand Government, 2000, 2001) and then subsequently maintained through Defence White Papers in 2010 and 2016 (New Zealand Government, 2010, 2016a). The changes from 2001 were based on the realisation that few countries could provide full spectrum capabilities and that international commitments needed to be credible (New Zealand Government, 2001, p. 5), with the force structure to be reoriented to provide a greater focus on land based peace support operations and the conduct of non-combat tasks in New Zealand's maritime domain. This led to the air combat force being disbanded with funds redistributed to areas of greater utility within the NZDF (Jim Rolfe, 2007, p. 19), the naval forces being reconfigured to provide for greater patrol and less combat capability, and additional support provided to the army.

The strategic determinants for the current force structure are based on New Zealand's immediate interests in its sovereign and economic areas and the South Pacific, while providing the capability to work with partners in other regions[61]. In this regard, the design

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[61] These determinants of force structure were presented in the *Defence White Paper 2010* (New Zealand Government, 2010, p. 41) and are discussed further by Robert Ayson (2011, pp. 19-20) and Peter Greener (2011, pp. 33, 42-43). The Defence White Paper 2016 (New Zealand Government, 2016a, p. 12) maintains these basic determinants for the NZDF's force structure but also notes the new capability challenges posed by activities in the EEZ, Southern Ocean and Antarctica, and developments in cyber threats.

and structure of the NZDF is based on the characteristics of being combat capable, expeditionary, interoperable, agile and information-led (New Zealand Government, 2016a, pp. 49-50) whilst being able to complete a wide range of operations and tasks. Furthermore, whereas some analysts have previously noted that the NZDF is a niche force (Jim Rolfe, 2007, pp. 11-12; Tow & Parkin, 2007, p. 315), it lacks the necessary degree of specialisation that such a designation would require. In this regard, the NZDF is a generalist force that will be organised for specific tasks, but with limitations to its size and the capabilities that it can muster. Nevertheless, the New Zealand Government intends to maintain a force that is "capable of a wide range of deployment options" and can be updated to meet the evolving demands of New Zealand's strategic environment (such as the requirement for maritime and air surveillance, intelligence, and the ability to operate in the Southern Ocean) (New Zealand Government, 2016a, p. 45).

New Zealand's military force development and acquisition is guided by the Defence Capability Plans that have been implemented following the 2010 Defence White Paper and replace the previous construct of Long Term Development Plans. These plans provide a long-term view of force structure and acquisition, and serve to provide direction and assurance to the acquisition process. New Zealand does not have a specialised defence industry (James Rolfe, 1999, p. 165) with the effect that, while operating expenditure on sustainment occurs domestically, the major capital expenditure on procurement and munitions is made offshore (IHS Jane's Sentinel, 2014, p. 189; Templeton & Garnett, 2010, p. 7). Given its relative size and capacity, New Zealand generally does not acquire high-end military capabilities (New Zealand Ministry of Defence, 2010, p. 11); instead preferring to acquire off-the-shelf equipment to reduce risks and gain the advantage of larger production runs (New Zealand Ministry of Defence, 2016a, p. 78; 2016b, p. 7) - and seeking to collaborate with other states in doing so[62]. New Zealand purchases equipment and services from Australia, UK, North America, Europe and Singapore (Templeton & Garnett, 2010, p. 7), and has recently ordered a maritime sustainment ship from the Republic of Korea (New Zealand Ministry of Defence, 2016c). However, the New Zealand Ministry of Defence (2010, p. 11) has noted the

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[62] For example, New Zealand had the option to acquire C-130J Hercules aircraft as part of the Australian purchase (New Zealand Government, 2001, p. 11) (although it did not acquire these aircraft), and New Zealand was able to take advantage of the economies of scale of a production run for the UK in acquiring Medium and Heavy Operational vehicles in 2013 (New Zealand Ministry of Defence, 2016a, p. 78). In fact, New Zealand purchased a large quantity of military equipment in collaboration with Australia in the 1980s and 1990s: such as the ANZAC Frigates, Steyr rifle and 105mm Light Gun. However, it has been noted that there are limits to such collaboration as equipment acquired in this manner may be modified to the Australian standard and be more expensive than otherwise (Jim Rolfe, 2007, p. 35).

challenges that it faces in acquiring military equipment as the state's small size provides it with little influence over manufacturers, while its practice of acquiring single platform types that can complete a variety of tasks produces unique solutions which require further modification and development[63]. This in turn may leave the force vulnerable to single suppliers or increased acquisition, maintenance and training costs.

The scope of defence acquisition over the past two decades has encompassed all three services with the purchase of replacement armoured vehicles, helicopters and training aircraft; the introduction of new multirole and patrol vessels; and the upgrading of in-service transport aircraft, maritime patrol aircraft, and the ANZAC frigates[64]. When completing these activities the New Zealand Ministry of Defence has managed the triple constraint of time, scope and cost through fixed price contracts, maintaining performance requirements and accepting any contract variations in terms of schedule or the time taken to complete the contract (New Zealand Ministry of Defence, 2016b, p. 7). However, it is further noted that this can cause operational issues with respect to availability, maintenance and training (New Zealand Ministry of Defence, 2016b, p. 7); while delays in introducing new equipment can increase the operating budgets required to maintain the older equipment in service (New Zealand Ministry of Defence, 2010, p. 13); and they may affect the career progression and employment of specialist personnel (New Zealand Ministry of Defence, 2010, p. 14). In the past decade this has been a particular problem for air and maritime capabilities (New Zealand Ministry of Defence, 2010, p. 24) - with the air transport and surveillance forces being affected by limited numbers of available operational platforms due to delays in the upgrade projects for the fleets (IHS Jane's Sentinel, 2014, p. 297). Furthermore, the conduct of acquisition activities within the Defence Capability Plans may be affected by changing requirements or costs[65], and New Zealand currently faces the prospect of replacing three

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[63] Examples of military equipment unique to New Zealand include the modified Boeing 757 passenger/cargo aircraft, unique upgrades to the C-130 Hercules and P3K2 Orion fleets, and the acquisition of a unique class of Offshore Patrol Vessels.

[64] The NZLAV was acquired to replace the M113, the NH90 and A109 helicopters were acquired to replace the UH1H and Sioux, and the T-6C Texan replaced the CT4 Airtrainers. Project Protector introduced the Multirole Vessel and Offshore Patrol Vessels as new capabilities while also replacing the previous Inshore Patrol Vessels. The C-130H had a life extension programme, the P3K2 have been re-winged and fitted with new avionics, and the ANZAC Frigates have undergone a platform systems upgrade and commencing a frigate systems upgrade.

[65] It was reported in 2016 that the cost of the ANZAC Frigate Systems Upgrade project would increase by $100 million and that the project would also be delayed (Garcia, 2016). It was also reported in May 2017 that the Littoral Operations Support Craft (LOSC) project would be unlikely to proceed in its current form and may be downgraded (Kerr, 2017). The reason for this was given as 'critical decisions on the Capability Portfolio' that affected the project. Given that the requirements are unlikely to have changed, and that the LOSC is due to replace two naval capabilities (hydrography and diving support) – with a marked effect on the range of activities

capital intensive platform-based capabilities over the next decade: namely the frigates, surveillance and reconnaissance aircraft[66], and the transport aircraft. These acquisitions have the potential to place great pressure on New Zealand's defence funding.

In New Zealand, and with the exception of periods of total war, the government has not provided great levels of resources to the defence force (Ball, 2011, p. 134) – with James Rolfe (1999, p. 196) noting New Zealand's "long history of funding defence to the minimum level that governments believe that they have to". This approach, combined with budgetary pressures in the 1990s, witnessed a reduction and consolidation in the number of military bases within New Zealand[67], the disbandment of the short range transport aircraft capability as the state moved to reduce defence costs[68], and was also a factor in the disbandment of the air combat capability in order to release funds for other defence uses (New Zealand Government, 2001, pp. 10, 13). In line with this, New Zealand's defence expenditure remained relatively constant through the 1990s, and gradually increased from 2003 until it stagnated again for a period following the 2008 Global Financial Crisis – although its relative purchasing power compared to the US Dollar did increase over this period (Figure 4-2). Even though the defence budget has increased since 2014, defence expenditure has generally remained at about 3% of government spending and 1% of GDP over the past 15 years (Figure 4-3). This level of commitment is reflected in international comparison (shown at Table 4-2 and Appendix 1) where, although New Zealand may have a relatively high level of total defence expenditure, its sits just above the bottom third as a percentage of the State's economic capacity.

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that the RNZN can conduct if they were not replaced – it is likely that funding pressures may be the underlying issue.

[66] New Zealand intends to replace its six P3K2 maritime patrol aircraft by 2025. Although the project is in the preliminary definition phase (New Zealand Ministry of Defence, 2017) it has been reported that the United States has announced approval of a 'potential USD $1.4 billion sale of four P-8As to New Zealand.' (Willett & Rahmat, 2017) If accurate this report is noteworthy for the reduction in size of the NZDF maritime patrol fleet and the cost of the project itself.

[67] Examples include Hopuhopu Military Camp in 1989, RNZAF Base Te Rapa in 1992 and RNZAF Base Wigram in 1995.

[68] The New Zealand Government decided in 1997 not to replace the Andover transport aircraft as they reached the end of their useful life – noting that it was more economical to concentrate on the other transport aircraft currently in service (New Zealand Government, 1997, p. 50).
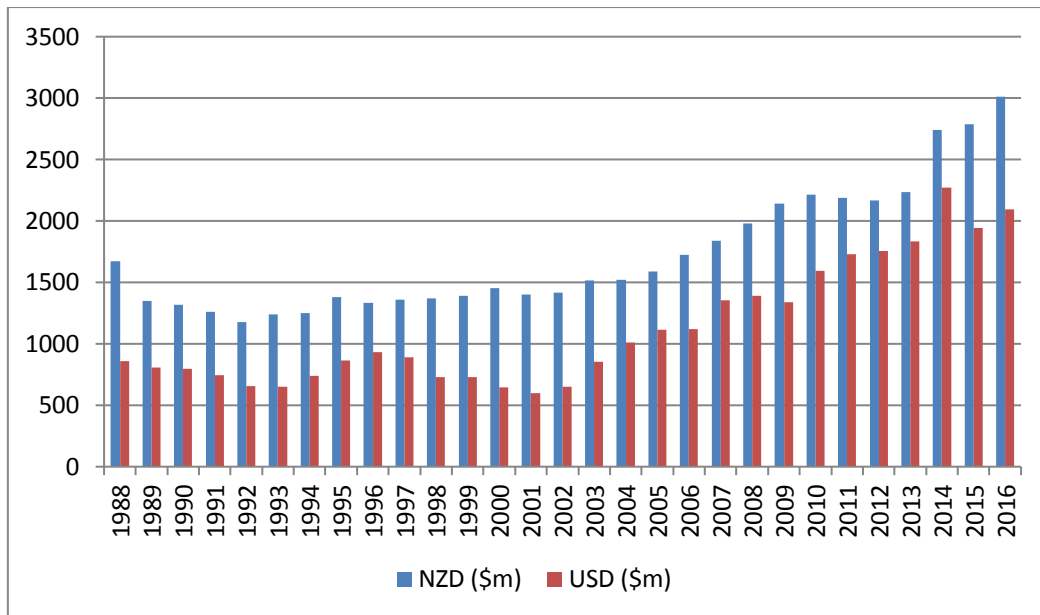
[Information drawn from SIPRI Military Expenditure Database (2017)]

Figure 4-2: New Zealand's post-Cold War defence budget[69]
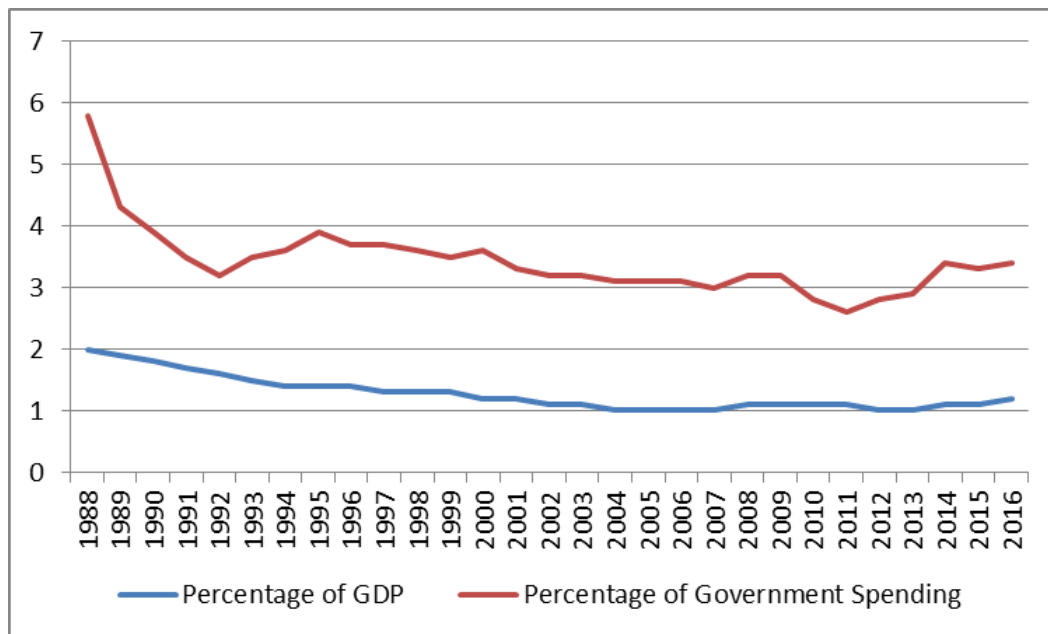
[Information drawn from SIPRI Military Expenditure Database (2017)]

Figure 4-3: New Zealand's post-Cold War military expenditure[70]

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[69] Figures are estimated by SIPRI for the period 1990 – 2002.
[70] Figures are estimated by SIPRI for the period 1990 – 2002.

Comparison Area	New Zealand's Rank Position	Remarks
2016 Military Expenditure (USD)	57	145 states ranked
2016 Military Expenditure per capita	23	
2016 Military Expenditure as % of GDP	90=	
2016 Military Expenditure as % of Government Spending	95=	

[Information drawn from SIPRI Military Expenditure Database (2017)]

Table 4-2. International comparison of New Zealand's defence spending[71]

The New Zealand Government has sought to provide consistency of funding to the NZDF in a number of ways. In addition to the rationalisation of force structure and estate holdings, mechanisms such as the 2005 Defence Sustainability Initiative (New Zealand Government, 2005), the 2010 Defence White Paper (New Zealand Government, 2010) (which maintained the levels of the defence budget but required the NZDF to make internal savings in order to reallocate funds to key areas), and the subsequent 2013 Defence Mid-point Rebalancing Review (which provided for increases to operating expenditure and the development of an indicative capital plan as analysis determined that current funding could not provide for the required capabilities) (New Zealand Cabinet, 2013a, 2013b) sought to increase the efficiency and the degree of assurance of defence expenditure. This was continued through the 2016 Defence White Paper (New Zealand Government, 2016a, pp. 61-63) which confirmed a systematic approach to long term funding. However, although these initiatives provided the NZDF with the ability to focus resources (especially personnel) into the deployable elements of the force, its ability to do so was affected by understaffing (IHS Jane's Sentinel, 2014, p. 263) as high attrition rates limited its ability to maintain its forces and current operations[72]. Although the personnel situation has been alleviated in some respects, with attrition rates for the regular force at a low level of 8% in 2015 (New Zealand Defence Force, 2015, p. 13), the force still has issues in providing sufficient personnel to maintain its operational platforms – a

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[71] SIPRI does not hold data for all states so the rank positions for New Zealand are comparative only as some of the states not factored into the calculations are larger than New Zealand or likely to spend more on their military forces (such as North Korea).

[72] The NZDF's attrition rates peaked at 20% in 2012 (New Zealand Defence Force, 2015, p. 27). This included some personnel who left the NZDF as a result of a redundancy programme linked to efficiency programmes (New Zealand Defence Force, 2012a, p. 14).

specific effect noted with regard to technical personnel in the Navy (Keymer, 2016b, p. 401). These effects serve to emphasise the limited size and capabilities of the NZDF and form a tangible result of the level of defence spending and force design in New Zealand. Nevertheless, the measures taken to sustain the NZDF are complemented by the force's ability to work with a range of partners.

New Zealand maintains a wide range of bilateral and multinational defence relationships to help it achieve its strategic ends and overcome the limitations of its size and capability. New Zealand's key military relationships are found through its participation in a number of forums with its Five-Eyes partners; such as AUSCANNZUKUS (navy); ABCA (army)[73]; ASIC (air) and the Technical Cooperation Program (TTCP – defence technology and R&D); as well as multinational and NATO bodies (New Zealand Defence Force, 2016, p. 62). These provide important relationships that mitigate the costs of New Zealand's R&D and capability development, allow New Zealand access to a greater degree of military development than it could afford on its own, and maintain interoperability with likely partners and, through them, NATO and other states that use the United States as a military benchmark. New Zealand has also conducted joint procurement or leveraged off the military procurement conducted by these partners (as previously described), while it also seeks to enhance its capacity by maintaining joint arrangements for logistics and air transport with Australia (Greener, 2011, p. 40). These relationships help New Zealand to achieve an economy of scale and degree of military proficiency that it would be unable to by itself. The benefits of these relationships are also found in the manner by which the NZDF trains, develops its concepts and doctrine, and conducts operations.

The NZDF conducts the majority of its individual and collective training through its own resources. However, it also conducts a wide and varied training programme with international partners. Individual training includes attendance at courses that provide specialist skills that the NZDF lacks the capacity to deliver (Keymer, 2016a, p. 521; 2016b, p. 401; Peacock & Keymer, 2017, p. 438) (although the NZDF does also recruit military specialists from other states such as Australia, Canada, the UK and the USA (Keymer, 2016a, p. 520; 2016b, p. 401)). The NZDF also conducts military seminars and exercises with a range of international partners – hosting some activities in New Zealand, exercising with bilateral partners overseas,

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[73] ABCA has recently been retitled as ABCANZ.

and participating in multinational exercises and activities[74]. These activities provide a range of benefits for the NZDF as it can benchmark itself against international standards, train with military capabilities that it lacks (such as fighter ground attack), practice operating at the larger scale that it may experience on operations, develop and demonstrate interoperability, or develop and maintain defence relationships. Such activities have traditionally been completed with Australia, the FPDA members and Five-Eyes partners. However, New Zealand has also conducted individual training and exchanges with other states in Asia and NATO in recent years. Furthermore, as an expeditionary force that has traditionally been designed to work with allies and partners, the NZDF draws the base of its concepts and doctrines from external sources – primarily Australia and, to a lesser extent, the other partners within the Five-Eyes framework; although New Zealand does adapt these concepts and doctrines to its own use (IHS Jane's Sentinel, 2014, pp. 287, 294, 302; Keymer, 2016a, p. 520; 2016b, p. 401; Peacock & Keymer, 2017, p. 438).

The NZDF's ability to adapt these doctrines and concepts and operate with a wide range of partners is shown through the range and scale of activities that it conducts. Since the realignment of its force structures in the early 2000s, the NZDF has participated in a wide variety of operations (New Zealand Ministry of Defence, 2015b, p. 22) – from independent and domestic activities through to security assistance and counter insurgency roles (although it has not participated in conventional combat operations). These operations have varied greatly in size and scale from the deployment of small numbers of military observers on UN missions, commanders and staff in coalition headquarters, and single aircraft detachments and small teams; through ad hoc structures (such as the Provincial Reconstruction Team in Afghanistan and the Training Assistance Team in Iraq); to formed sub-units and units, naval platforms, and task forces (such as for HADR). These operations have also seen New Zealand Forces operate as distinct formed elements, work in conjunction with other partners or work as part of combined or multinational forces. Furthermore, the NZDF continuously operates in New Zealand's domestic, maritime and regional environs. It provides the state's EOD response and maintains high readiness CT capabilities, provides overland and maritime SAR capabilities, provides logistic support to New Zealand's Antarctic programme, and conducts resource protection and border security patrolling both for New Zealand and its South Pacific neighbours (New Zealand Defence Force, 2016, pp. 13-15, 18-19, 38-39, 41). The NZDF

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[74] A list of major exercises illustrating this point is detailed in the Annual Report for the year ended 30 June 2015 (New Zealand Defence Force, 2015, pp. 23-25).

conducts these functions as the state does not have comparable civil capabilities and forms part of the all of government approaches to security.

It is notable that many of these deployments occurred concurrently and that the NZDF often had multiple land, maritime and air capabilities deployed at the same time while also completing domestic and regional support and security tasks. Furthermore, following the 2010 Defence White Paper, New Zealand committed to maintaining the capability to respond to events in the Pacific as part of a Ready Reaction Force with Australia (New Zealand Government, 2010, p. 38). New Zealand's ability to conduct this range of missions and employment demonstrates the degree of interoperability that it is able to maintain with partner states and its flexibility in adapting its force structures to domestic requirements and operational circumstances. However, this occurs within a force of relatively small size and capacity. New Zealand's ability to meet this range of commitments is shown in the priorities that it establishes between the military requirements of readiness, operations and modernisation, and where it focuses its effort in doing so.

PRIORITIES WITHIN NEW ZEALAND'S MILITARY SYSTEM

New Zealand's size, capacity, span of responsibilities and level of ambition present practical difficulties in trying to balance the requirements of readiness, operations and modernisation within its military system. The structural balance of New Zealand's military forces means that they have a wide range of utility and flexibility. However, the lack of depth or diversification in this balance means that the NZDF is constrained in its ability to sustain or conduct concurrent activities. The challenge for the NZDF is that it needs to fulfil current taskings, remain prepared to meet a range of contingencies, and work to ensure its enduring viability and credibility.

The NZDF is maintained as a force in being that may be tasked to complete a wide range of non-discretionary and discretionary tasks. The basis of the NZDF's strategy is to be "ready for expeditionary operations covering the range of security events where the Government may employ the Armed Forces." (New Zealand Defence Force, 2015, p. 43) However, the NZDF does not have the size and capacity to maintain high degrees of readiness for each of these tasks. As a result, the NZDF maintains readiness through a graduated system of levels

of capability whereby force elements are funded and resourced at Directed Levels of Capability (DLOC) to meet a variety of contingencies and then brought up to an Operational Level of Capability (OLOC) to deploy on specific operations. This is based upon directed response times and incorporates the provision of additional training, personnel preparation, maintenance, upgrades and logistic support (New Zealand Defence Force, 2014, p. 46). In this way, the NZDF can maximise the utility of its forces to meet a range of potential tasks before focusing them specifically on one contingency to the exclusion of others. In this regard, the NZDF maintains certain force elements at high degrees of readiness or at OLOC to meet non-discretionary tasks close to home (such as CT and EOD roles (New Zealand Defence Force, 2016, p. 41)) with less focus given to more discretionary commitments further afield. Nevertheless, the ability of the NZDF to maintain readiness for a range of contingencies is constrained by the small size of the force and its lack of structural depth.

The NZDF Annual Report for 2013/2014 provides an illustrative case of the challenge that the force faces in maintaining states of readiness. It noted that that ability of the force to meet DLOC was affected by the unavailability of certain platforms due to the introduction into service of new or modernised capabilities, the effects of personnel attrition and a shortage of experienced personnel in key trades, and delays in the completion of upgrade projects on certain platforms (such as the ANZAC Frigates, the C-130 Hercules and the P3K2 Orion) (New Zealand Defence Force, 2014, pp. 48, 53-55). Furthermore, it identified that the NZDF would not have been able to provide sufficient Land Combat Service Support (CSS) beyond the initial deployment of force elements without redeploying resources from the Army's training elements (New Zealand Defence Force, 2014, p. 54) which would have compromised the Army's ability to maintain readiness levels in other areas or prepare for future operations. More recently, the NZDF has also noted that the Army could not maintain 100% of its readiness outputs due to staff shortages and the effects of operational commitments (New Zealand Defence Force, 2016, p. 54). This shows that the lack of structural depth to the NZDF means that it lacks redundancy when force elements are either deployed on operations or engaged in modernisation activities, and it is also vulnerable to personnel shortages within the structures that it maintains. The NZDF mitigates this effect by

re-tasking other forces to fill any gaps[75] and prioritising its effort to non-discretionary tasks. However, the commitment of forces to operations can cause stress in the system.

The NZDF has conducted a wide range of tasks and operations since the end of the Cold War. This means that there has been a high demand for force elements to be preparing for, conducting, or regenerating after operational service. However, doing so has placed strain on the force and limited its ability to maintain readiness capabilities, regenerate or conduct modernisation activities. The lack of depth in force structures has also meant that the NZDF cannot maintain a constant rate of effort to deployments as certain platforms (such as the naval support force) do require time off station to conduct maintenance and training. The NZDF has proved able to overcome structural deficiencies through the use of reserve personnel, by re-roling combat support elements to sustain the battalion groups in East Timor, and developing task-organised structures to meet unique operational requirements – such as the Provincial Reconstruction Team in Afghanistan or the Building Partner Capacity mission in Iraq. New Zealand has also husbanded its military forces by selecting low-intensity operations that have less likelihood of combat[76] and by working closely with coalition partners to gain greater synergies from logistic and combat support functions. Nevertheless, the size of the NZDF does limit the scale of activities that it can conduct and its ability to sustain operations.

The NZDF has also conducted a very active modernisation programme over the past two decades. In addition to the equipment acquisition and upgrade activities previously described, the NZDF implemented a development strategy following the Defence White Paper 2010. Termed the *Future 35* strategy it is "based on developing relevant and sustainable Joint Force elements able to conduct operations and be prepared for contingencies; evolving military capability to meet future threats; and achieving excellent organisational performance in supporting Defence Force Operations." (New Zealand Defence Force, 2015, p. 17) This strategy, and the attendant Capability Plans, support both the acquisition of equipment and the development of concepts and doctrine (such as the Joint Task Force concept). However,

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[75] Such as the use of C-130 aircraft to cover the P3K2 SAR roles (New Zealand Defence Force, 2014, p. 55; 2016, p. 41). However, there is a capability gap between the two platforms as the C-130 lacks specialist surveillance equipment and it also means that those aircraft may not be available for their primary role if required.
[76] Such as the deployment of a Provincial Reconstruction Team and not conventional combat forces to Afghanistan.

the NZDF's ability to complete past and current development plans has been constrained by its size and operational tempo.

In recent years the small size of the NZDF and its relative lack of contractual weight means that it has had to accept delays in the completion of certain capital projects (such as the C130 and P3K2) and there have also been delays in the introduction of the new or upgraded capabilities into service as key personnel have also been tasked to support operations. Although the NZDF established a helicopter transition unit to bring the new helicopter fleets into service (and then become the new operational squadron) (IHS Jane's Sentinel, 2014, p. 310) it has not replicated similar measures in the land and maritime environments. Therefore modernisation activities have created a gap in readiness and operations as a platform or capability set is taken offline to be upgraded or replaced with another. In this regard, the lack of redundancy in the NZDF's force structures means that the conduct of modernisation activities will affect the force's ability to meet current or potential contingencies.

Although it appears that the NZDF tries to maintain readiness, operations and modernisation as concurrent requirements, the priorities within New Zealand's military system seem to be weighted towards the conduct of operations and completing modernisation activities. Both have been observed to take precedence over the maintenance of readiness requirements, with noted effects in the availability of personnel and major equipment. Although the discretionary nature of many of the NZDF's operations and the scheduling of its modernisation activities means that it should be able to manage any tension between the two requirements, it could still be challenged in this regard by the requirements to complete short-notice non-discretionary tasks such as domestic and regional HADR. Nevertheless, the NZDF has focused its priorities on completing current tasks ahead of maintaining preparations for possible contingencies. This reflects the structural balance of the NZDF and shows New Zealand's limitations as a small state in maintaining military forces.

NEW ZEALAND'S CHARACTERISTICS AS A SMALL STATE MILITARY FORCE

> *Ultimately, the maintenance of a professional and effective military capability – employable throughout the conflict spectrum – provides options for current and future New Zealand governments to support and defend peace and democracy.*
>
> *New Zealand Defence Doctrine (New Zealand Defence Force, 2012b, p. 8)*

New Zealand is a small state that seeks to maintain its security interests through supporting the international rules-based order and contributing to collective security. It has a wide span of responsibility and commensurate expectations for its military forces – based upon the ability to operate independently in its territorial and regional environs, and to make credible contributions to collective security actions further afield with a range of partners. The current structure of the NZDF reflects both the range of those ambitions and the constraints provided by the state's size and capacity.

New Zealand maintains a small military force[77] which, while structured to complete tasks throughout the conflict continuum, has few genuine combat capabilities which are generally limited to low and mid-intensity operations. The Royal New Zealand Navy comprises a fleet of 11 vessels and can complete tasks throughout the range of military operations including resource protection, search and rescue, littoral operations, maritime policing and limited combat roles. Although the Royal New Zealand Air Force does not maintain an air combat capability it can conduct surveillance and reconnaissance, tactical transport, and projection and sustainment roles in support of the other services and other agencies. The Army is capable of conducting combined arms operations of up to battalion group level (albeit with limited armour and offensive fire support), while also being able to conduct peace support and security assistance operations. Furthermore, the NZDF is developing a limited capability to project power through joint operations (such as through the ability to conduct HADR) and maintains certain force multipliers that can support operations within its maritime domain and contribute to both national and coalition operations. In this regard, the structure of the NZDF is relevant to New Zealand's strategic circumstances and interests as it provides a range of capabilities that can support domestic security (such as CT and EOD), monitor and influence

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[77] As shown at Appendix 2, New Zealand has the 122nd largest size military forces in the world while having the 114th largest ratio of military forces to population.

its maritime and regional environments, and conduct operations with likely partners; although the lack of a maritime strike or interdiction capability could represent a gap in its force structure given the nature and scale of its maritime environment. This relevance is complemented by the NZDF's utility as a generalist force which does not limit it to certain types of operations or structures and provides the government with flexibility in how its military instrument may be employed in support of stated roles and tasks.

The credibility of New Zealand's military capabilities, on the other hand, is constrained by the lack of critical mass and structural depth inherent in the force itself. As a small professional force with sound international linkages and flexibility in force design, the NZDF can contribute to a wide variety of contingencies in its immediate region and as a coalition or collective security partner. It is able to benchmark its force preparation through international exercises and remain interoperable with likely partners. However, the size of the force and its relative lack of investment constrains its ability to conduct these roles and tasks. This is shown in the small size of the NZDF's maritime patrol and surveillance capacity with relatively few vessels and aircraft to meet New Zealand's (largely non-discretionary) responsibilities in its large and varied maritime environment while also providing viable contributions to collective security operations further afield. It also means that New Zealand is likely to experience problems in sustaining major deployments over time, or in conducting concurrent operations, without assistance from partner nations (such as movement and logistics). Furthermore, any deficiencies in sustaining the force structure (such as the personnel shortages or maintenance delays as experienced with the naval platforms) would magnify the effects of the lack of depth and cause further issues in preparing and sustaining deployed forces.

In some regards, the NZDF may be a *single-shot* capability that can complete one task or phase of an operation with one force package but would then have to change the character or scale of its operational commitment as unique capabilities are required elsewhere. However, given its location and low direct threat, New Zealand has the ability to choose the scale and duration of its commitments, and it has proven able to sustain concurrent deployments in low-intensity environments when working with partner states[78]. In this regard New Zealand can provide credible contributions to coalition or collective security operations in low-

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[78] Such as concurrent deployments to Afghanistan, Timor-Leste and the Solomon Islands in the late 2000s – with the latter two missions being conducted at reduced troop scales and in close cooperation with Australia.

intensity environments but it may lack the scale and depth to sustain those activities or participate in higher threat situations. This credibility is a function of the relative discretion that New Zealand has in deciding its commitment to international deployments and the professional standing of the forces that it maintains. However, the limited size of the NZDF means that it may not be able to maintain the same level of assurance for non-discretionary roles, such as maintaining effective awareness and response in its own maritime environment. In this regard the NZDF appears to have necessary but not fully sufficient forces and, like many small states, its credibility would be threatened if its depth and critical mass were to be truly tested.

The structure of New Zealand's Defence Force fulfils many of the expectations established for small states. It maintains a small force that lacks structural balance and is limited with respect to both depth and critical mass. It employs its major platforms to complete a range of roles rather than maintaining specialist capabilities that are limited to one or two specific tasks each, while its forces lack offensive weaponry or the ability to conduct high-intensity combat operations. Furthermore, the NZDF gains economies of scale through international collaboration in training, acquisition, and concept and doctrine development. This is further reflected in design parameters based on interoperability with likely partners and the ability to tap into their larger military systems. New Zealand also works to overcome the limitations inherent in its force by developing Joint capabilities and working in concert with other government agencies as certain of its capabilities act in direct support of their civil counterparts.

The characteristics of New Zealand's military capabilities, however, do move beyond these expectations. The forces are based on generalist, not specialist or niche, designs that can provide for a wide range of utility throughout the conflict continuum. They also maintain a varied range of naval and air assets - reflecting the demands of the state's location and strategic environment. Furthermore, this range is complemented by a capability to project and sustain military force, and, within set circumstances, lead or conduct independent operations. In this regard, New Zealand maintains the capacity for cooperative action with likely partner nations but, instead of being tied to formal alliance structures or specialist/niche force designs, it also maintains the faculty for independent action - as may be expressed by working by itself when the situation permits or in the manner in which it can decide what operations and activities it may conduct with partners in collective security actions. This provides the state with some measure of political and diplomatic flexibility, although the

corollary is that the size and effect of the New Zealand military contribution may be small and limited in both scope and effect. Furthermore, although New Zealand can provide credible combat capabilities to coalition operations, its stronger suit is in lower-intensity operations where it can employ a broader range of its forces. Therefore, although New Zealand does not have specialised or niche forces by design, in practice they may be limited to expeditionary roles in peace support, security assistance and stabilisation operations.

New Zealand's military force structures reflect the state's remote maritime location and the discretion offered by the absence of a direct military threat. This has resulted in the maintenance of modest military capabilities based upon the utility that they can provide the state and the ability to operate in partnership with other states in collective security roles. The military capabilities are shaped by New Zealand's relatively low level of commitment to defence expenditure and its lack of strategic imperative for defence, but also through the benefits offered by the ability to gain economies of scale through a number of international partners. New Zealand maintains a relevant and credible base to its military capabilities, although this is both challenged and limited by the lack of structural depth and critical mass within those forces.

CONCLUSION

New Zealand aims to provide for relevant and credible military capabilities within the constraints of its size and capacity. Although New Zealand's strategic context is shaped by its isolated location and perceived lack of a direct military threat, this is allied with a wide span of responsibilities extending from Antarctic to equatorial climes, and an even wider span of security interests based upon collective security and the international rules-based order. As a result, New Zealand expects its Defence Force to complete a wide range of roles. This is reflected in the determinants of New Zealand's military force structure which are based on the ability to complete non-discretionary roles in its territorial and regional domains, while maintaining select capabilities that can contribute to bilateral, coalition and multinational force structures outside of those areas. The force structure that has resulted from these determinants is one that is postured to complete a wide range of military operations in support of New Zealand's interests; although it possesses only a small capacity to contribute to other forces conducting high-intensity combat operations. Furthermore, the scale of

investment provided to defence in New Zealand means that the NZDF is constrained by a lack of size and capacity in attempting to meet these wide-ranging roles. The NZDF works to overcome these limitations by leveraging the benefits offered by its military partnerships with other states and organisations. These provide the ability to effectively increase New Zealand's military economy of scale, reduce the costs of acquisition and R&D, and provide for greater flexibility in operations. In this regard, New Zealand seeks to maintain a wide range of utility in its modest military capabilities and draw from the benefits of its international partnerships in doing so.

CHAPTER FIVE: MILITARY FORCE STRUCTURES IN NORWAY - BALANCING DEFENCE CONCERNS WITHIN AN ALLIANCE FRAMEWORK

As a small power with extensive global economic and political activities and interests, Norway is particularly prone to work for a robust rule-based international order that can enhance peace and stability and protect against encroachment and discrimination. In a world of anarchy, however, Norway cannot base its security solely on international rules and regimes, so a second line of defence is to maintain national military capabilities to pin down Western powers to the defence of Norway.

Rolf Tamnes (2014, p. 47)

INTRODUCTION

The examination of military force structures within Norway provides a view of how a small state attempts to balance its defence concerns with those of the wider alliance to which it belongs and whom it relies upon for a security guarantee. The weight of Norway's strategic concerns has evolved during the post-Cold War period, with a changing focus between territorial, regional and extra-regional interests. This has had a consequent effect on the military capabilities that it deems necessary to provide for self-defence and to satisfy alliance expectations. The utility of Norway as a case in this study is that it provides an example of how a state that has wealth and natural resources, and acts in a committed internationalist manner, is still limited by perceptions of its relative size and capacity as it seeks to maintain relevant and credible military capabilities that can deter possible threats both individually and through formal alliance arrangements.

This chapter examines Norway's ability to provide for relevant and credible military capabilities by first describing its status as a small state and noting that, although it exhibits some of the characteristics of a larger power, its fundamental relationships with other states are based on a relative deficit of power and capacity. These relationships are then explored through Norway's strategic influences and security policies – ones that provide an imperative

to territorial defence but are shaped by its membership in NATO to impose a wider set of obligations and expectations. The tensions that Norway experiences in trying to balance security and defence concerns based on both territorial integrity and the ability to support NATO's expeditionary endeavours are then reviewed through the outcomes of Norway's efforts to modernise its forces and provide a range of capabilities that can meet both requirements. These are found through the description of Norway's military force structures and the state's ability to design, maintain and employ the resultant capabilities. However, the analysis of these capabilities shows that while Norway provides for a wide range of military structures there are limitations in the balance of its forces. This in turn is reflected in the credibility of its forces which, although they may not be sufficient for Norway's defence requirements in and of themselves, may suffice in fulfilling alliance obligations and ensuring that alliance partners contribute to Norway's security guarantee.

NORWAY'S CHARACTERISTICS AS A SMALL STATE

Norway is a small state, albeit one that exhibits a range of discontinuities in the expectations held of such states. Physically it is the 68th largest country in the world by surface area (Central Intelligence Agency, 2017) and its population of 5.196 million places it as the 118th most populated state in the world (World Bank, 2016). However, Norway has access to large oil and gas resources, with the petroleum industry contributing to approximately 20% of GDP and 50% of exports in 2012 (Norwegian Ministry of Finance, 2013, pp. 3-4). This has provided Norway with great wealth and it is ranked by the World Bank as having the 28th largest GDP in the world (World Bank, 2017), although this represents only 0.52% of global GDP[79]. Norway's economy has been strongly influenced by the petroleum revenues and is characterised by "a high income level, low inequality and a comprehensive public welfare systems [sic] supported by solid public finances." (Norwegian Ministry of Finance, 2013, pp. 5, 7) Furthermore, Norway has recognised that there are limits to the availability of its petroleum resources (Norwegian Ministry of Finance, 2013, p. 7) and, although it may be able to develop further oil and gas fields in the Barents Sea (Gotkowska, 2015, pp. 10-11), successive Norwegian Governments have prudently managed and invested their petroleum

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[79] World Bank GDP figures for 2015 provide an aggregate global GDP of USD $74,152,476,000,000 and the Norwegian GDP as USD $386,578,000,000 (World Bank, 2017).

revenues (Norwegian Ministry of Finance, 2013, pp. 5-6). Norway has further mobilised these resources through an open economy based on a stable democracy (Østerud, 2005, pp. 705, 709) – characteristics that have shaped its relations with the wider world.

Norway's participation in international affairs is based upon its desire to maintain a strong international framework that can help to safeguard its interests (Expert Commission on Norwegian Security and Defence Policy, 2015, p. 62; Tamnes, 2014, p. 66). As a result, it is a strong supporter of the UN and a member of international economic bodies (such as the World Bank, OECD, IMF, and a range of development banks). Although it is not a member of the EU it does participate in the European framework to some degree through the European Economic Area Agreement and the Common Security and Defence Policy (CSDP), and is a foundation member of NATO. Norway has also shaped its international relations around its normative and humanitarian roles within an active policy of engagement (de Carvalho & Lie, 2015, pp. 56-61; Østerud, 2005, p. 705) – applying soft power through conflict mediation, development assistance and humanitarian relief; and contributing military force through UN peacekeeping or, more latterly, out of area deployments in concert with the US and NATO. In this regard Norway has been described as being "more heavily engaged in global affairs than most small players" (Tamnes, 2014, p. 62) and maintaining a role or degree of influence more typical of a middle power (de Carvalho & Lie, 2015, p. 56; Neumann & de Carvalho, 2015, p. 13). However, Norway's ability to maximise these forms of engagement is limited by the nature of its asymmetric relationship with both the United States and Russia, and its relative deficit of power and influence when compared to the larger states within Europe. In this regard Norway perceives itself as a small state and uses international perceptions as such as a means to shape its soft power roles. This perception is reinforced by Norway's relative standing within its immediate security environment which brings home a simple truth to Norway's comparative size and capacity – one which was stated by a recent review of Norway's security and defence policy;

> *Norway is a small country. It is certainly a major actor within the field of natural resources, and its engagement policy is characterised by a high level of activity and the use of significant resources around the world. Norway has also made significant contributions in international military operations. Nonetheless, in terms of* Realpolitik*, Norway is a small country.*
>
> *Expert Commission on Norwegian Security and Defence Policy (2015, p. 14)*

The effects of this Realpolitik develop from Norway's strategic influences and find expression through its foreign and security policies. They position Norway as a small state that seeks influence within the world but also one which faces clear security concerns and seeks assistance in meeting them.

NORWAY'S STRATEGIC INFLUENCES AND SECURITY POLICY

The principle objective of Norwegian security policy is to safeguard Norway's sovereignty, territorial integrity and freedom of action. Norway's fundamental security interest is to contribute to a world order under the auspices of the UN with the emphasis on human rights and the international rule of law. In addition it is most important to strengthen and develop further the transatlantic security community through NATO. Nationally the High North is Norway's most important area for strategic investment.

Norwegian Ministry of Defence (2013, p. 2)

Norway's strategic location positions it as an Atlantic coastal state on the northern fringe of Europe and within the Arctic region (Figure 5-1). During the Cold War this gave Norway strategic relevance as a border state with the USSR that could dominate Soviet approaches to the North Atlantic while providing NATO with the ability to exert influence into the main operating areas of the Soviet Northern Fleet. Norway's security policy during this period was to contribute a form of deterrence (Græger, 2011, p. 5; Hilde, 2014, pp. 95-96); one based on participation within NATO and maintaining a Nordic security community whilst avoiding posing a direct threat to the USSR by limiting what allied military activity took place in its territory (Angstrom & Honig, 2012, p. 678; Græger, 2015, pp. 86, 88; Østerud, 2005, p. 712). The focus during this period was on what Norway terms as the 'High North' – the area of Norway's territorial and maritime concerns within the Arctic Circle. Although the Soviet threat receded at the end of the Cold War the High North still maintains a central focus for Norwegian strategic and security planning due to the state's reliance on offshore petroleum deposits and fisheries, the opening up of arctic shipping routes, and the territorial and

maritime borders with Russia (Archer, 2014, p. 108; Norwegian Ministry of Defence, 2009, pp. 4, 39, 40). Indeed, as shown in Figure 5-1, Norway's strategic focus extends deep into the Arctic region.

The influences of Norway's location and its relationship with Russia also led to the strategic imperative of maintaining an effective security guarantee through NATO. Although Norway maintains an internationalist foreign policy posture, particularly with regards to its support for the UN (Østerud, 2005, p. 713), it actively seeks to manage its security concerns through the NATO alliance framework. This has led to change within Norway's security and defence policies as new threats have either developed or resurfaced in the post-Cold War world and NATO's focus in meeting those threats has changed.

Norway did not make major changes to its security and defence policies in the decade following the Cold War, unlike many of its NATO partners (Græger, 2011, p. 4). This occurred as Norway still had concerns over its border with Russia and there was great internal resistance to change within its defence establishment (Græger, 2015, p. 89; Saxi, 2010a, p. 416). Norway therefore maintained a strong focus on territorial defence and paid less regard to the conduct of international or expeditionary operations (Haaland, 2007, p. 499; Saxi, 2010b, p. 65). However, as the Norwegian contributions to international operations during the 1990s were seen to be deficient or lacking in relative commitment (Græger, 2015, p. 93) Norway developed plans to transform and modernise its military forces (Archer, 2014, p. 101; Haaland, 2007, p. 501; Østerud, 2005, p. 712). This saw Norway depart from previous defence plans based on mass mobilisation to establish smaller, more professional forces that could respond more effectively and more credibly to international deployments (Bogen & Håkenstad, 2017, p. 25; Norwegian Ministry of Defence, 2016a, p. 2; Søreide, 2015) - particularly those deployments that were the new focus of United States and NATO operations. However, Norway still maintained a local focus to its security policies as it developed a greater awareness of non-traditional threats (such as terrorism) and witnessed the resurgence of Russian capability and ambition.
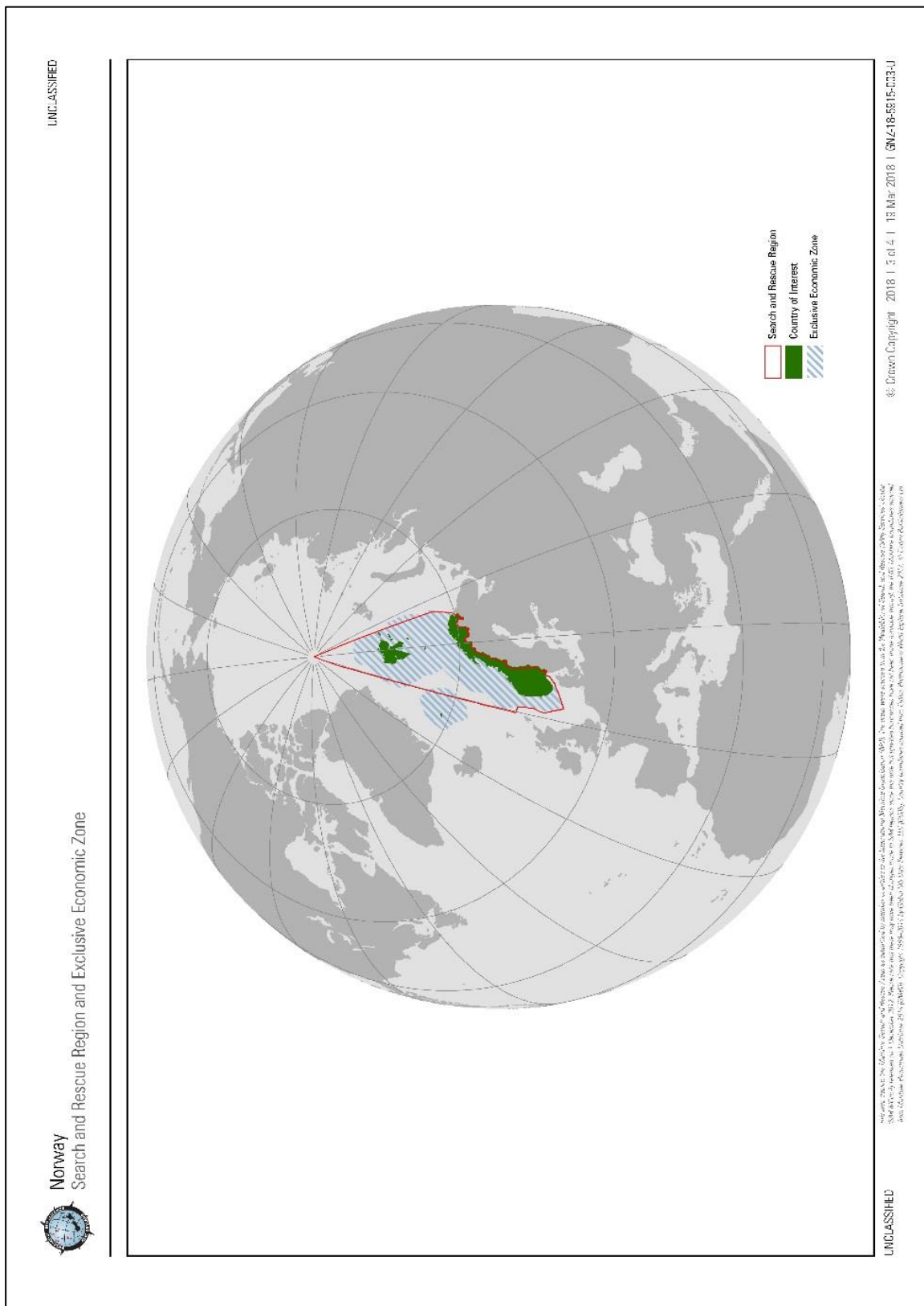
Figure 5-1: Norway's geographic location and responsibilities[80]

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[80] The map contained in Figure 5-1 has been prepared by Geospatial Intelligence New Zealand (2018c) and is used with permission.

Norway's regard for its immediate security was shown in its proposing the core area initiative in 2008 to refocus NATO on the Article 5 guarantees to the security of member states - with the initiative subsequently being adopted in the Alliance's strategic concept of 2010 (Expert Commission on Norwegian Security and Defence Policy, 2015, p. 43). Furthermore, following recent Russian political and military activity (such as the annexation of Crimea, destabilisation in the eastern Ukraine, and the strengthening of its military capabilities in the northern region), Norwegian and NATO attention has shifted somewhat from external crisis management to collective defence and deterrence (International Institute of Strategic Studies, 2017, p. 142; Norwegian Ministry of Foreign Affairs, 2017, pp. 6, 11). In this regard, although Norway is careful to state that Russia is not a military threat (Norwegian Armed Forces, 2015a, p. 5; Norwegian Ministry of Defence, 2016a, p. 8) it does acknowledge Russia's influence on its defence planning. However, Norway's foreign and security policy discourse continues to note a wider range of security concerns and challenges in regional and global contexts (Norwegian Ministry of Foreign Affairs, 2017, pp. 5-6, 11-22). To this end, Norway's security objectives currently reflect the varied demands of territorial and international security in the modern strategic environment as they seek to prevent war, contribute to international peace and security, uphold Norwegian sovereignty, defend Norway and NATO against assault or attack together with allies, and protect society from assault or attack from state and non-state actors (Norwegian Ministry of Defence, 2013, p. 2).

Norway's security objectives therefore provide an imperative to territorial defence and state sovereignty but recognise the role that it plays in international security. National defence is based upon a concept of *Total Defence* to ensure that military and civil resources are used to best effect during periods of crisis and conflict (Norwegian Ministry of Justice and Public Security & Norwegian Ministry of Defence, 2015, pp. 9-10). However, there is the understanding that Norway cannot be insular in its defence planning as it lacks the capacity to defend itself by itself and its membership within NATO remains a fundamental element of Norwegian security and defence policies (Norwegian Ministry of Defence, 2009, pp. 32, 40; 2013, p. 7; Norwegian Ministry of Foreign Affairs, 2017, pp. 6, 11). This is expressed through security and defence policies based on deterrence and, if required, the ability to hold an attacker until allied reinforcements can arrive (Norwegian Armed Forces, 2015a, pp. 5-7; Norwegian Ministry of Defence, 2016a, p. 4) while continuing to provide support to international operations in conjunction with NATO and allies (Norwegian Ministry of Foreign Affairs, 2017, p. 31).

This in turn carries a cost in maintaining Norway's bona fides within the alliance through providing credible contributions to both collective security and out-of-area missions as a means to maintain its own profile and the security guarantee from both the United States and alliance members (Gotkowska, 2015, p. 6; Norwegian Ministry of Defence, 2009, p. 25; Saxi, 2010a, p. 419; 2010b, p. 67). In some regards the use of its military force has become an element of Norwegian foreign policy[81] but the willingness to maintain forces for expeditionary operations was challenged with calls to re-adapt the armed forces for defensive (territorial) operations (Forrs & Holopainen, 2015, p. 47), and consequent policy initiatives that now provide for greater capability in this regard (Norwegian Armed Forces, 2015a; Norwegian Ministry of Defence, 2016a). These effects show the trade-offs that Norway needs to make between territorial defence and expeditionary operations. The tensions inherent in this are shown in the following section through the objectives and tasks of Norway's defence policy and the structure of the military forces that it maintains to meet them.

NORWAY'S MILITARY CAPABILITIES

The level of ambition and operational requirements with regard to Norway's contribution to NATO's collective defence are based on the fact that we have only one set of forces. Forces deployed in operations outside Norway will to a large extent be the same as those intended for the defence of national territory. The structure of the NAF will therefore not be determined solely on the basis of collective defence of Norway.

Norwegian Ministry of Defence (2009, p. 63)

The Norwegian Armed Forces will continue to provide capable and modern forces, on land, at sea and in the air, able to address the full spectrum of conflict.

Norwegian Ministry of Defence (2016a, p. 12)

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[81] Traditionally the Norwegian Armed Forces were not seen as part of the state's foreign policy but, although Saxi (2010a, p. 424) notes that Norway is less inclined to use its military forces in this manner than Denmark, Græger (2011, p. 5; 2015, p. 101) states that the Norwegian Armed Forces are used as a tool within both security and foreign policy.

Norway maintains medium sized[82] and well equipped armed forces capable of operating throughout the conflict continuum based on modern technology and a blend of conscript and professional members. The Norwegian Armed Forces (NAF) currently comprises 11,461 active members (including conscripts on initial service), 4,587 civilian staff and approximately 45,590 reserve members (of whom 45,000 are members of the Home Guard) (International Institute of Strategic Studies, 2017, pp. 142-144; Norwegian Armed Forces, 2017)[83]. These personnel are spread across the services provided by the Norwegian Army, Royal Norwegian Navy (including the Coast Guard), the Royal Norwegian Air Force (including Search and Rescue), and the Home Guard. In addition, the Norwegian defence establishment also includes specialist functions for command and control, the Norwegian Defence Logistics Organisation, the Norwegian Intelligence Service, the Norwegian Defence Medical Service, the Norwegian Defence University College and a Cyber Defence Force (Norwegian Ministry of Defence, 2013, pp. 17-26). This maintains a range of military capabilities and has been developed to provide appropriate forces for deployment in multinational operations abroad and to meet defence tasks at home.

Norway has substantially redesigned its military force structures over the past two decades. This was not only a result of changing strategic requirements but also in recognition of the poor state of Norway's military capabilities as the Cold War drew to a close. At that time the NAF had noted structural, financial and training deficiencies as a manpower intensive force based on a large mobilisation army, a large number of installations and outdated equipment (Bogen & Håkenstad, 2017, p. 23; Græger, 2011, p. 5; Håkenstad & Larsen, 2012, p. 17; Saxi, 2010b, pp. 27, 29, 42). Furthermore, its relevance to the changing strategic environment was challenged as it maintained a focus on territorial defence with international involvement, such as with the UN, seen as a secondary task (Græger, 2015, p. 88). The transformation process that occurred from the early 2000s focused on providing smaller, more flexible and relevant forces to meet a new range of threats and participate in international operations

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[82] As shown at Appendix 2, Norway has the 70th largest military forces in the world while having the 27th largest ration of military forces to population. This places it above the median in international comparison, although Norway's forces are markedly smaller than its major defence partners and allies, and size of its personnel is not reflected in the numbers of its major equipments or regular units (which are relatively few).
[83] The figures provided for personnel numbers within the NAF vary considerably between sources. The figures shown here reflect the numbers provided by the NAF for regular, conscript and civilian personnel. As the NAF source does not provide figures for reserve personnel these figures are drawn from the current edition of *The Military Balance* and it is anticipated that these figures are based on established positions and not actual staffing. Using the personnel numbers in this way provides a more accurate reflection of the current strength of the NAF, although the greater numbers provided by the IISS are used in Table 5-1 and Appendix 2 in order to maintain consistency in the source information.

(Haaland, 2007, p. 501; Østerud, 2005, p. 712). The character of the NAF also changed to smaller capital-intensive forces capable of conducting expeditionary operations in concert with the national defence roles (Forrs & Holopainen, 2015, p. 47; Saxi, 2010b, p. 29). The effect of these changes, and the utility that the NAF now provides the government of Norway, have been succinctly summarised by Bjerga and Haaland (2012, p. 85) in identifying that, "the Norwegian Armed Forces have been transformed from a traditional mobilisation homeland defence force to a modern, flexible instrument of security policy." The role of the NAF in this policy is articulated through the state's defence objectives and the consequent defence tasks.

Norway's defence policy supports the state's security policy through the following objectives:

- *Alone and together with Allies, to secure Norwegian sovereignty, rights and interests as well as maintaining Norwegian freedom of action in the face of military and other pressure*

- *Through participation in multinational peace operations authorised by UN mandate and through international defence cooperation, to contribute to peace, stability, the enforcement of international law and respect for human rights, and to prevent the use of force by state and non-state actors against Norwegian and international security*

- *To counter all types of assaults or attacks in order to safeguard Norwegian and collective security and, together with Allies, to contribute to the collective defence of Norway and other allies in accordance with our NATO Treaty obligations*

- *To contribute to safeguarding the security of Norwegian society, saving lives and limiting the consequences of accidents, natural disasters, assaults and attacks by state or non-state actors*

Norwegian Ministry of Defence (2013, p. 3)

The Norwegian Government further states the following defence tasks in meeting the defence policy objectives:

1. *Ensure credible deterrence based on NATO's collective defence*
2. *Defend Norway and allies against threats, aggression and attacks, within the framework of NATO's collective defence*

3. *Prevent and manage incidents and security crises, including the facilitation of allied support*

4. *Ensure a national basis for decision-making through surveillance and intelligence*

5. *Safeguard Norwegian sovereignty and sovereign rights*

6. *Exercise Norwegian authority in designated areas*

7. *Participate in multinational crisis management, including peace operations*

8. *Contribute to international security and defence cooperation*

9. *Contribute to societal security and other key societal tasks*

Norwegian Ministry of Defence (2016a, p. 4)

These tasks also reflect the Norwegian Parliament's defence concept as espoused in the 2009 strategic concept paper,

> *The NAF are to be developed as a modern, flexible and Alliance-adapted instrument of security policy, with a balance being sought between tasks, structure and funding. The NAF's activities are to be based on close cooperation with relevant civilian authorities and on conscription adapted to the needs of the NAF. Focus will be on securing and promoting Norwegian interests through the ability to handle a broad range of challenges, both nationally and internationally.*

Norwegian Ministry of Defence (2009, p. 55)

The outcome of the aforementioned policy objectives, tasks and concept is that the NAF needs to be able to operate in a variety of contexts - individually, with alliance and/or multinational partners, or in concert with civilian agencies. The NAF needs to be able to operate in hostile arctic climates on land, sea and air. However, it will also be required to operate far from its home bases by projecting and sustaining military capabilities in support of NATO, EU or UN operations in a range of different climatic conditions in Europe and further abroad. It also needs to fulfil national and international obligations for resource protection and search and rescue. Furthermore, the operating concept of the Deterrence Threshold articulated by the Norwegian Chief of Defence in 2015 (Norwegian Armed Forces, 2015a, pp. 7, 9) requires capabilities that provide for strategic surveillance, a credible first line of military defence, the ability to accept and support NATO reinforcements, and the

ability to work with NATO[84]. This in turn implies that Norway needs to maintain a military force structure that can operate throughout the range of military operations. These forces also need to include elements at high degrees of readiness for national defence, whilst being interoperable with NATO militaries and able to deploy in expeditionary roles. The defence objectives and tasks also pose the further problem of how Norway is to maintain suitable forces to meet the demands of national defence and expeditionary operations – the structure needing to be sufficiently large and capable to satisfy both requirements separately and, if even only for a short time, simultaneously.

The current structure of the NAF is shown in Table 5-1.

NORWAY	Regular Forces	Reserve Forces	Total
	24,950	45,590	70,540
SERVICE	**ORGANISATION**	**MAJOR EQUIPMENT**	**REMARKS**
Headquarters:	Defence Staff (Strategic Headquarters). Norwegian Joint Headquarters. Tactical Land Command. Tactical Sea Command. Tactical Air Command. National Territorial Command. Tactical Special Operations Command.		
Land Forces • Regular: 9,950 (including 5,000 conscripts) • Reserve: 270 • Total: 10,220	Brigade Headquarters (Brigade North). 1 x Reconnaissance Battalion (Border Guard). 1 x Armoured Battalion. 1 x Mechanised Battalion. 1 x Light Infantry Battalion. 1 x Light Infantry Battalion (Kings Guard). 1 x Intelligence, Surveillance and Reconnaissance Battalion. 1 x Artillery Battalion. 1 x Engineer Battalion. 1 x Military Police Company. 1 x CIS Battalion. 1 x Support Battalion. 1 x Medical Battalion.	52 x Leopard 2 Main Battle Tank. 116 x CV90 Infantry Fighting Vehicle. 390 x Armoured Personnel Carrier. 20 x Dingo Armoured Vehicle (Reconnaissance). 90 x Javelin Anti Armour Missile System. 18 x 155mm Self Propelled Howitzer. 15 x 155mm Howitzer (Training). 186 x Mortar (81mm and 107mm).	

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[84] The Expert Commission on Norwegian Security and Defence policy (2015, p. 6) previously noted that Norway cannot afford to operate independently in defensive war. If the NAF was not sufficient to establish a threshold for alliance support then Norway would be required to operate independently during the early phases of a war on its territory with the prospect of being isolated and defeated before allies responded. Therefore its initial defensive capabilities need to be credible and not token.

SERVICE	ORGANISATION	MAJOR EQUIPMENT	REMARKS
Naval Forces • Regular: 4,350 (including 2,000 conscripts) • Reserve: 320 • Total: 4,670	Coastal Squadron Norwegian Fleet Support Group Coastal Ranger Command Tactical Boat Squadron Mine Clearance Diver Command	6 x Submarines (Ula Class). 5 x Frigate (Fridtjof Nansen Class). 6 x Corvette (Skjold Class). 3 x Minesweeper, 3 x Minehunter. 11 x Inshore Patrol Craft. 16 x Landing Craft Personnel. 1 x Surveillance Ship. 1 x Support Ship.	To be replaced by 4 x Submarines. To be phased out when F-35 in service. To be reduced to four vessels and then replaced by Mine Countermeasure teams with divers. Additional surveillance ship to re-enter service in 2017. Additional Logistics and support vessel to enter service in 2017.
	Coast Guard	1 x Arctic Patrol Vessel. 8 x Offshore Patrol Vessel. 6 x Inshore Patrol and Logistic Craft.	
Air Forces • Regular: 2,618 (including 1,000 conscripts) • Reserve: 0 • Total: 2,618 (Figures include SAR service)	Maritime Patrol/Coast Guard Support Squadron. Transport Squadron. Electronic Warfare/Combat Support /Executive Transport Squadron. 2 x Air Combat/Training Squadron 1 x Anti-Aircraft Artillery Battalion. 2 x Squadron Maritime Patrol/Anti-Submarine Warfare/Coastal Patrol. 1 x Utility/Special Forces Support Squadron. 1 x Search and Rescue Squadron. Air Force Flight School.	6 x P3 Maritime Patrol Aircraft. 4 x C130-H Transport Aircraft. 3 x Falcon 20 Electronic Warfare Aircraft. 57 F-16 Multirole Combat Aircraft. National Advanced Surface-to-Air Missile System (NASAMS II) (24 x launcher). 14 x NH90 Medium Helicopter. 18 x Bell 412 Utility Helicopter. 12 x Sea King Helicopter. 16 x T-17 Training Aircraft.	To be replaced by 5 P-8A To be phased out. Estimated number of F-16 remaining in service. 4 x F-35A have been delivered (total order of up to 52 aircraft). NH90 not fully operational. To be reduced in numbers. Sea King replacement project underway (16 x AW101).
Special Operations Forces	2 x Land Special Forces Company. Marine Special Forces Company.		
Central Support, Administration and Command • Total: 6,150 (including 600 conscripts) **Home Guard** • Regular: 600 • Reserve: 45,000 • Total: 45,600	All military personnel in Joint elements (including logistics and CIS) Land Home Guard (11 Home Guard Districts). Naval Home Guard (17 Naval Home Guard Areas). Civilian Staff within Defence Headquarters and the three Single Services: 4,587.	 11 x Patrol and Coastal Combatant Craft.	 To be reduced to 10 Districts. Naval Home Guard to be phased out.
Note: The personnel figures are drawn from the 2017 edition of The Military Balance (International Institute of Strategic Studies, 2017, pp. 142-144).			

Table 5-1. Main Elements of Norway's Military Force Structure[85]

The command and control of the NAF is exercised by the strategic headquarters in Oslo and the operational level headquarters – the Norwegian Joint Headquarters (NJHQ) – in Reitan (outside Bødo). These are supported by single service and component commands. The NJHQ plans and leads the operations of the NAF, including training and foreign deployments (Norwegian Ministry of Defence, 2013, p. 17). However, it is assumed that NATO's

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[85] The information used in preparing this table was drawn from the following documentary sources (International Institute of Strategic Studies, 2017, pp. 142-144; Jennings, 2017b; Jones, 2016; Keymer, 2016a, pp. 539-542; 2016b, pp. 414-419; Norwegian Armed Forces, 2015a, pp. 14-15; 2015b; Norwegian Ministry of Defence, 2016a, p. 14; 2016b; Peacock & Keymer, 2017, pp. 453-457; Toremans, 2016).

integrated command structure will take control of the operational elements of the NAF during war, leaving the NJHQ to coordinate the Home Guard and forces not assigned to NATO (Norwegian Ministry of Defence, 2013, p. 13). Furthermore, the tactical headquarters that the NAF maintains for its Brigade North formation is designed to function as a deployable headquarters for international operations as either a divisional or joint force headquarters (Foster, 2014, p. 550). This capacity for command and control is also supported by the Cyber Defence Force that functions to protect military networks against cyber-attack (Gotkowska, 2015, p. 33; International Institute of Strategic Studies, 2017, p. 144; Norwegian Ministry of Defence, 2013, p. 18).

The NAF's physical structures (as shown in Table 5-1) provide military capabilities throughout the range of military functions and the ability to operate in domestic, territorial defence and expeditionary contexts. The maritime forces provide the capability to maintain surveillance and patrol, effect search and rescue, and conduct combat operations in blue water and littoral environments. Certain naval elements can also be attached to alliance or multinational forces for employment in home waters or further afield. The land forces provide the ability to conduct combined arms manoeuvre up to brigade level[86] while concurrently maintaining surveillance of the border with Russia and being able to mobilise the additional forces of the Home Guard for territorial defence tasks. The land forces can also provide force elements to alliance, coalition or UN structures. In a similar vein, the Norwegian Special Forces can also be employed within Norwegian territory or as part of a contribution to international operations (primarily NATO). Finally, the air forces can be provided as individual aircraft or task organised detachments for national and collective defence, or for expeditionary operations. They provide the ability to conduct surveillance and reconnaissance activities; air defence; close air support, air interdiction and maritime strike; and tactical, operational and strategic projection and sustainment.

The utility of these capabilities within territorial, collective, or coalition contexts is further enhanced by their ability to conduct long-range strike (through the F-16s and technologies such as the Naval Strike Missile)[87], and through the force multipliers offered by their Special Forces and intelligence collection capabilities (including specialist surveillance vessels). A further force multiplier will also be realised when Norway introduces a Logistics and Support

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[86] This is found within the Brigade North formation.
[87] Norway intends to further develop these offensive capabilities through the introduction of the F-35 and the Joint Strike Missile (Norwegian Ministry of Defence, 2016a, p. 12).

Vessel that can conduct underway replenishment in mid-late 2017 (Toremans, 2016). In addition, Norway also contributes to and benefits from shared defence capabilities within NATO; such as AWACS and C-17 transport aircraft (Norwegian Ministry of Defence, 2009, p. 82), the Multi-Role Tanker Transport Fleet (Jennings, 2017a), and the NATO Submarine Rescue System (Moe, 2017). Although these assets are not held under direct Norwegian control they do have access to these additional capabilities within the alliance framework.

The structural balance of the NAF reflects the aim to participate credibly in both territorial defence and expeditionary operations, either individually or with a range of partners. This is shown in the full range of military functions that the NAF maintains and its ability to operate throughout the conflict continuum. This breadth across the military functions is complemented by the span within each function as they comprise either a number of supporting assets or employ genuine multi-role capabilities. An example of this is the complementary combined arms effects of the land forces within Brigade North, and the supporting effects provided by the Border Guard, the Kings Guard (with security, light infantry and urban warfare roles (Keymer, 2016a, p. 540)) and the land units of the Home Guard. In addition, the maritime combat capability includes subsurface and surface warfare, with the Fridtjof Nansen class frigates being a multi-role anti-surface and anti-submarine warfare platform that is being upgraded with additional anti-air capabilities (Keymer, 2016b, pp. 416-417). These capabilities are also supported by the multi-role characteristics of the air combat force and the NH90 fleet. Furthermore, the number and types of vessels found in Naval Support and the Coast Guard provide complementary effects between specialist and/or generalist assets, while participation with NATO in strategic transport can help to alleviate any deficiency in national air transport capabilities.

These complementarity effects do provide a useful depth to Norway's military force structures. However the structural depth itself is limited by size: both as an absolute measure when compared to any external threat (such as from Russia), and by role, as the NAF may not be able to replicate the capabilities of deployed units if required for simultaneous operations in national territory. This is most notable with the deployment of land manoeuvre elements as the Home Guard does not maintain a comparable capability with the combat elements of Brigade North; but is also present in the relatively small frigate, maritime patrol and air transport fleets. The structuring of the force to accommodate NATO expectations for deployed operations has the effect of causing Norway to rely even more on alliance support if it were to be directly threatened; with Norway lacking the capacity to be self-reliant and

instead seeking to operate with its allies through the Deterrence Threshold operating concept. In this regard the NAF maintains a wide range of capabilities that can participate in operations throughout the conflict continuum but lacks sufficient structures to conduct or sustain operations without allied support.

The structure of the NAF provides Norway with the ability to meet national objectives and support its security strategies through its membership of the NATO alliance. In accordance with De Wijk's classification of military capabilities, the NAF does not provide Norway with *full spectrum forces* as it lacks the size and scope to 'deal with' all contingencies; although it is capable of participating in those contingencies and can provide a framework for allied operations within its national territory. Similarly, the NAF does not provide *broad expeditionary capabilities* as it lacks sufficient projection and sustainment assets and is again limited by size. However, the NAF can provide focused expeditionary capabilities including command and control elements, and the deployment of niche capabilities (such as Special Forces and force elements with arctic warfare skills), as well as conduct stabilisation operations (*selective expeditionary capabilities* and *stabilization capabilities* respectively). Nevertheless, the greater orientation of Norway's military force structures is towards national defence with those assets deployed on expeditionary operations being drawn from these structures. This reflects the challenges that Norway may face in balancing its defence concerns within an alliance framework and helps to shape the military system and the manner in which it provides for Norway's military capabilities.

PROVIDING FOR NORWAY'S MILITARY FORCES

The NAF supports Norway's security and foreign policies as a key element of the Norwegian strategy of Total Defence and its membership of NATO, while also providing capabilities that can be employed in support of security and foreign policy objectives further afield. The NAF's capabilities are based on wide utility throughout the range of military operations; although its structural balance is limited by size and may be tested by any tension between the domestic, territorial and expeditionary elements of Norway's defence policy objectives. The question, therefore, becomes one of whether Norway has the capacity to maintain relevant and credible military capabilities within the framework of its defence objectives and alliance requirements. This capacity is shown through how the Norwegian military system

provides for its military capabilities, and the priorities that are established in doing so. As will be seen, Norway has a high level of ambition in the design of its military capabilities but faces practical constraints that restrict what the NAF can do in and of itself – this serving to further reinforce its reliance on alliance structures.

The current design of the NAF provides a smaller, more professional and task-focused force than previous mobilisation models. It is based upon Norway's ambition to develop a high quality, technologically advanced force comprising both conscript and professional service personnel that can provide a framework for national defence tasks at home and participate credibly in international operations. This design is based on the transformation of the force structure throughout the first decade of the 2000s to one that embodied the strategic concept published in 2009 (Norwegian Ministry of Defence, 2009), and then the further evolution of that force as Norwegian defence planners responded to Russian political/military developments and the perceived effects arising from constraints in force maintenance and funding[88]. In many respects, Norway is once again postured with regard to a threat to its territory, its interests in the High North, and its role on NATO's northern flank. However, unlike the Cold War, it has a greater capacity and willingness for out-of-area missions whilst the forces themselves are more technically capable but lack the previous characteristic of mass. In this regard, the design of the NAF portrays the fundamental consideration of NATO support and assistance as a base determinant to its force structures and capabilities, and Norway's intent to sustain that support with forces that possess both a wide range of utility and advanced military capabilities.

Norway has supported the initial transformation and the current evolution of its military forces through acquisition policies that encompass both the purchase of new equipment and systems to replace existing capabilities, and the progressive modernisation of certain capabilities to extend their service life[89]. Norway acquires its major military equipment from a number of European and American sources, although it also seeks to cooperate with and support the Norwegian defence industry as a service and equipment supplier to the NAF and a competitor in the international market (Norwegian Ministry of Defence, 2017a, pp. 3-4).

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[88] This is provided in the 2015 Strategic Defence Review by the Norwegian Chief of Defence (Norwegian Armed Forces, 2015a). Not only does this review propose a force structure for the NAF but it also details the effects on Norwegian military capabilities were funding levels not to be increased (Chapter 5). Many of the proposals subsequently found form in the 2016 Long Term Defence Plan (Norwegian Ministry of Defence, 2016a).

[89] This is shown in Norway's current acquisition and development plans (Norwegian Ministry of Defence, 2017a).

The basis for Norway's acquisition and force development planning is found in its current Long Term Defence Plan (Norwegian Ministry of Defence, 2016a) and regular acquisition plans[90]. Although these plans include the range of Norway's military capabilities and operating environments, the scope of previous and forthcoming defence acquisition is based upon capabilities that can contribute to national defence, with a secondary role in out-of-area missions, instead of acquiring major systems or equipments that are primarily intended for expeditionary operations. This is shown through the larger proportion of the acquisition budget being allocated to capabilities such as ships and aircraft which have a greater national defence focus than the expeditionary elements of the Army (Saxi, 2010b, pp. 71-72).

The major military acquisition projects currently underway in Norway reflect the focus on capabilities that contribute to national defence and can support external missions. Although the combat capabilities of the Army will be upgraded, and certain maritime and air capabilities upgraded or replaced, the F-35 combat aircraft, the replacement submarines and the Maritime Patrol Aircraft (MPA) have been accorded priority (Norwegian Ministry of Defence, 2017a, p. 7). These three projects also reflect Norway's preference to work with NATO partners and its desire to develop its own industry. The F-35 purchase is being conducted with the USA, NATO and select international partners with Norway benefiting from the technological development inherent in the project and the Norwegian development of the Joint Strike Missile (Norwegian Ministry of Defence, 2016a, p. 12). The selection and acquisition of the P-8A Poseidon MPA provides comparative capabilities with the USA and the UK while operating in the High North (Jennings, 2017b; Willett & Rahmat, 2017, pp. 30-31) and provides Norwegian access into ongoing technological development. Furthermore, Norway is establishing a strategic partnership with Germany to procure and operate identical submarines to the Germans (Norwegian Ministry of Defence, 2017b). Each of these three projects demonstrates Norway's desire to maintain technologically advanced capabilities while gaining economy of scale through working closely with NATO partners. Furthermore, these and Norway's current capabilities will be complemented by the Logistic and Support Vessel and two new surveillance ships. However, there are constraints to these projects as they also represent a physical decrease in capability. The acquisition of five P-8A to replace six P-3 and three D-20 patrol and surveillance aircraft was planned to be supported by the additional acquisition of UAVs (Norwegian Armed Forces, 2015a; Wezeman, 2016, p. 11) –

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[90] Such as the Future Acquisitions Plans for the periods 2015-2023 (Norwegian Ministry of Defence, 2015) and 2017-2025 (Norwegian Ministry of Defence, 2017a).

although these do not appear on the current acquisition plans (Norwegian Ministry of Defence, 2017a). The F-35s will replace both the F-16 combat aircraft and the current missile corvettes (Norwegian Ministry of Defence, 2016b; Peacock & Keymer, 2017, p. 453), whilst only four submarines will be acquired to replace the current fleet of six (Keymer, 2016b, p. 416)[91]. As a result, although Norway's military capabilities will become more technologically advanced and intrinsically capable, there will be fewer of them. Furthermore, the F-35 acquisition alone represents 35% of Norway's planned capital expenditure over the 2017-2025 period (Norwegian Ministry of Defence, 2017a, p. 6), with the MPA and submarine projects also requiring large expenditures. Although these capital acquisitions are planned and sequenced over a number of years to reduce the impact on the defence budget, and additional funding is provided by the state to fund the major acquisitions (Græger, 2015, pp. 89-90), Norway's ability to meet its level of ambition for the NAF is constrained by the levels of finance allocated to defence.

On the face of it Norway apportions large resources to its military forces. This is shown in the defence budget which has generally increased since the end of the Cold War (Figure 5-2) and Norway's relative standing internationally with a high order of defence spending per capita (Table 5-2). However, Norway's relative commitment to providing defence funding has declined since the end of the Cold War, both as a percentage of GDP and of government expenditure (Figure 5-3), and by international comparison (Table 5-2). In this regard, although the healthy state of the Norwegian economy has supported military spending in real terms (Gotkowska, 2015, p. 30), the defence budget did not keep pace with rising costs, and faced challenges in meeting the requirement to recapitalise the force, to support the move to a more professional personnel structure, and to provide for current operations (such as the commitment to Afghanistan). Norway also failed to meet the 2% of GDP target agreed by NATO members and, although it did meet the agreed NATO standard of apportioning 20% of its defence spending to acquisition (Søreide, 2015), these figures may be distorted by the impact of big ticket items such as the F-35. However, the Norwegian Government has recognised the effects of funding limitations on the force and recently moved to increase defence funding (Norwegian Ministry of Defence, 2016a, pp. 2, 9, 12) – although this will remain short of the NATO target of 2% of GDP (Fryer-Biggs, 2016). Nevertheless, the

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[91] The NAF recommended acquiring six new submarines to replace the current fleet (Norwegian Armed Forces, 2015a, p. 19). Furthermore, although Jan Joel Andersson (2015, p. 478) notes that conventional wisdom describes four submarines as the minimum necessary to maintain the capability, this provides the minimum capability and is likely to restrict operational flexibility.

effects of previous fiscal policies combined with the size of the force itself have shaped how Norway sustains the NAF and maintains its military capabilities.
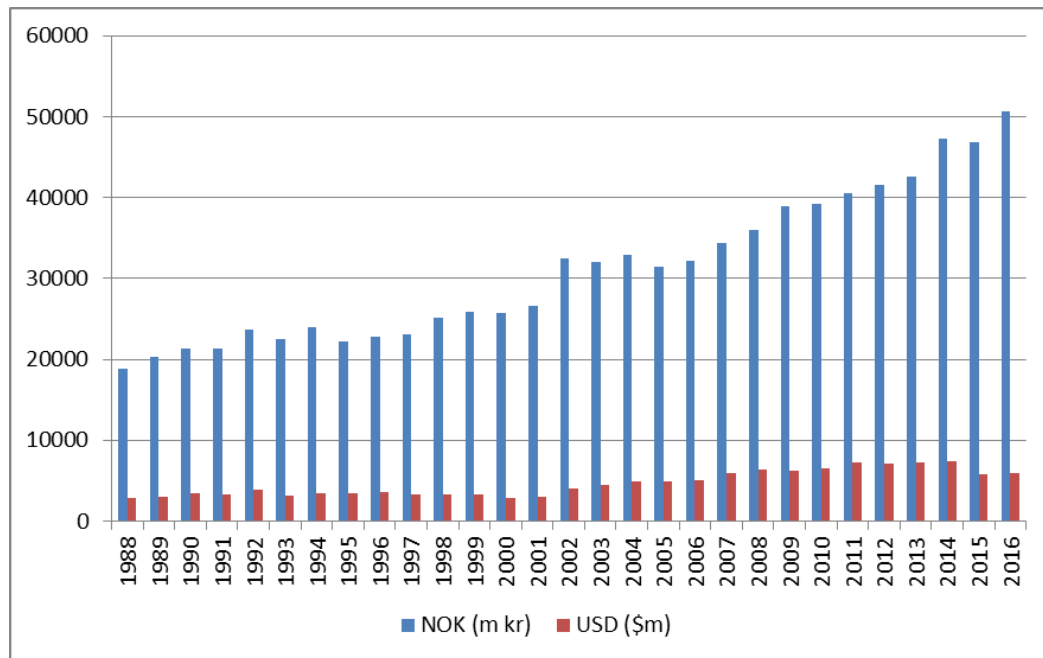
[Information drawn from SIPRI Military Expenditure Database (2017)]

Figure 5-2: Norway's post-Cold War defence budget
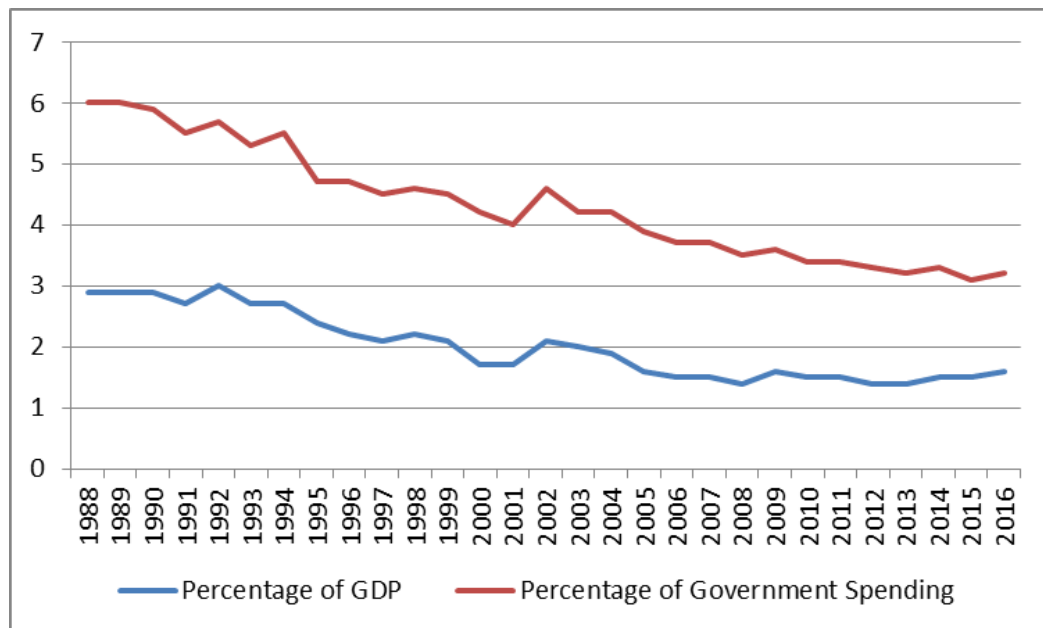
[Information drawn from SIPRI Military Expenditure Database (2017)]

Figure 5-3: Norway's post-Cold War military expenditure

145

Comparison Area	Norway's Rank Position	Remarks
2016 Military Expenditure (USD)	32	145 states ranked
2016 Military Expenditure per capita	7	
2016 Military Expenditure as % of GDP	61=	
2016 Military Expenditure as % of Government Spending	100=	

[Information drawn from SIPRI Military Expenditure Database (2017)]

Table 5-2. International comparison of Norway's defence spending[92]

Norway has described the basis for its planned increases in defence expenditure as "[y]ears of underfunding, combined with a high operational tempo, have also created shortfalls in training, maintenance and upgrades" (Norwegian Ministry of Defence, 2016a). This resulted in a range of practical effects that restricted the functioning and viability of the force. The NAF has been hampered by low recruitment and retention rates for professional members[93], whilst training for some conscript units was limited by finance[94]. The NAF also experienced low equipment availability rates, with the Leopard 2 main battle tanks and F-16s being prime examples of where fleet availability was reduced in order to prioritise funds elsewhere (Foster, 2014, p. 548; Peacock & Alexander von Rosenbach, 2014, p. 482). These effects were manifested through low readiness rates, an inability to crew some naval platforms, and consequent effects for operational availability and introduction into service activities (Foster, 2014, p. 465; Gotkowska, 2015, pp. 34-35). This was caused not only by financial challenges but also the effects of a long period of operational service on a small force – with elements such as helicopter pilots being especially strained by the commitment to Afghanistan (Peacock & Alexander von Rosenbach, 2014, p. 482).

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[92] SIPRI does not hold data for all states so the rank positions for Norway are comparative only as some of the states not factored into the calculations are larger than Norway or likely to spend more on their military forces (such as North Korea).

[93] This is shown in the Royal Norwegian Navy as only 60% of ships have been properly staffed, while all three services have experienced difficulty in recruiting and retaining professional and technical staff (Keymer, 2016a, p. 541; 2016b, p. 416; Peacock & Keymer, 2017, p. 455).

[94] It is assessed that only 5,000 of the 45,000 members of the Home Guard are provided with any significant training (Foster, 2014, pp. 549-550). Furthermore, the amount of training conducted for soldiers was assessed at a five year low in 2015 (Keymer, 2016a, p. 541).

Norway's response to these effects has encompassed budgetary, efficiency and personnel policies. The current Long Term Defence Plan proposes allocating an additional NOK 165 billion to defence over the next 20 years to address short term requirements and then provide for long term capabilities (Norwegian Ministry of Defence, 2016a, p. 12). Furthermore, Norway also plans to reduce costs and realise savings through internal efficiencies to gain the greatest benefit from the budget increases and reallocate resources to priority areas (Norwegian Ministry of Defence, 2016a, p. 12). Norway previously husbanded its resources by closing surplus air and naval bases and focusing on core facilities (Foster, 2015b, p. 465; Peacock & Alexander von Rosenbach, 2014, p. 482), increasing the term of national service for border guards to ensure better skill retention and lower training costs given their specialist equipment (Foster, 2014, p. 548), and implementing enduring commercial support agreements to help maintain the new technologies being introduced into service (such as the frigates (Foster, 2015b, p. 471)). Its current defence policy will build upon these measures with plans to concentrate logistic activity and bases along main communication and information technology arteries with a resulting reduction in costs (Norwegian Armed Forces, 2015a, pp. 16-17), and further rationalising base structure and closing additional bases (Norwegian Ministry of Defence, 2016a, p. 15) as part of the measures to gain greater internal efficiencies. These initiatives are also present in current plans to reduce the numbers of personnel within the NAF, increase the numbers available for operational roles, and increase the numbers of crew available for naval platforms (Norwegian Ministry of Defence, 2016a, p. 13). Norway also intends to change the personnel structure of the NAF and provide for a greater proportion of other ranks while restructuring the training and education system to improve quality and lower costs (Norwegian Ministry of Defence, 2016a, p. 17). Nevertheless, Norway's efforts to improve the efficiency, scale and capacity of its armed forces are not limited to internal measures but are also present through its international cooperation.

The shape of Norway's international defence cooperation is not based solely on alliance and security relationships, but also on economic and capacity considerations. Norway's key defence relationships are found in its membership in NATO and support for the UN. However, its collaboration with Sweden, Finland, Denmark and Iceland in the Nordic Defence Cooperation (NORDEFCO) organisation also provides an important capability and development relationship that aims to increase capacity through common research, development and training. Furthermore, Norway has various administrative support

147

agreements with NATO and the EU (including the EDA) and gains economies of scale as a member of the European Participating Air Forces group for F-16s and through its agreement with Denmark to share maintenance for the C-130J fleet (Peacock & Alexander von Rosenbach, 2014, p. 482). Nevertheless, international cooperation is not a panacea for Norway's requirements as initiatives to conduct joint procurement with its Nordic neighbours have encountered difficulties and seen acquisition plans falter or be delayed though differences in user requirements or capability selection[95], and it is also anticipated that certain selection decisions have been made as a means of retaining the attention and goodwill of alliance partners, such as the United States (Græger, 2015, p. 92; Vucetic & Rydberg, 2015, p. 64). Furthermore, Norway's international obligations also incur additional costs as it provides host nation support to USMC pre-positioned stocks and airbases that may be used by the US and NATO in times of crisis or war (Expert Commission on Norwegian Security and Defence Policy, 2015, pp. 43-44; Forrs & Holopainen, 2015, pp. 22-23); although this remains a key part of Norway's Deterrence Threshold operating concept.

This international cooperation is also an important part in how Norway trains, prepares and employs its military forces. Initial training is conducted in Norway through either conscript service or professional contracts. Although conscript service is set for 12 months, certain elements such as the border guard remain in service longer as they require specialist training for their roles and to reduce costs or capability gaps (Foster, 2014, p. 548). The conscripts are also deployed on operational capabilities (such as the frigates), although there are plans in place to recruit more professionals to serve on technologically advanced platforms and equipment (Foster, 2015b, p. 468). Norway also uses international arrangements to provide for specialist training to gain economies of scale – such as through participation in EU-NATO pilot training schemes (Peacock & Keymer, 2017, p. 455) - and participates in a wide range of collective training activities, either by hosting NATO activities such as the 'Cold Response' exercises or by participating in collective defence and single service exercises in other NATO countries. It also used collective training activities as a form of military diplomacy with Russia to help promote bilateral cooperation in the High North, although it has suspended most of this military cooperation following events in the Crimea and

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[95] Key examples of this include the planned acquisition of the Archer artillery system with Sweden, the Nordic Standard Helicopter Project and the Viking Class submarines (Forrs & Holopainen, 2015, pp. 29-30; Järvenpää, 2014, pp. 145-148; Tamnes, 2014, p. 59).

Ukraine[96]. The concepts and doctrine that Norway uses in training and operations have been derived in large part from NATO and allied methodologies, reflecting the requirement to remain interoperable as a member of the alliance. However, although it is noted that Norway retains its own doctrinal precepts as developed for national defence during the Cold War, and the emphasis on national defence can also be seen in operational concepts and force design that favour sea denial and mechanised conventional warfare (Foster, 2014, p. 467; 2015b, pp. 548-550), it has been argued that Norway shows limited doctrinal variation from its major partners and that its publications can be described more correctly as a tool for communication rather than to enhance operational performance (Bjerga & Haaland, 2012, pp. 99-101).

The interoperability of Norway's concepts and doctrine is also evident in how it employs its military forces. In the past 15 years Norway has maintained forces in Afghanistan (most notably a Provincial Reconstruction Team), provided observers and specialist capabilities to the UN, and currently supports military capacity building activities in Iraq. It deployed six F-16s in a combat role to NATO operations over Libya in 2011 (Græger, 2015, p. 96; Wivel, 2014, p. 79), and has supported NATO and EU patrol and anti-piracy missions with both air and naval assets. Norway has also provided forces to multinational battle groups[97] and contributed to the German led NATO battalion in Lithuania (BNS/TBT Staff, 2017). This is in addition to the conduct of regular response, surveillance and patrol activities within Norway's territory and maritime domain, and through occasional deployments to Iceland under bilateral agreement (Peacock & Keymer, 2017, p. 454). However, Norway's ability to meet this level of operational commitment is affected by its size and capacity. The effects of these constraints are shown in how it has prioritised its resources between the military requirements of readiness, operations and modernisation, and the further impacts on the relevance and credibility of its military capabilities.

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[96] This relates to military activities and exercises, although Norway and Russia do still cooperate in a range of coast guard, border guard and SAR roles (Norwegian Ministry of Foreign Affairs, 2017, p. 29).
[97] These have included participation in the Nordic Battle Group and the NATO Response Force (Keymer, 2016a, p. 539; Norwegian Ministry of Defence, 2013, p. 10).

PRIORITIES WITHIN NORWAY'S MILITARY SYSTEM

Norway has experienced practical difficulties in trying to satisfy the requirements of readiness, operations and modernisation within its military system. This was caused by the size and scale of the forces themselves, the level of resourcing provided, and the range of commitments that Norway has to meet between national defence tasks and expeditionary deployments in support of alliance and foreign policy objectives. A further complicating factor has been Norway's efforts to simultaneously sustain an increased operational tempo, transform the force, and meet readiness requirements (particularly in the face of a resurgent Russia) over the past two decades. Notwithstanding the recent increase to the state's defence budget, Norway lacks the size and capacity to address all three requirements simultaneously and has been required to prioritise effort between them.

Norway's military readiness is based on continuous surveillance of its air and maritime domains, and of its border with Russia. This is combined with the ability to respond quickly to resolve incidents and, when necessary, mobilise to defend key assets and maintain national sovereignty until alliance support arrives. This provides the ability to maintain knowledge of the national area and cue in forces when required. However, this model does face constraints given the size of the forces that Norway maintains and the other commitments that it meets. Although Norway has increased the period of service of its Border Guards to maintain a greater degree of proficiency in border surveillance its ability to respond to any land incidents is hampered by the lack of training within the Home Guard (Keymer, 2016a, p. 541) and training cycles for the regular forces of Brigade North which means that only one third may be trained and ready at any one time (International Institute of Strategic Studies, 2017, p. 142) - though this may be alleviated in the future by plans to increase the size of the border forces and the rapid response forces of the Home Guard (International Institute of Strategic Studies, 2017, p. 142; Norwegian Armed Forces, 2015a, p. 14). The ability of the naval and air forces to meet readiness levels is also constrained by manpower limitations, particularly in the frigate and submarine fleets, and the inability to maintain the full fleet of F16s. Furthermore, the lack of structural depth in Norway's military force structures exacerbates these issues as operational commitments of key military capabilities (such as frigates, combat and support aircraft, and army units) means that they are not immediately available for national defence, while also imposing the burdens of needing to replace and sustain those

150

forces over time. Although Norway is currently working to address these readiness issues through the initial stages of the Long Term Defence Plan[98], the commitment of forces to NATO standby groups[99] or operations causes stress in Norway's military structures and constrains its ability to meet national defence tasks.

Norway has greatly increased its operational tempo since the late 1990s; contributing land, air and maritime forces of increasing size and capability to a range of deployed missions in support of multilateral, alliance and national objectives. These deployments have placed a strain on key elements of Norway's force structure through the high demand for force elements to be preparing for, conducting, or regenerating after operational service. Even though Norway has a policy of rotating different capabilities on operations (Keymer, 2016a, p. 539) this is not always possible and can create difficulties in areas where the NAF lacks structural depth or has current deficiencies; such as in technical trades and helicopter crewmen. Indeed, the size and composition of the NAF constrains the degree to which Norway can participate in deployed operations as it has not been able to sustain a constant rate of effort for naval or air capabilities and experienced difficulty in sustaining its land based commitments in Afghanistan. Furthermore, although the Government apportioned additional funds to support operations, the increased costs that result in supporting and conducting such deployments reduce the resources available to sustain the force or provide for the development and modernisation of capabilities.

The size and operational tempo of the NAF has affected its ability to modernise the force. A notable characteristic of the NAF is the structural transformation and re-capitalisation that has occurred since the end of the Cold War. To a large degree the force transformation was funded through reducing the scale of capabilities and bases, and reinvesting the funds saved, while the Government also provides additional funds for key equipment purchases (such as the F-35 Joint Strike Fighters). Norway could then focus its modernisation and acquisition activities on a smaller force structure. However, there have been practical constraints with

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[98] The Long Term Defence Plan intends to increase the number of frigate crews to five to allow for the continuous operation of four vessels, with a similar policy to be followed for the mine counter measure vessels as five crews will be maintained for a fleet of four vessels. Furthermore, the initial budget increases will be targeted on addressing logistics and maintenance shortages within the NAF (Norwegian Ministry of Defence, 2016a, pp. 12-13). A related policy is the planned transformation of the Armoured Battalion to a professional model (Keymer, 2016a, p. 540) which, in conjunction with the Telemark Battalion, will provide the NAF with two army units at a higher degree of readiness.

[99] Norway has provided a frigate and mine countermeasure vessels to NATO standing groups, and has the intention of being able to contribute one frigate continuously to international missions if required (Keymer, 2016b, p. 414).

this smaller force structure as Norway has less capacity to conduct operations and introduce new capabilities concurrently (with past manning issues with the frigates being a case in point). Furthermore, although Norway maintains a logical and sequenced acquisition plan, the introduction of new equipment and the maintenance of operational capabilities can be adversely affected by delays as a result of its small size – either through the failure of collaborative defence acquisition projects, through the lack of personnel to conduct projects and introduction into service activities, or through manufacturing delays that lead to a loss of trained staff (an effect noted with delays in the delivery of the NH90 helicopter (Peacock & Alexander von Rosenbach, 2014, p. 485)). This has caused Norway to maintain aging capabilities with increasing costs or accept gaps in the fielding of new capabilities (such as the effect of the delay in fielding maritime helicopters and the naval strike missiles on the frigate and corvette fleets (Keymer, 2016b, pp. 414-415)) that in turn restrict operational viability. Thus, constraints in modernisation also affect the NAF's readiness and support to deployments.

Norwegian defence activities since 2000 have placed demands on its ability to conduct operations, modernise the force and maintain readiness requirements. To a large degree the rate of operations and transformation activities means that it has not had the luxury to focus on one requirement to the exclusion of the other two. However, the constraints of the NAF's size and structural depth, and its ability to sustain and resource the force, means that it has not been able to satisfy the three requirements simultaneously. This has led to a focus on the conduct of operations and modernisation, with less priority and resources made available to readiness requirements. Although Norway has allocated funds to address immediate readiness issues this is occurring in a time of a relative operational pause and the majority of the additional funds over the next 20 years will address capital investment requirements for equipment and infrastructure. In this regard, Norwegian intentions to maintain readiness and contingency forces may still be vulnerable to its force development plans and support for current operations. As the Norwegian defence concept is based on a demonstrated ability to provide a viable first line of defence the constraints caused by its size and capacity will affect the relevance and credibility of its military capabilities, and reaffirm its dependence upon the NATO alliance to provide for its defence and security objectives.

NORWAY'S CHARACTERISTICS AS A SMALL STATE MILITARY FORCE

> *Today's defence is unsustainable over the medium and long term. Our ambition level,*
> *structure and available resources are under great pressure, and will fall further out*
> *of balance is we don't make some fundamental choices.*
>
> *Ine Eriksen Søreide, Norwegian Minister of Defence (Søreide, 2015)*

Earlier I posed the question of whether Norway has the ability to maintain relevant and credible military capabilities within the framework of its defence objectives and alliance requirements. This question was posed with regard to Norway's capacity to maintain its force structures and the tension between the territorial and expeditionary foci of its defence policy objectives. This is an issue that the current Norwegian Minister of Defence addresses in the preceding quotation as she presages the financial, organisational, and technological choices that Norway must make in providing for its defence, and foreshadows the policy developments expressed in the 2016 Long Term Defence Plan. These choices recognise that Norway has limits in its ability to maintain balanced military force structures. Norway has addressed these limits by designing forces that are relevant and credible but not sufficient: this reinforces Norway's reliance on Alliance support and, as a small state in an alliance, shapes its defence activities and plans.

Norway maintains medium sized and well equipped armed forces that are capable of operating across the range of military operations in modern operating environments but lack the size to provide for its own defence through independent action or the critical mass to sustain operations abroad and provide sufficient forces at home. The relevance of Norway's military capabilities are founded upon the environment that they operate in and the tasks that they must complete. In this regard the structure of the NAF is relevant to Norway's circumstances as it provides assets to meet likely contingencies in the High North through the surveillance and monitoring of Norway's EEZ, SAR region, and territorial claims in blue water and arctic environs. Land and specialised forces also provide the ability to support the civil authority in resolving low level or criminal/terrorist threats, while the NAF's combat capabilities are designed to operate as joint forces in concert with NATO allies to deter or resolve military threats to Norwegian sovereignty. Furthermore, although Norway currently

lacks sufficient power projection and sustainment capabilities for independent action in expeditionary operations, the forces are interoperable with likely partners and can be tailored to meet a range of assistance, support and combat tasks. The NAF's military capabilities are thus structured to conduct surveillance, response and combat tasks at home and contribute to allied and coalition operations further afield.

The credibility of Norway's military capabilities is based on two levels. Tactically the forces are credible in that they employ modern technology and operating concepts, and exhibit the required degrees of competence once they are trained and deployed. Furthermore, the NAF is able to benchmark itself against US and NATO standards through frequent international exercises and NATO activities. In this regard Norway is able to provide credible contributions to NATO and coalition operations. However, the NAF does experience difficulties in maintaining its status as a credible force at operational and strategic levels as it lacks the critical mass and structural depth to provide for national defence and sustain deployed operations simultaneously. This effect is exacerbated by deficiencies in manning, maintenance and sustainment that affect force readiness. These deficiencies not only affect Norway's ability to conduct operations but they may also affect the effectiveness of its concept of the Deterrence Threshold as it has to be seen as being prepared and ready to respond to potential threats. Although Norway's surveillance, reconnaissance and offensive strike capabilities provide the basis of the deterrent effect, this may be moderated by absence of major force elements on international deployment and/or a lack of readiness in the forces maintained at home. Thus the size and availability of the force represents a potential constraint to the credibility of Norway's defence. Nevertheless, the operational and strategic credibility of the NAF is not solely a function of its capability to act independently but rather its ability to function with alliance support.

Norway maintains, and is reinvigorating, its ability to receive and support alliance forces inside its territory. Its participation within expeditionary operations has also been designed to prove its support to the alliance and key allies within that framework. However, this support has reduced the capabilities that it can provide for national defence following its force transformation in the 2000s – in effect, increasing its requirement for alliance support through its very actions to ensure that support. Although it is likely that Norway's active role within the NATO alliance serves as a deterrent against possible threats, and notwithstanding Norway's recent increased financial commitment to its military forces, the depth of that support needs to be tested against a range of factors. These include the US focus on other

154

regions and its expectation of greater commitment from NATO partners, the effect of defence cuts in Europe, the focus of new NATO partners on their own borders, and Norway's current inability to meet the NATO standard of 2% of GDP for defence expenditure. Norway gains a lot through its membership of the NATO alliance and this makes up for deficiencies in the balance of its military force structures. However, the degree of guarantee is not assured and Norway recognises that it would lack the ability to conduct a military defence by itself. Thus, maintaining the Alliance's interest in Norway forms one of the key focus areas of its military characteristics as a small state.

Norway's military capabilities conform to many, but not all, of the expectations established for small states. The lack of structural depth and critical mass does limit the NAF's ability to fulfil all of Norway's defence tasks – particularly any concurrent requirement for expeditionary operations and national defence. This has been a key factor in shaping Norway's activities within NATO as it recognises that, as a small state, it needs to service the alliance relationship in order to overcome the limitations of size and capacity in providing for national defence. Norway has sought to overcome these limitations through the use of complementary capabilities, developing flexible and robust forces, applying collaborative acquisition and maintenance policies, and employing advanced technology to increase operational viability and maintain interoperability with alliance and coalition partners. However, although Norway is limited in the forms of military capability that it can project, it does move beyond expectations for small state military forces in that it maintains capabilities across the range of military functions and can operate throughout the conflict continuum. It has also provided combat capabilities to high-intensity operations (such as the NATO air missions over Libya) and participates in expensive high-technology projects with partner nations (the F-35 being a case in point). These serve as actual and potential force multipliers that enable Norway to make valuable contributions to alliance and multinational operations.

Norway's military force structures reflect the foundation of Norway's security and defence policies on its membership of NATO and the influence of its proximity to Russia. As a result, Norway maintains a wide range of military capabilities that can work within NATO structures; although the size and capacity of those forces have been constrained by size and the relative level of commitment of the state to sustain them. Norway has maintained strong technological investment in those capabilities that best support its military operating concept – such as surveillance and maritime strike – and would be of the greatest utility to NATO if Norway were to be directly threatened. However, it also maintains some capacity to respond

to contingencies throughout the NATO area and participate in out-of-area missions. In this way, although Norway continues to perceive itself as a small state restricted by relative limitations in size and capacity, it does work to provide military capabilities that support its defence concepts and security policies.

CONCLUSION

Norway aims to provide for relevant and sufficiently credible military capabilities as a small state within the NATO Alliance. Although it is a relatively wealthy state it perceives itself as small in terms of the asymmetric nature of its relationships with Russia and the United States. These relationships have also shaped how it perceives its strategic context as a Western state that shares maritime and land borders with Russia, and one that lacks the size and capacity to provide for its own military defence. The fundamental element of Norway's security policy is its membership of the NATO Alliance and the security guarantee that this provides. However, Norway's membership of NATO has created a tension in its defence policy since the end of the Cold War as it attempts to balance national defence with the requirement to show commitment to NATO operations abroad. This also occurred at a time when Norway sought to reduce the costs of its military capabilities and provide for viable forces through transforming the conscript based mobilisation force to a smaller more robust and responsive structure. Norway has consequently reduced the proportion of national resources allocated to the Norwegian Armed Forces and, although individual force elements may now be more technologically capable and operationally experienced, it lacks structural depth and is challenged in maintaining readiness requirements.

Nevertheless, Norway does provide military capabilities that are relevant to the primary determinants of national defence and the range of operational deployments that it chooses to conduct. Furthermore, although Norway does not maintain the ability to provide for its own defence by itself, its forces are designed and maintained to be tactically competent and sufficiently credible to maintain a security guarantee through the NATO Alliance. In this way, Norway is a small state that actively seeks to overcome the limits of its size and capacity through balancing its defence concerns in an alliance framework.

CHAPTER SIX: MILITARY FORCE STRUCTURES IN SINGAPORE - SELF-RELIANCE IN THE FACE OF STRATEGIC VULNERABILITY

The limited land area, small population base and the relative absence of natural resources including potable water, has meant that as a country, Singapore is always concerned with political survival and national viability.

Narayanan Ganesan (2005, p. 1)

INTRODUCTION

Singapore's military force structures provide an example of how a small state seeks to work within the international system but is prepared to provide for its security and defence in a self-reliant manner. Singapore perceives the potential for a range of direct and indirect threats to its territorial integrity and sovereignty, and maintains a doctrine of Total Defence across all sectors of government and society. It seeks to maintain its security through the effective functioning of the international system, particularly in the regional context, but maintains the capacity to provide for its own defence if need be. As a result, Singapore maintains large military forces with a wide range of capabilities to help provide for its defence and overcome its sense of strategic vulnerability.

This chapter examines Singapore's ability to provide for relevant and credible military capabilities by first describing its status as a small state and noting that, although it has developed a range of capabilities and structures that provides it with influence, its fundamental relationships with other states are shaped in an asymmetric manner by its small size and sense of strategic vulnerability. These relationships are then explored through Singapore's strategic influences and comprehensive security policies – ones that provide an imperative for maximising capacity across all elements of national power to demonstrate resolve to first deter and then, if required, defeat any potential aggression against the state. The effect of these policies is then found in the description of Singapore's military force structures, the scale and capability of those forces, and the continuing commitment of the state to provide for them. The analysis of these capabilities shows that in many respects

Singapore maintains military capabilities in excess of what may be expected of a small state – in large part as a counter to its perceptions of strategic vulnerability without external security guarantees.

<u>SINGAPORE'S CHARACTERISTICS AS A SMALL STATE</u>

Singapore is a small island city state that has achieved great economic growth since becoming an independent state in 1965. It is the 192nd largest country in the world by surface area (Central Intelligence Agency, 2017) and its population of 5.535 million places it as the 113th most populated state in the world (World Bank, 2016); although two million of its population are residents, not citizens (Raska, 2016, p. 136), and the population growth rate has declined over the past two decades with fewer people available to meet the demands of state structures and the growing economy. Nevertheless, Singapore has invested in its population since independence with a strong education system and associated government policies proving effective at developing the state's human capital; resulting in an effective civil service, entrepreneurial economy and high rates of technological pick up. The development of these human resources has been in part a reaction to Singapore's dearth of physical resources (such as oil, gas and mineral deposits (Ganesan, 2005, p. 102)) and its inability to support its population and economic growth through internal capacity. However, Singapore does have a strong physical resource in terms of its location and port – assets that have shaped its economic growth and involvement in regional and international affairs.

Singapore is located at the southern tip of peninsular Malaysia on the nexus between the major shipping routes through the Straits of Malacca and the Strait of Singapore. As such it is well positioned to act as an entrepot for regional commerce and a transhipment point for these major sea lanes, and it currently maintains the 37th largest GDP in the world (World Bank, 2017) - although this represents only 0.39% of global GDP[100]. Singapore has built its economy on the capacity and services offered by its port, as a victualing and transhipment station, and through the provision of value-added services such as oil refineries (Ho, 2012, pp. 134-137). It has complemented these physical assets with tertiary industries in the

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[100] World Bank GDP figures for 2015 provide an aggregate global GDP of USD $74,152,476,000,000 and the Singaporean GDP as USD $292,739,000,000 (World Bank, 2017).

financial and service sectors and is assessed as being a highly globalised state (Yee-Kuang Heng, 2013, p. 395), greatly entwined within regional and global economic systems. This economic involvement is complemented by Singapore's diplomatic participation within regional and international affairs.

Singapore recognises its status as a small state and that it requires a strong international framework to safeguard its interests. As a result, Singapore is actively involved in the United Nations and international economic agreements and bodies (such as the WTO, APEC and development banks). It is also a founding and active member of the Association of Southeast Asian Nations (ASEAN) as a regional group with wider international linkages that helps to maintain cordial relations and sovereign integrity within its immediate region. In these regards Singapore actively uses its state and diplomatic assets through expressions of soft power to gain influence and support in wider forums (Chong, 2009, 2010; Ganesan, 2005, p. 2). However, Singapore's domestic and foreign policies are grounded in a strong sense of realism as it recognises that it alone is responsible for its security, growth and development[101]. To that end Singapore seeks to develop effective relationships with other states and international bodies while aiming to prove its bona fides through maintaining sufficient capacity to look after itself if need be. This is an effect that is prevalent in Singapore's strategic influences and security policies where it seeks to overcome perceived vulnerabilities through strong indigenous capacities supported by international relationships, maintaining beneficial external power interest in the region, and consensus building through forms of soft and smart power.

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[101] An attribute that Joseph Nye (2011, p. 210) describes as Singapore's use of 'smart power' as it combines the hard power capabilities of its military resources with soft power approaches to its international relations.

SINGAPORE'S STRATEGIC INFLUENCES AND SECURITY POLICY

The island's small size, lack of resources and geographic location in an area of interest to Great Powers, has given rise to a perennial sense of vulnerability.

Sinderpal Singh and Syeda Sana Rahman (2010, p. 80)

Singapore's size and location (Figure 6-1), while an economic boon, also presents strategic challenges. Although Singapore has one of the world's largest and busiest ports, and sits astride some of the world's most important trade routes, its main characteristics are its small physical size, lack of natural resources, and reliance on international trade and the lines of communication that support it (Raska, 2016, p. 185; A. T. H. Tan, 2011, pp. 673-674). Furthermore, Singapore may be physically isolated as it does not have direct access to the high seas and its commerce must traverse the territorial waters of Malaysia and Indonesia (Huxley, 2000, p. 31), while it is also close to regional disputes such as the contested areas of the South China Sea (Raska, 2016, p. 185). This physical isolation may also be compounded by the ethnic and political characteristics of the region as Singapore sits as a small and majority ethnic Chinese polity between much larger Muslim Malay states. As a result, Singapore's small size and the close proximity of neighbouring states mean that it lacks strategic depth (Deck, 1999, p. 248; Raska, 2016, p. 136; Sullivan, 2014, p. 3). This is characterised by a lack of external space to provide room for manoeuvre and little internal territory or resources to fall back on when threatened. These characteristics, when combined with Singapore's experiences of Japanese occupation in World War Two and post-independence tensions with both Indonesia and Malaysia, have developed what has been referred to by Bernard Loo as a "pervasive discourse of vulnerability" in Singaporean strategic culture (B. F. W. Loo, 2015, p. 72).
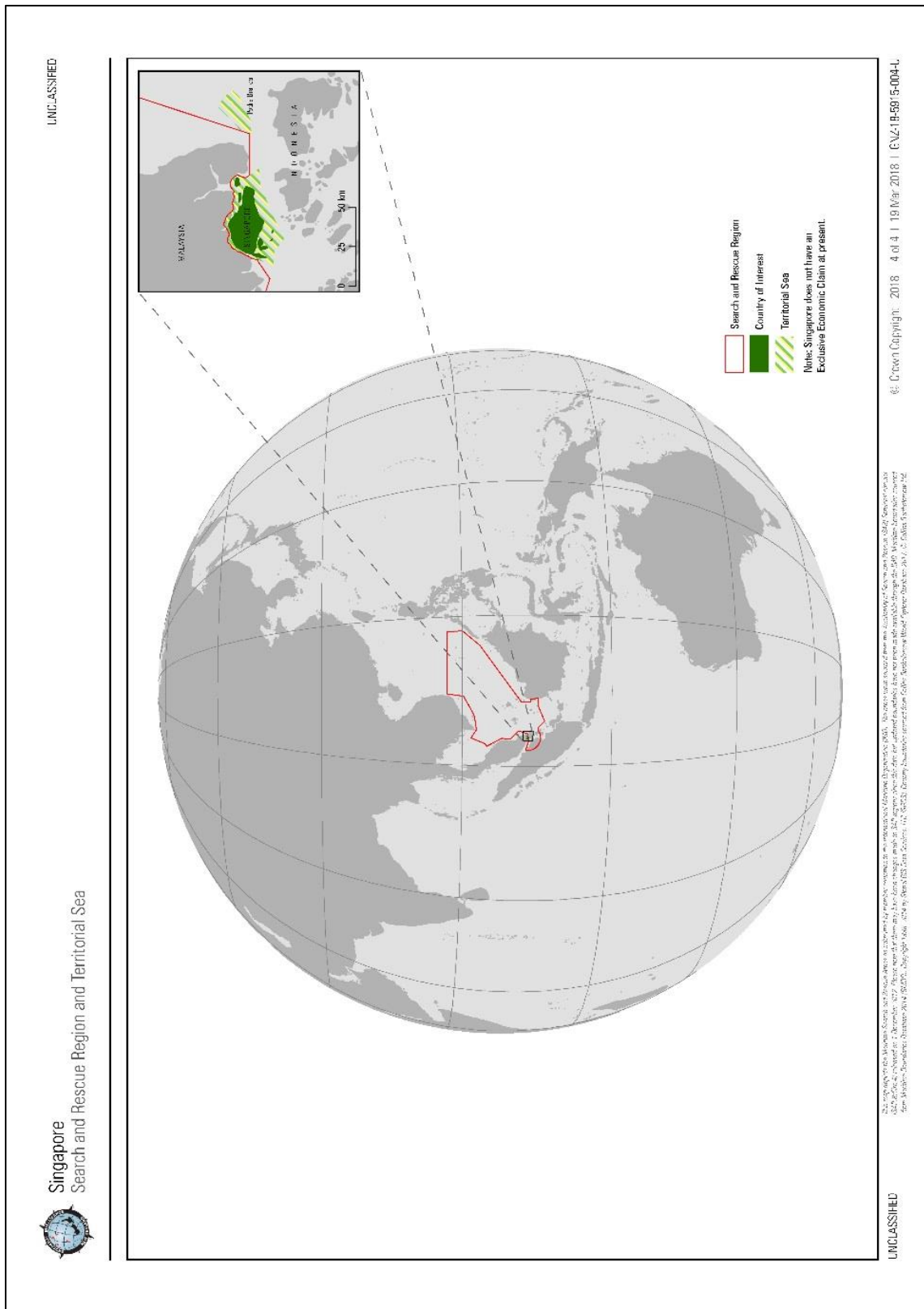
Figure 6-1: Singapore's geographic location and responsibilities[102]

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[102] The map contained in Figure 6-1 has been prepared by Geospatial Intelligence New Zealand (2018d) and is used with permission.

Singapore's sense of vulnerability has developed from initial concerns of location and resources to include a wider range of global threats (Yee-Kuang Heng, 2013, p. 437). Modern threats include piracy and other disruptions to Singapore's trade and basic needs (Ganesan, 2005, p. 87; Ong, 2011, p. 543; Raska, 2016, pp. 135, 137), external and internal threats arising from terrorism (such as Jemaah Islamiyah (Matthews & Yan, 2007, p. 390; National Security Coordination Centre, 2004, p. 11)), and transnational movement of weapons of mass destruction, pandemics and terrorist financing into or through Singapore's port, airport and financial institutions (Yee-Kuang Heng, 2013, p. 425). However, the preservation of the state's territorial integrity remains Singapore's innermost geostrategic rationale (Yee-Kuang Heng, 2013, p. 438) and forms the basis of its security policies.

Singapore seeks to assuage its vulnerability and promote growth and development through a comprehensive security doctrine underpinned by a strong defence capability and supported by active diplomacy. The doctrine of Total Defence was implemented in 1984 and is founded on the combined interaction of five key elements: psychological, civil, social, economic and military defence (Ganesan, 2005, p. 115; Huxley, 2000, p. 24; Matthews & Yan, 2007, pp. 380-381). It aims to unite all sectors of society to the defence of the state (Singapore Ministry of Defence, 2000, p. 12) and serves to reinforce national identity (Deck, 1999, p. 247). Furthermore, as Michael Raska (2016, p. 143) has noted, Total Defence "also provided a nexus between development, diplomacy, deterrence and defense – as key strategies for Singapore's survival." In this way Singapore's defence capabilities are employed through a policy of diplomacy and deterrence (Matthews & Yan, 2007, p. 380; Raska, 2016, p. 130) which supports wider diplomatic efforts to maintain a regional balance of power through the involvement of Great Powers and cooperation between regional states (Ganesan, 2005, p. 53; Raska, 2016, pp. 199-200). Ganesan (2005, p. 15) further notes that Singapore's foreign policy is underpinned by a credible and deterrent military defence; a theme that Huxley (2000, pp. 39, 56) had earlier identified in stating that "possessing its own armed forces provides Singapore with a vital prerequisite for credible diplomacy in relation to friendly powers" and that "the government has always viewed self-reliance as the *sina qua non* of Singapore's defence, calculating that no external assistance could be expected if Singapore failed first to demonstrate the willingness and ability to defend itself." Therefore, the maintenance of a credible military capability is seen as a key element of Singapore's foreign policies and its ability to achieve national objectives.

Singapore's defence policy embodies the concept of self-reliance (Ganesan, 2005, p. 120; A. T. H. Tan, 2013, p. 75). This entails Singapore demonstrating the commitment and ability to provide for its own defence while working with partner states to enhance its own security and regional stability. This policy is characterised by high defence spending, universal military service, the use of advanced military equipment and systems, domestic defence production, operational readiness, integrated and balanced forces, and defence diplomacy and cooperation with other states (Ganesan, 2005, p. 122; Huxley, 2000, p. 27). Of particular note is how Singapore has attempted to overcome the limitations of its size in providing for an effective deterrent through self-reliance: it established conscript and reserve based forces to provide a quality of mass that the state could not maintain through volunteer service alone (Huxley, 2000, p. 23; Matthews & Yan, 2007, pp. 381-383; Singapore Ministry of Defence, 2000, p. 41); and it has focused on the use of technology (through advanced military and command and control systems under the concept of RMA) to overcome the effects of small size and a lack of strategic depth, to leverage its economic and technological advantages, and to gain a qualitative edge over potential adversaries or regional states (Bitzinger, 2010, p. 55; Domingo, 2014, p. 55; Huxley, 2004, p. 186; B. F. W. Loo, 2015, pp. 74, 83; A. T. H. Tan, 2013, p. 67). The deterrent effect of this defence policy has also been expressed through strategies that reflected Singapore's growth and development: from early strategies of deterrence through unacceptable costs (the 'poisonous shrimp'); through an increasing capability to project power and resilience (the 'porcupine'); to modern strategies based upon intelligence, speed, manoeuvrability and an enhanced joint warfighting capability (the 'dolphin') (B. F. W. Loo, 2015, p. 70). However, deterrence does not stand alone and it is complemented by the active role of the Singapore Armed Forces (SAF) in defence diplomacy.

Singapore conducts defence diplomacy as part of its wider foreign policy and in concert with other aspects of state power. Ganesan (2005, p. 3) explains the purpose of Singapore's defence diplomacy as being to "augment Singapore's core security strategy of deterrence by engaging major and medium powers in military training and exercises, collaboration in defence research and development, and establishing embedded interests in Singapore's survival as well." Ganesan (2005, p. 101) also outlines the anticipated outcome of this diplomacy in that it is "meant to allow the country a measure of strategic depth where none exists in terms of land area." In this regard, Singapore's diplomatic efforts seek to establish a degree of space to complement its efforts to increase resilience through Total Defence.

Part of these diplomatic efforts include a range of bilateral and multilateral defence and security relationships. See Seng Tan (2015, p. 336) has described Singapore's 'steadfast refusal' to enter into military alliances out of its concerns to maintain its economic interests and partnerships; and the lack of formal alliances is one measure by which Singapore could maintain its own freedom of manoeuvre and support an equilibrium between Great Power interests and influence in the region. Nevertheless, Singapore maintains a wide range of arrangements and partnerships that serve to support its own military development while engaging a number of external powers in the region. These include the Five Power Defence Arrangements (FPDA) with the UK, Australia, New Zealand and Malaysia; a Strategic Framework Agreement that provides the US with access to facilities and supports deployments and training (Rahman, 2014, pp. 118-126)[103], and a Comprehensive Strategic Partnership with Australia (Graham, 2016; MINDEF Singapore, 2017d). The security confidence provided by the presence of the United States is complemented by defence relationships with China, India[104], and the ASEAN states – particularly Malaysia and Indonesia. These defence relationships help to maintain great power interest in the region and contribute to confidence building and reducing tension; while also providing Singapore with greater space and freedom of manoeuvre (S. S. Tan, 2015, p. 338). Nevertheless, the foundation of these defence relationships remains Singapore's policy of self-reliance and the deterrent effect of its military capabilities. In this regard Singapore needs to maintain a military capability that is seen to be both relevant and credible. Raska (2016, p. 138) has identified the challenge to this as, "how to translate Singapore's limited resources of a small island nation into an effective defense capability amid continuously evolving security challenges." Singapore's response to this challenge is reflected in the military capabilities that it has developed and maintains.

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[103] Singapore hosts a US Navy logistics element (COMLOG WESTPAC) as part of these arrangements, has recently hosted deployments of US Navy Littoral Combat Ships, and the new naval base that was opened at Changi in 2004 was purposely designed to accommodate US Navy aircraft carriers (Rahman, 2014, pp. 119-121; A. T. H. Tan, 2011, p. 679).
[104] Singapore and India established a Defence Cooperation Agreement in 2003 (Singh & Rahman, 2010, p. 78) and subsequently revised it in 2015 (MINDEF Singapore, 2017d).

SINGAPORE'S MILITARY CAPABILITIES

The SAF will continue to deter potential aggressors by maintaining a capable and operationally ready armed forces [sic]. Should deterrence fail, the SAF will fight to win swiftly and decisively. This requires that the SAF continue to be a well-integrated force that is trim, balanced and potent. It means that the SAF will have to continue to leverage on technology while building up the fighting skills, the fighting spirit and the will of its people to resist aggression. The SAF's systems, force structure and training will be organised to ensure this.

Singapore Ministry of Defence (2000, p. 45)

Singapore maintains relatively large[105] and well-equipped forces, based on conscription, that are able to operate throughout the range of military operations. This not only provides for the state's defence and diplomacy but also fulfils a nation building role (Huxley, 2000, p. 251; Wu, 2016, pp. 19, 68) – with the SAF forming a common experience for the large proportion of the population that has completed national service, supporting domestic economic growth, and promoted as one element of national pride. The SAF comprises approximately 72,500 active members (including conscripts on initial service) and 312,500 reserve members (International Institute of Strategic Studies, 2017, p. 326). These personnel are spread across the services provided by the Singaporean Army (50,000 active), Republic of Singapore Navy (RSN) (9,000 active) and the Republic of Singapore Air Force (RSAF) (13,500 active) (International Institute of Strategic Studies, 2017, pp. 327-328). In addition, the Singapore Defence establishment maintains separate functions for strategic command and control, and has close relationships with Singapore's defence industries. These military capabilities provide Singapore with forces tailored for the protection of sovereign Singapore but also with a capacity to support selected multinational operations further afield.

Singapore has progressively developed the state's military capabilities in concert with its economic growth and the changing nature of the threat environment. The initial focus of the development of the SAF was conventional interstate warfare and moved along an evolutionary path of increasing capability from a first generation of individual services,

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[105] As shown at Appendix 2, Singapore has the 19th largest size military forces in the world while having the 5th largest ratio of military forces to population. These characteristics are based on the proportionally large size of Singapore's conscript and reserve forces.

through a second generation of conventionally oriented combined arms warfare, to the current third generation (3G) that emphasises a much wider range of capability (Raska, 2016, p. 131)[106]. The 3G force provides capabilities for expeditionary warfare and force projection; it is designed to operate throughout the conflict continuum; and it is based on networked Intelligence, Surveillance and Reconnaissance (ISR) and Command and Control (C2) systems allied with modern technology and organisational structures (Bitzinger, 2010, p. 56; Chian, 2015, p. 32; Matthews & Yan, 2007, p. 385; Raska, 2016, pp. 130-132; A. T. H. Tan, 2011, p. 678). The level of investment and development in the SAF is such that it is recognised as the best equipped, if not the most capable, force in Southeast Asia (International Institute of Strategic Studies, 2017, p. 326; A. T. H. Tan, 2011, p. 677). However, the SAF is not limited to conventional warfighting. According to Alexander Sullivan (2015b, p. 7) "the modern Singaporean military is designed not only for conventional war-fighting in its immediate environs, but also for addressing transnational threats such as terrorism and piracy and participation in a range of multilateral exercise and collective security actions that support diplomatic objectives." Indeed, the force development process in Singapore is now preparing for a fourth generation - one that will respond to the modern security environment and makes greater use of autonomous systems and the ability to operate outside the framework of conventional war (Foster, 2015a, p. 633; Raska, 2016, p. 157) whilst still functioning as an integral part of Singapore's security and defence policies.

Singapore has not published a comprehensive defence policy since 2000, although the basic tenets of that policy remain in place. This defence policy is based on the twin pillars of diplomacy and deterrence, with the aim being to ensure that Singapore enjoys peace and stability, its sovereignty and territorial integrity are protected, and it can contribute to regional peace and security (Singapore Ministry of Defence, 2000, p. 12). The mission for the Singapore Ministry of Defence (MINDEF) and the SAF in support of this policy is, "to enhance Singapore's peace and security through deterrence and diplomacy, and should these fail, to secure a swift and decisive victory over the aggressor." (MINDEF Singapore, 2015) Current intentions to achieve this mission are based on MINDEF strengthening "the military, manpower and technological edge of the SAF, whilst fostering close relations with friendly countries in the region and beyond through greater dialogue, confidence building, and co-

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[106] The three generations of development loosely relate to the three security strategies of poisonous shrimp, porcupine and dolphin outlined in the previous section.

operation." (Ministry of Finance (Singapore), 2017, p. 63) The desired outcomes from maintaining the SAF are:

- *A safe and secure environment where Singapore's territorial integrity and sovereignty are protected and preserved.*
- *Safe and secure access to Singapore's air and sea lines of communication.*
- *A strong network of defence ties in the region and beyond.*
- *Committed National Servicemen who are dedicated to Total Defence.*
- *An operationally ready and well-equipped SAF that can deal with a broad range of threats to Singapore's security.*
- *A highly skilled, professional and technologically advanced SAF.*

Ministry of Finance (Singapore) (2017, p. 63)

Singapore's defence policy, when combined with its strategic circumstances, therefore requires that the SAF is structured and maintained with sufficient capability to mount a credible defence of Singapore and thereby provide for a credible deterrent while contributing to regional stability. That in turn requires forces that are able to operate throughout the range of military operations and meet existing and emerging threats. The SAF needs to maintain high degrees of readiness and be able to discriminate threats in congested operating environments. It needs to be able maintain surveillance of its strategic environment and meet its international responsibilities, including those for search and rescue. It also needs to be able to preserve its sea and air lines of communication and protect key installations and infrastructure on the island itself. More importantly, Singapore needs to be able to sustain the size and capabilities of the SAF through political will and economic support. It is interesting to note that the defence statements listed above do not explicitly require Singapore to be interoperable with other military partners – reflecting the basic tenet of self-reliance and deterrence within Singapore's defence policy - although the SAF does need to be able to work with international partners in exercises and deployed operations as part of its wider diplomatic and international security efforts. Therefore, the structure of the SAF is one that needs to be able to complete tasks throughout the conflict continuum, and with a variety of partners, but is predicated on the demands of national defence.

The current structure of the SAF is shown in Table 6-1.

SINGAPORE	Regular Forces	Reserve Forces	Total
	72,500	312,500	**385,000**
SERVICE	**ORGANISATION**	**MAJOR EQUIPMENT**	**REMARKS**
Headquarters:	Defence Headquarters. Joint Staff. Headquarters, Singapore Army. Headquarters, Royal Singapore Navy. Headquarters, Royal Singapore Air Force.		
Land Forces • Regular: 50,000 (including 35,000 conscripts) • Reserve: 300,000 • Total: 350,000	Based on 3 Combined Arms Divisions, a Rapid Deployment Division, a Reserve Division, the People's Defence Force and units under the direct command of Army HQ.		
	3 x Combined Arms Division Headquarters 1 x Rapid Deployment Division Headquarters 3 x Armoured Brigade Headquarters 9 x Infantry Brigade Headquarters 1 x Air Mobile Brigade Headquarters 1 x Amphibious Brigade Headquarters 3 x Light Armoured/Reconnaissance Battalion. 1 x Armoured Battalion. 6 x Mechanised Infantry Battalion. 2 x Light Infantry Battalion. 2 x Security Battalion. 2 x Artillery Battalion. 1 x Surveillance and Target Acquisition Battalion. 2 x Engineer Battalions. 1 x Explosive Ordnance Disposal Battalion. 1 x Pontoon Bridge Battalion. 1 x Intelligence Battalion. 2 x Intelligence, Surveillance and Reconnaissance Battalions. 1 x Chemical, Biological, Radiological and Nuclear Defence Battalion. 3 x Signals Battalion. 3 x Medical Battalion. 2 x Transport Battalion. 3 x Support Battalion (Logistics).	66 x Main Battle Tank. 372 x Light Tank. 572(+) x Armoured Personnel Carrier. 1,530(+) x Armoured Personnel Carriers. 94 x Armoured Engineering Vehicles. 60 x Anti-Armour Missile System. 54 x 155mm Self Propelled Artillery. 88 x 155mm Towed Artillery. 18 x Multiple Rocket Launcher (High Mobility Artillery Rocket System - HIMARS). 638 (+) x Mortar (81mm, 120mm, 160mm). Unmanned Aerial Vehicles (unknown number).	Up to 26 Main Battle Tanks used for training and spares. Additional Centurion Main Battle Tanks may be held in storage.
	1 x Reserve Division Headquarters Peoples Defence Force (include 12 x Infantry Battalion). 4 x Infantry Brigade Headquarters 6 x Light Armoured/Reconnaissance Battalion. 6 x Mechanised Infantry Battalion. Approximately 56 x Light Infantry Battalion. Approximately 12 x Artillery Battalion. Approximately 8 x Engineer Battalion.		Reserve units allotted to Divisions.
	2nd People's Defence Force		Coastal defence and protection of key installations.
Naval Forces • Regular: 9,000 (including 1,000 conscripts and 5,000 active reservists) • Reserve: 5,000 • Total: 14,000	First Flotilla. • 2 x Attack Squadron. Third Flotilla. • 1 x Amphibious Support Squadron. • 2 x Civil Requisition Squadron. Submarine Squadron. Maritime Security Task Force. • 1 x Squadron 'Accompanying Sea Security Teams' • 1 x Patrol Squadron. • 1 x Mine Warfare Squadron. Naval Diving Unit.	6 x Frigate (Formidable Class). 6 x Missile Corvette (Victory Class). 4 x Landing Platform Dock (Endurance Class). 30 x Landing Craft. 4 x Submarine. 1 x Submarine Rescue Vessel (Operated by Commercial Contract). 11 x Patrol Craft (Fearless Class). 4 x Minehunter (Bedok Class). Unmanned Aerial Vehicles (unknown number).	Various Civil Craft as Required. In conjunction with Police Coast Guard. Fearless Class being replaced by 8 x Littoral Mission Vessel.

SERVICE	ORGANISATION	MAJOR EQUIPMENT	REMARKS
Air Forces • Regular: 13,500 (including 3,000 conscripts) • Reserve: 7,500 • Total: 21,000	2 x Air Defence/Attack/Maritime Attack/Continuation Training Squadron. 3 x Multirole Fighter Squadron. 1 x Maritime Patrol/Transport Squadron. 1 x Transport/Tanker Squadron. 1 x Tanker Squadron. 1 x Airborne Early Warning Squadron. 3 x Reconnaissance Squadron (Unmanned Aerial Vehicle). 1 x Attack Helicopter Squadron. 2 x Helicopter Transport/Search and Rescue Squadron. 1 x Naval Helicopter Squadron. 1 x Flight Training Squadron. 1 x Lead-In Fighter Training Squadron. 1 x Helicopter Training Squadron.	60 x F-16 Multirole Combat Aircraft. 40 x F-15G Multirole Combat Aircraft. 5 x Fokker 50 Maritime Patrol Aircraft; 4 x Fokker F50 Transport/SIGINT Aircraft. 5 x C-130 Transport Aircraft; 5 x KC-130 Tanker Aircraft. 4 x KC135 Tanker Aircraft. 5 x Gulfstream G550 Airborne Early Warning and Control Aircraft. 5 x Hermes; 40 x Searcher II; unknown x Heron. 20 x AH-64 Attack Helicopter. 16 x CH47 Helicopter; 18 x Super Puma Helicopter; 4 x Cougar Helicopter. 6 x S70B Maritime Helicopter. 19 x PC-21 Training Aircraft. 12 x M-246 Training Aircraft. 5 x EC 120 Training Helicopter.	Part of F-15G Fleet may be located in another state. 6 x CH47 located in USA; some Super Puma and Cougar located in Australia. (Training Aircraft.) Located in Australia. Located in France. Operated by Civil Contractor.
Special Operations Forces	1 x Commando Battalion Counter Terrorist Special Operations Company		
Other Forces	Civil Defence Force Singapore Police Force includes the Coast Guard	Various patrol craft.	

Table 6-1. Main Elements of Singapore's Military Force Structure[107]

The command and control of the SAF is exercised by the strategic headquarters at MINDEF, with the Chief of the Defence Force exercising C2 through a Joint Operations Planning Directorate and the three single service headquarters. They provide the ability for the SAF to plan and conduct operations, while guiding force development. Subordinate command functions are maintained by each of the services as they divide their forces between operational and training elements, and coordinate joint and interagency efforts as required. The SAF has worked to improve the effectiveness of its C2 arrangements as part of the 3G development with both the RSN and RSAF instituting functionally based commands that manage discrete elements of force preparation and operations (Foster, 2015b, p. 559; Peacock & Alexander von Rosenbach, 2014, pp. 584-585). The SAF also maintains dedicated structures to coordinate actions in functional roles; such as the Maritime Security Task Force, the Air Defence Task Force, the Island Defence Task Force and the SAF C4 Command

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[107] IHS Jane's notes that "[t]he SAF goes to considerable lengths to keep its order of battle obscure" (Keymer, 2016a, p. 643). Therefore this table is not a comprehensive summary or layout of the SAF organisation. Information from the following documentary sources was used in preparing this table: (International Institute of Strategic Studies, 2017, pp. 326-329; Keymer, 2016a, pp. 642-649; 2016b, pp. 503-508; Peacock & Keymer, 2017, pp. 546-552; Republic of Singapore Navy, 2017; The Singapore Army, 2017).

(which incorporates the Cyber Defence Group and the C4 Operations Group) (MINDEF Singapore, 2017a, 2017b, 2017c).

The SAF's physical structures (as shown in Table 6-1) provide military capabilities that can operate throughout the conflict continuum. They are tailored for territorial defence and operations in support of the civil power, but are also able to operate in a regional context and provide selected capabilities to multinational operations further afield. The air force provides modern capabilities for surveillance and reconnaissance; air defence; close air support; air interdiction and maritime strike; search and rescue; and tactical, operational and strategic projection and sustainment. These functions complement the maritime capabilities that include surveillance and patrol, search and rescue, and the ability to conduct combat operations in littoral and blue water environments. The RSN also has some ability to deny adversary sea lines of communication (SLOC) through its submarine capability while working to maintain its own SLOC through patrol and mine clearance, whilst its amphibious capabilities provide the ability to project or deploy land forces - although it lacks a true maritime logistic support capability. Some naval elements can also be attached to multinational forces for employment abroad.

The Singapore Army is structured for territorial defence, although selected formations are capable of raids and other projection activities. The Army is based on Combined Arms Divisions comprising armoured, infantry and artillery capabilities; with certain key force elements commanded by Army HQ or, in the case of rotary wing transport and combat aircraft, provided by the RSAF. The Army is capable of protecting key installations and infrastructure (through reserve forces) and is structured to use combined arms manoeuvre to defeat conventional attack. Its special force and commando capabilities act as force multipliers with the capability of conducting specialised operations. Indeed, the structure of the SAF emphasises the utility of force multipliers through technology and specialised elements such as air to air refuelling, airborne early warning (AEW), submarines with air independent propulsion, and precision strike at long range in all three environments. Furthermore, the SAF's military capabilities have the ability to project effects away from Singapore – in effect, enlarging the state's strategic depth through manoeuvre and firepower. This is the final expression of the 3G force and provides a qualitative component to the state's strategy of deterrence.

The SAF has a balanced force structure that supports the state's policy of deterrence and, if need be, defence against conventional aggression and hybrid threats. This is shown in the full range of military functions that the SAF maintains, its potential to operate throughout the range of military operations that pertain to the territorial defence of the island state, and its ability to extend its strategic depth - although the structures do not (currently) provide for large scale or persistent expeditionary operations. The SAF's structures maintain breadth across the range of military functions, and also within each function as the SAF complements the capabilities between and within each of the services (for example it can conduct maritime combat tasks above, on and below the surface). Furthermore, many of the SAF's capabilities are capable of fulfilling multiple roles - particularly its surface and air combatants - although it should be noted that the SAF does maintain specialist systems or platforms for specialist or discrete tasks. This breadth to the SAF's structure is also supported by depth within the structure. This is provided by the number of platforms, systems and formations/units maintained and the SAF generally has multiple capabilities available to conduct each of the military functions. A potential limitation to the depth of the force structures may be realised through the relative trained state and effectiveness of the SAF's conscript and reserve formations if they were unable to generate sufficient combat power as and when required, although the army has a quality of mass to help alleviate this effect and the RSN and RSAF are more professional forces with less reliance on conscripts.

The structure of the SAF provides Singapore with the ability to meet national objectives and support its security strategies through a modern and capable force structure that can operate throughout the conflict continuum. In accordance with De Wijk's classification of military capabilities, the SAF does not provide Singapore with complete *full spectrum forces* as it lacks the true ability for operational and strategic projection, although it does provide the ability to conduct operations throughout the conflict continuum within its immediate operating environment. Similarly, the SAF does not provide *broad expeditionary capabilities* as it lacks sufficient projection and sustainment assets and is limited by size (with only small regular forces routinely available for such roles). Nevertheless, the SAF can provide focused expeditionary capabilities including command and control elements, and the deployment of niche capabilities (such as special forces, radar detachments and maritime support platforms), as well as conduct stabilisation operations (*selective expeditionary capabilities* and *stabilization capabilities* respectively). However, the provision of such capabilities outside of Singapore's immediate strategic area would reduce the assets available to be held in readiness

for territorial defence – particularly as these would most likely be regular capabilities that may not be easily replicated from a reservist force. Overall, though, Singapore maintains a balanced military force structure in terms of breadth and depth to meet its primary task of sovereign, territorial defence. Its ability to sustain this balance, particularly in the face of increasing requirements for employment away from Singapore and to meet current non-conventional operating contexts, is a characteristic found in how Singapore provides for its military capabilities.

PROVIDING FOR SINGAPORE'S MILITARY FORCES

The Singapore Armed Forces have been developed to act throughout the range of military operations with a capacity for joint and combined-arms warfare. This has been based on a structural balance that combines breadth across a range of military functions with depth to sustain those functions – particularly through the maintenance of a large citizen force and reserve capabilities. Singapore's security and defence strategies are based on the ability to meet defence objectives through self-reliance while maintaining the ability to work effectively with other partners within the region and wider global environments to add to its strategic depth and contribute to regional stability. The question, therefore, becomes one of whether Singapore has the capacity to maintain relevant and credible military capabilities within the framework of its self-reliant approach. As will be seen, Singapore has a high level of ambition in the design, maintenance and development of its military capabilities and its armed forces are well funded and equipped. However, do these factors overcome limitations that it may experience through a relative lack of operational experience, constraints to the citizen force model, and its lack of strategic depth? In this regard, is Singapore able to support a defence posture based upon deterrence and diplomacy?

The 3G SAF has been designed to conduct joint operations in a conventional environment maximising the benefits of the RMA through network enabled operations and precision effects. It has been developed as a conscript based citizen force that is sustained by a large number of reserves, reflecting the early design influence of Israeli advisers[108]. The major

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[108] Singapore actively sought Israeli advice and experience as it developed its initial force design and structures from the mid-1960s. Although Singapore modelled its force composition on the Israeli model (Raska, 2016, pp. 138-141) it did not follow all of the advice provided. One example of this is that Israel had initially advised

systems, platforms and equipment have been developed or introduced in order to give Singapore a technological edge over potential adversaries (Matthews & Yan, 2007, p. 388; Singapore Ministry of Defence, 2000, p. 63), and Singapore has deliberately used technology as a force multiplier to overcome the disadvantages of a relatively small pool of manpower and lack of strategic depth whilst leveraging the state's economic and demographic (education and social commitment) strengths (Raska, 2016, p. 196). As a result, the SAF maintains a wide range of military capabilities, although these are focused on the requirements for territorial defence and the maintenance of sovereignty, and do not include full capabilities for expeditionary operations. However, the design of the SAF has been challenged by the requirement to respond to non-traditional security challenges and emerging threats to Singapore through such vectors as terrorism and international crime; and questions have been raised as to whether the conscript-based citizen force will be able to adapt to conduct operations other than war (OOTW) while still maintaining an effective conventional deterrent (Chian, 2015, p. 38; Ong, 2011, p. 549; Raska, 2016, p. 158). This has led to the preparation of plans for a 4G SAF that can operate in this developing environment and shows the willingness of the state to expend resources to ensure that its military capabilities remain relevant to the context that they face.

The progressive design of the SAF is supported by active R&D and acquisition strategies based on domestic capacity and effective international linkages. Singapore has, as a matter of policy, developed a capable indigenous defence R&D and industrial capability to enhance the state's strategic self-reliance (Ganesan, 2005, p. 115). The state's R&D and defence industries form what has been termed as a 'defence ecosystem' in conjunction with the SAF - working to develop and then acquire solutions to military requirements (A. T. H. Tan, 2013, pp. 68, 76). Indeed, the efficacy of Singapore's defence industries is such that the state is largely self-sufficient in a range of minor defence capabilities (Bitzinger, 2010, p. 57) and Singapore Technology (ST) Engineering was assessed as being the world's 53rd largest defence contractor in 2015 (Fleurant, Perlo-Freeman, Wezeman, Wezeman, & Kelly, 2016, p. 4), having moved beyond initial roles in equipment modernisation to now also encompass the construction of major platforms (such as the new Littoral Mission Vessels (Keymer, 2016b, pp. 506-507)) and development of land combat systems (such as armoured fighting vehicles, infantry carrier vehicles and artillery systems (Keymer, 2016a, pp. 646-647)). This

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Singapore not to establish a conscript based force (Raska, 2016, p. 138) but domestic factors and nation-building were key factors in deciding to do so (B. F. W. Loo, 2012, pp. 140-144).

indigenous capability is complemented by a strategy of technology transfers through collaborative efforts with international partners (B. F. W. Loo, 2015, pp. 79-80); not only through licenced production but also through collaborative R&D efforts with other states - with Singapore's membership of the F-35 JSF programme being a current example of this (Bitzinger, 2010, p. 57). Singapore's focus with its defence industry, acquisition policies and R&D has been to develop and maintain the technological capability of its forces (Huxley, 2004, p. 189; Matthews & Yan, 2007, p. 388; Singapore Ministry of Defence, 2000, p. 67). Its ability to achieve this strategy has been underpinned by the state's strong financial commitment to defence.

At the start of this century Tim Huxley (2000, p. 29) argued that, "Singapore's sustained high defence spending has funded continuous improvements to its military capabilities: by procuring increasingly sophisticated and expensive equipment, building extensive modern infrastructure, funding large-scale overseas training programmes, and providing generous remuneration for the SAF's vital core of professional officers and enlisted personnel". Singapore government policy is to provide up to 6% of GDP for defence spending and, although as shown at Figure 6-2 it has not reached this level in the post-Cold War period, defence spending accounts for a large proportion of government spending and has consistently increased since the end of the Cold War (Figure 6-3) on the back of Singapore's growth and development. Singapore's commitment to defence spending is such that it spends more than each of its much larger neighbours in Indonesia and Malaysia (Figure 6-4) and is ranked very high in global comparison (Table 6-2).
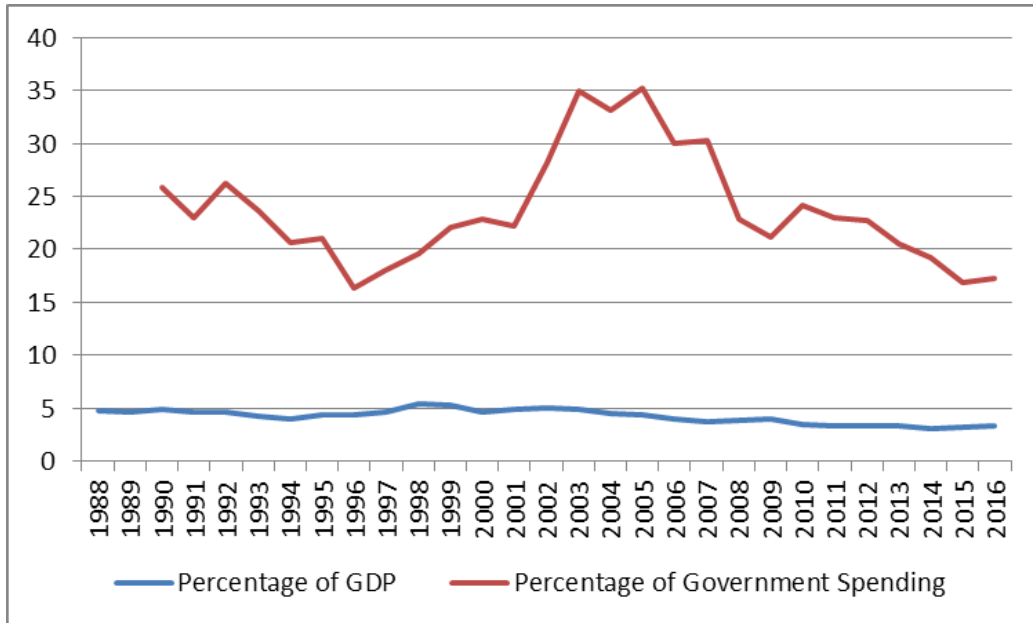
Figure 6-2: Singapore's post-Cold War military expenditure
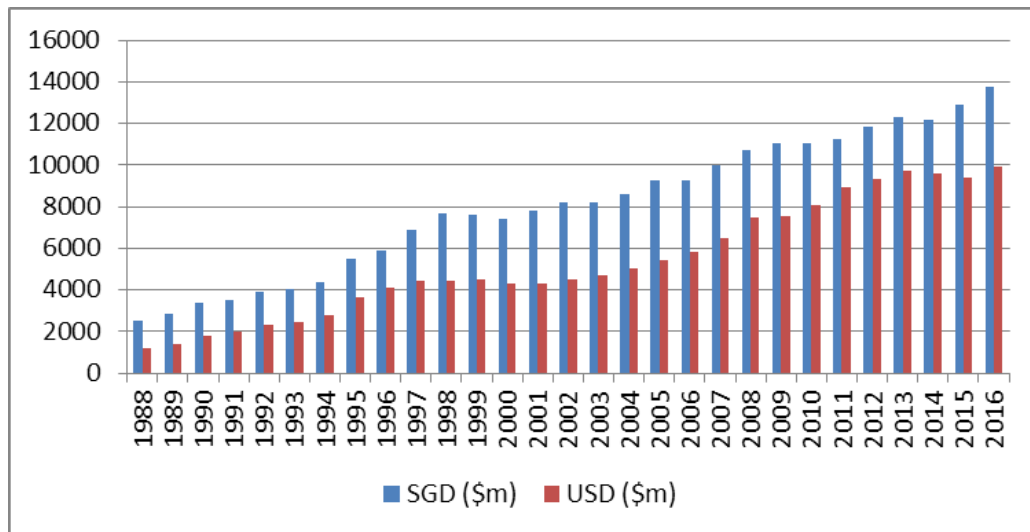
Figure 6-3: Singapore's post-Cold War defence budget
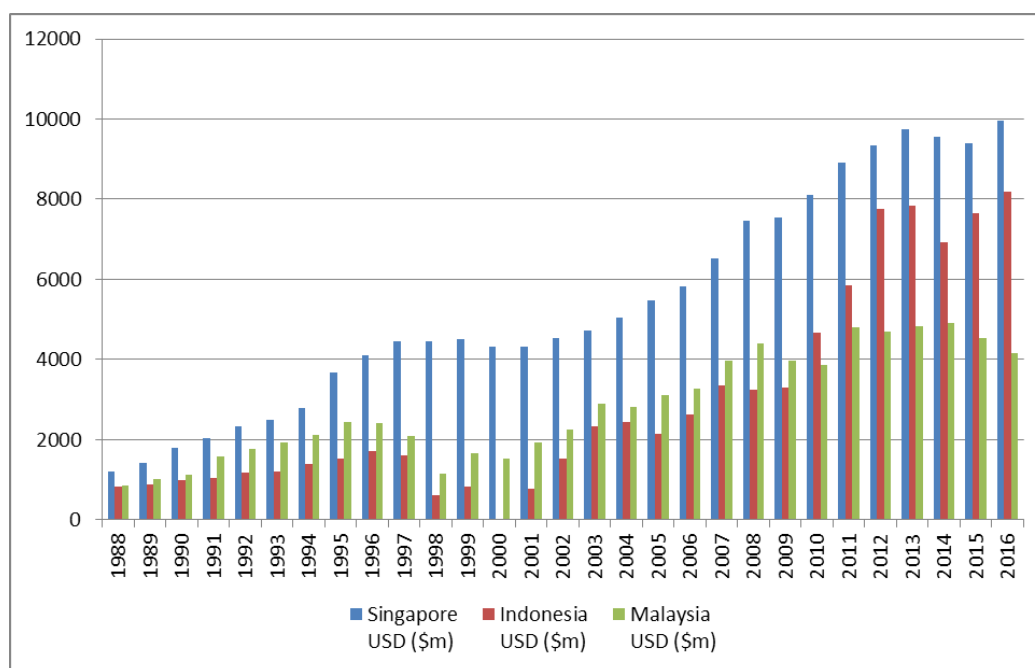
[Information drawn from SIPRI Military Expenditure Database (2017)]

Figure 6-4: Singapore's post-Cold War defence budget compared to its immediate neighbours[109]

Comparison Area	Singapore's Rank Position	Remarks
2016 Military Expenditure (USD)	21	145 states ranked
2016 Military Expenditure per capita	5	
2016 Military Expenditure as % of GDP	20=	
2016 Military Expenditure as % of Government Spending	6	

[Information drawn from SIPRI Military Expenditure Database (2017)]

Table 6-2. International comparison of Singapore's defence spending[110]

Although Singapore provides a strong financial commitment to its military forces it is careful to represent the prudent management of such funds with a focus on maximising the defence dollar through value in defence spending (Singapore Ministry of Defence, 2000, p. 51) and

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[109] SIPRI does not have data for Indonesia in 2000.

[110] SIPRI does not hold data for all states so the rank positions for Singapore are comparative only as some of the states not factored into the calculations are larger than Singapore or likely to spend more on their military forces (such as North Korea).

promoting internal efficiencies while sustaining the force. This is found, in part, through the SAF's use of commercial support contracts for services and facilities (A. T. H. Tan, 2013, pp. 70, 73), maintenance (A. T. H. Tan, 2013, p. 69), and certain forms of training (such as initial training for helicopter pilots (Peacock & Alexander von Rosenbach, 2014, p. 585)). These contracts provide capabilities at less cost than the military could while maximising the numbers of personnel available for pure military tasks. This is important because even though Singapore maintains a conscript / reserve force structure to provide sufficient personnel for national defence it faces challenges in sustaining troop numbers and in its ability to train them.

Singapore designed its force structure on the base of conscript/reserve service with all men liable for conscription for 2-2.5 years and then a further 13 years of operational training in the reserves (Singapore Ministry of Defence, 2000, p. 55), although this was subsequently reduced in 2004/2005 to two years of fulltime service and 10 years of subsequent operational readiness training as a National Serviceman (Chan Ching Hao, 2013, p. 47). This provides Singapore with the capacity to maintain its force structure – particularly the Army which is largely founded on the conscript and reserve members. The RSN and RSAF differ in that they largely comprise regular professional or contracted service personnel as a result of the technical nature of their trades (Keymer, 2016b, p. 505; Peacock & Keymer, 2017, p. 548). Although the SAF has high recruitment and retention rates for regular personnel its ability to maintain this force model is challenged by the state's declining birth rates and subsequently smaller pool of personnel available for military service (Ong, 2011, p. 547; Raska, 2016, p. 136). Singapore has attempted to alleviate this situation in part through providing greater roles for women within the force, reducing the size of army units[111], and continuing to focus on technology both as a force multiplier and to reduce the number of people required to operate platforms and capabilities. However, there is the potential for diminishing returns when units and capabilities may lack the quality of mass to provide effects throughout the conflict continuum (particularly in non-kinetic activities). The constraints caused by Singapore's small population size are also reflected in the size of its physical territory as urban development progressively limits the areas available for infrastructure and training (Huxley, 2000, pp. 136-137; Matthews & Yan, 2007, p. 391; Raska, 2016, p. 136); although Singapore continues to develop high capacity training infrastructure to gain the most benefit

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[111] The size of Singaporean infantry battalions was reduced by 25% and armoured battalions decreased in size by over 100 personnel during restructures in the early 1990s (Foster, 2015a, p. 632).

from the resources that it does have[112]. However, this has also led to another key characteristic of the Singapore Armed Forces – namely the wide range of training activities conducted in foreign locations as part of its wider international cooperation.

Although the SAF completes basic conscript and some individual training within Singapore, a large proportion of its specialist and collective training is conducted overseas where it is less restricted by the constraints of Singapore's size and location, can gain access to larger facilities, and can employ weapons systems and military capabilities to their fullest effect. This is shown through the conduct of basic flight training in Australia, operational conversion training for combat pilots in France, specific aircraft type conversion in the USA, and the conduct of army exercises in Australia, Brunei, India, New Zealand, South Africa, Taiwan, and Thailand (Foster, 2015a, p. 634; Ganesan, 2005, p. 118; Ong, 2011, p. 546; Peacock & Alexander von Rosenbach, 2014, p. 583). Furthermore, Singapore will spend USD 1.68 billion under the Comprehensive Strategic Partnership with Australia to upgrade military training areas and triple the annual amount of training that it conducts there over the next 25 years (Graham, 2016; Keymer, 2016a, p. 644).

The benefits of this training are extended as all three services regularly exercise with partner nations in Southeast Asia (including exercises hosted by Singapore), in the Pacific and further afield. These training activities form part of the SAF's international defence cooperation and complement other defence diplomacy efforts. Access to foreign locations also provides the SAF with the ability to develop and maintain a greater degree of operational proficiency than it would if it relied solely on domestic locations and capabilities. However, Singapore does maintain proficient internal training systems through its military academies and supports professional development and military education within Singapore and by attendance at universities and service institutions abroad. The manner in which the SAF conducts its training with a domestic base and foreign interaction is also reflected in how it develops its military doctrine and concepts – taking the opportunity to learn from foreign sources while developing a focus on indigenous requirements and methods.

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[112] A current example of this is plans to build a new Singapore Armed Forces Training Institute (SAFTI) facility on the site of existing infrastructure that will allow army units to practice operational missions across a variety of terrains in a range of different mission types (MINDEF Singapore, 2017d). This will provide the potential to conduct a great variety of training in a relatively small area. Singapore has also recently established all-weather live firing and parachuting training complexes with support from the Defence Science and Technology Agency (Keymer, 2016a, p. 644).

Singapore maintains its own military doctrines and operating concepts as developed to meet its own particular circumstances, need for self-reliance, and force structure based on the application of RMA. The SAF's doctrinal development has been influenced by its key defence partners: Israel (reflecting its role in helping to establish the SAF and Singapore's defence); the UK and FPDA partners as long term defence partners; and the United States, which is the leader in modern western military thought and the technology/information based RMA and force transformation concepts[113]. However, Singapore has also developed its own doctrinal framework through the Integrated Knowledge-based Command and Control (IKC2) concept (B. F. W. Loo, 2015, p. 75). This framework has been developed as a key strand of the 3G SAF and seeks to employ the technological and transformational advantages gained through the RMA in supporting concepts for networked operations and precision fires (Bitzinger, 2010, p. 56; Raska, 2016, pp. 150-152). These concepts serve to shape the development and maintenance (structure and training) of Singapore's military forces while the techniques for employing those forces can be benchmarked through its regular exercises with defence partners and validated through the operations that it conducts – although these operations do not encompass the full range of military capabilities that Singapore maintains.

Singapore has been relatively uncommitted to international operations - focusing on making small contributions in niche or value added areas to support larger forces in multinational settings. Weichong Ong (2011, p. 542) observed that, "SAF deployments in recent overseas missions tend to be in non-combat, non-kinetic and carefully-considered niche areas where technology can comfortably mitigate the lack of 'boots on the ground' and fulfil its potential as a force multiplier". This has the effect of gaining operational experience and benchmarking in 'low risk' conditions, and signalling commitment to security partners. The SAF's participation in out-of-area operations is characterised by this selective non-combatant focus; comprising deployments such as medical teams in East Timor and Afghanistan (Foster, 2015a, p. 633; Ganesan, 2005, p. 17), C2 and maritime support capabilities conducting counter-piracy operations with CTF 151 in the Gulf of Aden (Chian, 2015, p. 35; Foster, 2015b, p. 559; Peacock & Alexander von Rosenbach, 2014, p. 583), the provision of airlift support in Afghanistan and a tanker aircraft to operations in Iraq (International Institute of Strategic Studies, 2017, p. 326; Peacock & Alexander von Rosenbach, 2014, p. 583), and the provision of technical force multiplier capabilities (such as radar detachments) in

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[113] The IHS Jane's publications each point to the influences of Israel, UK and FPDA, and the USA on Singapore's military doctrines (Keymer, 2016a, p. 643; 2016b, pp. 504-505; Peacock & Keymer, 2017, p. 547).

Afghanistan (Foster, 2015a, p. 632) - although it did commit small infantry elements as part of New Zealand forces in peacekeeping duties in East Timor. This means that while the SAF is developing operational experience it is mainly as a supporting asset in a non-combat role and its forces lack experience of combat operations. However, the SAF is very active closer to home completing tasks and deployments in support of regional stability – such as coordinated anti-piracy efforts with Indonesia and Malaysia, providing immediate response for disaster relief and humanitarian assistance (such as following the Tsunami of December 2004), and participating in SAR efforts for missing airliners (such as the recent searches for missing Malaysia Airlines and Air Asia aircraft) (Keymer, 2016b, p. 503; Peacock & Keymer, 2017, p. 546). These activities have the twin effect of supporting security and regional stability as part of wider security and diplomatic objectives, but also serve to demonstrate the SAF's readiness, response capabilities and degree of technical sophistication (such as underwater search) – a subtle form of deterrence by demonstrating Singapore's military preparedness and capabilities. Nevertheless, the relationship between Singapore's military preparedness and operational employment is shown in how the state prioritises its efforts with regards to the requirements of readiness, operations and modernisation within its military system – with the focus being on maintaining deterrence through well-prepared and technologically advanced forces rather than completing operational service in multinational and out-of-area roles.

PRIORITIES WITHIN SINGAPORE'S MILITARY SYSTEM

Singapore's strategic focus emphasises self-reliance in the face of strategic vulnerability. Its defence policy based on diplomacy and deterrence serves first and foremost to create and maintain the conditions by which Singapore can protect its sovereignty and territorial integrity – both by itself and through the benefits of regional stability and international cooperation. This self-reliance is founded upon strong and consistent political commitment as reflected in high levels of defence spending and the clear focus on technological development to provide a qualitative military edge. This provides the SAF with structural balance and the ability to operate throughout the conflict continuum. However, it also creates asymmetry between the requirements of readiness, operations and modernisation as the policy of deterrence requires forces to be ready and capable for home service, with less imperative

provided to discretionary employment further afield. This in turn provides one of the main characteristics of Singapore as a small state military force in that its perception of vulnerability focuses on self-protection and limits its involvement in operations outside of its immediate environs.

The imperative for readiness is stated quite clearly in Singapore's defence policy,

> *Singapore's small size means that the SAF lacks strategic depth to manoeuvre in, or to fall back on. We depend on airborne early warning systems to alert us to any threat. The SAF must also be in a high state of combat readiness at all times, to repel any surprise military attack. This ability to mount an immediate and massive response is a cornerstone of the SAF's operational and development strategies.*

> *Singapore Ministry of Defence (2000, p. 38)*

The SAF needs to maintain and demonstrate a high state of readiness to achieve its deterrence role and support its defence diplomacy. Singapore's defence policy describes three main components to the SAF's operational readiness: immediate response; rapid mobilisation; and organising and training just as in war (Singapore Ministry of Defence, 2000, pp. 38-39). This readiness is based on continuous surveillance of Singapore's air and maritime approaches and maintaining the ability to respond quickly to any threats through immediate reaction forces and the mobilisation of reserves. The composition and structure of the SAF indicates that Singapore is able to maintain surveillance of its air and maritime approaches with electronic systems and air and naval assets; although it may face difficulties given the sheer volume of traffic passing through those approaches and certain key assets (such as the five Gulfstream AEW aircraft) may lack sufficient numbers to provide continuous coverage. Singapore also conducts mobilisation activities to test and demonstrate its wider readiness - claiming a 95% success rate in reserve mobilisation drills (Matthews & Yan, 2007, p. 383; Singapore Ministry of Defence, 2000, p. 42) and portraying the rapid deployment of naval assets following the 2004 Asian tsunami as a practical demonstration of its readiness (Chian, 2015, p. 37; Foster, 2015b, p. 559). However, the actions that Singapore takes to offset its limitations in size may impact on its ability to achieve readiness or sustain operations if threatened or attacked.

Singapore has based a lot of military equipment in foreign locations – primarily aircraft and combined arms land capabilities (such as artillery and armoured vehicles). This equipment,

and the specialists that maintain or employ them, are not readily available for the defence of Singapore and represent an opportunity cost between achieving desired levels of training, engaging with selected defence partners, and maintaining the required levels of capability to meet threats. In this regard, the total quantity of military equipment held by the SAF does not provide a true and accurate reflection of what is immediately available for its deterrence roles (although the political relationships that Singapore maintains in this way may provide a wider diplomatic aspect to its deterrence and regional stability). However, the acquisition of military equipment appears to take this factor into account and provide the capacity to combine training and readiness requirements. Nevertheless, readiness as part of Singapore's diplomatic and deterrence strategies forms the key element of the SAF's *raison d'être* and has prominence over the discretionary employment of Singapore's military capabilities further afield.

Although Singapore has increased the number and tempo of its military deployments since the 1990s (International Institute of Strategic Studies, 2015, p. 283) its commitment to operational deployments is relatively small and pragmatic in demonstrating international commitments and Singapore's technical proficiency at relatively low risk. Singapore's deployment of forces to multinational missions overseas has followed a path commensurate with the progressive development of its military capabilities – from military observers and support elements, to now include technical capabilities and air and naval platforms in non-combatant roles. However, the structure of Singapore's military capabilities and the form of its defence, security and foreign policies have limited a greater contribution. In the first instance the social contract between Singaporean society and government for the provision of conscript based military forces is predicated on national defence and is not as willing to support foreign deployments (Chian, 2015, p. 37; Ong, 2011, pp. 542, 555). Given the conscript based nature of the Army this would preclude large scale deployments. Secondly, Singapore needs to weigh the growing operational tempo against the imperative of deterrence and national defence (Chian, 2015, pp. 37-38). This is likely to require that key combat capabilities are retained in Singapore to provide the deterrent effect and is perhaps one reason why it has not deployed air and naval combat capabilities overseas. Thirdly, the character of modern operations has moved from conventional interstate military conflict to encompass a much broader range of tasks under OOTW. The bulk of Singapore's military forces were designed and prepared for conventional deterrence and therefore may not yet be appropriate for participation in modern multinational operations. However, Singapore is more active in

supporting activities within its strategic region; particularly through the provision of HADR – activities that both reinforce its commitment to collaborative work in the region and demonstrate its capabilities to regional partners. Nevertheless, it appears that Singapore restricts the form, scale and risk of its operational commitments in order to maintain levels of readiness and avoid denuding its regular/professional and ready response capabilities; focusing instead on readiness and progressive modernisation to ensure the utility of its forces.

Singapore has an active military modernisation plan. It is well coordinated and well-funded and focuses on the progressive modernisation or upskilling of the defence capabilities. It appears to be able to upgrade capabilities without developing temporary capability gaps in the wider force and shows the benefit of strong and stable political commitment through provision of funding. The issues for modernisation may be more political than practical, however, as Singapore recognises the need not to create an arms race or security competition through its continued development and desire to maintain a qualitative edge over other states within its strategic region (Lee, 2010, p. 68; Wu, 2016, p. 54). This has had the effect of delaying the introduction of certain new capabilities into Singapore – an aspect that may affect readiness but one that should be considered with regard to the qualitative advantages of this equipment in comparison to Singapore's neighbours. Nevertheless, modernisation is conducted in order to support and maintain readiness functions both now and in the future.

The prioritisation of effort within Singapore's military system appears to be weighted towards maintaining readiness as a form of deterrence, supported by modernisation to sustain current readiness and ensure the deterrent effect in the future. The conduct of operations has less priority given the constraints of a conscript force and the imperative to retain key assets at home – an imperative that gains greater effect as portions of key capabilities are maintained in foreign locations and are unavailable for immediate force readiness. Therefore, the Singaporean military system does not attempt to satisfy each military requirement equally. However, the relative priority between these requirements appears to be a result of policy, not capacity, and is a conscious decision by a small state to focus its capacities on meeting the basic tenets of its defence policy through self-reliance as opposed to other, less tangible, objectives.

SINGAPORE'S CHARACTERISTICS AS A SMALL STATE MILITARY FORCE

The constraints of 'small size' have been overcome by several factors: a sensible and visionary defence policy; a conscription and reservist manpower model; a 'dual-use' approach to defence industrialisation; a force multiplier policy aimed at exploiting Singapore's revealed technological comparative advantage; and a training and international diplomacy regime fostering friendly relations with some of the world's most powerful nations.

Perhaps an exception to the rule, but for the Lion-city, size appears unimportant.

Ron Matthews and Nellie Zhang Yan (2007, p. 393)

Singapore's defence policy is founded upon the intent to maintain a self-reliant force that can deter threats and, if that fails, swiftly defeat them. This is allied with the confidence building and deterrent effects of defence diplomacy in helping to maintain regional stability and a wider international commitment to Singapore's security. This twin track of deterrence and diplomacy is part of a wider comprehensive doctrine of *Total Defence* that seeks to unite all of the elements of society, economy and state to maintain the Singapore's sovereignty and provide the basis for continued growth and development. These policies require a military force structure that is relevant to Singapore's geostrategic position and can present itself as a credible deterrent through its size, equipment, capabilities and trained state. In the 50 years since independence Singapore has developed a well-equipped and trained military force. In many regards it exceeds the expectations commonly held for small states as it is driven by a strong sense of vulnerability to maintain capable forces. However, Singapore remains limited by capacity in the forces that it maintains and employs.

Singapore maintains a relatively large military force based on national service that is capable of conducting combined and joint operations throughout the conflict continuum. Its primary focus has been on conventional operations against peer adversaries in defence of Singapore's territorial integrity and sovereignty, although it is developing greater capabilities to meet other forms of threat. Its force is designed to sustain readiness for the defence of Singapore but is less capable in conducting deployed operations as it has few regular capabilities to

deploy and less redundancy in systems, platforms and units over and above those maintained for force generation or the defence of Singapore itself. The relevance of Singapore's military capabilities is founded upon the environment that they operate in and the tasks that they must complete. In this regard the structure of the SAF is relevant to the state's circumstances as it provides assets to maintain surveillance and conduct reconnaissance in the air and maritime approaches, has the potential to maintain those lines of communication while denying them to potential adversaries, and can operate throughout Singapore itself to protect infrastructure and installations. The SAF also has the capability to act to extend the state's physical strategic depth by pushing out to raid or secure territory within its strategic area, and it can support diplomatic and political endeavours to extend Singapore's freedom of action and the stability of the regional environment. In this regard, the SAF's military capabilities are structured to support Singapore's doctrine of Total Defence, provide for self-reliant capabilities to protect Singapore in the face of conventional interstate threat, and contribute to securing the state against asymmetric or low level threats.

One question regarding the relevance of Singapore's military capabilities, however, is whether they are too large and capable. Singapore maintains large and expensive military forces. Military spending forms the largest single element of government expenditure[114] and Singapore has been described as overinvesting in its military forces relative to its size (Sullivan, 2014, p. 3). Furthermore, its offensive capabilities could be perceived as providing it with a level of combat power that extends beyond a defensive deterrent effect – with consequent effects on regional stability - while the size and composition of the forces could also be seen as being motivated more by issues of national prestige and status rather than strict military necessity. In this regard, Singapore's policy of maintaining a qualitative military edge within the region incurs a range of fiscal, opportunity and social costs and, as identified by Bernard Loo (2015, p. 83), "may be increasingly economically and politically unsupportable." Nevertheless, Singapore has sustained its economic and political commitment to its military forces and the continuing level of this commitment will be a major factor in maintaining the credibility of its military capabilities.

The credibility of Singapore's military capabilities is more difficult to assess than their relevance as they are based on deterrence and consequently how potential adversaries may

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[114] The Singapore national budget budgeted for defence to form 14.2% of government expenditure in the 2017 budget, with the next highest expenditure being provided for education (12.9%) (Singapore Ministry of Finance, 2017, p. 9).

view them. The SAF is assessed by some commentators as being the most capable in Southeast Asia (Huxley, 2004, p. 185; Raska, 2016, p. 132) - having good equipment and being able to use it. This is enabled by the consistent support and high levels of defence funding provided by the Singaporean government to maintain its military capabilities. Furthermore, the SAF has been able to showcase these capabilities through participation in bilateral and multilateral military exercises and in HADR operations (Chong, 2010, p. 398; Ong, 2011, p. 545; A. T. H. Tan, 2011, p. 692); and it is showing the capacity to move beyond conventional warfare through participation in multinational operations and the development of a 4G capability that plans to adapt the SAF to meet current threats. In this way, the SAF can demonstrate the state's resolve and preparedness. However, a major question remains and, as Loo (2015, p. 76) has pointed out, "the fact that the SAF has never had to undertake combat operations means that its conventional warfighting capability is hypothetical at best, never having been actually tested in war." This, allied with what is perceived as a risk-averse culture that inhibits initiative (Ong, 2011, pp. 551-552; Raska, 2016, p. 191), means that Singapore's sword has not yet been tempered and the state has no tradition of military achievement to fall back on. Nevertheless, Singapore does demonstrate resolve and competence through its strong deterrent posture, and its selection of operational deployments has had the effect of developing operational experience in a controlled manner while further demonstrating its technical proficiency. In this regard, Singapore's military capabilities demonstrate technical proficiency at tactical levels whilst aiming to be strategically (and psychologically) credible as a deterrent to conventional attack.

The scale and range of Singapore's military forces exceed common expectations for small states. It maintains a modern structurally-balanced force that can operate across the range of military operations whilst being tailored for conventional warfare in defence of the state. It maintains a range of complementary systems rather than relying solely on multi-role platforms to achieve military effects, and is supported by an active defence industrial sector and progressive military research and development. This is sustained by political commitment and a high level of funding that enables the SAF to maintain a technological edge over regional peers through 3G (and soon 4G) development strategies that realise the benefits of the RMA and concepts of force transformation. Some of the rationale for this level of support for the SAF is founded upon its role as a national institution (Lee, 2010, p. 93; Raska, 2016, p. 138; Singapore Ministry of Defence, 2000, p. 27), and the possession of high end military equipment would appeal to those who envisage Singapore as having status and

importance in regional affairs. Singapore also uses its military capabilities in support of its foreign relations; the deterrent effect helping to maintain the state free from coercion (Choong, 2013) while its employment through defence diplomacy, military training and exercises, and selected operational commitments helps to prove Singapore's bona fides and maintain international support (giving Singapore a 'voice at the table' so to speak) (Lee, 2010, p. 80; A. T. H. Tan, 2011, pp. 673, 677, 684-685; Yee-Kuang Heng, 2013, pp. 438-439) – although the conduct of discretionary operations does not appear to be a key determinant of Singapore's force structure.

Singapore has developed its military capabilities in response to its perceived vulnerability and they are structured to overcome the effects of isolation and a lack of strategic depth. However, there are limits to the military capabilities that Singapore can maintain through its base capacity, as evidenced by the declining population base to sustain the conscript/reserve force model and the effect of increasing costs on the numbers of systems brought[115]. For the moment, Singapore's economic growth and strong political commitment to defence has alleviated these concerns - although Singapore's comparative advantage in regional military forces is based on this commitment and this may be challenged by domestic political and economic concerns over time (Lee, 2010, pp. 89-90; Wu, 2016, p. 70). Nevertheless, there is a limit to how far Singapore's economy and commitment can take it; a limit that Chris Brown and Kirsten Ainley (2009, p. 93) identify in stating that,

> *No matter how economically successful Singapore is, or how skilful its army, it will never be a major military power, nor have the capacity to project military power at a distance in the absence of a sufficiently large population base.*

However, Singapore's defence policy does not require this form of power projection. Singapore is a small state but, in terms of the stated objectives of its defence policy and security doctrines, it may be more than big enough.

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[115] Loo (2015, p. 77) provides the example of over 40 F-5Es being replaced by 12 F-15SGs (although that figure has since increased to 24). The F-15SGs are a much more capable aircraft than the F-5E but fewer will be available for tasking – especially if some are based in foreign locations for training purposes.

CONCLUSION

Singapore aims to provide for self-reliant military capabilities as a small independent state. Although Singapore is a very small island state with few natural resources it has taken advantage of its position as a communications hub to achieve strong economic growth and development, to develop a wide range of international relations and to integrate itself into global financial systems. However, its strategic context is such that its security dialogue is dominated by the perception of vulnerability, both external and internal. Singapore seeks to assuage this vulnerability and promote continued growth and development through a comprehensive security framework based on the doctrine of Total Defence. This doctrine recognises the relative disadvantages wrought by Singapore's size and mobilises all state elements in promoting the state's sovereignty and integrity. A key part of this doctrine is the maintenance of strong and credible military capabilities that function through the pillars of diplomacy and deterrence. These military capabilities are provided with strong and consistent support from Singapore's government and are underpinned by high levels of defence spending. These levels of spending have been applied to help Singapore overcome the relative disadvantages of its size and sustain a structurally balanced force – one that has developed a qualitative technological edge over regional peers and can complete a wide range of defence and security tasks. In this regard, Singapore has focused its resources on the military requirements of readiness and modernisation as a central element of its policy of deterrence. Although it is becoming more active in international operations, the conduct of those operations are not a determinant of the state's force structure and are functionally subordinate to the state's imperative for a deterrent force at high states of readiness.

Singapore maintains military capabilities that are relevant to its strategic circumstances as they provide for territorial defence and a capacity to expand the state's strategic depth through military manoeuvre, and are sustained by consistent government and national commitment. The credibility of Singapore's military capabilities is founded upon their demonstrated proficiency, capability, and the policy of deterrence that this supports. To this end Singapore takes advantage of opportunities to demonstrate its proficiency in using its advanced military equipment and systems through training, exercises, and selected operational commitments. This proficiency, allied with the state's ongoing commitment to maintaining capable armed forces, demonstrates Singapore's resolve to be self-reliant in the face of strategic vulnerability.

CHAPTER SEVEN: UNDERSTANDING MILITARY FORCE STRUCTURES WITHIN SMALL STATES

INTRODUCTION

The aim of this thesis has been to examine how small states structure their military forces to help understand why they structure these forces in the manner that they do and whether they can provide for relevant and credible military capabilities. This is intended to extend our understanding of the viability, agency and resilience of small states as actors within the wider scope of international affairs. These factors and considerations will be addressed through the next two chapters - with this chapter examining the research question of how small states structure their military forces and addressing the research problem of why they structure their military forces in the way that they do; while chapter eight will conclude the study by considering whether small states provide relevant and credible military capabilities, and relating this analysis to the wider context of small states within international affairs.

The focus of the study has been to examine the nature and composition of small state military force structures through the structural balance of those forces and the processes that small states employ in providing for them. This has been conducted through the examination of four small states as case studies. Ireland, New Zealand, Norway and Singapore comprise developed states with similar population sizes, internationalist outlooks and a strong maritime influence in their environments. Each state also maintains the breadth of characteristics and sovereign capabilities that provide for participation within the wider framework of international affairs, but with restrictions to the depth of those capabilities that forces them to choose how they employ the discretionary capacity that they may have once the essential elements of the state have been maintained. The manner in which these states make their decisions, particularly with regard to the provision of the instrument of military power, varies greatly based upon the resources that they can harness, the effects and perception of the strategic environment that they exist within, and the wider strategic choices that they have made. In this regard there are marked differences in the manner in which the four states structure their military forces as reflected in the strategies that they follow: Ireland as a military neutral state; New Zealand seeking security through partnership; Norway functioning as a member of a formal alliance; and Singapore as a state prepared to be self-reliant. These

differences form the avenue for examining both the propositions developed in the Theoretical Framework to explain how small states structure their military forces and the hypothesis proposed in the Research Design to understand why they do so.

This chapter examines the research question and addresses the research problem in two stages. First, it describes the military force structures in the selected small states. This is conducted by summarising the military force structures of those states and assessing them against the wider expectations for military forces in small states. This will be completed through analysing each case with respect to the propositions regarding military force structures in small states. These propositions were developed in Chapter Two (and are shown at Table 7-1) to provide a common framework for interpreting the expected results for the nature and composition of the small state military force structures, and form testable criteria for assessing how small states structure their military forces. Examining the expectations for military force structures in small states in this way also provides the link between describing how the selected states have structured their forces and why they do so. This is considered in the second part of the chapter that compares each of the cases and applies the results of that comparison to verify the hypothesised relationship between the intrinsic and contingent characteristics of small states in determining the structure of their military forces. This forms the theoretical basis to the thesis and a means of relating the study's results to the wider framework of small state studies within international relations.

Propositions		
1. Small states lack the economy of scale and critical mass to provide for comprehensive force structures	**2. Small states rely upon international collaboration and support to provide for their military capabilities**	**3. Small states design their force structures to maximise utility over military effect**
• Lack the size and resource base to provide for comprehensive force structures. • Reflected in unbalanced force structures as broad structures lack depth or sustainability whilst structures based on a few capabilities do not span the full range of military functions. • Small states do not maintain full spectrum or broad expeditionary military capabilities, but instead are limited to focused/selective expeditionary and/or stabilisation roles.	• Maximise their military investment and gain economies of scale through collaborative acquisition, concept and doctrine development, and training with other states. • May increase capability by contributing to shared military capabilities, and seek to reduce costs through international logistic and support arrangements. • Forces are designed to be interoperable with likely partners and small states structure their security and defence policies to maintain international collaboration and support through equipment selection, training, and operations.	• Structure and maintain their military forces based on those roles that have a higher probability of occurrence rather than maintaining high-end military capabilities. • Focus on forces capable of conducting low and mid-intensity operations, provide multirole capabilities that can be used in a wide range of contingencies, and tailor their forces to complete non-discretionary tasks before providing a wider residual capability for discretionary operations. • Military forces are designed and equipped with regard to civil requirements and governments will maximise the investment in their forces to complement or act in place of civil security, border protection and surveillance (in effect designing the military forces to complete civil as well as military tasks).

Table 7-1: Propositions regarding military force structures in small states

MILITARY FORCE STRUCTURES IN THE SELECTED SMALL STATES

The four cases described within this study maintain markedly different balance and composition within their military force structures. This in turn is reflected in the range of military capabilities that each state generates and what their forces can be expected to achieve. Furthermore, each of the four states conforms to (or differs from) the expectations of military force structures in small states in different ways and to different degrees. This section considers the question of how small states structure their military forces by considering the balances and capabilities of each state, and then in comparison with each other, with regard to the expectations of such structures within small states.

IRELAND

Ireland maintains small professional defence forces that are focused for employment within discrete areas of the range of military operations in support of its policies of military neutrality and active global citizenship. The Irish Defence Forces consist of tailored capabilities that can support the civil authority both domestically and throughout its maritime claims, and also contribute to multinational peace support operations abroad. These forces are characterised by modern but limited equipment, few force multipliers, and a large proportion of land forces with relatively few maritime and air platforms. This is reflected in an unbalanced force structure that lacks the breadth to operate throughout the complete range of military activities and, apart from combined arms capabilities in Army formations, lacks the depth to expand the range of tasks that it currently completes. Furthermore, Ireland's size, capacity and recent economic difficulties appear to have weighted the priorities of its military system towards operational effectiveness and completing key domestic tasks; with less priority allocated to completing modernisation plans and maintaining readiness within Ireland's resource-constrained environment. However, the discretionary nature of Ireland's international commitments provides flexibility in allocating priorities between the requirements of readiness, operations and modernisation.

The military capabilities that Ireland maintains are limited in what they can achieve as they involve few combat capabilities and are focused on defensive, protective or assistance roles in Ireland and abroad through selective expeditionary capabilities or stabilisation operations. In this regard the Irish Defence Forces conform to many of the expectations encapsulated in the propositions regarding military force structures in small states. In the first instance, Ireland lacks the economy of scale and critical mass to provide for balanced force structures. Ireland maintains a small defence force which is structurally unbalanced and, apart from its ability to maintain battalion groups on operations or as part of multinational standby forces, is constrained by a lack of depth that will affect its ability to sustain operations or conduct concurrent activities. This is further reflected in the lack of a domestic resource base for defence industry and the effect of fiscal constraints in hampering force development in recent times.

Ireland's ability to overcome the limits of its economies of scale and critical mass through international collaboration are limited to some extent by its security and defence policies.

Ireland conducts security and military collaboration with both bilateral and multilateral partners, although this occurs under the framework of Ireland's policies of military neutrality and support for international peace and security. In this regard it does collaborate with the EU, EDA and NATO PfP in a number of pooling and sharing, concept and doctrine, and operational contexts. These relationships do provide Ireland with the ability to benchmark its capabilities and develop its forces in selected areas such as PSO, HADR, SAR and resource protection. However, the scope of this collaboration is by necessity limited to accord with its policy of military neutrality and it does not host collective training by foreign forces or participate in activities with a central focus on warfighting. In this regard, Ireland does gain from international collaboration but there are self-imposed limits and constraints to the degree to which it does so.

These constraints are also apparent in the design of Ireland's military forces and the utility that they provide to the state. The Irish Defence Forces are designed and structured to fulfil discrete roles and tasks, with a heavy emphasis on aid to the civil power and PSO. This is reflected in not only the roles completed through resource protection, SAR and international peacekeeping deployments, but also through the dedicated support provided to the civil authority in respect of prison security, VIP transport and aeromedical evacuation. Elements of the Irish force structure provide these capabilities in place of a comparative civil capability. To this end the Irish Defence Forces are structured to meet these anticipated tasks and are not maintained to provide military effects in high-, and to some extents, mid-intensity level operations. As a result, the Irish Defence Forces generally conform to the expectations of military force structures in small states as they are limited in size and capability, focus on lower-intensity operations and tasks, and lack modern offensive capabilities or the capacity for independent action outside of domestic aid to the civil power or resource protection roles. However, the limited structure of the Irish Defence Forces is closely attuned to the current policy and tasks, reflecting the discrete and limited nature of those roles – a characteristic in contrast with the more expansive force design in New Zealand.

NEW ZEALAND

The New Zealand Defence Force (NZDF) is of a comparative size to Ireland's military, although the air and maritime components form a greater proportion of the overall force structure. New Zealand maintains a professional defence force with modern equipment that is structured to complete a wide range of tasks throughout the conflict continuum, although it may be more accurately considered as a generalist force that has few genuine combat capabilities. In this regard the NZDF can be characterised by its small size, expeditionary nature, and range of military capabilities – with a recent emphasis on assets and capabilities that could enhance New Zealand's ability to support its territorial and regional responsibilities and contribute to collective security operations. Nevertheless, the range of military functions that the NZDF can conduct is compromised by the lack of breadth and depth within its force structures. This results in a wide ranging but unbalanced force structure that lacks critical mass and, although it provides an ability to operate across the range of military operations, it may lack the ability to sustain operations or respond to other contingencies. These challenges are further reflected in the priorities that the NZDF maintains within its military system as the weight of effort appears to be focused on the conduct of operations and completing modernisation activities ahead of maintaining readiness requirements.

The military capabilities that New Zealand maintains provides it with the ability to participate in a wide range of operations but are limited in the types of activities that they can conduct as the combat forces lack modern offensive capabilities and the ability to operate independently at higher levels of intensity. Nevertheless, New Zealand has developed an ability to conduct (low-intensity) joint expeditionary operations and, while lacking full spectrum forces, it can provide focused expeditionary capabilities (including some combat capabilities) and lead operations in permissive environments. In this regard, while New Zealand conforms to many of the expectations for small state military capabilities it does possess some characteristics that step beyond those expectations.

New Zealand does not maintain the economy of scale and critical mass to provide for balanced force structures. Although the NZDF has capabilities that include a wide range of military functions this range is not complete (most notably lacking an air combat capability) and the force lacks depth and diversity within those functions. Therefore, although the NZDF

can participate in a wide range of operations, its ability to sustain that commitment or conduct concurrent tasks is constrained. Furthermore, the NZDF's ability to provide for its forces is hampered by the systemic disadvantages of its size when conducting defence procurement and it has previously disbanded capabilities (such as air combat and short range air transport) in order to reallocate funds within the defence budget. Nevertheless, the NZDF does maintain a range of military capabilities as a result of the span of its force structures. These not only include the expected selective expeditionary and stabilization capabilities, but also comprise focused expeditionary capabilities and the ability to lead or conduct independent operations within its region. This demonstrates both the intent of New Zealand's force design and the benefits that it gains through international collaboration.

New Zealand actively employs its international defence relationships as a means to increase its economy of scale and provide for a greater effective critical mass within its military capabilities. The key strands of this activity are based upon its defence relationships with the USA, UK, Australia and Canada through standardisation, logistics, acquisition and operational arrangements that provide it with access to advanced concepts and doctrine, training, and military capabilities to a degree that it could not replicate by itself. This has the effect of increasing the military proficiency of the NZDF while also providing it with greater capacity to acquire modern equipment and maintain interoperability with likely operational partners. This also increases New Zealand's ability to work effectively with multinational organisations (such as the UN and NATO) in collective security missions while retaining a greater capacity for independent or cooperative operations within its own strategic areas.

The NZDF is deliberately designed not to be a full spectrum force as the capability requirements exceed what the state is willing to sustain. Instead its primary force determinants are meeting domestic, territorial and regional requirements while maintaining an ability to contribute credibly to operations further afield. In this regard the NZDF's force structure is focused on the more likely contingencies within the range of military operations – particularly those with low or mid-levels of intensity – and to complete non-discretionary requirements such as domestic explosive ordnance disposal and supporting search and rescue. The force's key military equipment completes a range of tasks and serves as multirole platforms, while the NZDF actively task organises its standing forces to provide capabilities suited to particular missions as required. In this regard the NZDF is structured to provide utility across a wide range of military tasks, although it only possesses few genuine combat capabilities and would rely on international support to operate in such roles. The NZDF also

complements domestic and regional civil capabilities with regard to border security and resource protection, while current development initiatives include enhancing its ISR and cyber capabilities to increase its utility in the developing operational environment. As a result, the NZDF generally conforms to the expectations of military force structures in small states through its size, focus on multirole platforms and lack of critical mass; although it does maintain capabilities to operate throughout the conflict continuum as a generalist, and not a niche or specialised, force. These characteristics are also reflected to a greater degree in the larger and more combat capable forces maintained by Norway.

NORWAY

Norway maintains medium sized and well equipped armed forces with the ability to operate in domestic, territorial defence and expeditionary contexts. The Norwegian Armed Forces (NAF) comprise capabilities across the full range of military functions while being based on modern technology and a blend of professional, conscript and reserve members. The structure of the NAF has also been designed to provide appropriate forces for deployment in multinational operations abroad and to meet defence tasks at home. This provides Norway with an apparent balance to its force structures through the breadth of functions that they can fulfil and the complementary effects that they can achieve. However, this structural balance is constrained by competing demands for territorial defence and expeditionary (alliance) operations that may test the NAF's depth and resilience. In effect, the NAF lacks the capacity to be self-reliant and the key elements of its force structure are predicated on NATO support in times of heightened threat or crisis. Furthermore, Norway has faced challenges in prioritising effort within its military system over the past decade and a half as it simultaneously tried to transform the force, sustain an increased operational tempo, and meet readiness requirements in the face of a resurgent Russia. The focus over this period was on the conduct of operations and supporting modernisation activities, with noted deficiencies appearing in readiness requirements. Although the current period of reduced operational requirements has provided the scope to address readiness concerns, this does show the challenges that Norway's military system faces in meeting the three military requirements simultaneously.

Norway's military capabilities provide it with the ability to conduct a wide scope of activities as it can participate in operations throughout the conflict continuum; although it lacks sufficient structures to conduct or sustain operations without allied support. Therefore the NAF does not possess a full spectrum or broad expeditionary capability – instead being characterised by focused expeditionary, selective expeditionary and stabilization capabilities while being able to contribute to low, mid and high-intensity operations. The NAF thus represents some of the expectations for small state military forces – particularly as it can be challenged in maintaining economies of scale for the maintenance and operation of its military capabilities, and the small size of its professional and conscript forces constrains its ability to sustain out of area missions. However, Norway's financial strength and defence industries do provide it with the ability to overcome these constraints and provide for modern, leading edge equipment and advanced combat capabilities. This provides it with the potential to overcome the constraints of its size through participation within formal alliance frameworks.

Norway's membership of the NATO alliance is a fundamental element of its security and defence policies, and it relies greatly on international collaboration to provide for its military capabilities. It conducts collaborative acquisition, concept and doctrine development, and training with NATO and Nordic states which provides it with the capacity to develop levels of military proficiency and capability in excess of what it could provide for itself. Furthermore, it manages defence costs through the conduct of collaborative maintenance and logistic support for elements of its equipment fleets and maintains access to advanced force multiplier capabilities through shared NATO AWACS, transport and tanker aircraft, and submarine rescue assets – although NATO membership does impose some costs with respect to storing pre-positioned equipment stocks for the USA and providing sufficient military infrastructure to facilitate allied deployment and operations in Norway. Nevertheless, the benefits offered by this range of international collaboration also enables Norway to maintain the ability to operate with its NATO partners and, as a result, other military forces in collective security missions outside of the NATO area. However, it should be noted that the maintenance of interoperability is an expectation of the NATO alliance and the requirements of NATO membership are evidenced in the design and utility of the Norwegian Armed Forces themselves.

The development of Norway's Armed Forces since 2000 has provided for smaller, capital-intensive forces that have greater utility throughout the range of military operations than the

previous threat-based mobilisation forces did. However, the NAF does maintain the ability to provide a range of military effects through its focus on territorial defence and through its concept of the Deterrence Threshold. These include surveillance and intelligence capabilities, and the maintenance of advanced offensive capabilities to support them (such as air and sea-launched strike missiles). These capabilities, when combined with other specific military capabilities such as air defence, demonstrate that Norway does maintain the capacity for high-intensity military operations either to a limited extent by itself or, more likely, as part of an allied force. In this regard, the NAF is designed to complete combat tasks, although it has also proven capable of deploying forces overseas for low and mid-intensity operations throughout the conflict continuum. Furthermore, the NAF is not structured solely as a combat force and it maintains specific structures to provide the national SAR and maritime resource protection functions through the Coast Guard and SAR service. These roles are conducted in addition to other ancillary support provided to the domestic authority. As a result, while the NAF does conform to a number of the expectations for small state military forces through its size, reliance on a wider alliance framework and the use of multirole platforms; it also moves beyond these expectations in maintaining forces with modern offensive capabilities that can participate in high-intensity operations and through its participation in leading edge technological development (such as the F-35 programme). However, the NAF remains constrained by a relative lack of depth and resilience – aspects that Singapore has attempted to overcome in its more extensive force structures.

SINGAPORE

Singapore maintains modern technologically-enabled military capabilities based on balanced forces that are designed to operate throughout the continuum of conflict as part of the state's strategy of total defence and twin policies of diplomacy and deterrence. The Singapore Armed Forces (SAF) are characterised by their relatively large size, predominantly conscript and reservist composition, and use of modern military concepts and technology to provide a qualitative regional superiority. This characterisation also includes the SAF's advanced military capabilities, its maintenance of a range of force multipliers, and its potential for independent action as the bedrock of its policy of deterrence. This is reflected in a balanced force structure that provides complementary effects between and within the key components

of military functions, and where multirole platforms are supported by specialist enablers to increase their effect. This force structure is maintained by a comprehensive military system supported by indigenous defence industry and an active military R&D policy. Singapore's focus on deterrence and the nature of its conscript/reservist force structure is also reflected in the manner in which it prioritises readiness and modernisation activities over the conduct of operations.

The military capabilities embodied in the SAF provide Singapore with the ability to complete the full range of military functions within its immediate environment, although it lacks the operational and strategic projection capabilities inherent in *full spectrum forces*. Nevertheless, it does maintain the ability to provide focused expeditionary capabilities (incorporating both selective expeditionary and stabilization capabilities) and can provide a wide range of military effects in support of its territorial defence through its ability to complete defensive and offensive actions in high-intensity operations, and to conduct joint operations within a wider national security framework. In this regard, Singapore exceeds many of the expectations of small state military forces and possesses a greater military capability than would ordinarily be expected of such states.

Singapore's ability to provide for its military force structures is based on strong political commitment, commensurate financial commitment, and a well-developed *defence ecosystem* comprising military forces, R&D and defence industries. As a result, it is able to generate economies of scale and critical mass to support a large and structurally balanced military force based upon advanced military technologies and high capacity infrastructure, concepts and doctrines adapted to its own particular requirements, and conscript and reserve service. Although the force structures do not provide for the complete range of military effects, they do provide aptitude throughout the range of military functions with offensive, protective and limited power projection capabilities. However, even though Singapore's force posture emphasises its ability to operate in a self-reliant manner, it does maintain a wide range of international relationships to support its military capabilities. It is able to increase its economies of scale through collaborate R&D and technology transfers, while it is very active in conducting training in or with other states. This training not only allows it to benchmark its capabilities and develop further experience in operational techniques, but also enables its forces to train without the geographic restrictions of its home location. In effect Singapore uses international collaboration as a method to overcome strategic limitations and enhance

the economies of scale that it maintains in its defence ecosystem. Nevertheless, Singapore's international collaboration is limited in some respects.

Although it supports foreign engagement, Singapore places less emphasis on collaborative acquisition or mutual logistic arrangements and, while it does exercise and operate with forces from other countries, the focus is on maintaining its own, rather than a necessarily interoperable, military system. This is reflected in the design of the SAF which is based upon the imperative of national defence through deterrence and the ability to defeat a threat if need be. The SAF is designed to provide for dedicated military effects with the capacity for high-intensity operations and the ability to work throughout the conflict continuum. However, it is not solely limited to this military effect, and it is adopting concepts and capabilities to counter non-traditional threats (such as cyber and terrorism through the 4G concept), and applies its military capabilities for regional HADR purposes and in support of the domestic authority. Furthermore, the utility of the SAF to the state of Singapore is not limited to these physical functions as it also serves a psychological role in providing a shared experience for Singapore's citizens as part of nation-building and forms a wider social contract with the state's populace who provide the conscript and reserve forces. Nevertheless, the primary utility of the SAF to the state is its intrinsic military capability and the level of deterrence and foreign support that it can achieve.

The size and capability of the SAF, therefore, exceeds the expectations of a small state military force. This occurs as, although it does maintain multirole capabilities and works with a range of partners to increase its capacity, it maintains advanced military capabilities at the forward edge of technological and conceptual development, and its size and depth provide it with a degree of structural resilience. However, a relative lack of operational experience, constraints to the citizen force model and its lack of strategic depth may limit these effects and prove to be constraints that reflect fundamental issues of capacity and expectations for small states in providing for their military capabilities.

MEETING THE EXPECTATIONS FOR MILITARY FORCES IN SMALL STATES

The four cases represented by Ireland, New Zealand, Norway and Singapore show differences in the way that small states structure their military forces. Although the four states

have similar population sizes and an active internationalist outlook they maintain markedly different military capabilities and conform to the expectations of small states to different degrees. This has been shown in the preceding section and is summarised against the expectations for military force structures in small states in Table 7-2.

STATE	PROPOSITIONS		
	1. Small states lack the economy of scale and critical mass to provide for comprehensive force structures	2. Small states rely upon international collaboration and support to provide for their military capabilities	3. Small states design their force structures to maximise utility over military effect
Ireland	• Small scale military forces. • Unbalanced force structure. • Lack critical mass. **CONFORM**	• International collaboration. • Self-imposed limits and constraints due to policy of military neutrality. **MOSTLY CONFORM**	• Military capabilities tailored to support civil authority and conduct PSO. **CONFORM**
New Zealand	• Small scale military forces. • Unbalanced force structure. • Lack critical mass. • Some capacity for independent operations. **CONFORM / PARTIALLY EXCEED**	• Active international collaboration across the range of military capabilities, support and activities. **CONFORM**	• Capable of a wide range of military activities. • Generalist force that can be task-organised for specific operations. **CONFORM**
Norway	• Small forces with large reserve element. • Structural balance but lack depth in some contexts. • Offensive capabilities. **PARTIALLY CONFORM / EXCEED**	• NATO membership a fundamental consideration of force structure. • Active international collaboration across the range of military capabilities, support and activities. **CONFORM**	• Capable of a wide range of military activities. • Includes specialist military capabilities capable of high-intensity operations. • Specific structure for SAR and resource protection. **PARTIALLY CONFORM**
Singapore	• Large scale. • Advanced capabilities. • Defence Ecosystem. • Economy of scale and critical mass. **EXCEED**	• Enhance economies of scale and military proficiency. • Limited shared capabilities and interoperability. **PARTIALLY CONFORM**	• Wide range of military capabilities. • Capable of high-intensity operations. • Support to domestic authority. **GENERALLY NOT CONFORM**

Table 7-2: Comparison of expectations for small state military force structures in the selected states

In this regard Ireland maintains the military capabilities that would most commonly be expected of a small state while New Zealand and Norway step away from these expectations with a greater reliance on international support and a wider range of capabilities; and Singapore represents a point of discontinuity with these expectations as it maintains an intrinsically more capable defence establishment. Furthermore, although each of the four states collaborate to some extent with international partners in capital acquisition and

research and development, Singapore sits aside from expectations for small states in that it has a capable defence industry that can meet many of its own equipment and maintenance requirements – with Norway demonstrating a similar capacity but to a much smaller scale. In this regard, and with respect to the overall tenor of the military and defence capabilities, Singapore maintains a much greater capacity for independent action and self-reliance than the other cases; although Norway does possess modern combat capabilities and New Zealand's defence forces have a wide range of utility. Having noted both how the states structure their military forces and the capabilities that result, the question now is what are the drivers for the differences between them – are these matters of relative capacity or strategic influence, or a combination of both? This will be addressed through consideration of the influences that shape how these states structure their military forces in the way that they do.

## DETERMINING SMALL STATE MILITARY FORCE STRUCTURES

The preceding section has described how the four selected small states structure their military forces and assessed the methods by which they do so against expectations for military force structures in small states. It shows that the four states structure their forces differently and act in different ways in doing so. In this regard, the different military capabilities maintained by Ireland, New Zealand, Norway and Singapore represent the outcomes of the decisions that they make to resource their military forces. This section will consider why those states make those decisions and structure their military forces in the way that they do, with a particular focus on the strategic influences that may shape the development of their force structures with respect to the capacity of those states to provide for these designs. A further consideration is the discretion that this provides each state with respect to the level of commitment to allocating resources to the military forces. This analysis will then be related to both the operationalised concept for small states and research hypothesis developed in Chapter One to verify the applicability of that hypothesis and propose an explanation for why small states structure their military forces in the way that they do.

The operationalised concept of small states as shown at Figure 1-1 distinguishes between a small state's intrinsic and contingent characteristics - as those that provide the state's base capacity and those that shape its forms of international engagement - as a basis for

understanding the wider concept of small states through their interactions within the international system. It further notes that there is a dynamic relationship between these characteristics and they do not function in isolation. This concept is applied in the theoretical relationship that is examined in this study as it considers the role and relationship of the independent variables of the intrinsic characteristics and contingent characteristics of small states to the dependent variable of the small state military forces. It was hypothesised that the intrinsic (internal) characteristics of a small state form the causal variable in determining the nature and composition of the state's military forces, with the contingent characteristics acting as a mediating variable and comprising an essential component of the relationship; while the specific nature of both the intrinsic and contingent characteristics may help to explain the differences between the military force structures of small states themselves. The basis of this examination is the comparison of the four cases developed through the course of this study.

COMPARING THE SELECTED SMALL STATES

Each of the four states examined in this study maintain different sizes, levels and types of military capability. These differences are not only found in the results of how they design, maintain and employ their military forces but also in the levels of resourcing and relative commitment that they provide. This is shown in Figures 7-1 to 7-3 and in Table 7-2. As a percentage of GDP and government spending, Singapore commits a much greater proportion of its resources to defence than the other three states, although Norway's relative wealth means that it maintains a generally comparable defence budget and per capita expenditure. However, Norway's relative commitment to defence expenditure is much lower by international comparison, and it can be seen at Tables 7-1 and 7-2 that there is a great difference in each state's commitment to resourcing its military capabilities between Singapore and the other three cases. Why does this difference occur and what influences each state in determining its resource allocation and the structure of their military forces?
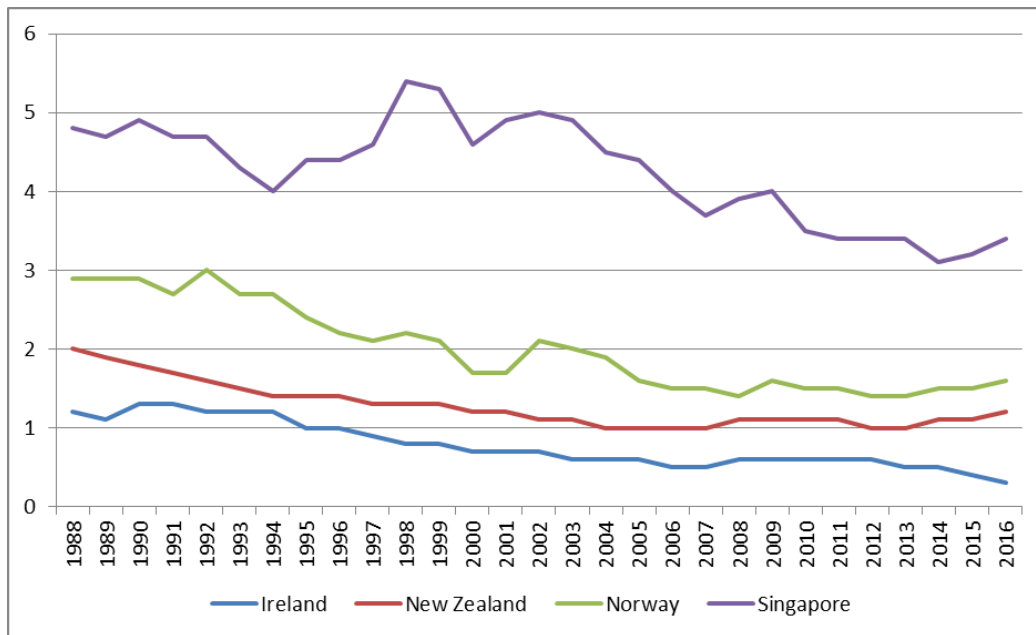
Figure 7-1. Military expenditure as a percentage of GDP in Ireland, New Zealand, Norway and Singapore
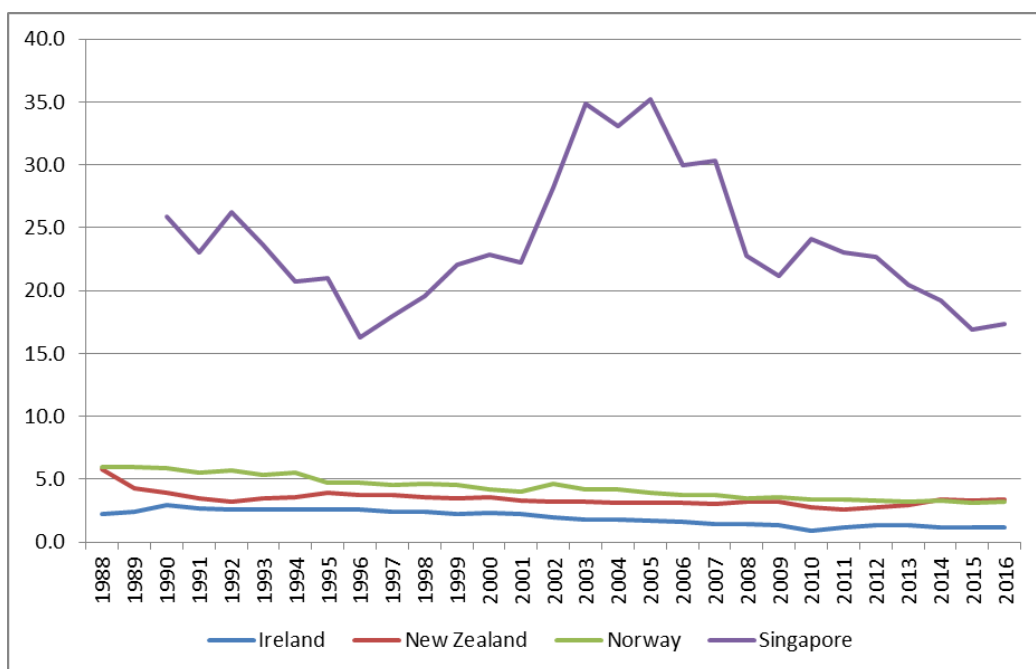
Figure 7-2. Military expenditure as a percentage of government spending in Ireland, New Zealand, Norway and Singapore
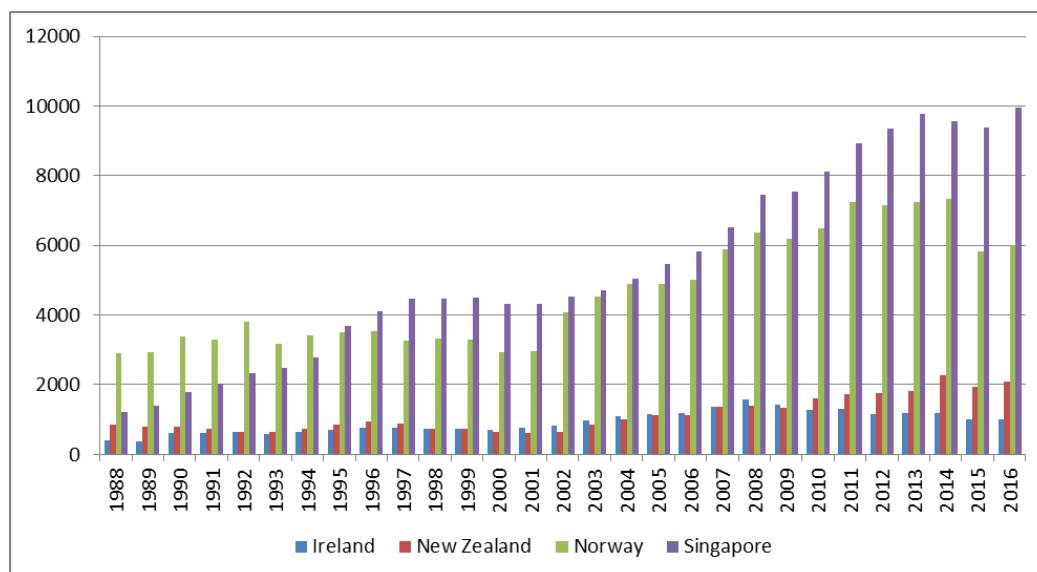
[Information drawn from SIPRI Military Expenditure Database (2017)]

Figure 7-3. Military expenditure (USD $m) in Ireland, New Zealand, Norway and Singapore

Comparison Area	Ireland's Rank Position	New Zealand's Rank Position	Norway's Rank Position	Singapore's Rank Position	Remarks
2016 Military Expenditure (USD)	67	57	32	21	145 states ranked
2016 Military Expenditure per capita	42	23	7	5	
2016 Military Expenditure as % of GDP	142=	90=	61=	20=	
2016 Military Expenditure as % of Government Spending	140=	95=	100=	6	

[Information drawn from SIPRI Military Expenditure Database (2017)]

Table 7-3. International comparison of defence spending within Ireland, New Zealand, Norway and Singapore

Singapore is a small developed state with advanced military capabilities tasked to help maintain a safe and secure environment through effective diplomacy and deterrence in the face of perceived vulnerability. These perceptions arise from the influences of Singapore's strategic environment and recent history. Singapore's location provides it with few natural

205

resources and little strategic depth. Thus it depends upon international trade and regional and global economic systems for its growth and development, and it is vulnerable to disruptions to those linkages. Furthermore, it is also dominated by its proximity to much larger neighbours and a concomitant sense of political and ethnic isolation. Singapore's sense of vulnerability from these factors is also shaped by its historical experience of occupation during World War Two, the sudden and unplanned nature of its independence and the subsequent British withdrawal from Southeast Asia, and the internal demands of nation building and developing a cohesive state.

Singapore responded to these factors through developing strong indigenous capacity supported by international relationships. In the strategic sphere this is manifested by a comprehensive defence doctrine and the progressive development of the state's military capabilities as a self-reliant force that can act alone if need be to deter threats and, if that fails, swiftly defeat them; whilst also contributing to the state's diplomatic initiatives. These policies require that the SAF is maintained as a credible deterrent against existing and emerging threats across the full range of military operations. Although Singapore maintains a wide range of defence relations and partnerships, the self-reliant core to its defence policy means that it has little discretion in the capability of the forces that it maintains to achieve this. This lack of discretion is reflected in the use of conscription to provide sufficient mass to the force structures in the face of the scale of perceived threats[116], and a focus on establishing qualitative superiority in military systems and equipment even though this involves greater costs. Singapore has harnessed the state's capacity to provide for these forces through consistent political will to both commit resources to defence and to establish foreign relationships that provide training areas and collaborate in research and development; and through the progressive development of generations of military capabilities in concert with the progressive development of the state's economic capacity. In this way, Singapore's strategic environment has shaped the continuing development, structure and capability of the SAF but this only found form as the state's capacity has also concurrently grown to support this development. Thus, while Singapore's perceived vulnerability and strategic relationships have provided the imperative for the structure of it military forces, its ability to do so is founded upon the state's capacity and the manner in which it chooses to apply it.

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[116] Although there is a nation-building aspect to the use of conscription as described in Chapter Six.

Unlike Singapore's deliberate evolution of its military development strategies, Norway has significantly transformed the nature and form of its military capabilities since the end of the Cold War and it provides a smaller proportion of its state capacity to providing for its defence. This occurs as Norway does not have the same sense of vulnerability as Singapore and it benefits from the security guarantee and military support provided as a full member of NATO. However, unlike Singapore, the character and demands of this alliance membership also forms part of Norway's strategic environment. In this regard, Norway is a small state that maintains modern military capabilities while actively seeking to overcome the limits of its size and capacity through balancing its defence concerns within an alliance framework.

Norway's strategic environment is shaped by its location and proximity to Russia. The key influences in Norway's strategic environment derive from its location as an Atlantic coastal state on the northern fringe of Europe, its economic reliance on offshore petroleum deposits and fisheries, and the perceived threat offered by a resurgent Russia. As such, although Norway also shares land borders with Sweden and Finland, it maintains a strategic focus on what it terms as the *High North*. This is an area that was traditionally of strategic relevance to NATO as it dominated Soviet (and now Russian) maritime and air approaches to the Atlantic. Norwegian territory in the Arctic not only offered access to key offshore resources but also constitutes a positional advantage for economic and military activity. However, in its weak state following the Second World War, Norway determined that it lacked the capacity to defend itself and sought the security guarantee of NATO membership. This security guarantee continues to form a fundamental element of Norway's strategic environment as, although it is a relatively wealthy state, it still determines that it cannot defend itself and relies on NATO support.

Part of the cost to Norway of maintaining alliance support is in providing credible contributions to NATO operations elsewhere while maintaining a deterrence threshold of sufficient capability to facilitate an alliance response if its own territory was threatened. Thus the NAF are required to maintain sufficient capabilities to act in defence of Norway and be capable of providing a credible threshold to enable NATO support to that defence, while also maintaining forces capable of being deployed to support NATO or multinational operations outside of Norway. This latter consideration arises from Norway's status and perceptions as a global citizen and its support for international peace and security (including participation within UN, EU and NATO missions). Norway therefore needs to maintain modern

interoperable forces of sufficient size to meet the range of territorial and deployed requirements, while being capable of participating in the full range of military activities.

Rather than being compelled to maintain large full spectrum forces to guarantee national defence, Norway has the discretion accorded by alliance membership to maintain a smaller force structure that can work within a NATO framework while redirecting its economic wealth to other purposes. This discretion is shown in the relatively low levels of commitment to funding the NAF (as shown by the percentage expenditure of GDP and government spending) and, although Norway does maintain a system of conscription and has a large defence budget by international standards (including recent budget increases), these were unable to sustain the full range of military requirements as readiness atrophied over recent years and has only recently been addressed when there are fewer operational commitments. Nevertheless, Norway's participation in NATO does have the effect of enhancing the state's capacity for defence by providing access to collective capabilities that the state could not sustain by itself (such as AWACs and C-17s). Norway thus provides an example of how a state with perceived strategic challenges and threats manages how much of the state's capacity is provided to meet those challenges by working within the framework of an alliance security guarantee.

New Zealand, like Norway, is a state that works within partnerships as it responds to its strategic influences. However, unlike Norway, New Zealand does not operate within a strict alliance framework, nor does it have the strategic imperative to do so[117]. Although New Zealand has a range of strategic concerns and obligations, it lacks the immediate concerns of direct or existential threat. Therefore, it has a relatively large amount of discretion in how it structures its military forces and in selecting the capabilities that it maintains. This is also shown in the level of resourcing that it provides to its military forces with less political willingness to commit the state's resources to security and defence than either Singapore or Norway. As a result, New Zealand maintains modest military capabilities but seeks to provide for a wide range of utility and draw from the benefits of its international partnerships in doing so.

New Zealand maintains small-scale but modern military forces for the purposes of defending New Zealand and its areas of responsibility, protecting (or progressing) the state's interests,

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[117] New Zealand does have a formal defence and security relationship with Australia but this does not define or determine its military force structures in the manner that NATO membership does for Norway.

and contributing to collective security in support of the UN. However, even with this range of tasks and with respect to its developed economy and natural resources, New Zealand has historically provided relatively low levels of resourcing to its military and consequently has limited its force structures. This occurs as New Zealand sits in a remote geographic location with Australia as a major bulwark to the west and influence on its lines of communications to the north, and it has no direct threat either to it or the territories that it is obligated to defend; although as a state dependent upon international trade and a rules-based order it has a vested interest in collective security both regionally and further afield. Therefore New Zealand does not require high-end full spectrum military capabilities but instead needs the ability to monitor and influence its sovereign area, contribute to the maintenance of stability in its local region, and contribute credibly to collective security efforts. This provides New Zealand with a large amount of discretion in the size and composition of its military force structures, and this is reflected in low levels of resources for security and defence as opposed to other sectors of the state. A notable example of this effect was the decision to disband the air combat force in 2001 in order to reallocate funds within the defence force rather than maintain the previous force structure and instead increase the level of funding. However, New Zealand does maintain a high level of ambition for what its military forces are to be capable of and the level of utility that they can present in contributing to regional and international collective security – and actively works with defence partners (more so following rapprochement with the USA) in enhancing its military competence. Nevertheless, although New Zealand's military forces are designed with a broad utility in mind, they are limited in size and capability reflecting the state's strategic discretion and the relatively fewer demands on the state's capacity or political will to provide for military capabilities.

Ireland, like New Zealand, has historically provided low levels of resourcing to its military forces. However, unlike New Zealand, it does not seek to maintain a force of broad utility but instead has focused its force structures on a discrete range of roles and tasks. This has occurred as Ireland has had a low level of commitment to resourcing and maintaining its military capabilities – developing these capabilities in response to its benign strategic location and within the discretion offered by its traditional policy of military neutrality. Without a strong strategic imperative or quantifiable threat to provide impetus to the development of its military capabilities, Ireland's focus has instead rested on matters of resourcing and state capacity.

Ireland's strategic environment is moulded by both its location and its political circumstance. Ireland is positioned as a small trade dependent state on the north-western periphery of Europe. Its economic and strategic influences have been dominated by its proximity to, and political relationship with, the UK. Its political relationship with the UK led to the implementation of a policy of military neutrality following independence while its position in the seaward shadow of Britain has offered a degree of protection from direct conventional or existential threat and provided an implicit security guarantee by the NATO alliance during the Cold War. As a result, Ireland's strategic concerns have been more matters of national interest and a positive global citizenship rather than ones of survival.

Ireland, however, has been affected by economic vulnerability as a result of its historically weak economy. More recently, the deleterious effects of the 2008 Global Financial Crisis affected all aspects of the state's economy and led to the implementation of an austerity programme to reduce expenditure in the public sector. Even though Ireland has recently increased its defence budget, these factors have had a large effect on Ireland's ability and willingness to develop and maintain advanced military capabilities - with the result that it maintains a small, tailored force structure that can support national interests in discrete areas. Although the force has been modernised and developed since the publication of the first Defence White Paper in 2000, the focus on funding was to reduce size and costs, and then use the money made available to provide for continued development, rather than by increasing allocations to defence. Furthermore, even though the current Irish Defence White Paper has identified the additional capabilities required to meet its roles and tasks, it notes that it is unlikely that all of these will be provided under the current economic climate and funding regime – notwithstanding that the government has since moved to address some of the funding shortfalls. In this regard, Ireland is an example of a state that has a large amount of discretion in allocating resources to its defence and security as it lacks strong strategic imperatives to do so; and it maintains small, unbalanced and limited military capabilities as a result. This shows that there is a strong relationship between a state's capacity and its strategic environment as factors that can determine the size and composition of its military force structures.

WHY SMALL STATES STRUCTURE THEIR MILITARY FORCES IN THE WAY THAT THEY DO

The research problem for this study is based on understanding why small states structure their military forces in the way that they do. This provides the basis for understanding not only the motivations and influences that shape the military force structures in small states but also for considering whether they are able to provide for relevant and credible military capabilities to support their national, security and foreign policy goals and interests. The preceding section compared the circumstances of the four small states considered in this study. This related the motivations and outcomes of their military force structures to the intrinsic and contingent characteristics of each state through their base capacity and forms of international engagement (incorporating their responses to their strategic environment). This provides the context for examining the relative significance of each factor and determining the relationship between them.

The hypothesis proposed in this thesis is that a small state's intrinsic characteristics (the internal and physical characteristics of the state's size, capacity and potential for power) form the predictor variable with a direct causal relationship to the dependent variable of the small state's military forces; while the small state's contingent characteristics (incorporating the state's relations, perceptions and roles) act as a mediating variable as an essential and generative component of this causal process. In this manner it is the nature and form of the relationship between the predictor and mediating variables that determines the nature and form of the dependent variable. However, the relationship between these variables should be considered in a number of forms in order to examination the hypothesis:

- There is no direct causal link between these variables and the small state military forces.
- Both variables have a direct causal relationship with the dependent variable.
- The contingent characteristics of the small state is the independent (predictor) variable, with the intrinsic characteristics of the small state serving to moderate or mediate that relationship.
- The intrinsic characteristics of the small state is the independent (predictor) variable, with the contingent characteristics of the small state serving to moderate or mediate that relationship.

In the first instance, this study has shown that there is a direct causal link between the small state's intrinsic and contingent characteristics and the shape and structure of its military forces. This occurs as those structures are created and sustained using the resources of the state and serve to fulfil a variety of roles and purposes for the state's domestic and external relations. In this regard, the processes by which states plan and provide for their military forces denote that there is a direct causal relationship between their base capacity and forms of international engagement in establishing and maintaining their military forces. The question then becomes, with regard to the capacity and circumstances of small states, what is the relationship between those variables – do both or either have a direct relationship with the dependent variable, and what is the effect of the other variable on this relationship?

The four states examined in this study demonstrate that the small state's intrinsic characteristics have a direct causal relationship with the nature and form of the state's military forces. They provide the resources that establish and maintain those forces – through personnel, finance and infrastructure. They also reflect the decisions made within the state regarding the allocation of resources to the various sectors of its economic and social structures, and the trade-offs that it is willing to make in resourcing one aspect of its instruments and capabilities with regard to the others. More particularly these intrinsic characteristics further reflect the challenges that small states face in providing for economies of scale and critical mass, and in meeting fixed costs from within their own base capacity. In essence, states have a scarce pool of resources but if a portion of those resources are not allocated to the military force structures then those structures will not exist. In this regard, the size and capacity of the state has a direct effect on the nature and form of its military forces.

The four cases examined in this study also demonstrate that the small state's contingent characteristics have an important role to play in the design, maintenance, employment and – ultimately – the balance of its military force structures. This occurs as the strategic influences and the state's roles and relations shape the purpose, role, tasks and requirements of those forces: either through perceptions of threat or vulnerability; the availability of external support and assistance; the obligations accepted in order to maintain external assistance; or the benefits available through international collaboration to enhance the state's relative economies of scale, critical mass, and ability to move beyond the constraints of its internal capacity. In this regard, the state's contingent characteristics also have a direct causal relationship with the nature and form of the state's military forces.

A further factor to consider in this context is the tremendous variation in force structures and military capabilities between Singapore/Norway and New Zealand/Ireland. Singapore and Norway provide for much greater levels of military expenditure and per capita spending than New Zealand and Ireland (although Norway's wealth means that its percentage of government spending on defence is commensurate with New Zealand). The background to this, and particularly with regard to Singapore's much greater commitment to resourcing its military forces, is found in the relative lack of discretion that it believes that it has with regard to perceived vulnerabilities and the greater degree of discretion offered to the other states as they perceive different levels of threat and/or support.

The significance of each state's contingent characteristics with respect to this study is not only what it means for the physical composition of their military forces but also the imperative that it provides them to commit scarce resources to their military instrument. If a small state feels that it has a high imperative to make these decisions then the maintenance of its military is non-discretionary in nature. This may relate to only certain tasks (such as Ireland and New Zealand providing domestic EOD capabilities through their militaries) or may encompass wider and existential security concerns – such as in the case of Singapore. However, if a state does not perceive high levels of threat or can realise its security guarantee through other agencies (such as alliances) then the composition and balance of its military forces may be reduced as a result. This effect is shown in the differences between the force structures of Ireland/New Zealand and Norway/Singapore with regard to perceptions of threat and vulnerability, and then between Norway and Singapore with regard to the support offered by external security guarantees.

The manner in which these differences are expressed are also shaped by the security and defence policies and strategies that each state maintains. These policies and strategies relate the state's capacity and wider circumstances through the outcomes that its military forces are to achieve: whether they are to be capable of providing a self-reliant core of deterrence across the conflict continuum in support of national defence as in the case of Singapore; to provide a force that can facilitate and support an alliance security guarantee for its national territory and also contribute meaningfully to alliance and multinational operations further afield as in the case of Norway; to provide New Zealand with a force of utility across the span of military operations that can support its national interests and work with partners further afield; or to provide tailored capabilities in support of discrete national interests as in the case of Ireland. In this regard the two variables represented by the small state's intrinsic and contingent

characteristics cannot be considered as separate as there is a clear relationship between them in how the state provides for its military forces. Understanding the nature and form of this relationship then becomes one of confirming their role as the predictor and modifying/mediating variables in determining the small state's military forces.

Both the small state's intrinsic and contingent characteristics can be perceived as having a predictive relationship with the dependent variable. The contingent characteristics in this regard can realise requirements and provide motivation and a relative imperative to commit resources and/or establish and maintain external relationships to provide for a small state's military forces. However, notwithstanding the apparent size and weight of these factors (particularly with regard to the examples of Singapore and Norway), their effect is to shape or influence the structure of those forces – providing a necessary but not a sufficient condition to describe the composition and balance of those forces. This condition is found in the state's capacity – the means by which it can provide for those structures. This capacity serves to underpin considerations of discretion and requirement, and is the foundation of the state's ability to provide for its military forces. In simple terms, whereas it is possible (albeit very unlikely) that a state could design and maintain military forces without reference to external factors, it is not possible for this to occur without internal capacity. Therefore, the small state's intrinsic characteristics act as the predictor variable for its military forces. The question then becomes one of whether these contingent characteristics stand apart and affect the manner by which a small state designs, maintains and employs its military forces (acting as a moderating variable); or whether it is a necessary component of the relationship between the state's base capacity and the structure of the military forces that it maintains (acting as a mediating variable)?

The preceding analysis of the military force structures in the selected small states indicates that their contingent characteristics form a necessary element of how they design, maintain and employ their military forces. This suggests that the small state's contingent characteristics form an essential component to the relationship between its capacity and the nature and composition of its military forces. This has a particular effect on small states as they lack the relative size and capacity of larger states and thus have less potential for providing economies of scale in maintaining the wider range specialist capabilities and force multipliers that would enable full spectrum or independent operations. Thus small states have limited capacity for independent action and, apart from issues of national defence, are likely to design and employ their military forces to further their interests in partnership or collective

214

security endeavours, and focus their activities on certain tasks within the range of military operations. This is true even for the largest military forces considered in this study, Singapore, as the SAF are employed on operations in low-intensity or specialist roles and the core of their military capabilities are limited to territorial tasks and regional influence - relying on partnerships with other states to enhance their capability to conduct operations and/or maintain the viability and capability of the forces.
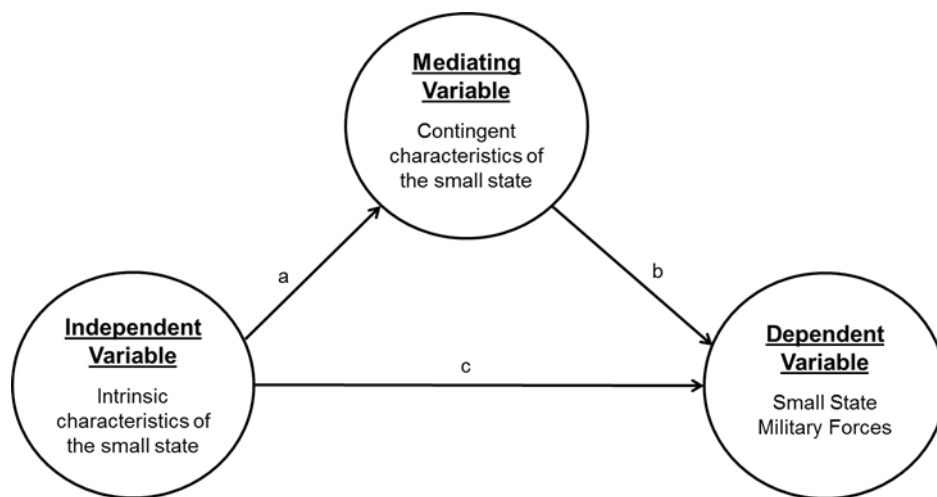
Figure 8-1: The theoretical basis of Military Force Structures in Small States[118]

Therefore, the small states' contingent characteristics serve to mediate the causal relationship between their intrinsic characteristics and their military forces. This supports the hypothesis presented in Chapter One (and shown at Figure 8-1). However, not only does this demonstrate the role of a small state's contingent characteristics as a generative mechanism through which the state's base capacity (represented by its intrinsic characteristics) provides for its military forces but it also indicates the influence that it has in determining the nature and form of those forces. This is shown through the relation between the indirect effect represented by paths *a* and *b* in Figure 8-1 to the direct effect represented by path *c*.

The analysis in this section identified that the degree of discretion a state has in resourcing its military instruments is a key element in the composition of its military forces. If the state has more discretion then the direct effect would be stronger than the indirect effect in the state's decision making and, as there are fewer external and/or strategic imperatives to provide for

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[118] This figure is based on the simple mediation model described by Hayes (2013, pp. 86-89).

military capabilities, fewer resources would be provided to their forces – as may be represented by Ireland and New Zealand. However, the less discretion that the state has then the greater the resources that it would commit to its military capabilities, with the mediating variable playing a more significant role through the indirect effect to produce more capable forces– as represented by Norway and, to a greater extent, Singapore (providing the contingent characteristics with greater apparent weight in this relationship while not being the fundamental cause or condition). This shows that while the theoretical understanding of why small states structure their military forces in the way that they do may be common to those states, the actual results of their defence planning processes will vary greatly depending upon their external influences; such as their relations, perceptions and roles. The outcomes of these effects are found in the relevance and credibility of the military capabilities maintained by small states and the ability of those capabilities to support the state's national, security and foreign policy goals and interests. This consideration forms the core to the first section of the thesis' conclusion.

CHAPTER EIGHT: MILITARY FORCE STRUCTURES IN SMALL STATES – PROVIDING RELEVANT AND CREDIBLE MILITARY CAPABILITIES WITHIN CONTEXT

INTRODUCTION

The preceding chapter analysed how small states structure their military forces with regard to the four case studies examined within the thesis. It then applied that analysis to verify the research hypothesis and develop an understanding of why small states structure their military forces in the way that they do. This understanding is based upon the role of a state's intrinsic characteristics that form its base capacity in providing the foundation by which it provides for its military capabilities. The state's contingent characteristics – the manner in which it expresses its power and the relations, perceptions and roles that it maintains – form a necessary element of how small states design, maintain and employ their military forces. They form a generative mechanism that affects the motivation, discretion and relative commitment by which states decide to resource their military forces. Furthermore, they may also provide an opportunity for small states to gain greater economies of scale and increase their military effect through international engagement and collaboration. In this regard, the contingent characteristics can provide a multiplier effect that increases the benefit that small states gain through the resources that they provide for their military forces. However, there are also constraints to the effects that a state's contingent characteristics may cause; particularly if the state sacrifices some forms of agency as their forces are structured to conform to external requirements (such as alliances), or they commit a large amount of resources to their military forces to meet perceived levels of threat, with the attendant financial, opportunity and social costs.

These considerations are of particular relevance to small states as they have less capacity than larger states, with consequent effects on economies of scale and the critical mass that they can generate through their military forces. The purpose of this chapter is to complete the research framework within the thesis. It will draw on the understanding developed through analysing the research question and research problem to relate it to the context of small states in international affairs. This will be addressed by considering the research answer of whether

small states provide relevant and credible military capabilities and then relating this analysis to the wider considerations for small states in the international system. This wider context will be examined through the expectations for small state defence and security, and by considering what this means for the broader themes of the viability, agency and resilience of small states. These considerations will then be related through the results of the research process employed in this study to indicate the implications of the research and how they may affect policy development and the further study of small states within international relations.

RELEVANT AND CREDIBLE MILITARY CAPABILITIES

The practical problem identified in this study is that, although small states are perceived as having a deficit in military power, they require relevant and credible military capabilities in order to maximise the utility and benefit from their investment in them. In this regard, the relevance of their forces indicates their suitability for the roles that they will be tasked to fulfil, the environments that they will operate within, and the strategic circumstances for which they are maintained. It is a function of design, composition and structure. The credibility of those forces, however, encompasses two aspects: the intrinsic military capability of the force in its own right and whether that military force is able to achieve the strategic ends for which it is maintained. Given their constraints of size and capacity, and with regard to the wider circumstances that surround them, are small states able to provide relevant and credible military capabilities to support their national, security and foreign policy goals and interests, or are they truly constrained by a relative deficit in military power?

Each of the four small states examined in this study maintains military force structures to provide military capabilities to meet certain purposes, roles and tasks. In the case of Ireland, the state has relatively little military ambition and does not provide for a conventional military defence– instead seeking to maintain a force that can assist domestic security and meet discretionary tasks in support of international efforts to promote peace and security. Therefore, although Ireland's armed forces possess limited capabilities, their relevance derives from the manner in which the state applies its policy of military neutrality as it does not attempt to meet the cost of armed neutrality and sovereign defence but focuses instead upon achieving security interests through supporting international peace and security. Thus

the forces are structured and maintained to provide for resource protection and aid to the civil power in addition to contributing to peace support operations abroad. However, the credibility of Ireland's forces is constrained with regard to size and the capabilities that they maintain.

The Irish Defence Forces are unable to provide for the military defence of the State as required by the 2015 White Paper as they lack viable combat capabilities. However, this is not a plausible role given Ireland's benign strategic environment and policy of military neutrality; and the structure and composition of Ireland's Permanent Defence Force does appear to be capable of meeting its other roles. Nevertheless, limitations to the size of the force, a lack of redundancy in key capabilities, and the lack of strategic projection and sustainment capabilities would affect Ireland's ability to conduct additional tasks or increase rates of effort – a situation that will be further challenged if Ireland cannot sustain levels of defence expenditure funding for modernisation and capital acquisition. Therefore, Ireland does maintain relevant and credible military capabilities within set parameters as defined by the state's policies of military neutrality and collective efforts to promote international peace and security, but the degree of credibility is constrained by the size and composition of the force and Ireland's ability to sustain it.

New Zealand also exhibits degrees of constraint to the relevance and credibility of its military capabilities. New Zealand is a small state that seeks to maintain its security interests through the international rules-based order and collective security and, unlike Ireland, it has a wide span of responsibility and commensurate expectations for its military forces. These expectations are founded upon the ability to operate independently in territorial and regional environs and to make credible contributions to collective security actions with a range of international partners. In these regards, New Zealand's military forces are generally relevant to the state's wider strategic environment, although the lack of maritime strike and interdiction is a noticeable gap in the force structure given the size and nature of its maritime environment. This relevance is complemented by the NZDF's utility as a generalist force with a wide scope of utility and flexibility in how the government may employ it as a military instrument. Nevertheless, the credibility of New Zealand's military capabilities is limited by its size and capacity.

New Zealand's military capabilities are constrained by the lack of critical mass and structural depth. Although New Zealand actively works with defence partners, and this helps to

increase the economies of scale and viability of its military instrument, it is likely to experience problems in sustaining major commitments over time or in conducting concurrent operations without further assistance from partner nations. Furthermore, its force structure is vulnerable to the unavailability of key platforms (through deployments and/or maintenance issues) or shortages in key trades and systems, which in turn would magnify the effects of the lack of depth and cause further issues in preparing and sustaining forces. New Zealand is able to alleviate these effects in part by maintaining the relative discretion to choose the scale and duration of its commitments and this does provide it with the ability to use its military capabilities in support of its interests in the international rules-based order and collective security. However, although New Zealand does exhibit aspects of relevance and credibility within its military capabilities, this is challenged and limited by the lack of structural depth and critical mass within its forces.

Norway also exhibits similar challenges to its military capabilities. Norway is a small state that maintains a military force that is capable of operating across the range of military operations in territorial defence, deployed operations, and to support international peace and security. However, the key consideration for the relevance and credibility of Norway's military capabilities is their ability to function within the NATO framework. In this regard, the design and structure of the NAF is appropriate for Norway's circumstances as they provide the ability to meet likely contingencies in the High North, support the civil authority, and operate as joint forces in concert with NATO to provide a deterrence threshold and deter or resolve military threats to Norway's sovereignty. Furthermore, the NAF retains capabilities that can support NATO or multinational operations outside of Europe. These capabilities provide a force that is relevant to Norway's strategic influences and intentions.

The challenge that Norway faces however, is to maintain credible forces. This is considered on two levels. The structure and interoperable nature of the NAF, combined with modern technology and operating concepts, means that it should be credible as a military force at the tactical level. However, the state's operational and strategic credibility will be constrained by lack of critical mass and structural depth to provide for national defence and sustain deployed operations concurrently; whilst issues of size and readiness impact on the effectiveness of the Deterrence Threshold concept. Furthermore, Norway needs to maintain sufficient capability that can guarantee NATO support if it were threatened, but the process of maintaining this support also requires that it has the ability to contribute meaningfully to deployed operations – a requirement that reduces its capacity to provide for its own defence and, in effect,

increases its requirement for alliance support through the very actions to ensure that support. In this regard, Norway's military capabilities may be relevant and credible, but are not sufficient. In a similar vein to New Zealand, Norway will require external support to credibly contribute to the wide range of operations. However, Norway's membership of the NATO alliance has supported the level of ambition that it placed in its military capabilities – a factor that Singapore seeks to achieve through a core of self-reliance.

Assessments of the relevance and credibility of Singapore's military capabilities are founded upon its perceptions of strategic vulnerability, its policy of deterrence, and the core of self-reliance within a wider framework of partnerships. The SAF has been progressively developed to provide a wide range of capabilities across the range of military operations and support the national doctrine of Total Defence. The capabilities that it maintains are relevant to its maritime location, lack of strategic depth, range of likely threats and contingencies, and the requirement to travel long distances to conduct training activities; although the presence of technologically advanced military capabilities with quantitative and/or qualitative superiority over regional states may be seen as emphasising Singapore's status as opposed to strict military necessity. Furthermore, the SAF's intent to develop its cyber defence capabilities and the new 4G strategy demonstrate that Singapore intends to maintain a relevant force design as circumstances and requirements evolve. Singapore has also demonstrated an ongoing commitment to sustain its expensive military forces, and this forms one element underpinning the credibility of its military capabilities.

The credibility of Singapore's military capabilities is more difficult to assess than the suitability of its force structure. This is due to both the lack of published information on force readiness and preparations, and how the effect of deterrence is based upon perceptions by potential adversaries rather than by the structure of the deterring force itself. Nevertheless, Singapore has developed a strong conventional force with advanced military capabilities. In this regard Singapore has the ability to demonstrate resolve and assure other states of its willingness to defend itself. Furthermore, the SAF maintains a wide array of international relationships that in turn contribute to its deterrence and diplomatic effects. Singapore's armed forces therefore aim to be strategically credible in deterring attack and maintaining the conditions for support by a framework of partner states - although the continuation of that credibility may be affected by a decreasing population pool for conscription, any changes to the social and/or political commitment to sustaining the high costs of defence, and questions over the relative lack of operational experience and the initiative within its military culture.

Nevertheless, Singapore's military capabilities are relevant to its national policies and they demonstrate technical proficiency at tactical levels while aiming to be strategically credible as a deterrent to conventional attack.

The example of these four cases shows that small states can provide for a base level of relevance and credibility in their military capabilities, but they are challenged in doing so and this achievement relates to the specific roles and tasks for which those forces are maintained. The respective force designs are largely appropriate to the wider circumstances of the states and the strategic approaches that they employ; although there is great variance in what forces are considered necessary as evidenced in the defence policies of military neutrality in Ireland and self-reliance in Singapore. The main difference, however, is based on the sufficiency and capability of those forces and it is New Zealand and Norway, as states that emphasise working with partners, which have the largest mismatch between what they want to achieve and what they can do through their own means. Furthermore, each of the cases shows the effect of limited size as they lack military capabilities that can operate independently throughout the range of military operations or apply the full range of military effects. As a result, while they may be tactically competent or technically proficient, they lack the size and scale for high-intensity military operations away from their shores, whilst only Singapore maintains a capacity to provide for self-reliant territorial defence against comprehensive conventional threats. Nevertheless, these states do not maintain their forces solely for a military effect and the credibility of their military capabilities may also be found in the manner in which they support their wider goals and interests.

With respect to Ireland and New Zealand, this is founded upon their ability to provide assurance to likely partners that they can participate credibly in multinational operations or act within selected aspects of the continuum of conflict given the discretion that they have in committing forces to operations. Norway seeks to provide both insurance and assurance through its military capabilities: being of sufficient capability to provide a threshold for the deployment of NATO support if it were attacked whilst also participating credibly in operations abroad in order to help maintain that support. Singapore's forces also provide insurance and assurance – insurance as a self-reliant core to the state's defence through deterrence and relative regional capabilities, and assurance to states further afield that Singapore is committed to maintaining its safety and security as a means of drawing in their commitment to the same goal. It is in this regard that the relevance and credibility of these small states' military capabilities is not founded upon the nature of the instrument itself, but

rather in the capability that it offers in support of their wider interests and goals. This is seen through how these states meet the wider expectations for their defence and security within international relations and, through that, how they relate to the wider themes of small states within international relations.

ADDRESSING EXPECTATIONS FOR SMALL STATES

This study has considered the nature and composition of military force structures in small states through the cases of Ireland, New Zealand, Norway and Singapore. Although these are four developed small states with comparable populations, strong maritime influences and policies of active international engagement, they employ different strategic approaches that frame the purposes and forms of their military capabilities. This is reflected in the degree of structural balance and the priorities that they accord to their military systems, and the manner in which they conform to the expectations for military forces in small states. While the preceding section showed the level to which these small states provide for relevant and credible military capabilities, the manner in which they apply those capabilities differs depending upon their specific circumstances. The focus of this section is to relate the findings regarding the military capabilities of small states to the wider considerations for the security of small states and their functioning within the international system that were described in the introduction to this thesis.

THE SECURITY OF SMALL STATES

The expectations for the security of small states within small state research and theory were described in Chapter One. It was noted that a defining characteristic of small states has often been their inability to provide for their own security but that the modern framework of security within international relations allows states a broader range of utility in employing their military forces to achieve national ends. The key issues in this context include what approaches small states follow to provide for their security, the options they exercise, and the effects that these decisions have. In this regard, do they seek to provide for their security

through variations of neutrality or non-alignment, partnerships and alliances, and/or collective security; do they ensure their survival by balancing or bandwaggoning; do they free-ride and consume the security guarantees of other states? Furthermore, are their military forces more accurately seen as an indicator of political intent rather than as an instrument of hard power?

The cases examined in this study show a range of approaches and imperatives for the nature and composition of a small state's military forces. The main difference between the cases is the imperative that they feel to provide for their military capabilities as a basis of their perceived threat and the level of discretion that they have available. Ireland and New Zealand have relatively low levels of perceived threat and relatively high discretion regarding the level of resourcing that they provide to their military capabilities. This has resulted in smaller and less capable military forces than those maintained by Norway and Singapore – the latter countries maintaining a system of conscription to provide mass to their forces and possessing combat capabilities that can function throughout the continuum of conflict at low, mid and high-levels of intensity. However, in this circumstance, Singapore maintains a much larger force and range of capabilities than Norway as it lacks the security guarantee provided by Norway's formal alliance membership and wishes to remain unencumbered by such arrangements.

The response to perceived threat has also affected each state's security relations with other states. Ireland may be seen as free-riding off the security guarantees provided by other states as it sits in the strategic shadow of the UK and Western Europe and, while it does contribute forces to collective formations, has limited military capabilities structured for discrete roles and tasks. Ireland's focus for the use of its military capabilities is to support national interests and international security through international peacekeeping and PSO. New Zealand, on the other hand, while it does gain strategic benefit from its geographic isolation and its relative proximity to Australia, maintains a military capability that has utility across a wider range of military operations. Like Ireland, it also uses its military forces to support national interests and international security, but retains a greater capacity to conduct independent operations in its strategic environs and maintains a formal commitment to the defence of Australia. In this regard, while New Zealand gains shelter from its strategic position, it also provides military capability to help sustain that benefit. Both New Zealand and Ireland, however, actively employ their military forces in support of their wider security and foreign policy interests and they are not maintained solely for purposes of national defence.

In contrast to Ireland and New Zealand, Norway and Singapore maintain more capable military forces in forms that may be employed to directly ensure their survival. Norway benefits from the security guarantee provided by its membership of the NATO alliance but actively designs its force structure and contributes to operations to maintain that guarantee. This does cause tensions regarding the structure and maintenance of Norway's military capabilities as they have to balance their defence concerns between the level of commitment that they seek to provide with what will be required to maintain NATO's attention and guarantee of support – particularly with regard to the forces and capabilities maintained for territorial defence and those committed to out-of-area operations. Norway thus employs its military forces as part of NATO deployments - in part to support its security policies through membership of NATO, but also as part of its wider foreign policies that seek to provide for international peace and security. This is also reflected in its support for EU and UN missions in the Mediterranean, the Middle East and further afield. Singapore, on the other hand, does not have a formal security guarantee and it maintains significantly larger and more capable forces than Norway. It maintains military capabilities that can act as part of the self-reliant doctrine of Total Defence, although these capabilities seek to prevent conflict through the twin roles of deterrence and diplomacy. In this regard Singapore aims to prevent conflict through maintaining a relatively strong military capability and uses its forces to both enhance the state's foreign relations and demonstrate commitment to regional order and stability. Furthermore, although Singapore does commit force elements to regional and multinational operations, these do not comprise its main combat capabilities but instead serve to support its foreign policy initiatives, develop operational experience and further demonstrate the proficiency of its military forces in a low risk and pragmatic manner.

The example of the four cases shows that, while there are expectations for how small states will act in maintaining their security, they in fact follow different paths based upon their particular capacity and circumstances. They employ different strategic approaches, maintain different levels of commitment in providing for their military forces, and gain different forms of utility and benefit from their military capabilities. This occurs even though they face similar challenges accruing from their size and capability – as represented by factors of economy of scale, critical mass and fixed costs. The key differences between them accrue from the levels of discretion that they perceive in their defence and security planning, and their ability (or desire) to seek security support within the international environment. In this regard, although Singapore has the most capable forces it is less willing to employ them

outside of core territorial defensive roles than Norway (which has a formal security guarantee) and New Zealand and Ireland (which perceive a greater level of discretion in how they maintain and employ their military capabilities). The military capabilities maintained by these four states demonstrate different intents and methods in how they seek to maintain their security in their regional and international environments. They further demonstrate that, although there are common expectations for the characteristics and behaviours of small states, they should not be treated as a homogenous group and the capabilities their military forces provide them should be considered with regard to their particular context and motivations as they act within the international system.

SMALL STATES WITHIN THE INTERNATIONAL SYSTEM

The differences between the military capabilities maintained by the four small states examined in this study are also reflected in the utility and benefit that they may gain from their military forces as they pursue their wider security, foreign policy and national goals and interests. This is reflected through the three key themes relating to the function of small states within the international system developed earlier in this study: viability and survival, autonomy and influence, and vulnerability and resilience. These themes reflect the characteristics (or expectations) of small states regarding their involvement in international affairs and incorporate the range of action and behaviours that they may express. Of these, the viability and survivability of small states forms an enduring theme within small state studies and relates to their ability to function as sovereign states within the international system.

The preceding analysis of the military capabilities maintained by the selected small states indicates that, while they are able to maintain the functions of the state and provide for their own instruments of power, they are constrained by the relative size and capacity. However, the selected small states apportion different resources to their military instruments depending upon their level of strategic discretion and the results they want to achieve. In this regard, the two states with less strategic discretion provide for larger and more capable military forces – Singapore to ensure its survival, and Norway to sustain a security guarantee. This reflects a requirement to provide for their physical security, notwithstanding that both also seek to

maintain a wider secure environment through supporting the international rules-based order. In contrast, Ireland and New Zealand have a greater amount of strategic discretion and they place a greater emphasis on supporting collective security over national military defence. As a result they maintain less capable military forces, while Ireland is further noteworthy as it maintains a much smaller military system than would be expected from neutral states in an anarchic international system.

The different military capabilities that the small states maintain also provide them with different faculties for pursuing their goals and interests in the international system. In some respects, the results of this study appear to confirm the characteristics of small state autonomy and influence. This is shown in the contrast between Ireland and Norway as Ireland's small military capabilities and policy of military neutrality provide it with freedom to make its own defence decisions but little sway in the defence decisions of others whilst Norway, as a member of a formal military alliance, has to maintain sufficient military capabilities to meet alliance expectations and requirements but in turn has a greater degree of influence over the other member states in providing for its security. In this regard, Norway also exhibits the expected concerns of abandonment if it cannot maintain NATO's interest in its security – a situation which helped shape the forms of its military support to NATO's out-of-area missions and its own force transformation in the 2000s.

These differences are also apparent in how each of the four states employs its military capabilities to pursue its own interests. Although each state employs its military capabilities in domestic/territorial, regional and international contexts, Singapore is the most restricted in which force elements it deploys while Ireland and New Zealand have greater latitude for committing their forces to external deployments. This in turn has an interesting corollary for the influence that these states can gain from their military deployments as the forces they deploy possess relatively limited abilities to lead operations or conduct independent activity and, as a result, they have less potential for agency than middle or great powers and are likely to be followers and not leaders within the conflict continuum (excepting activities in permissive environments or when they are assured of international support). This is founded upon the forms of military capabilities that the small states maintain through focused or selective expeditionary and stabilisation capabilities – lacking the scale and facilities to maintain broad expeditionary or full spectrum capabilities that would enable them to project and sustain combat power or act as the framework nation for deployed military operations. Notwithstanding the great variation between the military capabilities of the four small states

examined in this study, this does indicate that while they have the potential to participate in a wide range of operations and activities they lack the ability to generate and sustain those operations themselves. These constraints are also present in considerations of the vulnerability and resilience of small states.

The small states examined in this study exhibit a range of responses to vulnerability as those that perceive a greater level of vulnerability provide a greater commitment to strategies and responses of resilience. In this regard, Norway seeks to provide military and security resilience through maintaining external shelter in the form of the NATO alliance. This has the effect of assuaging a number of its defence and security concerns while enabling it to manage the scale of its commitment with regard to the size and capacity of the state. Singapore, on the other hand, does not maintain the explicit security guarantee of such an external shelter and seeks instead to provide an internal buffer through a self-reliant military core. This requires a relatively greater degree of commitment by the state to maintaining its military capabilities but also recognises the constraints of Singapore as a small state as it employs the nature of its internal buffer to draw in and maintain external shelter through its international and defence relations. These actions contrast with the examples of Ireland and New Zealand who have markedly lower perceptions of threat and vulnerability and provide less commitment to their military capabilities – thereby retaining a greater proportion of their capacity to service other instruments and policies within the state. However, both of these states do service an external shelter through the international-rules based system and collective efforts to maintain peace and security – although this may be more appropriately seen as a matter of policy rather than an existential requirement.

The considerations of vulnerability and resilience shown here relate back to the previous themes of the viability and agency of small states as those states which maintain the larger forces or stronger military relationships may in turn have less opportunity to employ them. This is further reflected in the different utility and benefit that they gain from their military instruments as each state provides for different forms and levels of military capability as they respond to their specific circumstances. However, there are also some characteristics in common to these states as they are challenged by their size and capacity in providing for their military forces, and there are practical constraints to the degree of agency that they can achieve through the conduct of military deployments. Nevertheless, small states can gain utility and benefit from the military capabilities that they maintain; and these findings have implications for both the development of policy and conduct of further research regarding

228

small states. These implications will be outlined and discussed following consideration of the research process within this thesis.

THE CONDUCT OF THE RESEARCH

The research conducted through this study examined how small states structure their military forces to help understand of why they structure these forces in the manner that they do. It then assessed whether they can provide for relevant and credible military capabilities. This provided the opportunity further consider the viability, agency and resilience of small states as actors within the wider scope of international affairs.

The research framework used within the study was based upon a practical problem identified for small states in that, although they are perceived as having a deficit of military power, they require relevant and credible military capabilities in order to maximise the utility and benefit from their investment in them. This practical problem generated the research question of *how do small states structure their military forces?* The focus of the study in answering this question was based on examining the nature and composition of small state military force structures. This was examined through the structural balance of those forces and the processes that small states employ in providing for their forces. The results of this analysis were then evaluated with regard to expectations for small state military forces developed from small state theory. These results then provided the basis for addressing the research question of *why small states structure their military forces in the way that they do*. This formed the theoretical basis to the thesis as it examined the relationship between a small state's intrinsic and contingent characteristics and the impact that they have on small state military forces. This analysis verified the research hypothesis as the small state's intrinsic characteristics form the foundation by which it provides for its military forces, with its contingent characteristics mediating this causal relationship as a necessary element by which states decide to allocate resources to their military instruments. Thus even small states, which can be perceived as being influenced more by external than domestic factors, rely on their own size and capacity when determining the structure of their military forces and providing for the resulting military capability.

Addressing the research problem in this way then provided the context for developing a research answer that would, in turn, relate back to the practical problem (as the purpose of the research). This was found through considering whether small states are able to provide for relevant and credible military capabilities to support their national, security and foreign policy goals and interests. It was found that small states are able to provide for a base level of relevance and credibility in their military capabilities, although they are challenged in doing so and this achievement relates to the specific roles and tasks for which those forces are maintained. Furthermore, although none of the states examined is able to provide military capabilities that can operate independently throughout the range of military operations or apply the full range of military effects, they are not maintained solely for a military effect and the credibility of their military capabilities may also be found in the manner in which they support the state's wider goals and interests. However, the examination of small state military capabilities in this manner did indicate that small states are limited in the forms of military power that they can generate and that, as they cannot provide for their own security independently, they do rely upon forms of international engagement and the benefits offered by the rules-based international system to help maintain their security and promote their interests.

The research was conducted using states as the unit of analysis. It incorporated the three levels of analysis as identified by Hey: comprising domestic, statist and system levels. In this regard it incorporated consideration of the capacity and decisions (although not the internal decision making process) within each state to consider the military capabilities that it developed as a unitary state, but also placed these capabilities in context with how the selected small states function within the international system. The approach employed within the study was based upon the analysis of capabilities as the study sought to address whether small states can provide for relevant and credible military capabilities; although they were not considered in isolation and were related to the wider contexts of small states through the relations that they maintain.

The final element of the research design was the use of a comparative case study strategy. Although it would have been possible to conduct a broader thematic analysis of military force structures in small states, it was identified that a case study strategy provided the greatest benefit for examining the research hypothesis as, although the sample size was smaller and less representative, it did allow for a closer examination of the variables and the relationship between them. Furthermore, it was noted within the study that there is no agreed definition of

small states and this would cause problems when trying to compare the wide variety of states that earn the adjective 'small' within international relations. Therefore, the cases examined in this study were selected to represent a particular classification of small states along the continuum of state size. This sample included Ireland, New Zealand, Norway and Singapore as four developed states with comparative population sizes, market economies, and possessing the full range of governance organisation and structures. Furthermore, each state has a maritime focus to its location, perceives itself as a small state within international affairs, actively supports a rules-based international order, and seeks to enhance its status through normative issues or by fostering international peace and security. However, the security approaches employed by each of these states differs as they encompass military neutrality, international partnerships, formal alliance membership and a core of self-reliance. This provided an opportunity to examine the key differences between each of the states and develop understanding of why they structure their military forces in different ways.

The relevance of this research to the wider field of small state studies is found in the manner that it develops further understanding of the context of small states and how they relate to their wider environment through the lens of their military capabilities. It examines the outputs that small states achieve through the nature and composition of their military force structures, and relates these to the outcomes realised through the military capabilities that they thereby maintain. It further examines what is expected of small states through both small state and military theory, and relates the conclusions of the study back to the wider context of small states in international affairs. In this regard the primary focus of this research is based upon the field of small state studies and the wider themes and expectations that it presents.

This force structure approach differs from previous research and provides the context through which to address issues of small state defence planning and the military instruments that they maintain. These issues are not well addressed in small state literature, and this study contributes to the literature by analysing the decisions, processes and priorities by which small states provide for their military capabilities. It further relates these factors specifically to the context of small states by developing and assessing the expectations for military forces in small states as a measure for both understanding the nature and characteristics of those states and as a method of comparison between them. It also considers the utility and benefit that small states may gain from their military capabilities through examining the relevance and credibility of those capabilities. This analysis moves beyond descriptive studies of security, defence and/or military capabilities in small states and provides the context through

which to realise the outcomes of small state military capabilities within the wider themes of small state studies.

What this study does not do, however, is examine the differences between military force structures and military capabilities in small and large states. Such an examination would have the benefit of providing an empirical base to compare different sized states to determine where the differences between state sizes lie and whether the themes and expectations of small state theory are specific to small states or may be more generalizable across all states: indeed, are there large states that display the characteristics and behaviours expected of small states as shown in this study? This research would present a natural corollary to the results of this study as it could build upon the methodology developed in the Theoretical Framework and further relate the military capabilities of small states to the wider context of the other states that they may interact with. Furthermore, the macro level of analysis and the use of comparative cases in this study restricted the level of information that was developed for each case. It is expected that in-depth examinations of specific cases using the methodology applied in this study would generate additional information and enable the conclusions made regarding the force structures and capabilities in small states to be further tested and verified. These and other opportunities for further study are found through the implications of this study for both policy development and the conduct of further research.

IMPLICATIONS OF THE STUDY

The results of this study present a number of implications for policy development and the conduct of further research. Although small states have the ability to develop military force structures and maintain certain military capabilities they are challenged in doing so by their relative lack of capacity, limitations to their economies of scale, and the rate at which they may be affected by diminishing returns through a lack of structural depth or critical mass. However, while small states face these common challenges, they provide for different forms and levels of military capability as they respond to their specific circumstances, and seek different utility and benefit from their military instruments. Nevertheless, although there is great variation between the military capabilities of small states, the results of this study do

indicate opportunities for the further development of policy concerning, and study into, small states.

The opportunity for large states is that they have the potential to assist with the maintenance and development of military capabilities in small states through providing access to equipment, systems and training environments that these states cannot provide themselves. A relatively minor outlay in this regard can have a disproportionate effect on capability development in the small state. Similar benefits could also be achieved through collaborative acquisition projects – although this does have the potential risk that the equipment is not best suited for the small state's particular requirements – and there may be circumstances where it is appropriate for a larger state to gift military equipment to a smaller state in order to ensure its interoperability. A key consideration for the larger states is that the level of support provided may outweigh the immediate and apparent return with respect to the military capability of the small state, and the larger state will need to assess whether it seeks a short or long term benefit from its investment. Conversely, there is also the potential for a larger state in an asymmetric relationship with a small state to use its position of dominance to cause the small state to make certain capability development decisions (such as through tied aid) that may in fact benefit the overall military capability of the larger state more than that of the small state. This is an effect that small states themselves may need to be aware of as they develop and maintain their military relationships.

These bilateral relationships may also be reflected to some degree in multinational organisations. Military alliances may seek to gain the benefits of specialist or niche capabilities being provided by smaller members who cannot contribute the full spectrum or combat-oriented capabilities of the larger members. This may be one avenue for small states to provide capabilities that act as force multipliers to a larger international force. However, such organisations also need to consider the loss of sovereignty that small states may be concerned with if they no longer maintain a core of military capabilities or cannot provide for their own defence outside of alliance arrangements. This may reduce the overall efficiency of an alliance organisation as smaller member states maintain (and replicate) defence bureaucracies and core capabilities. On the other hand, if small states commit to providing specialist or niche capabilities then there is a greater imperative for the wider organisation to guarantee their security.

The limits of the small state military capabilities may also be found in coalition or UN operations. The small states may experience relatively greater difficulty in sustaining a particular commitment over time and, as a result, may seek to change the form and nature of their military commitment at relatively frequent intervals. Thus, mission leaders will need to accommodate these changes within the overall force generation plans. Furthermore, the force contributions of the small states may lack force multipliers and consist of generalist or core military capabilities. As a result, they may represent a burden on the larger member states (such as through the provision of specialist offensive or logistic capabilities) and the larger states may need to provide for a greater proportion of these enabling capabilities than they would do for a purely national operation.

These considerations will also affect the policies of the small states themselves. The limits to their capacity and the asymmetric relationship with larger states may mean that they have to consider trade-offs in cost and national utility of collaborative capability development. Furthermore, while retaining a force capable of wide utility may provide for greater independence in the range of actions that the state can undertake without specific recourse to other states, there are limits to this model as the limits of capacity may be reached quicker through issues of critical mass and lack of structural depth. Conversely, if a small state elects to focus its forces on certain specialist roles or types of operation then this may have the effect of reducing the independence of its foreign policies as there is only a certain range of actions that it can undertake and it may be more reliant on external support. Nevertheless, those small states that do have the opportunity to leverage off international support for the training and development of their forces also have the opportunity to gain greater benefit from the resources that they allocate to their military forces than they would if they functioned in isolation. The key decisions for small states in this regard include where they should maximise their investment in their military capabilities and what level of relative independence they wish to maintain. These questions can also be found in the avenues for further research into the military capabilities of small states.

Potential areas for further research into small states that result from this study include a range of subjects, focus areas and questions. In the first instance, the results of this study could be expanded and developed upon by examining cases drawn from other classifications of small states – such as developing small states, land-locked states, different sized states (based on comparative population, land or resource sizes), states from different geographic regions, or states that follow similar security and foreign policies. One effect of the use of classifications

as a focusing device for research within the wider concept of small states is that the sample used is not necessarily representative of all small states. With respect to this study, the four cases examined have advanced economic systems and developed governance structures. The features and behaviours of these states will be different to other small states with different intrinsic and contingent characteristics; with the result that examining other classifications of small states will further develop the body of knowledge within the wider field of study. Furthermore, and as previously described, comparative studies could also be conducted between the military force structures and military capabilities in small and larger states (such as middle and great powers) to establish how they also manage issues of capacity, ambition and capability. This would provide an opportunity to further understand the nature of both the differences and similarities between these types of states, how this affects the relations between them, and the respective roles that they may complete within international relations.

The focus areas for further study could include more detailed analysis of individual states to examine the results of this study in greater detail. Other focus areas could include the ability of small states to function within discrete areas of the continuum of conflict and range of military operations – such as their involvement within the conduct of PSO, HADR, counterinsurgency and combat missions: how are small states able to express their military capabilities within these operations and are they better suited for one form of operation over another? These questions could be further developed to examine how small states function within coalition or multinational forces in such operations and what this indicates for the future conduct of combined missions.

These questions about the role of small states in military operations could also be complemented by further consideration of how they design and structure their forces. Can small states adapt and innovate their military structures or are they limited to following dominant military theories and concepts? How can small states employ technology to overcome limits to their size and capacity? Should small states focus on non-traditional domains (such as cyber) in order to provide for their continued defence and security or do they need to retain conventional-based military forces? These questions consider how small states may overcome the constraints of their relative size and capacity to achieve greater effects within their defence and security policies. They can also be considered in comparison to larger states where the smaller size and relative capacity of small states means that they may solve common problems in a different manner than large states and provide new perspectives on military theory.

Finally, the frame of this study provides the opportunity to consider other forms of small state endeavour. The organisation of this study was structured around understanding the context of small states and how they relate to their wider environment through the lens of their military capabilities. The approach used within this study could also be used to further understand the role of small states within international affairs. Therefore, further research into small states could examine the themes of viability, agency and resilience through the mechanisms of their diplomatic, informational and economic instruments. Although the foreign policy of small states is an active field of research, our understanding of the role of small states could be further enhanced by examining their motivations and ability to provide official development assistance, how they may seek to provide for comprehensive security frameworks, and how they may promote specific issues and interests. Research into these areas would complement current research into the normative aspects of small state involvement in the international system, while developing further understanding of the opportunities and implications of these states as actors within the wider scope of international affairs. In this regard, the study of small states does provide further opportunity to gain insights into the study of power and provide fresh empirical data in the study of International Relations.

APPENDIX 1: ORDERED RANKINGS FOR MILITARY EXPENDITURE IN 2016 [119]

	Military Expenditure 2016: Share of GDP			Military Expenditure 2016: Share of Government Spending			Military Expenditure 2016 (USD $million)			Military Expenditure Per Capita 2016 (USD)	
1	Oman	16.7%	1	Oman	29.6%	1	USA	611,186	1	Israel	2,193.7683
2	Saudi Arabia	10.4%	2	Saudi Arabia	27.6%	2	China, P.R.	215,176	2	Saudi Arabia	1,978.1892
3	Congo	7.0%	3	Sudan	24.7%	3	Russian Federation	69,245	3	Oman	1,953.4751
4	Algeria	6.7%	4	Pakistan	18.1%	4	Saudi Arabia	63,673	4	USA	1,886.1639
5	Kuwait	6.5%	5	Iran	17.7%	5	India	55,923	5	Singapore	1,748.9507
6	Israel	5.8%	6	Singapore	17.3%	6	France	55,745	6	Kuwait	1,636.6146
7	Russian Federation	5.3%	7	Congo	16.5%	7	UK	48,253	7	Norway	1,138.0029
8=	Iraq	4.8%	8=	Armenia	15.5%	8	Japan	46,126	8	Bahrain	1,023.2141
8=	Bahrain	4.8%	8=	USSR/Russia	15.5%	9	Germany	41,067	9	Australia	1,012.7014
10	Jordan	4.5%	10=	Algeria	15.4%	10	Korea, South	36,777	10	Brunei	940.3491
11	Mauritania	4.1%	10=	Chad	15.4%	11	Italy	27,934	11	France	862.3578
12=	Azerbaijan	4.0%	12	Jordan	15.2%	12	Australia	24,617	12	UK	741.3119
12=	Armenia	4.0%	13	Israel	14.1%	13	Brazil	23,676	13	Korea, South	728.7967
14	Namibia	3.9%	14	Sri Lanka	12.9%	14	Israel	17,977	14	Denmark	617.6773
15=	Ukraine	3.8%	15	Korea, South	12.5%	15	Canada	15,157	15	Finland	587.8722
15=	Brunei	3.8%	16	Bahrain	12.4%	16	Spain	14,893	16	Switzerland	558.8358
17=	Botswana	3.7%	17	Colombia	11.8%	17	Turkey	14,803	17	Netherlands	545.1238
17=	South Sudan	3.7%	18	Mali	11.4%	18	Iran	12,685	18	Sweden	540.1888
17=	Angola	3.7%	19	Angola	10.9%	19	Algeria	10,217	19	Luxembourg	510.8120
20=	Colombia	3.4%	20	Taiwan	10.7%	20	Pakistan	10,063	20	Germany	509.3302
20=	Singapore	3.4%	21	Morocco	10.6%	21	Singapore	9,959	21	USSR/Russia	483.1144
20=	Pakistan	3.4%	22	Kuwait	10.5%	22	Taiwan	9,924	22	Italy	467.4483

[119] Information adapted from the Stockholm International Peace Research Institute[SIPRI] Military Expenditure Database encompassing the period until 2016 (SIPRI, 2017). Figures in blue are SIPRI estimates. Figures in red indicate highly uncertain data (as defined by SIPRI).

Military Expenditure 2016: Share of GDP			Military Expenditure 2016: Share of Government Spending			Military Expenditure 2016 (USD $million)			Military Expenditure Per Capita 2016 (USD)		
23	USA	3.3%	23	Botswana	10.3%	23	Colombia	9,556	23	New Zealand	458.5582
24=	Kyrgyzstan	3.2%	24=	Guinea	10.1%	24	Poland	9,341	24	Greece	455.6454
24=	Morocco	3.2%	24=	Namibia	10.1%	25	Netherlands	9,253	25	Taiwan	424.2869
24=	Mali	3.2%	26	Burundi	9.9%	26	Venezuela	9,222	26	Canada	417.7597
27	Sudan	3.1%	27	Bangladesh	9.8%	27	Oman	9,103	27	Estonia	383.8230
28	Iran	3.0%	28	Brunei	9.4%	28	Indonesia	8,183	28	Portugal	365.4969
29	Korea, South	2.7%	29=	Mauritania	9.3%	29	Kuwait	6,561	29	Japan	365.3953
30=	Chad	2.6%	29=	USA	9.3%	30	Iraq	6,233	30	Belgium	357.4545
30=	Zimbabwe	2.6%	31	Ukraine	9.2%	31	Mexico	6,020	31	Austria	334.1655
30=	Greece	2.6%	33=	India	8.9%	32	Norway	5,998	32	Spain	323.5568
33=	India	2.5%	33=	Azerbaijan	8.9%	33	Thailand	5,880	33	Cyprus	299.7832
33=	Guinea	2.5%	34	Zimbabwe	8.4%	34	Sweden	5,320	34	Venezuela	292.4848
35	Viet Nam	2.4%	35	Congo, Dem. Rep.	8.3%	35	Argentina	5,209	35	Uruguay	282.5528
36	Sri Lanka	2.4%	36=	Cambodia	8.2%	36	Viet Nam	5,017	36	Chile	254.1595
37=	Tunisia	2.3%	36=	Viet Nam	8.2%	37	Greece	4,973	37	Algeria	252.7375
38	France	2.3%	36=	Iraq	8.2%	38	Switzerland	4,680	38	Poland	242.0969
39	Burundi	2.3%	39	Tunisia	8.0%	39	Chile	4,608	39	Jordan	228.1211
40=	Niger	2.2%	40	Uganda	7.9%	40	Egypt	4,513	40	Lithuania	223.3093
40=	Georgia	2.2%	41	Kyrgyzstan	7.6%	41	Malaysia	4,169	41	Botswana	223.0876
40=	Ecuador	2.2%	42	South Sudan	7.4%	42	Belgium	4,063	42	Ireland	211.9806
43=	Estonia	2.1%	43=	Niger	7.3%	43	Philippines	3,899	43	Latvia	208.1659
43=	Lesotho	2.1%	43=	Georgia	7.3%	44	Portugal	3,764	44	Colombia	196.3462
45=	Uruguay	2.0%	45=	Chile	7.1%	45	Denmark	3,514	45	Slovenia	195.4581
45=	Turkey	2.0%	45=	Nepal	7.1%	46	Ukraine	3,423	46	Slovak Rep.	190.7938
45=	Poland	2.0%	47=	Thailand	6.5%	47	Morocco	3,327	47	Seychelles	189.5083
45=	Australia	2.0%	47=	Togo	6.5%	48	Finland	3,246	48	Turkey	185.8918
49=	China, P.R.	1.9%	47=	Philippines	6.5%	49	Bangladesh	3,181	49	Czech Rep.	185.5006
49=	Serbia	1.9%	50	Gabon	6.3%	50	South Africa	3,160	50	Namibia	181.0467
49=	Taiwan	1.9%	51	China, P.R.	6.2%	51	Austria	2,862	51	Trinidad & Tobago	173.0640

238

Military Expenditure 2016: Share of GDP			Military Expenditure 2016: Share of Government Spending			Military Expenditure 2016 (USD $million)			Military Expenditure Per Capita 2016 (USD)		
49=	Chile	1.9%	52=	Ecuador	5.9%	52	Angola	2,824	52	Iraq	165.9045
49=	Uganda	1.9%	52=	Senegal	5.9%	53	Romania	2,765	53	Croatia	164.4474
49=	UK	1.9%	54=	Peru	5.8%	54	Sudan	2,723	54	Iran	158.4182
55=	Togo	1.8%	54=	Honduras	5.8%	55	Peru	2,481	55	China, P.R.	155.7440
55=	Portugal	1.8%	54=	Malaysia	5.8%	56	Ecuador	2,165	56	Belarus	150.1268
55=	Cambodia	1.8%	57=	Cameroon	5.7%	57	New Zealand	2,093	57	Romania	142.8353
55=	Cyprus	1.8%	57=	Tanzania	5.7%	58	Sri Lanka	1,986	58	Armenia	142.5775
59=	Swaziland	1.7%	59	Uruguay	5.5%	59	Czech Rep.	1,955	59	Azerbaijan	139.6797
59=	Senegal	1.7%	60	Turkey	5.3%	60	Jordan	1,770	60	Malta	137.1866
61=	Honduras	1.6%	61=	Australia	5.2%	61	Nigeria	1,723	61	Malaysia	135.5502
61=	Egypt	1.6%	61=	Estonia	5.2%	62	Bahrain	1,430	62	Ecuador	132.0653
61=	Norway	1.6%	61=	Indonesia	5.2%	63	Azerbaijan	1,379	63	Hungary	127.7969
61=	Bolivia	1.6%	61=	Benin	5.2%	64	Hungary	1,254	64	Argentina	118.7952
61=	Montenegro	1.6%	65	Greece	5.1%	65	Kazakhstan	1,102	65	Congo	118.4018
66=	Tanzania	1.5%	66=	Burkina Faso	5.0%	66	Slovak Rep.	1,035	66	Gabon	114.9245
66=	Italy	1.5%	66=	Egypt	5.0%	67	Ireland	999	67	Brazil	112.9691
66=	Bulgaria	1.5%	66=	Paraguay	5.0%	68	Tunisia	976	68	Angola	109.2592
66=	Romania	1.5%	66=	Kenya	5.0%	69	Uruguay	973	69	Montenegro	107.3183
66=	Lithuania	1.5%	66=	Zambia	5.0%	70	Kenya	933	70	Bulgaria	106.5905
66=	Thailand	1.5%	71	Swaziland	4.9%	71	Bulgaria	756	71	Morocco	95.5074
66=	Gabon	1.5%	72	Côte d'Ivoire	4.8%	72	Serbia	710	72	Sri Lanka	95.3968
66=	Latvia	1.5%	73=	Poland	4.7%	73	Croatia	695	73	Thailand	86.2789
74=	Guyana	1.4%	73=	UK	4.7%	74	Lithuania	636	74	Tunisia	85.7774
74=	Nepal	1.4%	73=	Cyprus	4.7%	75	Belarus	597	75	Serbia	80.6507
74=	Malaysia	1.4%	76	Rwanda	4.6%	76	Bolivia	566	76	Peru	78.0471
74=	Croatia	1.4%	77=	Romania	4.4%	77	Congo	562	77	Ukraine	76.7693
74=	Finland	1.4%	77=	Serbia	4.4%	78	Tanzania	544	78	Sudan	66.0662
74=	Kenya	1.4%	79	Lithuania	4.3%	79	Botswana	514	79	Guyana	63.3848
80=	Bangladesh	1.3%	80	Guyana	4.2%	80	Estonia	502	80	Kazakhstan	61.6988
80=	Zambia	1.3%	81=	Bulgaria	4.1%	81=	Ethiopia	469	81	South Africa	57.4532

Military Expenditure 2016: Share of GDP			Military Expenditure 2016: Share of Government Spending			Military Expenditure 2016 (USD $million)			Military Expenditure Per Capita 2016 (USD)		
80=	Brazil	1.3%	81=	Albania	4.1%	81=	Congo, Dem. Rep.	469	82	Belize	56.1968
80=	Peru	1.3%	81=	Nigeria	4.1%	83	Dominican Rep.	457	83	Viet Nam	53.1303
80=	Philippines	1.3%	84=	France	4.0%	84	Namibia	456	84	Pakistan	52.1351
80=	Timor Leste	1.3%	84=	Portugal	4.0%	85	Armenia	431	85	Bolivia	51.9713
80=	Cameroon	1.3%	86=	Latvia	3.9%	86	Côte d'Ivoire	425	86	Swaziland	51.4937
80=	Belarus	1.3%	86=	Sierra Leone	3.9%	87	Latvia	407	87	Paraguay	51.0062
80=	Burkina Faso	1.3%	86=	El Salvador	3.9%	88	Slovenia	404	88	Macedonia, FYR	50.9571
80=	Paraguay	1.3%	86=	Kazakhstan	3.9%	89=	Brunei	403	89	Albania	50.5006
90=	Côte d'Ivoire	1.2%	90	Bolivia	3.7%	89=	Uganda	403	90	Fiji	50.3013
90=	Spain	1.2%	91	Madagascar	3.6%	91	Cameroon	387	91	Egypt	48.2921
90=	Netherlands	1.2%	92=	Lesotho	3.5%	92	Cambodia	370	92	Mexico	46.7750
90=	Albania	1.2%	92=	Dominican Rep.	3.5%	93	Mali	369	93	Bosnia-Herzegovina	43.2680
90=	Rwanda	1.2%	92=	Ethiopia	3.5%	94	Zimbabwe	358	94	Dominican Rep.	42.9294
90=	Germany	1.2%	95=	Belize	3.4%	95	Cyprus	353	95	Jamaica	42.2141
90=	Benin	1.2%	95=	Seychelles	3.4%	96=	Paraguay	343	96	India	42.1404
90=	Belize	1.2%	95=	New Zealand	3.4%	96=	Honduras	343	97	Honduras	41.8561
90=	Denmark	1.2%	98=	Afghanistan	3.3%	98	Nepal	319	98	Philippines	38.1108
90=	Seychelles	1.2%	98=	Mozambique	3.3%	99	Georgia	315	99	El Salvador	37.8356
90=	New Zealand	1.2%	100=	South Africa	3.2%	100	Zambia	300	100	Kyrgyzstan	34.1872
101=	Slovak Rep.	1.1%	100=	Guatemala	3.2%	101	Luxembourg	294	101	Mongolia	33.8878
101=	Trinidad & Tobago	1.1%	100=	Norway	3.2%	102	Guatemala	271	102	Georgia	33.2249
101=	South Africa	1.1%	103=	Brazil	3.1%	103	Chad	267	103	Mauritania	32.6296
104=	Sweden	1.0%	103=	Macedonia, FYR	3.1%	104	Senegal	254	104	Indonesia	31.3920
104=	Mozambique	1.0%	103=	Italy	3.1%	105	Trinidad & Tobago	236	105	Kosovo	28.7369

Military Expenditure 2016: Share of GDP			Military Expenditure 2016: Share of Government Spending			Military Expenditure 2016 (USD $million)			Military Expenditure Per Capita 2016 (USD)		
104=	Congo, Dem. Rep.	1.0%	106	Croatia	3.0%	106	El Salvador	233	106	Cambodia	23.3585
104=	Czech Rep.	1.0%	107=	Belarus	2.9%	107	Kyrgyzstan	206	107	Zimbabwe	22.4414
104=	Macedonia, FYR	1.0%	107=	Jamaica	2.9%	108	Gabon	203	108	Timor Leste	21.6135
104=	Hungary	1.0%	107=	Montenegro	2.9%	109	Afghanistan	174	109	Equatorial Guinea	20.9490
104=	Canada	1.0%	107=	Spain	2.9%	110	Niger	166	110	Mali	20.3214
104=	Japan	1.0%	111=	Fiji	2.8%	111	Bosnia-Herzegovina	164	111	Kenya	19.7309
104=	Bosnia-Herzegovina	1.0%	111=	Slovak Rep.	2.8%	112=	Guinea	162	112	Bangladesh	19.5175
104=	Fiji	1.0%	113=	Kosovo	2.7%	112=	Ghana	162	113	Cape Verde	19.2896
104=	Argentina	1.0%	113=	Netherlands	2.7%	114	Burkina Faso	149	114	Lesotho	18.8048
104=	Afghanistan	1.0%	113=	Germany	2.7%	115	Albania	147	115	Chad	18.4240
116=	Slovenia	0.9%	116	Japan	2.6%	116	South Sudan	138	116	Côte d'Ivoire	18.2828
116=	Mongolia	0.9%	117=	Czech Rep.	2.5%	117	Mauritania	136	117	Mauritius	17.9711
116=	Kazakhstan	0.9%	117=	Trinidad & Tobago	2.5%	118	Jamaica	118	118	Zambia	17.9171
116=	Belgium	0.9%	119=	Argentina	2.4%	119	Mozambique	112	119	Senegal	16.2744
116=	El Salvador	0.9%	119=	Canada	2.4%	120	Macedonia, FYR	106	120	Guatemala	16.2512
116=	Indonesia	0.9%	119=	Finland	2.4%	121	Mongolia	102	121	Cameroon	16.1796
122=	Jamaica	0.8%	122=	Mexico	2.3%	122	Rwanda	101	122	Guinea	12.4898
122=	Kosovo	0.8%	122=	Bosnia-Herzegovina	2.3%	123	Benin	98	123	Nicaragua	11.7996
124=	Austria	0.7%	122=	Denmark	2.2%	124=	Togo	82	124	Nepal	11.0494
124=	Sierra Leone	0.7%	122=	Mongolia	2.2%	124=	Papua New Guinea	82	125	Togo	10.9349
124=	Switzerland	0.7%	122=	Switzerland	2.2%	126	Nicaragua	73	126	South Sudan	10.7930
124=	Ethiopia	0.7%	127=	Slovenia	2.1%	127=	Swaziland	67	127	Papua New Guinea	10.5188

Military Expenditure 2016: Share of GDP			Military Expenditure 2016: Share of Government Spending			Military Expenditure 2016 (USD $million)			Military Expenditure Per Capita 2016 (USD)		
128=	Dominican Rep.	0.6%	127=	Malawi	2.1%	127=	Montenegro	67	128	Uganda	9.9919
128=	Papua New Guinea	0.6%	127=	Sweden	2.1%	129	Burundi	66	129	Tanzania	9.8629
128=	Malawi	0.6%	127=	Hungary	2.1%	130	Madagascar	59	130	Nigeria	9.2095
128=	Cape Verde	0.6%	127=	Cape Verde	2.1%	131	Malta	58	131	Benin	8.7794
128=	Madagascar	0.6%	132	Nicaragua	2.0%	132	Kosovo	52	132	Rwanda	8.4948
128=	Mexico	0.6%	133	Papua New Guinea	1.9%	133	Guyana	49	133	Niger	8.0243
128=	Malta	0.6%	134	Ghana	1.7%	134	Fiji	45	134	Burkina Faso	8.0149
128=	Liberia	0.6%	135	Belgium	1.6%	135	Lesotho	41	135	Moldova	7.2997
128=	Nicaragua	0.6%	136=	Timor Leste	1.5%	136	Malawi	34	136	Congo, Dem. Rep.	5.8721
137	Luxembourg	0.5%	136=	Liberia	1.5%	137	Moldova	30	137	Ghana	5.7650
138=	Moldova	0.4%	136=	Austria	1.5%	138	Sierra Leone	27	138	Burundi	5.7516
138=	Nigeria	0.4%	139	Malta	1.4%	139	Timor Leste	26	139	Afghanistan	5.1876
138=	Guatemala	0.4%	140=	Ireland	1.2%	140	Mauritius	23	140	Ethiopia	4.5941
138=	Ghana	0.4%	140=	Luxembourg	1.2%	141	Belize	21	141	Sierra Leone	4.0609
142=	Ireland	0.3%	140=	Moldova	1.2%	142=	Seychelles	18	142	Mozambique	3.8989
142=	Venezuela	0.3%	143=	Mauritius	0.7%	142=	Equatorial Guinea	18	143	Liberia	2.6541
144=	Equatorial Guinea	0.2%	143=	Venezuela	0.7%	144	Liberia	12	144	Madagascar	2.3780
144=	Mauritius	0.2%	145	Equatorial Guinea	0.6%	145	Cape Verde	10	145	Malawi	1.8955

242

APPENDIX 2: ORDERED RANKING OF MILITARY FORCE SIZE [120]

	Size of Military Forces (Regular and Reserve)				Size of Military Forces relative to the State's Population (Numbers per 1000 of population) [121] [122]	
		Total Military Forces	Regular Forces	Reserve Forces		
1	Viet Nam	5,522,000	482,000	5,040,000	1	Korea, South	100.7380149
2	Korea, South	5,130,000	630,000	4,500,000	2	Taiwan	79.77911753
3	Russia	2,831,000	831,000	2,000,000	3	Israel	78.47548855
4	China, P.R.	2,693,000	2,183,000	510,000	4	Korea, North	71.27126556
5	India	2,550,100	1,395,100	1,155,000	5	Singapore	66.58908894
6	USA	2,212,350	1,347,300	865,050	6	Viet Nam	57.36486007
7	Taiwan	1,872,000	215,000	1,657,000	7	Eritrea	54.81382975
8	Korea, North	1,790,000	1,190,000	600,000	8	Cyprus	51.42774195
9	Brazil	1,674,500	334,500	1,340,000	9	Mongolia	48.39459907
10	Ukraine	1,104,000	204,000	900,000	10	Finland	45.86946554
11	Egypt	917,500	438,500	479,000	11	Azerbaijan	37.16790585
12	Iran	873,000	523,000	350,000	12	Belarus	35.26507214
13	Indonesia	795,500	395,500	400,000	13	Greece	33.73632829
14	Turkey	733,900	355,200	378,700	14	Estonia	27.17423692
15	Pakistan	653,800	653,800		15	Paraguay	25.52160834
16	Israel	641,500	176,500	465,000	16	Ukraine	24.97187667
17	Thailand	560,850	360,850	200,000	17	Portugal	22.29592971
18	Myanmar	406,000	406,000		18	Jordan	22.05150058
19	Singapore	385,000	72,500	312,500	19	Switzerland	20.19978741
20	Azerbaijan	366,950	66,950	300,000	20	Russia	19.88684449
21	Greece	363,450	142,950	220,500	21	Austria	19.20964396
22	Mexico	358,650	277,150	81,500	22	Moldova	17.98896734
23	Morocco	345,800	195,800	150,000	23	Brunei	17.63547249
24	Belarus	337,500	48,000	289,500	24	South Sudan	14.76372022
25	Colombia	328,150	293,200	34,950	25	Armenia	14.68250717
26	Eritrea	321,750	201,750	120,000	26	Kuwait	13.83801614
27	Japan	303,150	247,150	56,000	27	Norway	13.39750868
28	Algeria	280,000	130,000	150,000	28	Oman	12.69647497
29	Peru	269,000	81,000	188,000	29	Djibouti	12.34222328
30	Philippines	256,000	125,000	131,000	30	Sri Lanka	11.17607376
31	Finland	252,200	22,200	230,000	31	Denmark	11.13736048
32	Sri Lanka	248,500	243,000	5,500	32	Serbia	10.96036756
33	Sudan	244,300	244,300		33	UAE	10.6284591
34	Portugal	241,550	29,600	211,950	34	Iran	10.54327032

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[120] These figures were collated and then developed from the 2017 Edition of The Military Balance (International Institute of Strategic Studies, 2017).

[121] These figures describe the size of regular and reserve military forces but exclude figures for any paramilitary forces that the states may maintain

[122] Size figures not provided for Libya, the Palestinian Territories and Yemen.

	Size of Military Forces (Regular and Reserve)				Size of Military Forces relative to the State's Population (Numbers per 1000 of population) [121] [122]	
		Total Military Forces	Regular Forces	Reserve Forces		
35	UK	233,700	152,350	81,350	35	Fiji	10.37907666
36	France	231,050	202,950	28,100	36	Morocco	10.27460776
37	Saudi Arabia	227,000	227,000		37	Ecuador	9.840941775
38	Germany	204,400	176,800	27,600	38	Macedonia, FYR	9.73797931
39	Italy	192,800	174,500	18,300	39	Egypt	9.691867999
40	South Sudan	185,000	185,000		40	Lebanon	9.618871456
41	Jordan	180,500	100,500	80,000	41	Turkey	9.142368363
42	Paraguay	175,150	10,650	164,500	42	Peru	8.750510962
43	Afghanistan	171,200	171,200		43	Lithuania	8.313961534
44	Austria	167,350	21,350	146,000	44	Thailand	8.223507681
45	Switzerland	165,220	20,950	144,270	45	Brazil	8.135604815
46	Malaysia	160,600	109,000	51,600	46	Saudi Arabia	8.061001397
47	Ecuador	158,250	40,250	118,000	47	Honduras	7.94984156
48	Bangladesh	157,050	157,050		48	Cuba	7.871202089
49	Mongolia	146,700	9,700	137,000	49	Cambodia	7.789575918
50	Ethiopia	138,000	138,000		50	Syria	7.41918759
51	Congo, Dem. Rep.	134,250	134,250		51	Uruguay	7.355978008
52	Spain	131,400	123,200	8,200	52	Hungary	7.139396669
53	Syria	127,500	127,500		53	Myanmar	7.136526928
54	Cambodia	124,300	124,300		54	Algeria	6.954152835
55	Venezuela	123,000	115,000	8,000	55	Colombia	6.949259878
56	Romania	120,500	70,500	50,000	56	Turkmenistan	6.898093613
57	Nigeria	118,000	118,000		57	USA	6.828334989
58	Angola	107,000	107,000		58	Latvia	6.694863778
59	Chile	104,750	64,750	40,000	59	Sudan	6.651329132
60	Poland	99,300	99,300		60	Belize	6.217183164
61	Nepal	96,600	96,600		61	Bahrain	5.946751913
62	Canada	93,000	63,000	30,000	62	Chile	5.93480586
63	Cuba	88,000	49,000	39,000	63	El Salvador	5.587436065
64	South Africa	82,150	67,100	15,050	64	Romania	5.578771889
65	Guatemala	81,900	18,050	63,850	65	Guyana	5.530575112
66	Australia	78,900	57,800	21,100	66	Guatemala	5.391719977
67	Serbia	78,300	28,150	50,150	67	Angola	5.302980592
68	Argentina	74,200	74,200		68	Dominican Rep.	5.284313508
69	Honduras	70,700	10,700	60,000	69	Qatar	5.225208709
70	Norway	70,540	24,950	45,590	70	Malaysia	5.189020911
71	Hungary	70,500	26,500	44,000	71	Afghanistan	5.136201596
72	Iraq	64,000	64,000		72	Malta	5.130107226

Size of Military Forces (Regular and Reserve)					Size of Military Forces relative to the State's Population (Numbers per 1000 of population) [121] [122]	
		Total Military Forces	Regular Forces	Reserve Forces			
73	Moldova	63,150	5,150	58,000	73	Bulgaria	4.800792985
74	UAE	63,000	63,000		74	Seychelles	4.507114803
75	Denmark	62,300	16,600	45,700	75	Slovenia	4.423595407
76	Cyprus	62,000	12,000	50,000	76	Mauritania	4.310235817
77	Lebanon	60,000	60,000		77	Namibia	4.219105388
78	Dominican Rep.	56,050	56,050		78	Georgia	4.190296693
79	Uganda	55,000	45,000	10,000	79	Laos	4.14584661
80	Uzbekistan	48,000	48,000		80	Botswana	4.073858143
81	Armenia	44,800	44,800		81	Venezuela	3.978998394
82	Oman	42,600	42,600		82	Bahamas	3.971697076
83	Netherlands	39,910	35,410	4,500	83	Croatia	3.59319722
84	Kuwait	39,200	15,500	23,700	84	Barbados	3.567814199
85	Kazakhstan	39,000	39,000		85	UK	3.517966195
86	Turkmenistan	36,500	36,500		86	France	3.456961333
87	Belgium	36,350	29,600	6,750	87	Australia	3.431530784
88	Tunisia	35,800	35,800		88	Nepal	3.32714356
89	El Salvador	34,400	24,500	9,900	89	Trinidad & Tobago	3.318369263
90	Bulgaria	34,300	31,300	3,000	90	Pakistan	3.236705127
91	Estonia	34,200	6,400	27,800	91	Tunisia	3.215206526
92	Bolivia	34,100	34,100		92	Belgium	3.186059661
93	Rwanda	33,000	33,000		93	Suriname	3.140875075
94	Chad	30,350	30,350		94	Italy	3.109299288
95	Burundi	30,000	30,000		95	Bolivia	3.108577129
96	Sweden	29,750	29,750		96	Indonesia	3.079560859
97	Laos	29,100	29,100		97	Montenegro	3.025235115
98	Zimbabwe	29,000	29,000		98	Sweden	3.010949533
99	Tanzania	27,000	27,000		99	Mexico	2.911906037
100	Côte d'Ivoire	25,400	25,400		100	Slovak Rep.	2.910498766
101	Uruguay	24,650	24,650		101	Antigua and Barbuda	2.778341757
102	Kenya	24,100	24,100		102	Bosnia-Herzegovina	2.718860502
103	Lithuania	23,730	17,030	6,700	103	Spain	2.705737126
104	Czech Rep.	21,950	21,950		104	Gabon	2.703556212
105	Georgia	20,650	20,650		105	Burundi	2.702873641
106	Macedonia, FYR	20,450	8,000	12,450	106	Albania	2.632796616
107	Somalia	19,800	19,800		107	Canada	2.62987444
108	Zambia	18,100	15,100	3,000	108	Poland	2.577663402
109	Mauritania	15,850	15,850		109	Chad	2.560649425

Size of Military Forces (Regular and Reserve)				Size of Military Forces relative to the State's Population (Numbers per 1000 of population) [121] [122]		
		Total Military Forces	Regular Forces	Reserve Forces		
110	Slovak Rep.	15,850	15,850		110	Rwanda	2.540724151
111	Croatia	15,500	15,500		111	Germany	2.532122526
112	Ghana	15,500	15,500		112	Guinea-Bissau	2.529617846
113	Cameroon	14,400	14,400		113	Philippines	2.494538107
114	Senegal	13,600	13,600		114	New Zealand	2.491871248
115	Madagascar	13,500	13,500		115	Argentina	2.402775435
116	Latvia	13,160	5,310	7,850	116	Japan	2.392619547
117	Nicaragua	12,000	12,000		117	Ireland	2.36851367
118	Qatar	11,800	11,800		118	Netherlands	2.345306305
119	Ireland	11,730	9,100	2,630	119	Cape Verde	2.168288064
120	Burkina Faso	11,200	11,200		120	Kazakhstan	2.124142167
121	Mozambique	11,200	11,200		121	Congo	2.060830779
122	New Zealand	11,150	8,950	2,200	122	Czech Rep.	2.058919427
123	Kyrgyzstan	10,900	10,900		123	India	2.012892111
124	Bosnia-Herzegovina	10,500	10,500		124	Nicaragua	2.011128917
125	Djibouti	10,450	10,450		125	Zimbabwe	1.993543531
126	Congo	10,000	10,000		126	China, P.R.	1.949604066
127	Namibia	9,900	9,900		127	Equatorial Guinea	1.909273936
128	Guinea	9,700	9,700		128	Kyrgyzstan	1.903081473
129	Fiji	9,500	3,500	6,000	129	Somalia	1.830392164
130	Botswana	9,000	9,000		130	Iraq	1.677763279
131	Tajikistan	8,800	8,800		131	Congo, Dem. Rep.	1.650661094
132	Slovenia	8,750	7,250	1,500	132	Uzbekistan	1.628575308
133	Togo	8,550	8,550		133	Luxembourg	1.545618943
134	Sierra Leone	8,500	8,500		134	South Africa	1.51287173
135	Bahrain	8,200	8,200		135	Jamaica	1.491411758
136	Albania	8,000	8,000		136	Uganda	1.435310266
137	Mali	8,000	8,000		137	Sierra Leone	1.412220995
138	Brunei	7,700	7,000	700	138	Ethiopia	1.347997936
139	Benin	7,250	7,250		139	Central African Rep.	1.298286969
140	Central African Rep.	7,150	7,150		140	Zambia	1.166935545

	Size of Military Forces (Regular and Reserve)				Size of Military Forces relative to the State's Population (Numbers per 1000 of population) [121] [122]	
		Total Military Forces	Regular Forces	Reserve Forces		
141	Malawi	5,300	5,300		141	Togo	1.102239196
142	Niger	5,300	5,300		142	Côte d'Ivoire	1.06990507
143	Gabon	4,700	4,700		143	Tajikistan	1.05630261
144	Guinea-Bissau	4,450	4,450		144	Timor Leste	1.054658259
145	Jamaica	4,430	3,450	980	145	Lesotho	1.024028837
146	Guyana	4,070	3,400	670	146	Bangladesh	1.005526188
147	Trinidad & Tobago	4,050	4,050		147	Senegal	0.949717023
148	Belize	2,200	1,500	700	148	Guinea	0.802093779
149	Malta	2,130	1,950	180	149	Benin	0.674954927
150	Liberia	2,050	2,050		150	Nigeria	0.634226565
151	Lesotho	2,000	2,000		151	Cameroon	0.59111352
152	Montenegro	1,950	1,950		152	Ghana	0.576031258
153	Papua New Guinea	1,900	1,900		153	Burkina Faso	0.573990061
154	Suriname	1,840	1,840		154	Madagascar	0.552591912
155	Equatorial Guinea	1,450	1,450		155	Kenya	0.515058978
156	Timor Leste	1,330	1,330		156	Tanzania	0.514454985
157	Bahamas	1,300	1,300		157	Liberia	0.476750395
158	Cape Verde	1,200	1,200		158	Mali	0.458003695
159	Barbados	1,040	610	430	159	Mozambique	0.431929626
160	Luxembourg	900	900		160	Gambia	0.398079664
161	Gambia	800	800		161	Malawi	0.285401636
162	Seychelles	420	420		162	Niger	0.284356121
163	Antigua and Barbuda	260	180	80	163	Papua New Guinea	0.279769005
164	Haiti	70	70		164	Haiti	0.006675695
165	Costa Rica	0			165	Costa Rica	0
166	Iceland	0			166	Iceland	0
167	Mauritius	0			167	Mauritius	0
168	Panama	0			168	Panama	0

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