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Global Defense Perspectives

Mapping Prioritization and Posture in a Challenging World

A New Global Defense Map

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Contents

Executive Summary

The security challenges confronting national defense organizations are both complex and dynamic. Nations around the globe now face a myriad of threats that vary greatly in both scope and scale. Long-standing threats from neighboring nations, such as the enduring tensions on the Korean peninsula and Indian subcontinent, are the types of traditional challenges that most national defense organizations have been organized to confront.

But major terrorist attacks such as those of September 11, 2001 and, more recently, attacks on school children in Kenya and French satirical writers in Paris, typify the emergent challenges of 'asymmetrical adversaries' who possess destructive and disruptive capabilities that are more difficult to detect and defeat through conventional means - and thinking.

At the same time, in many Western nations budgetary challenges are putting downward pressure on defense spending. Faced with significant and growing government entitlement costs, sluggish economic growth, and weariness after over a decade of overseas operations in Afghanistan and Iraq, defense budgets for many North Atlantic Treaty Organization (NATO) Allies and partners have dropped substantially in recent years. Despite aggressive moves to cut overhead costs, and efforts to operate with like-minded nations in coalitions, many of these countries continue to struggle to modernize outdated systems and maintain readiness as the security environment facing ministries is both uncertain and increasingly complex.

Other nations face different challenges that are no less complex. Some, like Ukraine, face existential security threats that are driving their defense priorities. Other states, such as Japan and Poland, are being confronted by an aggressive China or revanchist Russia, respectively.

In the Middle East, the Gulf States such as Saudi Arabia, the United Arab Emirates (UAE), Kuwait, Oman, Qatar and Bahrain, are in the center of a regional neighborhood whose stability has been decreasing in recent years. Overt challenges from Iran, instability in neighboring nations (e.g. Yemen, Syria and Iraq), compounded by declining oil prices, are having a major impact on internal and regional stability.

Finally, some other nations, such as Brazil and India, are using defense investments to bolster their respective defense industrial bases, and to help create more indigenous capabilities for the development of technologies that support national security - and national prestige.

These wide-ranging challenges leave defense leaders with tough choices. To examine these challenges, we have assessed the impact on 60 nations from geographic regions around the world:

- **Americas**: Argentina, Brazil, Canada, Colombia, Chile, Mexico, United States, Venezuela.
- **Europe**: Austria, Belgium, Croatia, Denmark, Estonia, Finland, France, Germany, Greece, Italy, Latvia, Lithuania, the Netherlands, Norway, Poland, Portugal, Russia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom.
- **Middle East and Africa**: Algeria, Angola, Bahrain, Egypt, Iran, Iraq, Israel, Kuwait, Morocco, Oman, Qatar, Saudi Arabia, South Africa, Syria, United Arab Emirates.
- **Asia Pacific**: Australia, China, India, Indonesia, Japan, Malaysia, New Zealand, Pakistan, Philippines, Singapore, South Korea, Taiwan, Thailand, Vietnam.

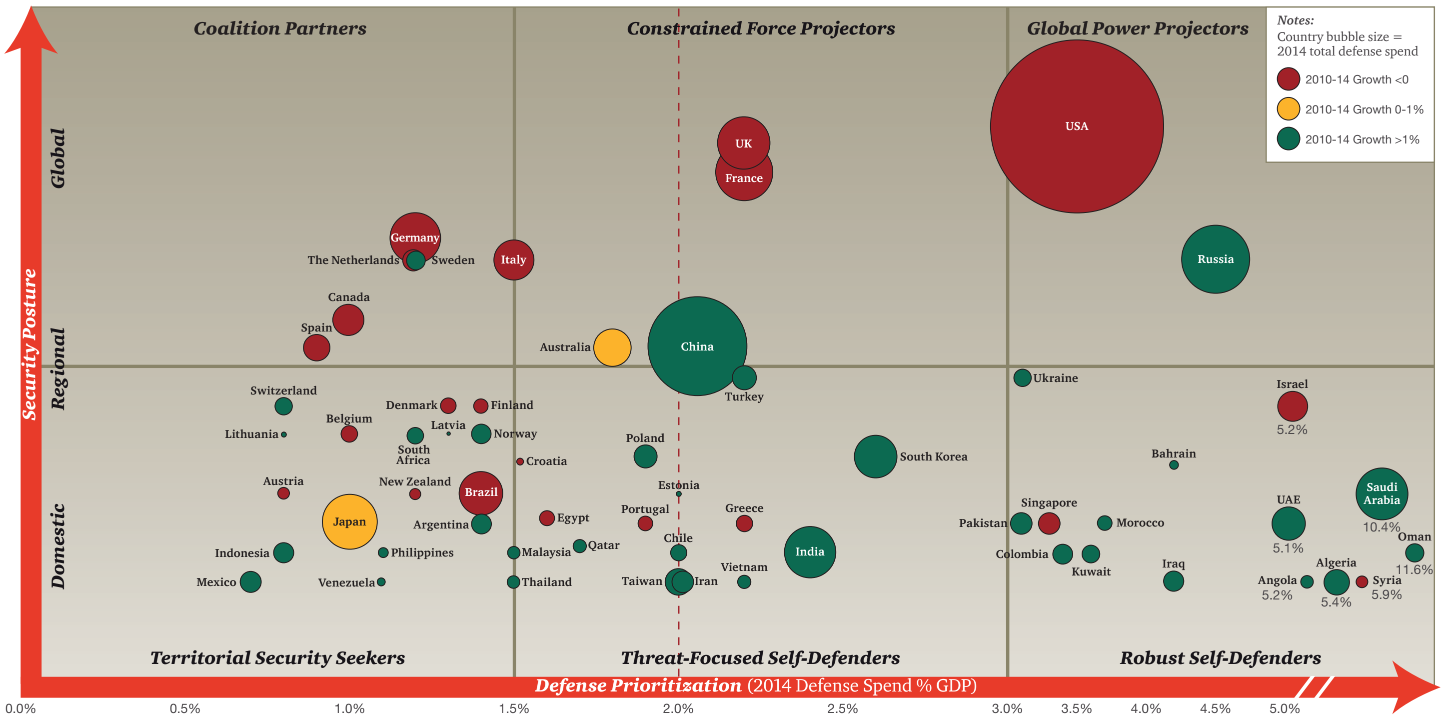
These nations include the top 50 defense-spending nations according to the Stockholm International Peace Research Institute (SIPRI).[1] Additionally, due to their regional and global significance, we also selected several other nations for this analysis, regardless of the level of their national defense spend (e.g. Ukraine, Baltic States, Bahrain, Philippines, Qatar and Vietnam).

Our approach for developing these global defense perspectives looks at recent defense spending trends and the major investment, institutional, structural and strategic priorities and challenges impacting these nations. Using the insights and unique perspective of PwC's Global Government Defense Network, we have measured and plotted these 60 nations against two dimensions: **1) how they prioritize defense spending and 2) how they position or 'posture' themselves in the global security environment.**

Mapping these nations on the basis of **defense prioritization vs. security posture** results in a new Global Defense Map, as depicted in Figure S.1 (further details of the methodology in the Appendix).

Figure S.1 New Global Defense Map

Replacing Geography with 'Prioritization and Posture'



Security Posture

- Does the country have a global, regional or domestic security orientation?

Defense Prioritization

- How much does the country spend: total and % GDP?
- Recent trends and expected future vector: upward, flat or down?

Source: SIPRI, Teal Group International Defense Briefing, The Military Balance, IHS Defense Budgets, PwC analysis.

The six segments in this graphic outline distinct profiles reflecting the respective levels of defense prioritization and security posture.

Global Power Projectors: *The United States and Russia*. These two nations alone spend greater than 3% of their GDP on defense and are very engaged in security efforts around the world. These nations seek to use their military capabilities and security posture to influence global security issues.

Their defense organizations are very large and mature. Although not necessarily nimble, these organizations are capable of deploying forces, managing large complex procurements, and, at least in the case of the United States, conducting large scale operations around the world.

Constrained Force Projectors: *Australia, China, France and the United Kingdom*. These four nations spend between 1.5% and 3% of their GDP on defense and are very engaged in security efforts around the world. These nations are among the world's largest defense-spending nations, who prioritize high-end defense capabilities and have militaries that can deploy or exert their influence in most regions of the world. They all either play leading roles in coalition operations, conduct a significant amount of international arms transfers, or both. These nations have strong defense organizations that can selectively deploy forces to key regions around the world, manufacture and integrate complex weapons systems. But these organizations, with the exception of China, are also aggressively looking for ways to reduce costs and increase efficiencies in these times of significant fiscal constraints.

Coalition Partners: *Canada, Germany, Italy, the Netherlands, Spain and Sweden*. These six nations spend less than 1.5% of their GDP on defense, but they are very engaged in security efforts around the world. While these nations have modest defense budgets, they readily contribute to United Nations peacekeeping and multilateral coalition operations around the world. Except for Sweden, these nations are all NATO allies who have a strong track record of operating together. While they seldom lead these activities, the Coalition Partners are critical participants in the global security environment and have credible military forces. The defense organizations in these countries are modest, but mature and very capable. They deploy forces regularly, but they have struggled in recent years to maintain readiness as defense budgets have shrunk across the segment.

Robust Self-Defenders: *Angola, Algeria, Bahrain, Colombia, Iraq, Israel, Kuwait, Morocco, Oman, Pakistan, Saudi Arabia, Singapore, Syria, Ukraine and the United Arab Emirates (UAE)*. These fifteen nations spend greater than 3% of their GDP on defense, but are more focused on security efforts in their immediate geographic region. Because of internal or immediate regional threats, these nations have developed military capabilities centered on directly and aggressively countering those challenges. They generally do not get involved in UN or multilateral coalition operations except when addressing nearby security concerns. The defense organizations in this segment vary, but the majority have matured though modest ministries with robust organizations in Israel, Pakistan and Singapore standing out as exceptions.

Threat-Focused Self-Defenders: *Chile, Croatia, Egypt, Estonia, Greece, India, Iran, Malaysia, Portugal, Poland, Qatar, South Korea, Taiwan, Thailand, Turkey and Vietnam*. These sixteen nations spend between 1.5% and 3% of their GDP on defense and are more focused on security efforts in their immediate geographic area. Many of these nations participate in UN peacekeeping or multilateral coalition operations to help build relationships with allies and partners, but the focus of their spending is on countering a specific threat emanating from a single nation. These nations have generally capable defense organizations that are able to prepare, train and equip their respective military forces to confront immediate security threats, but they do not typically deploy large number of forces around the world.

Territorial Security Seekers: *Argentina, Austria, Belgium, Brazil, Denmark, Finland, Indonesia, Japan, Latvia, Lithuania, Mexico, New Zealand, Norway, the Philippines, South Africa, Switzerland and Venezuela*. These seventeen nations spend less than 1.5% of their GDP on defense and are more focused on security efforts in their immediate geographic area. These nations spend modestly on defense, but many contribute to UN peacekeeping operations or multilateral coalition operations in some fashion. Most of the nations have mature, though modest, defense organizations focused on preparing their forces to confront internal and nearby external security challenges.

Using the insights and unique perspective of PwC's Global Government Defense Network, we have measured and plotted 60 nations against two dimensions: Defense Prioritization and Security Posture

Developments and implications

The Defense Map's diversity reflects the variety of the threats and challenges facing defense organizations around the world. Mapping defense prioritization and security posture creates a more useful framework for analyzing these sixty nations. In addition to the segment profiles and characteristics outlined in this paper, a number of broader insights emerge that should be of interest to defense leaders around the world, and those who monitor them:

Expect Movement on the Map

There is a tremendous amount of growth in the lower half of the Map where 31 nations have seen significant recent growth that is expected to continue in the next five years. But this raises important questions: how might countries like India, Japan, and Poland, for example, make efforts to increase their global security posture and move into the upper half of the Map over time? Conversely, persisting constraints on the Constrained Force Projectors may drive a shift down and left on the map for several nations in this category.

Global Players Under Severe Pressure.

The preponderance of nations that have a globally oriented security posture are also under significant budgetary pressure as evidenced by the fact that spending in ten of the twelve nations in the top half of the Map has declined or remained flat in the past five years. With generally flat defense spend in these nations expected over the next five years, nations such as the United States, the UK, France, Australia and Canada will be hard pressed to maintain their robust level of global engagement in the coming years. To keep their current levels of security posture, these nations must prioritize readiness and training so that their forces can continue to conduct operational deployments as the security environment evolves. Moreover, these nations will face a difficult balance maintaining their technical edge in challenging fiscal environments.

The Defense Map's diversity reflects the variety of the threats and challenges facing defense organizations around the world.

Cost-Cutting Dominating Strategy.

Institutional reform efforts focused on cost-cutting are a major emphasis among almost all of the nations that have a globally-oriented security posture. Global Power Projectors (such as the United States), Constrained Force Projectors (like the UK) and Coalition Partners (such as Canada) are all undertaking initiatives to increase efficiencies and reduce overhead or personnel expenses. These efforts are being accompanied by a mandate for greater cost-consciousness and accountability for defense assets. These nations are continuing to deploy forces and stay engaged in the world despite budget cuts in recent years so effective institutional reforms will be necessary for these nations to maintain their security posture in the future.

A Focus on Institutional and National Capacity.

Furthermore, institutional reform efforts focused on capacity building are a priority principally in those nations in the lower half of the Map. Robust Self-Defenders (such as the UAE), Threat-Focused Self-Defenders (like India) and Territorial Self-Defenders (such as Japan) are less focused on efficiencies than on building the institutional capabilities of their respective ministries of defense.

Collaboration in Procurement. Cooperative efforts are particularly prevalent among the nations that have lower levels of defense prioritization. Cooperative procurement efforts, for example, are much more prevalent among the Coalition Partners and the Territorial Self-Defenders than the Robust Self-Defenders. That being said, the elevated costs of major weapons systems, such as the F-35, is driving broader international collaboration even among major defense spenders who have large budgets.

Asymmetric Threats and Cyber "Insecurity" Gaining Prominence. Regardless of where a nation currently resides on the Map, vulnerabilities to asymmetric threats such as terrorism and cyber crime/attack are driving investment in new, non-traditional defensive and offensive capabilities. Such investment has profound implications for the nature of the future forces with respect to recruitment, training, career development and retention.

Ministries left with difficult choices

The depth and breadth of these current security challenges leave defense leaders with some tough choices:

- What **institutional reform** initiatives are needed to posture their ministries for the future?
- What **procurement priorities** are needed for the coming years?
- How do they build the necessary **organizational agility** in order to address a wider range of threats (strategic nuclear, conventional, terror, cyber, etc.)?
- How should they **cooperate with allies and partners around the world**?
- What should be the priorities for their **domestic industrial base**?

How nations address these and other questions will profoundly impact on global stability.

Introduction

A Multifaceted Threat Environment

The security challenges confronting national defense organizations are both complex and dynamic. Nations around the globe now face a myriad of threats that vary greatly in both scope and scale. Long-standing threats from neighboring nations, such as the enduring tensions on the Korean peninsula and the Indian subcontinent, are the types of traditional challenges that most national defense organizations have been organized to confront.

Major terrorist attacks such as those of September 11, 2001 and, more recently, attacks on school children in Kenya and French satirical writers in Paris, typify the emergent challenges of asymmetrical adversaries who possess destructive and disruptive capabilities that are more difficult to detect and defeat through conventional means and thinking.

As a result, in recent years defense ministries have been forced to reorient their strategies and forces accordingly. The ever-evolving threat environment has produced defense strategies emphasizing counter-insurgency operations in which special operations forces play a prominent role, while conventional forces have become far more involved in peacekeeping and stability operations. Further exacerbating the terrorist threat has been the phenomenon of failed and failing states such as in Somalia, Libya and Yemen. The destabilization of these nations has created havens for extremist forces that seek to undermine the existing order in key regions around the world.

In some nations such as Ukraine and Syria, separatist forces are working to undermine the government through the use of military force, political agitation and divisive social media campaigns. Finally, cyber attacks from both state-based and non-state forces have created a new set of security challenges against which military options are limited. In such cases, attribution is almost impossible to determine, but the level of disruption can be catastrophic.

Given these tremendous challenges of today's complex security environment, it is not surprising that defense leaders have very publicly articulated their concerns. For example, U.S. Chairman of the Joint Chiefs of Staff, General Martin Dempsey has boldly stated that the world "is more dangerous than it has ever been." [2] Japanese Prime Minister Shinzo Abe clearly shares General Dempsey's perspective and has started a process to transform the Japanese Defense Forces in response to this environment. As stated in the Japanese 2014 Defense White Paper, the global security environment has become "increasingly severe, being encompassed by various challenges and destabilizing factors, which are becoming more tangible and acute." [3]

This is further emphasized by NATO Secretary General Jens Stoltenburg, "We need a collective defence where Allied forces are more ready to deploy and better able to reinforce each other. Faster. Sharper. And more mobile. We must be able to deter any threat, from any direction. Including hybrid warfare, and attacks that are aimed at our infrastructure - our economies - and our open societies. This requires resolve. And resources." [4]

Challenges vary substantially

In order to address this complex and dynamic threat environment, defense ministries around the world must adapt their operating concepts, acquire advanced capabilities, and transform their business processes to create more agile and effective organizations. The challenges facing the world's many defense organizations, however, are not uniform.

> *The security challenges confronting national defense organizations are both complex and dynamic. Nations around the globe are facing a myriad of threats that vary greatly in both scope and scale and are transforming the global defense landscape.*

In many Western nations, budgetary challenges are putting downward pressure on defense spending. Faced with significant and growing entitlement costs, sluggish economic growth, and weariness after over a decade of overseas operations in Afghanistan and Iraq, defense budgets for many North Atlantic Treaty Organization (NATO) Allies and partners have dropped substantially in recent years. Despite aggressive moves to cut overhead costs and efforts to operate with like-minded nations in coalitions, many of these nations continue to struggle to modernize outdated systems and maintain readiness as the security environment facing ministries continues to become more uncertain.

Other nations face different challenges that are no less complex. Some, like Syria and Ukraine, face existential security threats that are driving their defense priorities. Other states, such as Japan and Poland, are being confronted by an aggressive China or revanchist Russia, respectively. In the Middle East, the Gulf states such as Saudi Arabia, the United Arab Emirates (UAE), Kuwait, Oman, Qatar and Bahrain, are in the center of a regional neighborhood whose stability has been decreasing in recent years.

Overt challenges from Iran including potential nuclear proliferation, instability in neighboring nations (e.g. Yemen, Syria, and Iraq), compounded by declining oil prices, are having a major impact on internal and regional stability. Finally, some other nations, such as Brazil and India, are using defense investments to bolster their respective defense industrial bases and to help create more indigenous capability for the development of technology that supports national security and national prestige.

Ministries left with difficult choices

The depth and breadth of these current security challenges leave defense leaders with some tough choices:

- What **institutional reform** initiatives are needed to posture their ministries for the future? Are they focused on building up the capacity of their defense institutions to meet their security objectives, and/or are they focused on cutting overhead and personnel expenses to reduce costs without harming effectiveness?
- How do they address the mandate for greater **organizational agility** in order to address a wider range of threats (strategic nuclear, conventional, terror, cyber, etc.)? How do they make trade-offs to counter new and emerging threats such as cyber warfare without sacrificing conventional capabilities needed for more traditional missions?
- What **procurement priorities** are needed for the coming years? Are they investing in advanced capabilities to create more power projection capability or are they focused on maintaining the capability levels of their current forces? How should logistics systems be adapted to provide more efficient and effective operational support to military forces?
- How should they cooperate with allies and partners around the world? Should they be primarily focused on their territorial security or should they be actively involved in coalition operations in support of regional or global security interests?
- What should be the priorities for their domestic industrial base? Should they be focused principally on building up their domestic defense production capacity and/or should they seek to become an exporter of defense technology to key allies and partners? How should they collaborate with the Armed Forces to increase efficiency and reduce costs?

How nations address these and other questions will have a profound impact on the level of global stability that will emerge from this challenging environment.

A New Global Defense Map

Replacing Geography with "Prioritization and Posture"

While regional analysis is the traditional method for examining global defense trends,[5] these analyses tend to focus on trends in specific geographic areas and therefore can miss crosscutting trends that span across numerous geographic regions.

This paper constructs a new way to examine these trends through a "defense map" focused on categorizing and analyzing nations with respect to how they both "prioritize" and "posture" their armed forces on a relative global scale.

This analysis demonstrates that defense organizations with similar levels of defense prioritization and security posture face common challenges and constraints, whether or not they reside in the same geographic region. Analyzing nations using this new defense map allows for more relevant comparisons and it suggests that "best" and "next" practices for modern defense organizations are not bound by traditional geographic alignments.

Nations chosen for analysis

For this report, we selected 60 nations from geographic regions around the world, specifically:

- **Americas:** Argentina, Brazil, Canada, Colombia, Chile, Mexico, United States, Venezuela
- **Europe:** Austria, Belgium, Croatia, Denmark, Estonia, Finland, France, Germany, Greece, Italy, Latvia, Lithuania, the Netherlands, Norway, Poland, Portugal, Russia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom
- **Middle East and Africa:** Algeria, Angola, Bahrain, Egypt, Iran, Iraq, Israel, Kuwait, Morocco, Oman, Qatar, Saudi Arabia, South Africa, Syria, United Arab Emirates
- **Asia Pacific:** Australia, China, India, Indonesia, Japan, Malaysia, New Zealand, Pakistan, Philippines, Singapore, South Korea, Taiwan, Thailand, Vietnam

These 60 nations include the world's top 50 defense-spending nations plus some additional strategically important nations, with lower levels of defense spend (e.g. the Baltic States, Bahrain, the Philippines, Qatar and Vietnam).

Approach

We used the deep knowledge and experience of PwC's Global Government Defense Network as well as publicly available resources to collect data and develop insights on the progress made by these defense organizations at adapting to their respective challenges. Using this information, we measured these nations against two metrics:
1) **Defense Prioritization** - how they prioritize defense spending and
2) **Security Posture** - how they position themselves in the global security environment.

Defense prioritization

Defense spending is the first order measure of how much a nation prioritizes their national security. This total spend is important, but it does not adequately measure the respective prioritization of defense to each nation. To assess prioritization, the traditional measure is to look at the percentage of Gross Domestic Product (GDP) that a nation spends on defense. In NATO, for example, spending 2% of GDP has been the desired benchmark goal for Alliance members. NATO Allies recently reaffirmed this goal in the 2014 Wales Summit Declaration.[6]

In addition to current spending levels, it is also important to look at recent and expected future trends. Some nations, for example, are coping with fiscal challenges that are impacting governmental resources for defense while others are aggressively increasing their level of spending to face current or expected security threats. Assessing the growth of defense spending over the past five years and the combined annual growth rate (CAGR) of each nation, for instance, gives a good sense of where a nation's defense spending has been, and where it is heading.

Security posture

Each nation's security posture is also critical to understanding its defense priorities. A nation uses its posture to increase its influence and build security relationships in a region or around the world. Two principal measures are helpful in measuring a nation's security posture: 1) the degree to which a nation deploys its air and ground forces outside its national boundaries, and 2) the amount of military equipment that a nation sells or leases.

The willingness of a nation to deploy its forces beyond its borders demonstrates the importance of a specific security priority. Some nations do this for principally national interests, such as the deployment of Turkish forces in Cyprus, Russian forces in Abkhazia and South Ossetia, and French forces in Sub-Saharan Africa. Other nations deploy forces to participate in United Nations (UN) peacekeeping operations or to participate in larger coalition operations such as those in Afghanistan or, previously, in Iraq.

In addition to deployed ground forces, some operations, such as Operation Inherent Resolve (OIR) against the Islamic State of Iraq and the Levant (ISIL) in Iraq and Syria and the recent Saudi-led Operation Decisive Storm (ODS) against rebels in Yemen, are principally air-focused. Nations contribute to these operations through contributions of air strikes, air support and provision of bases for operations.

Arms transfers are another tool that some nations employ to augment their security posture. The sale or lease of military equipment and services to other nations helps to gain influence, improve interoperability and enhance the capacity of allies and partners around the world.

A New Global Defense Map

Charting the 60 nations above against **prioritization** and **posture** results in the defense map illustrated in Figure 1. The map distributes nations within six fairly distinct segments based on common defense prioritization and security posture scores. The six sub-sections are described as follows:

Global Power Projectors: *The United States and Russia*. These two nations alone spend greater than 3% of their GDP on defense and are very engaged in security efforts around the world. These nations seek to use their military capabilities and security posture to influence global security issues. Their defense organizations are very large and mature. Although not necessarily nimble, these organizations are capable of deploying forces, managing large complex procurements, and, at least in the case of the United States, conducting a large scale operations around the world.

Despite a 20% drop over the past five years, the United States still has the world's largest defense budget by a wide margin although Russia is aggressively increasing its proportion of defense spend after two decades of post-Cold War decline. They are the world's two largest defense exporters and have been for many years. These nations, however, do differ dramatically in how they deploy their forces. The United States leads major coalition operations, most recently in Afghanistan and against the Islamic State in Iraq and the Levant (ISIL), and has a large number of forces forward deployed in bases across the globe. Russia, on the other hand, does not participate in coalition operations and has deployed its forces in breakaway regions of neighboring nations such Abkhazia in Georgia and Crimea in Ukraine.

Constrained Force Projectors: *Australia, China, France and the United Kingdom*. These four nations spend between 1.5% and 3% of their GDP on defense and are very engaged in security efforts around the world. These nations are among the world's largest defense-spending nations, who prioritize high-end defense capabilities and have militaries that can deploy or exert their influence in most regions of the world. They all either play leading roles in coalition operations, conduct a significant amount of international arms transfers, or both. These nations have strong defense organizations that can selectively deploy forces to key regions around the world and manufacture and integrate complex weapons systems. But, with the exception of China, they are also aggressively looking for ways to reduce costs and increase efficiencies in these times of significant fiscal constraints.

Across the segment, these four nations spent a total of over $300 billion on defense during 2014, an average of 2.1% of GDP. Although total segment spending grew 15% from 2010 to 2014, the 40% growth in Chinese spend accounts for all this increase as spending declined or was flat in the other nations. All of the Constrained Force Projectors remain very active in the global security environment, but in different ways. Australia, France and the UK play leading roles in the coalition operations around the world and deploy substantial proportions of their forces in support of these, and other, security interests. China, on the other hand, does not deploy its forces overseas, but has been growing its defense exports to build relationships around the world.

Coalition Partners: *Canada, Germany, Italy, the Netherlands, Spain and Sweden*. These six nations spend less than 1.5% of their GDP on defense, but they are very engaged in security efforts around the world. While these nations have modest defense budgets, they readily contribute to United Nations peacekeeping and multilateral coalition operations around the world. Except for Sweden, these nations are all NATO allies who have a strong track record of operating together. While they seldom lead these activities, the Coalition Partners are critical participants in the global security environment and have credible military forces. The defense organizations in these countries are modest, but mature and very capable. They deploy forces regularly, but they have struggled in recent years to maintain readiness as defense budgets have shrunk across the segment.

The Coalition Partners segment accounted for just over $125 billion in defense spending during 2014, at an average of 1.2% of GDP. These nations, with the exception of Sweden, all saw a significant decline in their defense spending over the past five years - almost 13% in total. While these nations have modest defense budgets, they readily contribute to United Nations peacekeeping and multilateral coalition operations around the world. They seldom lead these activities, but the Coalition Partner nations are critical participants and have credible military forces.

Robust Self-Defenders: *Angola, Algeria, Bahrain, Colombia, Iraq, Israel, Kuwait, Morocco, Oman, Pakistan, Saudi Arabia, Singapore, Syria, Ukraine and the United Arab Emirates (UAE)*. These fifteen nations spend greater than 3% of their GDP on defense, but are more focused on security efforts in their immediate geographic region. Because of internal or immediate regional threats, these nations have developed military capabilities centered on directly and aggressively countering those challenges. They generally do not get involved in UN or multilateral coalition operations except when addressing nearby security concerns. The defense organizations in this segment vary, but the majority of them have mature, though modest, ministries of defense. Highly robust defense organizations in Israel, Pakistan and Singapore stand out as exceptions.

During 2014, this segment accounted for almost $200 billion of defense spending. With the exception of Israel and Singapore, these nations have seen significant growth in the past five years, with Angola, Algeria, Bahrain, Oman, Saudi Arabia and Ukraine growing more than 30%. The preponderance of the Robust Self-Defenders are in the Middle East and virtually all of the nations are expected to have significant defense spending in the next five years. The 1.4% compound annual growth rate (CAGR) for the entire segment reflects that trend. The Robust Self-Defenders are generally focused on security interests in their immediate vicinity and rarely participate in UN peacekeeping or coalition operations. The two more outwardly focused nations in this segment, Israel and Ukraine, are substantial arms exporters.

Threat-Focused Self-Defenders: *Chile, Croatia, Egypt, Estonia, Greece, India, Iran, Malaysia, Portugal, Poland, Qatar, South Korea, Taiwan, Thailand, Turkey and Vietnam*. These sixteen nations spend between 1.5% and 3% of their GDP on defense and are more focused on security efforts in their immediate geographic area. Many of these nations participate in UN peacekeeping or multilateral coalition operations to help build relationships with allies and partners, but the focus of their spending is on countering a specific threat emanating from a single nation. These nations have generally capable defense organizations that are able to prepare, train and equip their respective military forces to confront immediate security threats, but they do not typically deploy a large number of forces around the world.

This segment spent nearly $170 billion on defense in 2014, averaging 2% of GDP. With the exceptions of Croatia, Egypt, Greece and Portugal, these nations all saw substantial increase in their defense spending over 2010-2014 and are expected to continue that trend in the coming five years. The majority of nations in the segment are focused on security issues in their immediate vicinity, but there are some interesting exceptions to this trend. Poland, for example, has invested heavily in its participation in coalition operations to strengthen its position in NATO against perceived security threats to its East. South Korea and Turkey, meanwhile, have modestly contributed to coalition operations in recent years, but are emerging defense exporters and, in the case of Turkey, have a significant amount of forces deployed in Cyprus.

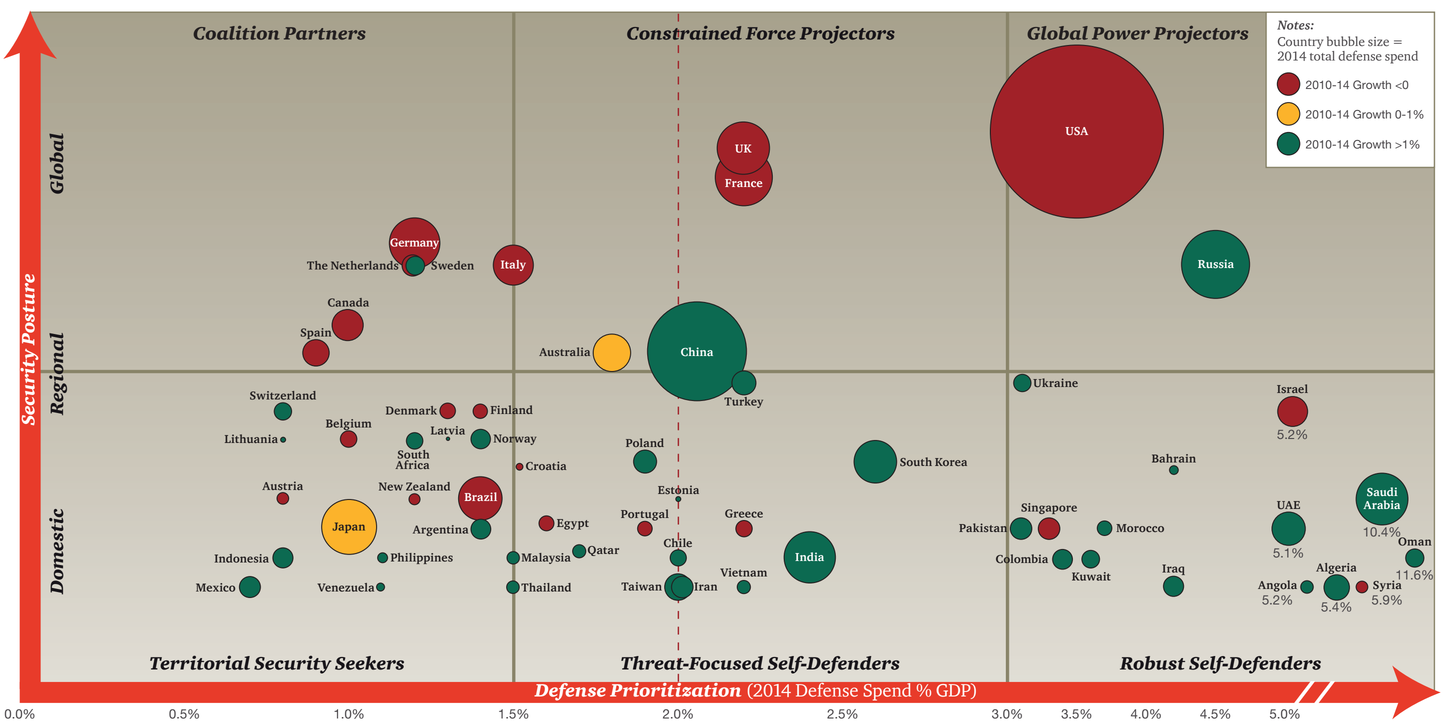
Territorial Security Seekers: *Argentina, Austria, Belgium, Brazil, Denmark, Finland, Indonesia, Japan, Latvia, Lithuania, Mexico, New Zealand, Norway, the Philippines, South Africa, Switzerland and Venezuela*. These seventeen nations spend less than 1.5% of their GDP on defense and are more focused on security efforts in their immediate geographic area. These nations spend modestly on defense, but many contribute to UN peacekeeping operations or multilateral coalition operations in some fashion. Most of the nations have mature, though modest, defense organizations focused on preparing their forces to confront internal and nearby external security challenges.

The Territorial Security Seekers segment spent over $160 billion on defense in 2014, averaging 1.1% of GDP. Brazil and Japan are by far the largest spenders in this segment, comprising over half of the segment's defense spend, but neither has grown its defense spending in the past five years. Looking forward, though, Brazil is expected to have a modestly positive CAGR and Japan is making significant efforts to adapt its military forces in the coming years. Indonesia, Mexico, South Africa and Switzerland each saw over 10% growth in their respective defense spend since 2010 and are expected to continue to grow in the coming five years at a more modest pace.

The Territorial Security Seekers vary in their security posture. Some of the NATO allies, such as Belgium, Denmark, Latvia and Lithuania, for example, are very focused on increasing their security posture through coalition deployments to gain stature above their budgetary levels. Others like Brazil, Mexico and the Philippines, on the other hand, are focused on immediate regional and/or domestic security interests.

Subsequent chapters explore each of these major segments in depth along with key country profiles.

Figure 1: A New Global Defense Map



Security Posture

- Does the country have a global, regional or domestic security orientation?

Defense Prioritization

- How much does the country spend: total and % GDP?
- Recent trends and expected future vector: upward, flat or down?

Source: SIPRI, Teal Group International Defense Briefing, The Military Balance, IHS Defense Budgets, PwC analysis.

Global Power Projectors

The Global Power Projectors are those nations that spend more than 3% of their GDP on defense and have a globally oriented security posture. These nations seek to use their military capabilities and security posture to influence security issues around the world. Their defense organizations are very large and mature. Although not necessarily nimble, these organizations are capable of deploying forces, managing large complex procurements and, at least in the case of the United States, conducting large scale operations around the world.

The United States and Russia are the only two Global Power Projectors among the nations we examined. In terms of defense prioritization, these two nations alone spend more than 3% of their GDP on defense and maintain a global security posture. The United States has the world's largest defense budget by a wide margin although Russia is aggressively increasing its proportion of defense spend after two decades of post-Cold War decline. In 2014, Russian defense spend was less than a fifth of that of the United States.

However, these nations appear to be heading in opposite directions in their positioning on the Global Defense Map - with U.S. defense spending having declined almost 20% in the previous five years while Russia's defense outlays have increased by almost 40% over the same period. Both nations are expected to have relatively flat spending levels over the coming five years, though, as the decline in U.S. defense spending appears to have bottomed out while the drop in oil prices and Western sanctions have created significant financial pressures in Russia.

In terms of security posture, the United States and Russia are very active militarily around the world. They, for example, are the world's two largest defense exporters and have been for many years. Russia has made a successful effort to increase its defense exports in recent years, but its 2010-2014 arms transfers were 15% lower than the United States.

These nations, however, do differ dramatically in how they posture their forces around the world. The United States leads major coalition operations in Afghanistan and against ISIL in Iraq and Syria and has a large number of forces forward deployed in bases across the globe. Russia, on the other hand, does not participate in coalition operations and has long-running military deployments in breakaway regions of neighboring nations such as Abkhazia and South Ossetia. Moreover, Russia is supporting separatist forces in Ukraine, as well as conducting more visible air and maritime patrols around Sweden and the UK.[7]

The United States

The United States is the world's biggest spender on defense by a wide margin. Even though U.S. defense spending has declined by nearly twenty per cent in the past five years, the United States still accounts for over 34% of the world's total defense spending. In addition, according to the SIPRI Military Expenditures Database (SIPRI) analysis of worldwide military expenditures, U.S. spending is higher than the combined defense outlays of the seven next highest spending nations.[8] The budgetary situation continues to remain unstable, however. While the 2014 Bipartisian Budget Act temporarily reduced the effects of sequestration under the Budget Control Act, a significant amount of uncertainty remains.

Although U.S. combat forces have withdrawn from Iraq and are drawing down in Afghanistan, the United States still maintains a very extensive global security posture. This posture includes a significant overseas presence leading significant coalition operations in Afghanistan and against ISIL forces in Iraq and Syria, with 11% of its forces deployed in 2014.

Table 1: U.S. snapshot[9]

2014 defense spend ($ Billion)	Defense Prioritization (% GDP)	Growth 2010-2014	CAGR 2015-2020	Security Posture
577.5	3.5%	-19.8%	0.4%	10

Priorities and Challenges

Institutional Reform

Continuing budget pressures have led the U.S. Department of Defense (DoD) to look aggressively for efficiencies in how DoD conducts its business. Starting with former Defense Secretary Robert Gates' 2010 efficiencies initiative to reduce "overhead, duplication, and excess" [10] in the Department, DoD leaders have been searching for ways to get more out of the defense dollar for some time.

The Department has undertaken, or proposed, a significant number of initiatives designed to make DoD more effective and efficient in how it makes decisions and conducts the business of defense. The intent of these efforts, as articulated in one late 2013 decision memorandum by then Secretary of Defense Chuck Hagel, is to reduce the size of DoD headquarters organizations, "consolidate duplicative or overlapping functions, and strengthen department-wide management functions." [11] Another major effort to reduce DoD costs has focused on force reductions. U.S. active duty strength declined by 2.4% from 2010 to 2014 and an additional 12% of Army soldiers and 10% of Marines are slated to be cut by 2018.[12]

Procurement priorities

The United States slashed a number of major defense procurement programs in 2010 and 2011, but the investment budget has remained relatively stable since then and Procurement and Research, Development, Training, and Evaluation (RDT&E) funding is forecast to be relatively flat over the coming five years.

Recent procurement efforts have largely centered around protecting major programs and making improvements to the DoD acquisition system. Major programs currently being developed include the F-35 Lightning II fighter, the Air Force refueling tanker, the next generation bomber and the Joint Light Tactical Vehicle for the Army. DoD leaders have also launched what is being called the Third Offset Strategy, which is focused on developing a series of strategies to address the challenges of today's - as well as tomorrow's - security environment.[13]

Efforts to improve the acquisition system, a hardy perennial in DoD circles, have centered around a series of initiatives on Better Buying Power (BBP). BBP 1.0, 2.0 and 3.0 have been released over the past five years with focus areas on topics such as achieving affordable programs, cost control, promoting effective competition and improving acquisition tradecraft.[14] Representative Mac Thornberry, the Chairman of the House Armed Services Committee, recently announced a legislative initiative aimed at improved DoD acquisition practices as well.[15]

We're not going to be able to pick out one specific strategy that will be good for all potential adversaries and all potential capabilities. It has to be much more, much more innovative and agile.

Dr. Robert Work
U.S. Deputy Secretary of Defense
January 28, 2015

Cooperative efforts

The United States has been focused on improving its collaborative efforts with allies and partners in recent years. It is leading, for example, the largest multinational defense program in history, the F-35 Lightning II fighter.

While that program has been under development for well over a decade, there have also been a number of more recent efforts to improve how U.S. forces collaborate and share technology with key allies and partners. Starting in 2009, the Obama Administration's Export Control Reform initiative has sought to respond to concerns that the U.S. export control system is overly complicated, contains too many redundancies and, in trying to protect too much, diminishes the U.S. government's focus on critical national security priorities.

In a major speech in 2010, former Secretary Gates argued that, given these concerns, U.S. export controls should be reformed by creating a single list of controlled items. Instead of the current split between the State Department's U.S. Munitions List (USML) and the Commerce Department's Commerce Control List (CCL), the proposal is to create a single licensing entity, a single export enforcement coordination agency and a single information technology infrastructure.[16]

The Administration has made significant progress on several of these fronts, as the Administration has revised 15 of the 21 categories on the USML, and has created a major new license exception for CCL exports to close U.S. allies. On a related front, Vice Admiral Joseph Rixey, the Director of the Defense Security Cooperation Agency (DSCA), recently articulated DSCA's Vision 2020, which is focused on internal efforts to help improve how the security cooperation community works "to better achieve U.S. national security and foreign policy objectives." [17]

Industrial base

The 20% cut in defense spending over the past three years, and continuing uncertainty about the defense budget situation, has led to significant disruptions in the industrial base, such as:

- the right-sizing of companies through significant trimming of overhead staff, including significant engineering and other important talent;
- mergers and consolidations among smaller and mid-tier defense companies; and
- substantial trimming of research and development (R&D) in the private sector.

To help strengthen the DoD-industry relationship, particularly with non-traditional defense suppliers, DoD leaders launched the Defense Innovation Initiative (DII) in late 2014.[18] Buttressed by Secretary of Defense Ashton Carter's recent visit to Silicon Valley, the Department is making a concerted effort to increase opportunities for the application of commercially derived technologies for military use.[19]

Russia

Key Defense Categories

Russia is working to recover its defense strength after years of post-Cold War neglect and is aggressively building up its defense capabilities. Russian defense spending has increased significantly over the past five years, growing almost 40% since 2010. This trend was expected to continue going forward, but the Russian budget is under pressure because of the major drop in oil prices and the impact of Western sanctions. This has created significant economic turbulence throughout Russia and previously planned increases in defense spending are being reduced.

The Russian security posture has similarly become more externally focused in recent years. In addition to long-standing deployments in breakaway regions from Georgia, Russia moved in 2014 to retake Crimea from Ukraine and its role in Eastern Ukraine has led to sanctions from many Western nations, even though these actions received strong support in Russia itself. Russia has also aggressively worked to extend its influence through increased exports of defense technology, as discussed below.

Priorities and Challenges

Institutional Reform

The Russian government is in the process of a multiyear effort to reform the structure of its military forces. One of the major components of this reform has been to reorganize the Russian forces towards a more professionally manned structure that is postured to face the nation's security challenges in the coming years.

Organizationally, the Ministry of Defense directed major changes in the command structure of forces, including the creation of four unified strategic commands that would help Russian forces to fight smaller conflicts compared to the Cold War-era military districts that formed the basis for

Table 2: Russia snapshot[20]

2014 defense spend ($ Billion)	Defense Prioritization (% GDP)	Growth 2010-2014	CAGR 2015-2020	Security Posture
91.7	4.5%	39.3%	0.1	7.5

the large frontal conflicts expected during that time. The performance of Russian units in the military and political annexation of Crimea during 2014 and currently in Eastern Ukraine has demonstrated some of the benefits of these efforts.[21]

In addition to this structural challenge, the Russian military faces a significant manpower shortage. Demographic shifts and other changes have led to a situation where approximately 25% of its active force billets are vacant.[22]

Procurement priorities

Another major component of the reform effort has been to reequip the Russian military, which largely continues to operate with equipment purchased at the end of the Cold War. The State Armaments Program to 2020, begun in 2008, set ambitious targets for the development and procurement of new major weapons systems such as the T-50 fifth-generation fighter, Unmanned Aerial Vehicles (UAVs), tanks, helicopters, military satellites, combat surface ships, ballistic missiles and submarines.

The impact of recent Western sanctions and the economic challenges caused by the drop in oil prices appear to have delayed some Russian purchases and near-term procurement priorities in support of military operations on the Ukrainian border. This may have an additional impact on longer-term procurement priorities.[23]

Cooperative efforts

Russian cooperative efforts have largely focused on increasing the sales of Russian military equipment to international partners. Rosoboronexport, the state-owned company responsible for defense exports, has been aggressively courting international customers in recent years. Russian arms transfers have grown substantially as a result, increasing by 37% between 2005-2009 and 2010-2014.

Russia is the world's second largest arms exporter after the United States, comprising 27% of the world's share of arms transfers.[24] In one case, Russia entered into an agreement with India in December 2014 committing to the joint development of a fifth-generation fighter. The two nations are also collaborating on the development of a multi-role transport aircraft and India is assembling 400 Russian helicopters annually under another agreement.[25]

Industrial base

The Russian defense industrial base has benefited significantly from the recent rise in defense exports, but the industry continues to struggle with production problems and the performance of many new systems has yet to be validated by Russian military forces.

Although the health of the Russian industrial base remains unclear, because of the general lack of transparency in the Russian economic sector, there appear to be a number of challenges for industry in the coming years. Ukraine, for instance, has suspended all military cooperation with Russia as the result of the takeover of Crimea and separatist military action in Eastern Ukraine. This is significant because the Ukrainian industry had been the principal supplier of engines for fixed- and rotary-wing aircraft for Russia and it is unclear how quickly Russia can create its own domestic capability in this area.[26]

> *Russia is a self-sufficient country. We will work within the foreign economic environment that has taken shape, develop domestic production and technology and act more decisively to carry out transformation. Pressure from outside, as has been the case on past occasions, will only consolidate our society.*
>
> **Vladimir Putin**
> Russian President
> October 24, 2014 [27]

Cybersecurity: An Emerging Security Priority for Nations Large and Small

Cybersecurity has become an area of increased emphasis in many defense ministries around the world. Nations are establishing military commands or defense organizations to focus on cyber threats. Over half of the 60 nations we examined, for example, have some kind of cyber emphasis within their respective governments. Many of these national cyber capabilities, moreover, have been created in the past several years.

For example:

- Chile: Cyber-security policies are coordinated at the MoD level and each service has a cyber-security organization within their security structure. The Ministry of Interior and Public Security (Internal Affairs) is currently developing a National Cyber Security Strategy.

- Poland: The government has a national Cyber Emergency Readiness Team (CERT) and is in the process of drafting a Polish cyber strategy. Poland is an active participant in international cyber exercises.

- India: The Defence Information Assurance and Research Agency has the lead on cyber-security-related issues for the armed services, although all services have their own cyber-security policies and CERT teams. There is also the potential that India may set up a Cyber Command.

- South Korea: South Korea established a Cyber Warfare Command Center in early 2010. In 2014, the Korea–US National Defense Cyber Cooperation Working Group, focused on policy, strategy, doctrine and training, held its first meeting. [28]

Above the national level, the NATO Cooperative Cyber Defense Center of Excellence (CCDCOE) is based in Tallinn, Estonia. Estonia proposed the idea of a NATO cyber defense center in 2007 after a series of cyber attacks brought down most Estonian websites during a period of tense relations with Russia. CCDCOE was formally established in 2008 and its mission is "to enhance the capability, cooperation, and information sharing among NATO, NATO countries, and partners in cyber defence by virtue of education, research and development, lessons learned, and consultation." [29]

Constrained Force Projectors

Key Defense Categories

The Constrained Force Projectors segment comprises those nations that spend between 1.5% and 3% of their GDP on defense and have a globally-oriented security posture. These nations are among the world's largest defense-spending nations, who prioritize high-end defense capabilities and have militaries that can deploy or exert their influence in most regions of the world. They all either play leading roles in coalition operations, conduct a significant amount of international arms transfers, or both.

These nations have strong defense organizations that can selectively deploy forces to key regions around the world, and manufacture and integrate complex weapons systems. But these organizations, with the exception of China, are also aggressively looking for ways to reduce costs and increase efficiencies in these times of significant fiscal constraints.

Across the Constrained Force Projectors segment, these four nations spent a total of over $300 billion on defense during 2014, an average of 2.1% of GDP. Although total segment spending grew 15% from 2010 to 2014, the 40% growth in Chinese spend accounts for almost all of this increase as defense spending in the UK and France declined and Australian spend increased less than 1% over the period. Looking out to 2020, Chinese growth is expected to continue while spending in the other three nations will stay flat.

All of the Constrained Force Projectors remain very active in the global security environment, but in different ways. Australia, France and the UK play leading roles in coalition operations around the world and deploy substantial proportions of their forces in support of these and other security interests.

China, on the other hand, does not deploy its forces overseas, but has been aggressively growing its defense exports to build relationships around the world. In fact, during the past five years, China has become the world's third largest exporter of major arms, comprising 5% of worldwide arms transfers, shipping military items to 35 nations, including Pakistan, Bangladesh and Venezuela.[31] The UK and France are also very large defense exporters, as discussed below.

Constrained Force Projectors

Segment average

2.1%
% GDP

15.0%
2010-2014 Growth

4.5%
2015-2020 CAGR

7.6
Security Posture

Table 3: Constrained Force Projectors snapshot[30]

Nation	2014 defense spend ($ Billion)	Defense Prioritization (% GDP)	Growth 2010-2014	CAGR 2015-2020	Security Posture
Australia	27.2	1.8%	0.7%	0.8%	6
China	191.0	2.1%	40.2%	8.2%	6
France	63.0	2.2%	-4.8%	0.1%	9
United Kingdom	54.9	2.2%	-12.7%	0.2%	9.5
Segment	**336.1**	**2.1%**	**15.0%**	**4.5%**	**7.6**

Priorities and Challenges

Institutional Reform

Facing increased fiscal pressures, growing government entitlement costs and a sense of war weariness after a decade plus of deployments, Australia, France and the UK have looked for ways to get more out of their flat or declining defense budgets. This has included initiatives focused on overhead reduction and force structure cuts, organizational transformation of supply chain and logistics, reduction of domestic and overseas bases, as well as rationalizing IT infrastructure.

At the same time, however, these nations have focused on maintaining operational readiness and are continuing to participate in coalition operations in the Middle East. However, in the context of different budget priorities, there is a need to keep the public engaged in this debate.

In China, on the other hand, slowing economic growth has not negatively impacted defense spending. On the contrary, all institutional defense reform efforts in China are focused on procurement, production and research and development initiatives as opposed to cost reduction.[32]

Procurement priorities

The Constrained Force Projectors have high-end capabilities and are therefore procuring systems such as unmanned aerial vehicles (UAVs), fifth-generation fighters, advanced ballistic missiles and major surface combatants.

China has focused its investment strategy around establishing an effective “anti-access, area denial” capability of anti-ship cruise missiles and is aggressively pouring money into research and development efforts to absorb and acquire foreign technology to support its investment priorities.[33] China also released four new prototypes of its J-20 fifth-generation fighter in 2014 and is moving closer to operational capability.[34]

The other nations in this segment are also focused on high-technology systems with Australia and the UK participating in the F-35 program. All three nations are working to acquire or integrate medium- and/or high-altitude UAVs into their militaries. The United Kingdom, furthermore, has transformed the way in which it purchases defense equipment by shifting its Defence Equipment and Support organization into a bespoke trading entity that is directed by the MoD and is supported by managed service providers focused on core business areas.[35]

The pace of investment in the segment, however, varies between China and the other three nations. China has increased the percentage of the defense spend that it devotes to investment to 21.4%, a substantial increase since 2010 and putting it on par with the other Constrained Force Projectors. Australia, France and the UK, conversely, have seen their defense investment spend decrease as they have slowed or cancelled major procurement programs over the past five years.[36]

… the job of government is to get the [defense investment] balance right, and the balance needs to shift more in favour of research, development and the future capabilities because otherwise we won’t be able to intervene in the ways that keep our country and our people safe.

David Cameron
UK Prime Minister
March 12, 2015 [37]

Cooperative efforts

Among the Constrained Force Projectors, Australia, France and the UK are heavily involved in collaborative efforts. Australia and the UK are F-35 partners and France and the UK are involved in the A400M military transport program that is being procured by a number of European nations. In addition, the UK and France have signed two major agreements since 2010 pledging cooperation in the development of medium altitude UAVs, nuclear weapons technology and other areas.[38]

Australia, France and the UK continue to be leaders in coalition operations, deploying troops and taking leading roles in security initiatives around the world. China, France and the UK, meanwhile, were among the top six nations in the world in arms transfers during 2010-2014. Each nation puts a significant emphasis on defense exports to improve relationships and to strengthen its respective defense industrial base. China has been especially aggressive in arms transfers in recent years and has become the world's third largest defense exporter after the United States and Russia.[39]

Industrial base

All of the Constrained Force Projectors have robust industrial bases. France, the UK and, on a somewhat smaller scale, Australia have numerous mature defense companies that have been involved in domestic and multinational defense programs for many years. These companies, however, are facing decreasing domestic demand and are therefore heavily focused on export markets such as the Middle East. China, on the other hand, produces nearly all of its weapons systems domestically, although it relies heavily on imported technology.

A Shifting Threat Environment
Public Validation in the UK

It is clear that the general public is keenly aware of the changing threat environment to which national defense organizations must respond. PwC recently conducted a survey in the UK that validates this perception. With instability on the rise in many parts of the world, and the ubiquity of smartphones, people have become more accustomed to seeing conflict – state and non-state – in mainstream and social media. At the same time, a prevailing climate of austerity across a number of countries has caused pressures on defense budgets, raising concerns about how well placed countries are to meet future threats. With these dynamics in play, how confident is the public in the Armed Forces to keep them safe?

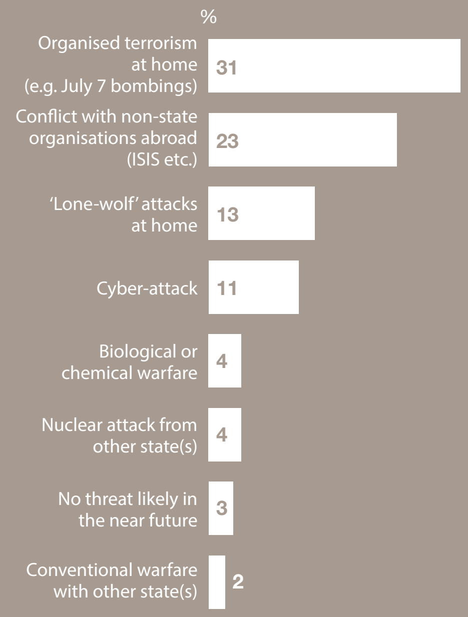
When asked their views on potential threats, and their confidence in the Armed Forces to anticipate and mitigate them, the UK respondents were fairly consistent in their concern over asymmetric adversaries. We asked the public what type of attack – if any – they saw as the biggest threat to the UK in the near future. As shown in Figure 2, only 3% of individuals answered that they thought no threat was likely in the near future.

Meanwhile, other responses shed light on a changing modern defence environment. More than half of the respondents (54%) thought terrorist and non-state groups constituted the biggest threat to the UK. Specifically, 31% thought organized terrorism at home (e.g. the July 7 bombings in London) was the biggest threat while around a quarter (23%) thought conflict with non-state organisations abroad (e.g. Islamic State, Taliban, Al-Qaeda) was the biggest direct threat to the UK.

While the public differentiated between domestic threats and those abroad, There is interplay between the two. For example, threats emerging from non-state organisations abroad can and are linked to threats within the UK. With almost one quarter of the respondents pointing to conflict with non-state organisations abroad as the biggest direct threat (and with threats of this nature indeed on the rise), it may be helpful to consider this dynamic as part of debate on the balance in future capability. Other significant perceived dangers were so-called 'lone wolf' attacks (13%) when the perpetrator had no specific links to any terrorist or non-state group (e.g. the murder of Lee Rigby, the mass shooting by Anders Breivik in Norway), and cyber-attacks (11%).

In recent months international tensions have seldom been far from the headlines, with our recent CEO survey [13] showing that 72% of Chief Executives are concerned that geopolitical uncertainty will impact the growth of their organisation. Despite this, very few people in the UK feel threatened by the prospect of state-on-state war: 4% thought the biggest threat to the UK in the near future was nuclear war, and just 2% conventional war with another state. These results show that the public is increasingly concerned by 'modern threats'.

Figure 2: What type of attack, if any, do you perceive as the biggest threat to the UK in the near future?



Base: 2,007. Don't know: 9%. Other: 1%
Source: Forces for Change, PwC, 2015

Coalition Partners

Key Defense Categories

Nations classified as Coalition Partners are those spending less than 1.5% of their GDP on defense, but have a globally-oriented security posture. While these nations have modest defense budgets, they readily contribute to United Nations peacekeeping and multilateral coalition operations around the world. Except for Sweden, these nations are all NATO allies who have a strong track record of operating together.

While they seldom lead these activities, the Coalition Partners are critical participants in the global security environment and have credible military forces. The defense organizations in these countries are modest, but mature and very capable. They deploy forces regularly, but they have struggled in recent years to maintain readiness as defense budgets have shrunk across the segment.

In terms of defense prioritization, the Coalition Partners segment accounted for just over $125 billion in defense spending during 2014, at an average of 1.2% of GDP. These nations, with the exception of Sweden, all saw a significant decline in their defense spending over the past five years - an average of almost 13% in total - and they are all forecast to have flat defense budgets in the coming five years.

Despite these budgetary challenges, the six nations in this segment have maintained a more globally-oriented security posture and are traditional coalition partners in NATO and other multilateral operations. These nations, for example, are all involved in current overseas coalition operations in Afghanistan or playing a major role in the air strikes against ISIL in Iraq even with their respective declines in defense spending and varying levels of domestic weariness with overseas military operations.[41]

Coalition Partners

Segment average

1.2%
% GDP

-12.6%
2010-2014 Growth

0.2%
2015-2020 CAGR

6.6
Security Posture

Table 4: Coalition Partners snapshot[40]

Nation	2014 defense spend ($ Billion)	Defense Prioritization (% GDP)	Growth 2010-2014	CAGR 2015-2020	Security Posture
Canada	18.4	1.0%	-10.9%	0.6%	6.5
Germany	46.6	1.2%	-6.0%	0.2%	8
Italy	31.0	1.5%	-20.2%	0.0%	7.5
The Netherlands	10.0	1.2%	-16.9%	0.3%	7.5
Spain	12.8	0.9%	-19.6%	0.1%	6
Sweden	6.9	1.2%	2.3%	0.5%	7.5
Segment	**125.8**	**1.2%**	**-12.6%**	**0.2%**	**6.6**

Priorities and Challenges

Institutional Reform

All of the Coalition Partners have turned their attention to institutional reform in recent years. Facing fiscal challenges, these nations have cut their defense budgets - significantly in several cases - and have undertaken numerous initiatives to stretch their defense spending.

Canada's Department of National Defense (DND), for example, is in the midst of its Defence Renewal initiative. The DND's objective in this effort "is to minimize inefficiency, streamline business processes and maximize the operational results we deliver for Canada and Canadians. It will focus on clear accountability and process improvements, while encouraging a stronger culture of innovation." [42]

Germany launched the "Bundeswehr Reform" in 2010, which aims at a comprehensive restructuring of the Bundeswehr (Federal Defense) spanning all operational, organizational and technological dimensions. This initiative has been important both to reduce costs and to redefine the mission and capabilities in line with the 2011 Verteidigungspolitische Richtlinien defense policy. Some of the major changes have included:

- the replacement of compulsory military service with a professionalized force;
- the reduction of Bundeswehr bases by approximately 10% in Germany;
- the reduction of active armed forces to 185,000 soldiers and Federal Defense staff to 55,000 civilians; and
- the reorganization of administrative activities (HR, IT, infrastructure, etc.).

Although this initiative continues, the general perception is that the professionalism of Bundeswehr forces has increased since its launch.[43]

Italy has faced similar challenges, but is particularly hamstrung by its high personnel costs (71% of total defense spend in 2014). To address this imbalance, and other issues, the Italian MoD drafted its first defense white paper in thirteen years. This much anticipated white paper, presented to Italy's Supreme Defense Council, makes a series of recommendations to improve the stability of defense budgeting and confirms the target size of Italian armed forces as 150,000, a 15% reduction from current force levels. While the white paper recommendations need to be implemented into changes in law, its general reception has been very positive. [44]

Procurement priorities

Procurement spending has suffered in recent years among the Coalition Partners as defense spending has dropped almost 13% over the past five years across the segment. These nations are downsizing main battle tanks and reorienting their forces towards deployable capabilities oriented for coalition or peacekeeping operations.

The one principal exception to that trend has been in fighter aircraft. All of the Coalition Partners except Spain are involved in major procurement programs for advanced fighters such as the F-35, Eurofighter Typhoon and the JAS 39E Gripen. These programs take up a preponderance of near-term procurement funds.[45]

There have also been some very recent commitments to increase defense spending by the Coalition Partners. In response to the 2014 Wales Summit Declaration and increasing security regional and domestic security threats, several of the Coalition Partners have revised their procurement or other budget upwards in recent months. Germany, for example, approved plans to increase defense spending by over six percent in five years to reform its military forces and commit to a "widened NATO engagement." [46]

It is unclear how much of an impact these declared increases will have, but much of their principal focus is on improving domestic or homeland security capabilities to combat terrorist attacks such as those that have taken place in France and Denmark.[47]

Cooperative efforts

All of the nations in this category are heavily involved in cooperative programs. From A400M to NATO C-17's Strategic Airlift Capability (SAC) to the F-35, these nations each participate in multilateral procurement and/or development programs to help reduce costs in their defense procurement efforts.

In NATO's SAC, for instance, the Netherlands and Sweden and eight other allies and partners have "pooled their resources to acquire special aircraft that will give the Alliance the capability to transport troops, equipment, and supplies across the globe." [49]

The Coalition Partners are also significant players in international arms transfers. Germany, Italy, and Spain are each in the world's top eight arms exporters from 2010 through 2014. Canada, the Netherlands, and Sweden also conduct a large number of arms transfers, each exporting over $1 billion in military equipment over the same period.[50]

Industrial base

All of the Coalition Partners have a number of domestically based defense companies, including traditional national champions like Finmeccanica and Saab, but also established smaller players. Many of these and other European defense companies are tied together through an overlapping series of multinational joint ventures and partnerships.

There is a strong consensus across the aerospace and defense community that there is excess industrial capacity in these and other European nations. But in recent years, as home market demand has declined, companies have generally scaled back production and focused on export markets rather than pursue divestitures or acquisitions to reshape portfolios. Decisive actions by the CEOs of Airbus and Finmeccanica to streamline their respective corporate holdings, however, could reflect an emerging trend that would lead to an increase in mergers and acquisitions in the European defense market in the coming years.[51]

> *We'll have to shoulder higher spending on defense in the next few years given the various crises and instability in the world.*
>
> **Mr. Wolfgang Schäuble**
> German Finance Minister
> March, 2015 [48]

Sustainable Cost Reduction on the Path to Agility

Traditional paradigms in defense and security have addressed enhanced threat environments with bigger budgets, more people, more equipment and more infrastructure. To some extent this has been an effective strategy, but it is not one that is necessarily sustainable or well-suited to the emerging security environment which most nations, big and small, currently face.

Increasing budget pressures have exacerbated this demand for change as organizations have been forced to reduce spending dramatically even though the proliferation of security threats has proceeded unabated. These opposing dynamics will continue to raise significant questions about the future structures and capabilities of organizations.

One potential approach outlined in PwC's 2014 report, "Agile Defense: Sustainable Cost Reduction on the Path to Greater Agility," is focused on reinforcing the key threads of **agility** (Visibility, Velocity, Adaptability, Collaboration and Innovation) while achieving complementary improvements in five **key cost areas** (Human Capital, Infrastructure, Information Technology, Acquisition & Procurement and Supply Chain). Within each cost area, PwC identifies and examines proven techniques that provide the most promise for sustainable reductions.

If efforts to reduce costs in these areas are led by inspired leaders, and approached methodically with a keen sense for their impact on the characteristic threads of organizational agility, they can in fact accelerate change and lead ultimately to a more agile defense organization. Such efforts require focus and a relentless pursuit of cost reduction that enhances, rather than degrades, organizational agility.[52]

Key cost areas

Human Capital

- Manpower-Mission Alignment
- Capabilities Based Assessment and Workforce Analytics
- Blended Learning and Cross Training

Infrastructure

- Reliability Centred Maintenance
- Asset and IT Inventory Management
- Smart Grid, Facilities and Installations
- Joint Basing

Acquisition & Procurement

- Cost Estimation
- Priority-Based Budgeting
- Industrial Base Analytics
- Strategic Sourcing

Information Technology

- Prototyping and Agile Development
- Cyber and Information Assurance
- Business Intelligence
- Data Strategy and Optimization

Supply Chain and Logostics

- Best Value Maintenance
- Supply Chain Optimization
- Total Ownership Cost Reduction
- Burden Sharing

Robust Self-Defenders

Key Defense Categories

The Robust Self-Defenders are those nations that spend greater than 3% of their GDP on defense and have a more domestic or regionally focused security posture. Because of internal or immediate regional threats, these nations have developed military capabilities centered on directly and aggressively countering those challenges. They generally do not get involved in UN or multilateral coalition operations except when addressing nearby security concerns. The defense organizations in this segment vary, but the majority have mature though modest ministries. Robust defense organizations in Israel, Pakistan and Singapore stand out as exceptions.

Table 5: Robust Self-Defenders snapshot[53]

Nation	2014 defense spend ($ Billion)	Defense Prioritization (% GDP)	Growth 2010-2014	CAGR 2015-2020	Security Posture
Algeria	11.3	5.4%	86.8%	0.8%	2
Angola	5.6	5.2%	44.0%	2.3%	2
Bahrain	1.3	4.2%	57.1%	1.5%	4
Colombia	13.1	3.4%	18.0%	1.7%	2.5
Iraq	8.4	4.2%	121.2%	1.7%	2
Israel	15.3	5.2%	-3.5%	1.7%	5
Kuwait	5.1	3.6%	15.6%	1.6%	2.5
Morocco	4.0	3.7%	21.5%	0.6%	3
Oman	9.0	11.6%	76.4%	1.9%	2.5
Pakistan	7.8	3.1%	18.1%	0.7%	3
Saudi Arabia	73.7	10.4%	54.0%	1.7%	3.5
Singapore	9.1	3.3%	-1.2%	1.1%	3
Syria	3.2	5.9%	-18.5%	*	2
Ukraine	5.4	3.1%	35.3%	0.0%	5.5
UAE	21.9	5.1%	23.9%	1.1%	3
Segment	**194.2**	**5.2%**	**32.6%**	**1.4%**	**3.1**

* Too much uncertainty in Syria to develop a forecast

The Robust Self-Defenders segment is comprised of nine nations devoting over 3% of GDP towards defense. During 2014, this segment accounted for almost $200 billion of defense spending. With the exception of Israel and Singapore, these nations have seen significant defense spending growth in the past five years, with Angola, Algeria, Bahrain, Oman, Saudi Arabia and Ukraine growing more than 30%.

The preponderance of the Robust Self-Defenders are in the Middle East and North Africa and virtually all of the nations in this category are expected to continue with significant defense spending in the next five years. The 1.4% CAGR for the entire segment reflects that trend. Even Ukraine, whose defense forecast is flat, is likely to significantly increase spending given the existential threat posed by separatists in Crimea and Eastern Ukraine.

The Robust Self-Defenders are generally focused on security interests in their immediate vicinity and rarely participate in UN peacekeeping or large-scale coalition operations. Even the recent Operation Decisive Storm, in which many of the nations in this segment are participating, is focused on Yemen, an immediate neighbor of most of these nations. The two more outwardly focused nations in this segment, Israel and Ukraine, are substantial arms exporters.

Priorities and Challenges

Institutional Reform

The Robust Self-Defenders are generally focused on creating strong defense institutional capabilities rather than increasing efficiencies. As opposed to the cost-cutting initiatives or manpower reductions common in the Constrained Force Projectors and Coalition Partners segments, the Robust Self-Defenders are more focused on developing their institutional capability to integrate advanced weapons and systems into a true defense capability.

In the UAE, for example, the MoD is focused on developing the technical capability of the UAE workforce to effectively manage and deploy all of the advanced systems that the Emirates has purchased in recent years.[54] Pakistan, meanwhile, is planning to reorganize its operational command structure to improve decisionmaking and increase flexibility so its military is better able to address Pakistan's internal counter-terrorism challenges and its external tensions with India.[55]

Procurement priorities

The Robust Self-Defenders are making major investments in their defense capability portfolios across the board. The smaller ministries - Angola, Bahrain, Kuwait, Oman and Ukraine - have seen dramatic growth over the past five years and are expected to continue to invest in systems focused on integrated air and missile defense, 4th generation fighters, rotary wing aircraft and advanced armaments in the coming years.[56]

Among the larger ministries, Israel, Saudi Arabia and the UAE are continuing to invest in their air superiority capability. This is evidenced by the Israeli purchase of the F-35 and the 2010 Saudi Foreign Military Sales (FMS) agreement with the United States to purchase approximately 80 F-15 Strike Eagle aircraft and 132 UH-60 Black Hawk utility and AH-64 attack helicopters.[57]

Robust Self-Defenders

Segment average

5.2%

% GDP

32.6%

2010-2014 Growth

1.4%

2015-2020 CAGR

3.1

Security Posture

Colombia, Iraq, Pakistan and Ukraine have investment priorities which are spurred by ongoing and immediate domestic security threats. Almost all of Colombian defense investment, for example, has centered around capabilities to conduct internal long-running counter-drug and counter-insurgency campaigns.[58] Iraq's internal conflict with ISIL is similarly driving all defense investment.

With the United States and Western nations refusing to supply lethal capabilities to Ukraine, Kiev has turned to nations such as Poland and the UAE to gain much needed modern military equipment for its conflict with separatist forces in Eastern Ukraine.[59] Pakistan tries to balance its investment priorities between counter-terrorism capabilities needed in the Tribal Areas in the West of the nation and more conventional systems needed in the East to face security threats from India, but prioritization has favored the internal threat in recent years.[60]

Asset management is also becoming a major issue for Robust Self-Defenders and other nations as defense ministries sometimes struggle to maintain systems that have seen heavy operational use in recent years. In Colombia, for example, the MoD is working to ensure the readiness of helicopters purchased under Plan Colombia as the country slows their operational use as the internal security environment becomes more stable.[61]

Cooperative efforts

The Robust Self-Defenders are generally not driven by financial constraints to undertake cooperative development or procurement efforts so they seldom do so. Israel, for example, is not a F-35 partner nation, but decided to purchase the F-35 as a FMS customer. They therefore lost some of the benefit of proportional investments of shared development and production costs and must separately pay for allowable modifications to develop the F-35 configuration that best supports Israeli priorities.

Other Robust Self-Defenders have similar approaches to their investment and operational decisions. Iraq, Pakistan and Ukraine are exceptions to this trend, but much of the drive for their cooperative initiatives stems from the existential internal and external threats facing them at present.

Most of the Arab Robust Self-Defenders are members of the Gulf Cooperation Council (GCC) and work closely on defense issues. Recently, numerous nations in this segment and other members of the Arab League agreed to create a joint military force to address the crisis in Yemen and the threat of jihadists in Iraq and Syria. These nations have worked together, in particular in Yemen as part of the Saudi-led Operation Decisive Storm. All of these activities are focused on the Gulf region, which demonstrates the regional focus of these nations.

Although they have had productive cooperation with Egypt and Jordan on border security, Israeli cooperative activities are principally focused around arms transfers. Israel was the world's 10th largest exporter of military systems over 2010-2014 with almost half of those transfers going to India. With its Soviet-era legacy industrial capacity, Ukraine is also a major arms exporter, coming in just ahead of Israel over that period.[62]

Industrial base

While there is little industrial capacity in the smaller GCC nations like Oman and Qatar, many of the Robust Self-Defenders have substantial state-owned or state-controlled industrial interests. In Singapore, for example, efforts to manufacture or assemble defense systems inside its own borders are government policy and most of the major contractors are government controlled.

The UAE and other nations in this category are inviting foreign firms to organize local facilities or undertake joint ventures to satisfy offset obligations and build domestic industrial capacity through government-sponsored conglomerates such as the UAE's Tawazun Economic Council.

With a mix of state-owned and private firms, the Israeli industrial base is by far the strongest in the segment with an extensive weapons production capability and self-sufficiency in many areas.[63]

Because of internal or immediate regional threats, these nations have developed military capabilities centered on directly and aggressively countering those challenges.

Defense Ministerial Institutional Development

Several nations that we are examining are in the midst of major efforts to build up the institutional capability of their respective defense organizations. Brazil, India, Saudi Arabia and the UAE, for example, are undertaking significant initiatives to improve the effectiveness of their Ministries of Defense (MoDs) as they attempt to run complex acquisition competitions, build effective strategies to foster industrial capacity and develop more power projection capabilities for their military forces.

The biggest transformation, however, is occurring in Japan, where Prime Minister Abe is working to create a true MoD for the first time since the end of the Second World War. Among the changes the Abe government has undertaken include:

- The creation of a new National Security Strategy and revised National Defense Program Guidelines, which were both released in December 2013. These and other initiatives are focused on enabling the Japan Self-Defense Force to conduct “limited collective self-defense” activities as opposed to the more restrictive guidelines that had previously governed Japanese military activities.

- The proposed establishment of a Defense Procurement Agency that will streamline the individual procurement processes of the army, navy and air force and aggregate the role and responsibilities for procurement into a new procurement agency.

- The decision to revise a previous near total ban of the export of defense technology to facilitate increased cooperation with the United States, Australia and other close allies.[64]

These changes have been significant and remain controversial with the traditionally pacifist Japanese populace. In addition to maintaining a fine domestic political balance inside Japan, this transformation is going to require significant organizational and human capital changes within the Japanese MoD.[65]

Threat-Focused Self-Defenders

Key Defense Categories

The Threat-Focused Self-Defenders are those nations that spend between 1.5% and 3% of their GDP on defense and are mostly focused on a single nation-state threat in their geographic neighborhood. Many of these nations participate in UN peacekeeping or multilateral coalition operations to help build relationships with allies and partners, but the focus of their spending is on countering a specific threat emanating from a single nation. These nations have generally capable defense organizations that are able to prepare, train and equip their respective military forces to confront immediate security threats, but they do not typically deploy large number of forces around the world.

Table 6: Threat-Focused Self-Defenders snapshot[66]

Nation	2014 defense spend ($ Billion)	Defense Prioritization (% GDP)	Growth 2010-2014	CAGR 2015-2020	Security Posture
Chile	5.5	2.0%	8.1%	1.8%	2.5
Croatia	0.9	1.5%	-16.4%	-1.0%	4
Egypt	4.6	1.6%	-0.3%	0.6%	3
Estonia	0.5	2.0%	35.5%	3.4%	3.5
Greece	5.6	2.2%	-36.9%	0.0%	3
India	50.0	2.4%	1.7%	5.1%	2.5
Iran	7.8	2.0%	112.8%	0.4%	2
Malaysia	4.9	1.5%	17.6%	1.7%	2.5
Poland	10.7	1.9%	14.4%	1.1%	4
Portugal	4.3	1.9%	-16.8%	0.0%	3
Qatar	3.5	1.7%	50.9%	2.4%	2.5
South Korea	33.1	2.6%	10.8%	1.1%	4
Thailand	10.1	1.5%	2.3%	1.0%	2
Taiwan	5.7	2.0%	6.1%	1.7%	2
Turkey	18.0	2.2%	5.9%	0.7%	5.5
Vietnam	3.4	2.2%	24.6%	1.8%	2
Segment	**168.6**	**2.0%**	**6.2%**	**1.6%**	**3.1**

The Threat-Focused Self-Defenders segment is comprised of sixteen nations that spent nearly $170 billion in 2014, averaging 2% of GDP. With the exceptions of Croatia, Egypt, Greece and Portugal, these nations all saw substantial increases in their defense spending over 2010-2014 and are expected to continue that trend in the coming five years.

The security posture of the Threat-Focused Self-Defenders varies. The majority of nations in the segment are focused on security issues in their immediate vicinity, but there are some interesting exceptions to this trend. Poland, for example, has invested heavily in its participation in coalition operations to strengthen its position in NATO against perceived security threats to its East. South Korea and Turkey, meanwhile, have modestly contributed to coalition operations in recent years, but are emerging defense exporters and, in the case of Turkey, have a significant amount of forces deployed in Cyprus.

Threat-Focused Self-Defenders

Segment average

2.0%

% GDP

6.2%

2010-2014 Growth

1.6%

2015-2020 CAGR

3.1

Security Posture

Priorities and Challenges

Institutional Reform

Many of the Threat-Focused Self-Defenders, such as India, Poland and Qatar, are focused on developing the institutional capability of their ministries during periods of growth. The ultimately unsuccessful medium multi-role combat aircraft (MMCRA) competition, for example, helped demonstrate the major challenges that the Indian defense bureaucracy has in running a complex acquisition competition.[67]

Poland has similarly struggled to implement its highly ambitious technical modernization plan, to procure and integrate key programs focused on medium range air defenses, coastal defense and patrol vessels and multi-role helicopters. Only a small portion of planned funds have been put into use and continued delays could call into question the efficacy of the Polish plan.[68]

Portugal and Greece, meanwhile, are coping with dramatic budget cuts that are leading to reductions in force structure and infrastructure, but these cuts have not led to significant initiatives to change how those ministries function on a day-to-day basis.[69]

Procurement priorities

Major procurement initiatives are underway in India, Poland, Qatar, South Korea and Turkey. Poland, for instance, has allocated $30.5 billion to 14 modernization programs through to 2022 under its plan to strengthen territorial defense priorities given the growth of the perceived threat of Russian revanchism.[70]

Indian procurement plans are even more ambitious as the nation looks to replace outdated systems mostly purchased from Russia and the legacy Soviet Union. These plans extend well beyond MMCRA and include naval platforms such as submarines and aircraft carriers as well as tanks, combat vehicles and artillery.[71]

Although smaller in scale, Qatar is also aggressively acquiring new military capabilities, as evidenced by a 2012 $11 billion agreement with the United States to purchase Apache helicopters, Patriot and Stinger air-defense missiles and Javelin anti-tank missiles. Qatar has also agreed this year to purchase 24 Dassault Rafale fighters from France.[72]

South Korea, meanwhile, is a F-35 FMS customer and is purchasing 40 F-35A fighters as part of its FX combat-aircraft program. The Koreans are also pursuing several ambitious maritime programs and continuing to strengthen deterrent and defensive capabilities to respond to North Korean ballistic missile threats.[73]

Turkey is also a F-35 partner and, unexpectedly, chose a Chinese company to deliver its first long-range missile defense system. The Chinese selection in this $3.4 billion program has been extremely controversial with Turkey's NATO allies and it remains unclear how this situation will ultimately be resolved.[74]

Investment priorities in Pakistan and Syria, meanwhile, have naturally focused overwhelmingly on those capabilities needed in their respective internal conflicts.

Estonia has one of the smallest defense budgets of the nations that we examined ($500 million in 2014), but its modest procurement spending has increased by 60% in recent years as the perceived threat from Russia has increased. The Estonian defense ministry is mostly focused on building up the capability of the nation's police forces, but the MoD is also in discussions to buy anti-armor missiles and modest air defense systems from Western nations.[75]

Cooperative efforts

This segment's cooperative efforts are robust, but varied. South Korea and Turkey are F-35 partners. Egypt's close military partnership with the United States, on the other hand, has been in flux in the years since the 2011 Arab Spring. Under the Camp David accords, the United States had been providing over $1 billion of foreign military financing annually to Egypt. That financing was suspended in 2013, but the U.S. Congress recently approved the sale of a dozen F-16 fighters and numerous other arms to Egypt. It is unclear, however, whether the cooperative relationship will return completely to normal as Cairo is beginning to look to Russia, its former Cold War patron, for some of its future defense needs.[76]

The United States relationship with Taiwan has been similarly up and down in recent years, but for different reasons. Taiwan purchases a significant amount of U.S. military equipment and as a result of efforts to balance the sometimes tense relationships with China - both for the United States and within Taiwan - this has led to fits and starts or delays in many bilateral cooperative efforts.[77]

Estonia and Poland, meanwhile, are leaning heavily on their NATO membership to improve their strategic position. Poland, for example, has been an extremely strong contributor to NATO- and coalition-led operations in Afghanistan and Iraq, deploying over 1,000 troops per year on average over the past decade.[78] Poland is also closely cooperating with the United States on the deployment of ground-based missile defense interceptors.

Cooperative military training and other activities are increasing in the Baltics and Eastern Europe as well. Estonia held its largest military field exercise since its 1991 independence, Hedgehog 2015, with the United States in May, including over 13,000 troops. Estonia and the other Baltic States are also conducting joint training through their trilateral battalion, BALTBAT. Poland, meanwhile, is supporting Ukraine and the Baltic States through military training and other cooperative efforts.[79]

Industrial base

The industrial bases vary significantly across this segment. Croatia, Estonia, Qatar, Thailand and Vietnam have very modest defense domestic industrial capacity, while South Korea, Taiwan and Turkey have relatively strong defense industries.

Turkey, in particular, has worked to strengthen its indigenous manufacturing and production capability and this is starting to have a material impact. Whereas 25% of the parts in Turkish defense equipment were locally sourced in 2003, 60% were domestically produced in 2012.[80] Turkey also has a significant co-production role on the F-35 program focused on the center fuselage of the aircraft.[81]

Taiwan, meanwhile, developed its own defense industrial capacity in the mid-1970s as China became recognized around the world and continues to domestically produce most of the weapons systems that it does not purchase from the United States.[82]

In addition, India and Poland are working aggressively to develop their respective industrial capacities. In India, for instance, the government of Prime Minister Narenda Modi undertook a series of reforms in 2014 to streamline the industrial licensing of companies for defense purposes as well as to spur foreign direct investment. Achieving this objective has not been without challenges, however. Modi's "Make in India" campaign, in the words of a former MoD head of procurement, is a "laudable aim, but it's moving rather slowly," as evidenced by the fact that Indian companies have spurned $15 billion of defense tenders since 2013.[83]

In Poland, industrial participation has become a key selection criteria in defense competitions. An ambitious MoD initiative to consolidate over 30 state-owned firms under the Polish Armaments Group is underway, but the complexity of this integration has created a tremendous amount of uncertainly among both domestic players and foreign companies.[84]

Our security challenges are well known. Our international responsibilities are evident. We do need to increase our defence preparedness. We do have to modernize our defence forces. We have to equip ourselves for the needs of the future, where technology will play a major role.

Narenda Modi
Indian Prime Minister
April 10, 2015 [85]

A True Global Defense Program: F-35 Lightning II Sustainment and Support

The F-35 is the world's largest defense procurement program. The program currently has 9 partners and 3 FMS purchasers, with several potential additional buyers in future years:

For the United States alone, the program development and procurement costs for the F-35 have been estimated to be nearly $400 billion by the U.S. Government Accountability Office (GAO).[86] In the partner nations, there is a significant emphasis on industrial participation activities as nations look to offset procurement costs with economic opportunities for their respective defense industrial bases. These opportunities vary, from sub-contracting roles on the aircraft in all partner nations to in-country co-production of the center fuselage in Turkey to the robust Final Assembly and Check Out facility in Italy.[87]

The economic impact of these activities is significant. A 2008 analysis by PwC Netherlands, for instance, found that the F35 was expected to have an economic impact of over €16 billion over the life of the program in that nation.[88] A 2014 PwC Italy study estimated the economic benefit of the F-35 program to be almost $16 billion on the Italian economy over the course of the 2007-35 period.[89] A revised Australian government estimate rated Australian industry opportunities at between $AUS 2-4 billion during the F-35 development and production phases.[90]

While much of the worldwide media attention has focused on the total or per unit cost of the F-35 program, operational support and sustainment costs are expected to exceed production costs over the life of the program. One DoD estimate in 2012 put support and sustainment costs for the U.S. F-35 fleet at nearly $600 billion.[91] The F-35 Joint Program Office (JPO), prime contractor Lockheed Martin and international partners are starting to conduct similar analyses. In Australia, for example, the JPO has determined that an F-35 regional support facility will be required in the Asia Pacific, and the Australian company TAE has been selected recently to coordinate this work. BAE Systems Australia, meanwhile, has been selected to coordinate the depot maintenance of the F-35 airframe.[92] Suffice to say that F-35 sustainment and support opportunities are going to be significant in the coming years as most estimates predict over $1 trillion in sustainment costs over the aircraft's service life.

As evidenced by the tremendously successful F-16 franchise, it is very likely that the F-35 program will continue to grow in size as existing nations add to their fleets and as additional customers develop in the future. Nations such as Belgium, Singapore, Saudi Arabia and others could purchase the F-35 in time.

Table 7: F-35 Partner Nations and FMS Customers

Nation	Status	Source selection complete	Planned buy (including variants)	1st delivery
USA	Partner	Yes	2443 CTOL, STOVL, CV	2011
Australia	Partner	Yes	100 CTOL	2014
Canada	Partner	No	65 CTOL	TBD
Denmark	Partner	No	30 CTOL	TBD
Israel	FMS purchaser	Yes	33 CTOL	2016
Italy	Partner	Yes	90 CTOL & STOVL	2015
Japan	FMS purchaser	Yes	42 CTOL	2018
The Netherlands	Partner	Yes	37 CTOL	2013
Norway	Partner	Yes	52 CTOL	2015
South Korea	FMS purchaser	Yes	40 CTOL	2018
Turkey	Partner	Yes	100 CTOL	2015
UK	Partner	Yes	138 STOVL	2012

Territorial Security Seekers

Key Defense Categories

The Territorial Security Seekers are those counties that spend less than 1.5% of their GDP on defense and are focused on security efforts that maintain their territorial integrity within their immediate geographic environment. This segment is comprised of seventeen nations that span five continents.

These nations spend modestly on defense, but many contribute to UN peacekeeping operations or multilateral coalition operations in some fashion. Most of the nations have mature, though modest, defense organizations focused on preparing their forces to confront internal and nearby external security challenges.

The Territorial Security Seekers segment spent over $160 billion on defense in 2014, averaging 1.1% of GDP. Brazil and Japan are by far the largest spenders, comprising over half of the segment's defense spend, but neither nation has grown its defense spending in the past five years.

Table 8: Territorial Security Seekers snapshot[93]

Nation	2014 defense spend ($ Billion)	Defense Prioritization (% GDP)	Growth 2010-2014	CAGR 2015-2020	Security Posture
Argentina	6.1	1.4%	68.7%	0.3%	3
Austria	3.2	0.8%	-8.0%	0.2%	3.5
Belgium	5.2	1.0%	-8.9%	0.7%	4.5
Brazil	37.3	1.4%	-2.2%	1.2%	3.5
Denmark	4.5	1.3%	-7.4%	0.2%	5
Finland	3.6	1.4%	-1.9%	0.3%	5
Indonesia	8.1	0.8%	58.6%	1.0%	2.5
Japan	59.0	1.0%	0.1%	0.6%	3
Latvia	0.3	1.3%	7.1%	0.8%	4.5
Lithuania	0.4	0.8%	6.0%	0.7%	4.5
Mexico	8.3	0.7%	33.1%	0.7%	2
New Zealand	2.2	1.2%	-0.1%	0.6%	3.5
Norway	7.3	1.4%	2.3%	0.3%	4.5
Philippines	3.0	1.1%	14.4%	0.8%	2.5
South Africa	4.9	1.2%	10.6%	1.1%	4.5
Switzerland	5.4	0.8%	12.3%	0.9%	5
Venezuela	2.9	1.1%	14.5%	0.2%	2
Segment	**161.7**	**1.1%**	**4.8%**	**0.7%**	**3.7**

Looking forward, though, Brazil is expected to have a modestly positive CAGR and Japan is making significant efforts to adapt its military forces in the coming years. Indonesia, Mexico, South Africa and Switzerland each saw over 10% growth in their respective defense spend since 2010 and are expected to continue to grow in the coming five years at a more modest pace.

The Territorial Security Seekers vary in their security posture. Some of the NATO allies, such as Belgium, Denmark, Latvia and Lithuania, for example, are very focused on increasing security posture through coalition deployments to gain stature above their budgetary levels. Others like Brazil, Mexico and the Philippines on the other hand, are focused on immediate regional and/or domestic security interests.

Territorial Security Seekers

Segment average

1.1%
% GDP

4.8%
2010-2014 Growth

0.7%
2015-2020 CAGR

3.7
Security Posture

Priorities and Challenges

Institutional Reform

The institutional challenges vary across the Territorial Security Seekers. Japan faces one of the biggest set of challenges as the government of Prime Minister Shinzo Abe seeks to develop a formal MoD for the first time since Japan renounced armed forces with war potential following the Second World War. The release of its first National Security Strategy in late 2014, and the establishment of a National Security Council, were major first steps to create a more assertive security policy in light of increased Chinese aggression.

This has been a significant change for this traditionally pacifist nation and has met with a mixed reception by the Japanese public, which recognizes the increased threat environment but remains concerned about becoming too aggressive in its national security posture.[94] In comparison, Brazil has struggled to balance its desire to create power-projection capabilities in line with government aspirations while facing high personnel costs which consume around 70% of the defense budget.[95]

In some of the smaller nations in this segment, on the other hand, ministries in Austria, Belgium, Denmark, Finland, Norway and New Zealand are focused on cost reduction efforts to maintain institutional capabilities in light of fiscal challenges or to increase the amount spent on operational efforts as opposed to support functions and staff.

In New Zealand, for example, the MoD is focused on addressing the "business of defence" to:

- implement a sustainable funding path for New Zealand Defense Forces;
- improve the way the MoD deals with industry;
- deliver on the Defence Capability Plan; and
- implement organizational reform.

Elements of organizational reform have included major cost reduction initiatives and implementation of a centralized shared services support model.[96]

Procurement priorities

Numerous Territorial Security Seekers are recapitalizing their fighter aircraft fleet, with Japan and Norway buying the F-35, Brazil purchasing Saab's JAS-39 Gripen NG and Belgium and Denmark launching competitions for their next fighter.

Nations with smaller defense procurement budgets are focused on rotary-wing aircraft, ground or coastal marine capabilities. Latvia and Lithuania, for example, are focused on building up the capacity of their border guards with light artillery and anti-tank missile launchers as well as purchasing air-surveillance radars and building up coastal defenses.[97]

Argentina, Indonesia, Mexico, the Philippines, South Africa, Switzerland and Vietnam are also adding to their defense capabilities as their respective defense budgets have grown by double digits over the past five years. Indonesia in particular has seen its defense procurement increase by 123% over the past five years as it has focused its efforts on what it terms a Minimum Essential Force by 2029. Procurements planned and underway include medium helicopters, armed fighting vehicles and an ambitious plan to locally build new frigates for its navy.[98]

South Africa is similarly in the midst of an equipment modernization plan, which is focusing on maritime patrol vessels, aircraft, armored vehicles and surveillance and reconnaissance systems.[99] Mexican and Swiss procurements are concentrating on internal and border security, respectively. Light helicopters, surveillance aircraft and light armored vehicles, for instance, have been the priority for Mexican forces conducting counter-drug operations over the past several years. Swiss defense procurement is concentrating on reconnaissance drones and lightweight all-terrain vehicles.[100]

Philippine investment has focused on capabilities for countering low level insurgencies by the Abu Sayyaf and other groups. Recent increased tensions in the South China Sea, however, have started discussions about renewing a previously abandoned effort to purchase F-16s to assist with external defense.[101]

Cooperative efforts

Because of their focus on internal security and/or territorial defense, Brazil, Mexico, Switzerland and Venezuela are not heavily involved in cooperative procurement efforts or coalition operations. All of the other Territorial Security Seekers, however, rely heavily on international alliances and partners for their security interests. Half are NATO members or partners and both Japan and New Zealand are closely tied to the United States through mutual defense treaties.

In Japan, the Abe administration has taken several steps to reinterpret Article 9 of the Japanese Constitution that aims to facilitate greater international military cooperation for overseas peacekeeping and other operations.[102] This has been coupled with updated guidelines for U.S.-Japanese military cooperation, recently agreed upon by U.S. and Japanese defense and foreign ministers. Japanese Foreign Minister Fumio Kishida summarized the agreement when he noted, "Japan, in close cooperation with the United States, will continue to contribute even more proactively to ensuring peace, stability and prosperity of not only Japan but the Asia-Pacific region and the international community." [103]

The NATO partners in this segment have been active in peacekeeping and coalition operations in recent years. Most prominently, Denmark, Latvia and Lithuania have deployed over 2% of their active forces overseas for most of the past decade in support of coalition operations in Afghanistan and Iraq.[104]

Latvia and Lithuania, as well as the Scandinavian nations of Denmark, Finland and Norway in this segment, are particularly focused on collaborative initiatives to foster security in the face of renewed Russian aggression. Some of these initiatives, such as a common Baltic naval squadron - BALTRON and BALTBAT - have been around since the 1990s. Others, such as the joint Lithuanian, Poland and Ukrainian military brigade - the LITPOLUKRBRIG - have been established in the past year as Russian military activities have increased in Ukraine. Lithuania, moreover, has reinstated conscription for at least five years, joining Latvia and Estonia in that regard, and all the Baltic States are planning to increase their active forces as well as cross-border cooperation.[105]

Finland, traditionally neutral, has edged significantly closer to NATO in recent years, but there still is a healthy skepticism among the Finnish populace about joining the Alliance as well as concerns about the Russian reaction to such a move.[106] In Asia, the Philippines has started to increase its cooperation with the United States, signing an Enhanced Defense Cooperation Agreement in 2014 to boost rotational deployments of, and granting base access to, U.S. forces.

Industrial base

Throughout the segment, nations have limited defense industries that provide some domestic production or assembly capability in specific technology areas, but most major defense systems are bought abroad from suppliers in Western nations.

Brazil and Japan are both working to leverage their strong commercial industries and create greater domestic defense industrial capacity. Brazil has had mixed results in prior efforts in this regard, but Embraer has gained significant successes in recent years with its partnership to assemble Gripen aircraft in Brazil. Embraer has also made inroads into the U.S. market, winning the light-support Super Tucano aircraft in partnership with the U.S. Sierra Nevada Corporation in 2013.[107]

In Japan, the government is working to establish a defense export capability for the first time. Changing a near total ban on defense exports in place since 1976, the Abe Administration adopted "Three Principles of Defense Equipment Transfer," which is focused on strengthening the Japanese industrial base, creating opportunities for the joint development and export of defense technologies and spurring further cooperation with the United States and other close Japanese partners.[108]

> *Proactive contribution to peace based on the principle of international cooperation should lead Japan along its road for the future.*
>
> **Shinzo Abe**
> Japanese Prime Minister
> April 29, 2015 [109]

Concluding thoughts

Mapping defense prioritization and security posture creates a valuable framework for analyzing these sixty nations. The Defense Map's diversity reflects the variety of responses to the threats and challenges facing defense organizations around the world.

In addition to the segment profiles and characteristics outlined in this paper, a number of broader insights emerge that should be of interest to defense leaders around the world, and those who monitor them:

Expect Movement on the Map

There is a tremendous amount of growth in the lower half of the Map where 31 nations have seen significant recent growth that is expected to continue in the next five years. It will be interesting to see if and how countries like India, Japan, and Poland, for example, make efforts to increase their global security posture and move into the upper half of the Map over time. Conversely, persisting constraints on the Constrained Force Projectors may drive a shift down and left on the map for several nations in this category.

Global Players Under Severe Pressure

The preponderance of nations that have a globally oriented security posture are under significant budgetary pressure as evidenced by the fact that spending in ten of the twelve nations in the top half of the Map has declined or remained flat in the past five years. With generally flat defense spend CAGRs in these nations expected over the next five years, nations such as the United States, the UK, France, Australia and Canada will be hard pressed to maintain their robust level of global engagement in the coming years. To keep their current levels of security posture, these nations must prioritize readiness and training so that their forces can continue to conduct operational deployments as the security environment evolves. Moreover, these nations will face a difficult balance maintaining their technical edge in challenging fiscal environments.

Cost-Cutting Dominating Strategy

Institutional reform efforts focused on cost-cutting are a major emphasis among almost all of the nations that have a globally-oriented security posture. Global Power Projectors such as the United States, Constrained Force Projectors like the UK, and Coalition Partners such as Canada are all undertaking initiatives to increase efficiencies and reduce overhead or personnel expenses. These efforts are being accompanied by a mandate for greater cost-consciousness and accountability for defense assets. These nations are continuing to deploy forces and stay engaged in the world despite budget cuts in recent years so effective institutional reforms will be necessary for these nations to maintain their security posture in the future.

A Focus on Institutional and National Capacity

Furthermore, institutional reform efforts focused on capacity building are a priority principally in those nations in the lower half of the Map. Robust Self-Defenders such as the UAE, Threat-Focused Self-Defenders like India, and Territorial Self-Defenders such as Japan are less focused on efficiencies than on building the institutional capabilities of their respective ministries.

Collaboration in Procurement

Cooperative efforts were particularly prevalent among the nations that had lower levels of defense prioritization. Cooperative procurement efforts, for example, are much more prevalent among the Coalition Partners and the Territorial Self-Defenders than with the Robust Self-Defenders. That being said, the elevated costs of major weapons systems, such as the F-35, is driving broader international collaboration even among major defense spenders who have large budgets.

Asymmetric Threats and Cyber "Insecurity" Gain Prominence

Regardless of where a nation currently resides on the Map, vulnerabilities to asymmetric threats such as terrorism and cyber crime/attack are driving investment in new, non-traditional defensive and offensive capabilities. Such investment has profound implications for the nature of the future forces with respect to recruitment, training, career development and retention.

Appendix: Methodology

Approach

With the 60 nations, PwC developed a template to analyze their specific defense characteristics. This template had two principal sections that focused on:

- recent, current and anticipated defense spending trends; and
- the major investment, institutional, structural and strategic priorities and challenges impacting these nations

We used the insights of PwC's Global Government Defense Network as well as publicly available resources to populate the templates and develop insights on the progress made by these defense organizations in adapting to their respective challenges.

Using this information, we then measured these nations against two metrics: 1) **Prioritization** - how they prioritize defense spending and 2) **Posture** - how they posture themselves in the global security environment.

Defense prioritization

Defense spending is the first order measure of how much a nation prioritizes their national security. This total spend is important, but it does not adequately measure the respective prioritization of defense to each nation. To assess prioritization, the traditional measure is to look at the percentage of Gross Domestic Product (GDP) that a nation spends on defense.

In addition to current spending levels, it is also important to look at recent and expected future trends. Some nations, for example, are coping with fiscal challenges that are impacting governmental resources for defense while others are aggressively increasing their level of spending to face current or expected security threats. Assessing the growth of defense spending over the past five years and the combined annual growth rate (CAGR) of each nation, for instance, gives a good sense of where a nation's defense spending has been and where it is heading.

Ratings by nation

Table 9 illustrates the spending trends of the 60 nations in descending order of defense prioritization:

Table 9: Defense Prioritization by nation[110]

Nation	Defense prioritization (% GDP)	2014 Total spend (constant 2011, $ Billion)	Growth (2010-2014)	CAGR (2015-2020)
Oman	11.6%	9.0	76.4%	1.1
Saudi Arabia	10.4%	73.7	54.0%	1.7
Syria	5.9%	3.2	-18.5%	*
Algeria	5.4%	11.3	86.8%	0.8
Angola	5.2%	5.6	44.0%	2.3
Israel	5.2%	15.3	-3.5%	1.7
United Arab Emirates	5.1%	21.9	23.9%	1.1
Russia	4.5%	91.7	39.3%	0.1
Bahrain	4.2%	1.3	57.1%	1.5
Iraq	4.2%	8.4	121.2%	1.7
Morocco	3.7%	4.0	21.5%	0.6
Kuwait	3.6%	5.1	15.6%	1.6
United States	3.5%	577.5	-19.8%	0.4
Colombia	3.4%	13.1	18.0%	1.7
Singapore	3.3%	9.1	-1.2%	1.1
Pakistan	3.1%	7.8	18.1%	0.7
Ukraine	3.1%	5.4	34.3%	0.0
South Korea	2.6%	33.1	10.8%	1.1
India	2.4%	50.0	1.7%	5.1
France	2.2%	63.0	-4.8%	0.1
Greece	2.2%	5.6	-36.9%	0.0
Turkey	2.2%	18.0	5.9%	0.7
United Kingdom	2.2%	54.9	-12.7%	0.2
Vietnam	2.2%	3.6	24.6%	1.6
China	2.1%	191.0	40.2%	8.2
Chile	2.0%	5.5	8.1%	1.8
Estonia	2.0%	0.5	35.5%	3.4
Iran	2.0%	7.8	112.8%	0.4
Taiwan	2.0%	10.1	2.3%	1.7
Poland	1.9%	10.7	14.4%	1.1
Portugal	1.9%	4.3	-16.8%	0.0
Australia	1.8%	27.2	0.7%	0.8
Qatar	1.7%	3.5	50.9%	1.1
Egypt	1.6%	4.6	-0.3%	0.6
Croatia	1.5%	0.9	-16.4%	-1.0

Table 9: **Defense Prioritization by nation[110] Continued**

Nation	Defense prioritization (% GDP)	2014 Total spend (constant 2011, $ Billion)	Growth (2010-2014)	CAGR (2015-2020)
Italy	1.5%	31.0	-20.2%	0.0
Malaysia	1.5%	4.3	17.6%	1.7
Thailand	1.5%	5.7	6.1%	1.0
Argentina	1.4%	6.0	68.7%	0.3
Brazil	1.4%	37.3	-2.2%	1.2
Finland	1.4%	3.6	-1.9%	0.3
Norway	1.4%	7.3	2.3%	0.3
Latvia	1.3%	0.3	7.1%	0.8
Denmark	1.3%	4.5	-7.4%	0.2
The Netherlands	1.2%	10.0	-16.9%	0.3
New Zealand	1.2%	2.2	-0.1%	0.6
Germany	1.2%	46.6	-6.0%	0.2
Sweden	1.2%	6.9	2.3%	0.5
South Africa	1.2%	4.9	10.6%	1.1
The Philippines	1.1%	3.0	14.4%	0.8
Venezuela	1.1%	2.9	14.5%	0.2
Belgium	1.0%	5.2	-8.9%	0.7
Japan	1.0%	59.0	0.1%	0.6
Canada	1.0%	18.4	-10.9%	0.6
Spain	0.9%	12.8	-19.6%	0.1
Austria	0.8%	3.2	-8.0%	0.2
Indonesia	0.8%	8.1	58.6%	1.0
Lithuania	0.8%	0.4	6.0%	0.7
Switzerland	0.8%	5.4	12.3%	0.9
Mexico	0.7%	8.3	33.1%	0.7

Security posture

Each nation's security posture is also critical to understanding its defense priorities. A nation uses its posture to increase its influence and build security relationships in a region or around the world. Two principal components are helpful in measuring a nation's security posture: 1) the degree to which a nation deploys its air and ground forces outside its national boundaries, and
2) the amount of military equipment that a nation sells or leases. We defined security posture across the 60 nations with these two components:

1. **Engaged forces**. The willingness of a nation to deploy its forces beyond its borders demonstrates the importance of a security priority. Some nations do this for principally national interests, such as the deployment of Turkish forces in Cyprus, Russian forces in Abkhazia and South Ossetia, and French forces in Sub-Saharan Africa. Other nations deploy forces to participate in United Nations (UN) peacekeeping operations or to participate in larger coalition operations such as those in Afghanistan or, previously, in Iraq. In addition to deployed ground forces, some operations, such as Operation Inherent Resolve (OIR) against the Islamic State of Iraq and the Levant (ISIL) in Iraq and Syria and the recent Saudi-led Operation Decisive Storm (ODS) against rebels in Yemen, are principally air-focused. Nations contribute to these operations through contributions of air strikes, air support and operational bases.
2. **Arms transfers**. Another tool that some nations employ is arms transfers. The sale or lease of military equipment to other nations helps to gain influence, improve interoperability and enhance the capacity of allies and partners around the world.

To measure security posture, we rated each nation on these two components. Table 10 illustrates this rating scale:

Table 10: Security Posture Rating scale

Rating	Engaged Forces		International Arms Transfers (2010-2014)
	Forces deployed as % of active forces (2014)	Participants in coalition operations (2010-2014)	
1	0% active forces deployed	No participation in coalition ops	0-$250 Million
2	<1% active forces deployed	Limited participation (>1% deployed or air support role) in ≥ 1 coalition operation(s)	$250 Million - $1.25 Billion
3	1-2% active forces deployed	Major participation (>1% deployed or leading air role) in 1 coalition operation	$1.25-2.5 Billion
4	2-5% active forces deployed	Major participation (>1% deployed or leading air role) in 2+ coalition operations	$2.5 - $5 Billion
5	5%+ active forces deployed	Leading role (>5% deployed or lead air role) in 2+ coalition operations	> $5 Billion

This scale rates engaged forces in two components: the total percentage of deployed forces and the level of participation in coalition operations. We make this distinction because, as mentioned earlier, nations can deploy forces for national purposes or as part of a broader multinational coalition. Russia, for example, has a substantial percentage of forces deployed in support of national interests, but they are not participating in any coalition operations. Other nations, such as Australia, have a substantial percentage of their forces deployed overseas and are playing major roles in coalition operations in Afghanistan and against ISIL.

We average (without weighting) the rating for these two components and then add that average to the rating for arms transfers to arrive at a nation security posture rating. Table 11 illustrates how the security posture rating for the United States is determined by this methodology:

Table 11: Security Posture Rating example

Nation	**Engaged Forces**		**Arms transfers (2014)**	**Security Posture rating**
	Forces deployed 2014 (% active forces)	Coalition operations		
	((X	+ Y) / 2)	+ Z	**= Rating**
USA	11	Leading ISAF/RSF + leading OIR	$7.4 B	
	(5	+5/2)	+5	**=10**

Ratings by nation

Taking this approach, we analyzed the nations and the results are found in Table 12:

Table 12: Security Posture by nation[111]

Nation	Engaged Forces		Arms transfers 2010-2014 ($ Billion)	Security Posture rating
	Forces deployed 2014 (% forces)	Coalition operations		
United States	11.00% (5)	Lead ISAF + lead OIR (5)	43.9 (5)	**10**
United Kingdom	18.29% (5)	Major ISAF + Major OIR (4)	6.3 (5)	**9.5**
France	4.47% (4)	Major ISAF + Major OIR (4)	7.3 (5)	**9**
Germany	1.45% (3)	Major ISAF (3)	7.4 (5)	**8**
Italy	2.65% (4)	Major ISAF (3)	4.0 (4)	**7.5**
The Netherlands	1.17% (3)	Major ISAF + Major OIR (4)	2.6 (4)	**7.5**
Russia	3.58% (4)	None (1)	37.4 (5)	**7.5**
Sweden	2.45% (4)	Major ISAF (3)	2.7 (4)	**7.5**
Canada	1.94% (3)	Major ISAF + Major OIR (4)	1.4 (3)	**6.5**
Australia	2.76% (4)	Major ISAF & Major OIR (4)	0.5 (2)	**6**
China	0.08% (1)	None (1)	7.6 (5)	**6**
Spain	0.74% (2)	Participant ISAF (2)	4.1 (4)	**6**
Turkey	8.67% (5)	Participant ISAF (2)	0.7 (2)	**5.5**
Ukraine	0.53% (2)	None (1)	3.8 (4)	**5.5**
Denmark	2.20% (4)	Major ISAF & Major OIR (4)	0.0 (1)	**5**
Finland	2.53% (4)	Participant ISAF (2)	0.3 (2)	**5**
Israel	0.09% (1)	None (1)	3.4 (4)	**5**
Switzerland	1.17% (3)	None (1)	1.3 (3)	**5**
Belgium	1.26% (3)	Major ISAF & Major OIR (4)	0.2 (1)	**4.5**
Latvia	2.90% (4)	Major ISAF (3)	0.0 (1)	**4.5**
Lithuania	2.08% (4)	Major ISAF (3)	0.0 (1)	**4.5**
Norway	0.13% (2)	Major ISAF (3)	0.7 (2)	**4.5**
South Africa	3.47% (4)	None (1)	0.6 (2)	**4.5**
Bahrain	1.16% (3)	Major ISAF (3)	0.2 (1)	**4**
Croatia	1.20% (3)	Major ISAF (3)	0.0 (1)	**4**
Poland	1.47% (3)	Major ISAF (3)	0.0 (1)	**4**
South Korea	0.12% (2)	Participant ISAF (2)	1.1 (2)	**4**
Austria	4.44% (5)	None (1)	0.1 (1)	**3.5**
Brazil	0.52% (2)	None (1)	0.3 (2)	**3.5**
Estonia	0.35% (2)	Major ISAF (3)	0.0 (1)	**3.5**
Saudi Arabia	0.44% (2)	Major ODS (3)	0.0 (1)	**3.5**
New Zealand	0.61% (2)	Major ISAF (3)	0.0 (1)	**3.5**
Argentina	1.11% (3)	None (1)	0.0 (1)	**3**
Egypt	0.48% (2)	Participant ODS (2)	0.0 (1)	**3**

Table 12: **Security Posture by nation[111] Continued**

Nation	Engaged Forces		Arms transfers 2010-2014 ($ Billion)	Security Posture rating
	Forces deployed 2014 (% forces)	Coalition operations		
Greece	0.76% (2)	Participant ISAF	0.0 (1)	**3**
Japan	0.19% (2)	Participant ISAF (2)	0.0 (1)	**3**
Morocco	1.17% (3)	None (1)	0.0 (1)	**3**
Pakistan	1.21% (3)	None (1)	0.0 (1)	**3**
Portugal	0.87% (2)	Participant ISAF (2)	0.0 (1)	**3**
United Arab Emirates	0.07% (1)	Major OIR (3)	0.1 (1)	**3**
Singapore	0.28% (2)	Participant ISAF (2)	0.1 (1)	**3**
Colombia	0.12% (2)	None (1)	0.0 (1)	**2.5**
Chile	0.72% (2)	None (1)	0.0 (1)	**2.5**
Kuwait	0.00% (1)	Participant ODS (2)	0.0 (1)	**2.5**
Malaysia	0.83% (2)	None (1)	0.0 (1)	**2.5**
Oman	0.00% (1)	Participant OIR (2)	0.0 (1)	**2.5**
Philippines	0.24% (2)	None (1)	0.0 (1)	**2.5**
Qatar	0.03% (1)	Participant ODS (2)	0.0 (1)	**2.5**
India	0.54% (2)	None (1)	0.1 (1)	**2.5**
Indonesia	0.42% (2)	None (1)	0.0 (1)	**2.5**
Algeria	0.00% (1)	None (1)	0.0 (1)	**2**
Angola	0.00% (1)	None (1)	0.0 (1)	**2**
Iran	0.00% (1)	None (1)	0.2 (1)	**2**
Iraq	0.00% (1)	None (1)	0.0 (1)	**2**
Mexico	0.00% (1)	None (1)	0.0 (1)	**2**
Syria	0.00% (1)	None (1)	0.0 (1)	**2**
Taiwan	0.00% (1)	None (1)	0.0 (1)	**2**
Thailand	0.00% (1)	None (1)	0.0 (1)	**2**
Venezuela	0.00% (1)	None (1)	0.0 (1)	**2**
Vietnam	0.00% (1)	None (1)	0.0 (1)	**2**

The United States has the highest security posture, closely followed by the United Kingdom and France as well as many NATO allies and partners that actively participate in coalition operations around the world. Russia and China also have a more globally oriented posture, but this is largely due to their high levels of arms transfers. The Middle Eastern, Asia Pacific and Latin American nations, on the other hand, largely have a more modest posture oriented to domestic or regional challenges.

Contacts

PwC Global Government Defense Network Leader

Thomas Modly
thomas.modly@us.pwc.com

Australia

Terry Weber
terry.weber@au.pwc.com

Mark Jansen
mark.d.jansen@strategyand.pwc.com

Mark Laurie
mark.laurie@au.pwc.com

Dave Vrancic
david.vrancic@strategyand.pwc.com

Belgium

Hans Verheggen
hans.verheggen@be.pwc.com

Brazil

Marcus Manduca
marcus.manduca@br.pwc.com

Canada

Lori Watson
lori.c.watson@ca.pwc.com

Jeff Rodney
jeffrey.d.rodney@ca.pwc.com

Colombia

Jorge De Los Reyes
jorge.delosreyes@co.pwc.com

Denmark

Jesper Runge
jru@pwc.dk

France

Fabrice Francillon
fabrice.francillon@fr.pwc.com

Germany

Frank Kaufmann
frank.kathmann@de.pwc.com

Jan Wilie
jan.h.wille@strategyand.pwc.com

Hans Joerg Kutschera
hans-joerg.kutschera@strategyand.pwc.com

India

Neel Ratan
neel.ratan@in.pwc.com

Italy

Giancarlo Senatore
giancarlo.senatore@it.pwc.com

Japan

Natsuko Seto
natsuko.seto@strategyand.jp.pwc.com

Kenya

Muchemi Wambugu
muchemi.wambugu@ke.pwc.com

Luxembourg

Philippe Pierre
philippe.pierre@lu.pwc.com

Mexico

German Ganado
german.ganado@mx.pwc.com

New Zealand

Chris Barendregt
chris.j.barendregt@nz.pwc.com

Hamish Elliott
hamish.g.elliott@nz.pwc.com

Middle East

Tareq Webhe
tareq.wehbe@ae.pwc.com

Bob Mark
bob.mark@strategyand.pwc.com

Laurent Depolla
laurent.depolla@ae.pwc.com

Norway

Roger Mortenson
roger.mortensen@no.pwc.com

Øystein Nygård
oystein.nygaard@no.pwc.com

Singapore

Abhesh Kumar
abhesh.kumar@sg.pwc.com

Spain

Maryam Luzarraga Monasterio
maryam.luzarraga.monasterio@es.pwc.com

South Africa

Carmen LeGrange
carmen.le-grange@za.pwc.com

South Korea

Kweon-Hoon Lee
kweon-hoon.lee@kr.pwc.com

Sweden

Peter Malmgren
peter.malmgren@se.pwc.com

Switzerland

Felix Huber
felix.m.huber@ch.pwc.com

Turkey

Baris Dincer
baris.dincer@tr.pwc.com

United Kingdom

Roland Sonnenberg
roland.sonnenberg@uk.pwc.com

Tony Raper
tony.raper@uk.pwc.com

Hugo Trepant
hugo.trepant@strategyand.pwc.com

Diane Shaw
diane.shaw@strategyand.pwc.com

United States

Jack Johnson
johnson.jack@us.pwc.com

Julie Teahan
julie.teahan@us.pwc.com

Charles Marx
charles.a.marx@us.pwc.com

Randy Starr
randy.starr@strategyand.us.pwc.com

Jim Harry
james.harry@us.pwc.com

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