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THESIS

**JAPAN'S SHIFT TO A PROACTIVE DEFENSE
ARCHITECTURE: CHALLENGES FACED BY
INDUSTRY, GOVERNMENT, AND SOCIETY**

by

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June 2017

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**JAPAN'S SHIFT TO A PROACTIVE DEFENSE ARCHITECTURE:
CHALLENGES FACED BY INDUSTRY, GOVERNMENT, AND SOCIETY**

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ABSTRACT

As a result of the changing security environment in the Asia-Pacific, Japan is shifting to a more proactive defense policy, as outlined in the National Defense Program Guidelines (NDPG). This thesis investigates the challenges faced by Japan's industry, government, and society in meeting the NDPG objectives. To do this, this thesis probes the following problem areas: difficulties with indigenous production of weapons systems, inability to procure and market advanced technologies, inefficient management and policies on the part of bureaucracy, budget shortfalls, industries' ideological opposition, geopolitical risks, antimilitaristic roots of pacifism, and personnel/operational readiness of the Japanese Self-Defense Force. Japan's government manages one of the most efficient democracies in the world and its Self-Defense Force is an advanced professional organization. Despite these strengths, this thesis finds that these problems and obstacles will delay—but not prevent—Japan's ability to achieve the NDPG objectives. Based on the findings, this thesis concludes that the following strategies will give Japan the best chance to work around the obstacles: strengthening the U.S.-Japan alliance, marketing technologies in which Japan has a comparative advantage, and applying bureaucratic reforms that improve collaboration with outside agencies.

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LIST OF ACRONYMS AND ABBREVIATIONS

AI	Artificial Intelligence
ANARO	Advanced Satellite with New System Architecture for Observation
ASDF	Air Self-Defense Force
ASEAN	Association of Southeast Asian Nations
ATLA	Acquisitions, Technology, and Logistics Agency
CFC	Combined Forces Command
CLB	Cabinet Legislation Bureau
CMOS	Complementary Metal-Oxide Semiconductor
CSD	Collective Self-Defense
CSIS	Center for Strategic and International Studies
DARPA	Defense Advanced Research Project Agency
DEW	Directed-Energy Weapons
DOD	Department of Defense
DPJ	Democratic Party of Japan
EM	Electro-magnetic
FMS	Foreign Military Sales
GSDF	Ground Self-Defense Force
GDP	Gross Domestic Product
HADR	Humanitarian Assistance and Disaster Relief
HTV	H-II Transfer Vehicle
HUMINT	Human Intelligence
ICBM	Intercontinental Ballistic Missile
ICT	Information Communications technology
IDA	Institute for Defense Analysis
IMINT	Imagery Intelligence
ISS	International Space Station
ISR	Intelligence Surveillance and Reconnaissance
JAXA	Japan Aerospace Exploration Agency
JDA	Japan Defense Agency

JSDF	Japan Self-Defense Forces
LDP	Liberal Democratic Party
LFEX	Laser for Fast Ignition Experiments
MDG	Mutual Defense Guidelines
METI	Ministry of Economy, Trade and Industry
MHI	Mitsubishi Heavy Industries
MITI	Ministry of International Trade and Industry
MOD	Ministry of Defense
MOF	Ministry of Finance
MOFA	Ministry of Foreign Affairs
MSDF	Maritime Self-Defense Force
NDPG	National Defense Program Guidelines
NDPO	National Defense Program Outline
NEO	Non-combatant Evacuation Operations
OSINT	Open Source Intelligence
R&D	Research and Development
SACO	Special Action Committee on Okinawa
SDF	Self-Defense Forces
SIGINT	Signals Intelligence
TASC	Analytical Systems Corporation
THAAD	Terminal High Altitude Area Defense
TMD	Theater Missile Defense
TRDI	Technical Research and Development Institute
USAF	United States Air Force
USFK	United States Forces Korea
USFJ	United States Forces Japan

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I. INTRODUCTION

A. MAJOR RESEARCH QUESTION

As a result of the changing security environment in the Asia-Pacific, particularly North Korea's continued provocations and China's growing military capability, Japan plans to build a "Dynamic Joint Defense Force" and "build a comprehensive defense architecture and strengthen its system for preventing and responding to various contingencies," as outlined in its recent National Defense Program Guidelines (NDPG).¹ These security guidelines were designed to help Japan navigate the unique challenges of the 21st century. They call for a modern world-class military that is flexible, adaptive, and abides by the principle of a "proactive contribution to peace."² The rules seek to establish a more offensive-oriented posture and a stronger role in the U.S.-Japan alliance. Japan's defense policy reached a milestone in 2014 with a constitutional reinterpretation that legalizes Collective Self-Defense (CSD). It refers to the right of all UN countries to use military force to defend other member nations from attack. This latest plan represents an unprecedented level of commitment to national security.

To meet the NDPG, Japan must rapidly revamp its defense capabilities, which raises the question of whether its industrial sector and government organizations are up to the task. Do they currently possess the capacity and capability to deliver on these bold objectives? What domestic and international obstacles stand in their way? This thesis assesses these questions by examining the problems, challenges, and potential shortfalls that Japan's defense industries and government institutions might face. It investigates its major organizational/operational deficiencies, as well as other political factors hindering its goal of strengthening national defense. These problems include the difficulties with indigenous production of weapons systems (*kokusanka*), inability to procure and market advanced technologies, inefficient management and policies on the part of the bureaucracy, budget shortfalls, industries' ideological opposition (or anticipation of

¹ "National Defense Program Guidelines for FY 2014 and Beyond," Government of Japan, December 17, 2013, 5, 7, http://www.mod.go.jp/j/approach/agenda/guideline/2014/pdf/20131217_e.pdf.

² Ibid.

public opposition), geopolitical risks, antimilitaristic roots of pacifism, and, finally, personnel/operational readiness within the Japanese Self-Defense Force. Finally, this thesis explores the required reforms, potential solutions, and strategies that Japan can implement to mitigate the problems. These include cultural reform within the ministries to ease collaboration with non-government organizations, marketing of Japan's unique component technology, maintaining a robust space program, and strengthening the alliance with the U.S.

B. SIGNIFICANCE OF THE RESEARCH QUESTION

Current threats to Japan's national security are arguably at their highest levels since World War II. Despite condemnation from the international community, North Korea continues to advance its nuclear program, inching closer to acquiring both a long-range missile delivery system and a miniaturized warhead, while increasing the frequency of its missile tests near Japanese waters. Meanwhile, China's rapid military growth, particularly its militarization of the South China Sea and continued territorial confrontations, present dangerous scenarios for Japan. The 2013 NDPG was written in response to these potential threats, among others, with plans to reform Japan's defenses.

Japan's ability to strengthen its defenses ultimately hinges on the joint capacity and will of its defense industry and government organizations. As Sugai states, "some new industries in Japan will enter the defense field by utilizing their advanced IT, component technology, and dual-use technology. There can be tremendous possibilities when Japan's huge technical firms join the world defense market."³ But by many indications, these institutions are currently not in a position to support Japan's goal of creating a "Dynamic Joint Defense Force."⁴ Therefore, it is critical to examine the feasibility of this goal, to identify the obstacles that stand in the way, and in turn to find solutions and determine what Japan must do, or, at the very least, to estimate the level at which Japan can meet its security objectives. To conduct this assessment, it is necessary

³ Hiroyuki Sugai, "Japan's Future Defense Equipment Policy," Brookings Institute, October 2016, 2, https://www.brookings.edu/wp-content/uploads/2016/10/201610_japan_future_defense_hiroyuki_sugai.pdf.

⁴ Government of Japan, "National Defense Program Guidelines," 7.

to assess the defense industry's current capability to produce the hardware and support the strategies needed to overcome shortfalls.

A deep look into the Government of Japan's organizational structure and policies is also essential, because this may reveal major problems in supporting national goals. Japan's bureaucrats are the architects of the NDPG. They not only control the national budget, make policy, and command the SDF, but they also work with the defense industry. It will be necessary to explore how Japan utilizes its civilian sector industries, its research and development programs, and overall human capital to rise to the challenge of fulfilling NDPG plans. Understanding bureaucratic inefficiency can help identify steps bureaucrats can take to support defense objectives. More importantly, these problems may reveal innovative solutions.

Ultimately, this research deals with Japan's national security, which has major implications for general balance-of-power concerns and for the U.S.-Japanese alliance.

C. LITERATURE REVIEW

As this thesis assesses Japan's capacity to strengthen its defense in accordance with the NDPG, it will focus on two intertwined areas of literature: first, current shortfalls, problems, and challenges the government and industrial sectors face in modernizing Japan's defenses; and, second, required reforms and plausible solutions to these problems.

The literature on Japan's defense industry first points to a shortfall in the capability to indigenous development (*kokusanka*) of new weapons systems, resulting from a lack of experience due to both Japan's long-time legal ban on producing certain offensive weapons systems and the nation's continued dependence on U.S. defense equipment. Japan's emergence in the international arms business would support NDPG goals because it could improve innovation, technical know-how, and the overall ability of Japanese industries to produce high-quality weapons systems with an eye toward strengthening Japan's defense. In addition to bringing in needed revenue to reduce Japan's own procurement costs, international sales offer the opportunity to work with

allies to exchange new ideas and technologies, which also might boost Japan's own ability to produce advanced products. However, as Sugai states,

Japanese industry has been banned from developing specific cutting-edge technologies that can utilize weapons like developing aircraft ... Therefore, Japan lost its technologies to develop aircrafts, [sic] and forced it to concentrate its resource [sic] to other fields such as the automotive industry.⁵

Despite this shortfall, Sugai highlights Japan's ability to develop cutting-edge technology in the civilian sector, such as robotics and optical technology, but argues that these systems are not being merged to advance the weapons sector.⁶ Japan, though it possesses some of the most high-tech non-military technologies in the world, is now faced with the challenge of utilizing these systems to design future weapons platforms. Sugai presents an opening and possible solution: "currently, technologies that were not utilized in weapon systems are becoming the key to innovation ... These technologies, known as 'dual use technology,' should be an advantage for the Japanese defense industry."⁷ Sugai is suggesting that industries can capitalize on "dual use technology" from the civilian sector, and refine them for military purposes. Tatsumi and Kennedy echo similar concerns by arguing that Japan will not be able to strengthen national defense due to domestic problems, and they state, "Japan will have to rely on innovation, both to maintain its superiority in certain military and dual-use technology, and to collaborate with its allies and partners to maximize its limited defense resources."⁸ Japan's own white paper notes that "in terms of boosting military technologies . . . Japan would continue to place emphasis on conducting research and development (R&D) of

⁵ Sugai, "Defense Equipment Policy," 22.

⁶ Ibid.

⁷ Ibid.

⁸ Yuki Tatsumi and Pamela Kennedy, "Leveraging the Third Offset Strategy in the US-Japan Alliance," *Diplomat*, October 28, 2016, <http://thediplomat.com/2016/10/Leveraging-The-Third-Offset-Strategy-In-The-Us-Japan-Alliance/>.

equipment that integrates dual-use technologies.”⁹ The idea is that more R&D must be done to transform high-tech civilian products into military hardware.

Sugai identifies a related flaw in the defense industry: it is not designed to communicate with other relevant actors, including the defense bureaucracy. For example, if one department inside Mitsubishi Heavy Industry discovers a faster method of producing parts, it might then share this knowledge across other departments and companies for all to benefit. He points to a lack of vision for the future and ineffective strategy as the root cause, but also articulates a solution:

The essential areas where MOD and the Japanese defense industry should improve are the understanding of current and future situations, the sharing of knowledge and interaction across countries and foreign partners, and the [sic] creating a framework that permits innovative all actors across the country to tackle innovative challenges.¹⁰

Sugai proposes three policies for future equipment policies: “utilizing various advantages that the Japanese industry has [its ‘production technique and element technologies’] while establishing a mutually interactive communication system,” “the enhancement of logistics support to allies and partners,” and “the expansion of capacity building assistance to the Southeast Asian countries.”¹¹ Sugai views Japan’s lack of inter-agency cooperation and policies that prevent growth and innovation as major challenges it must overcome to unlock its true potential. Sugai also highlights major initiatives that Japanese leaders have taken or are taking in response to the nation’s new security objectives. One of these is the implementation of the Acquisition, Technology & Logistics Agency, which was created to integrate multiple defense equipment agencies.¹²

Japan’s defense industry also faces a marketing problem in its struggle to break into the arms export business. In 2014, Japan officially became an international exporter of arms when Prime Minister Shinzo Abe removed the ban that had existed for decades.

⁹ Jon Grevatt, “Japan's White Paper Outlines Priorities for Defence Production,” Jane’s IHS Markit, August 16, 2016, <http://www.janes.com/article/62954/japan-s-white-paper-outlines-priorities-for-defence-production>.

¹⁰ Sugai, “Defense Equipment,” 24.

¹¹ Ibid., 35.

¹² Ibid., 12.

The aim, according to Hornung (referenced in Pollman's article) was to "(1) lower the costs for domestic procurement, (2) increase cooperation with the U.S., and (3) be a more active security partner to like-minded, i.e., status quo, states."¹³ These three dynamics are important for helping defense industries to produce high-tech platforms. But one problem, as identified by Ganyard (referenced in Pollman's article), is that "There is no demand for Japanese arms currently because of a lack of visibility, few globally competitive products, and steep prices."¹⁴ He further argues that the defense industry's only current customer is the Japanese government.¹⁵ An inability to acquire foreign customers is a problem because Japan's industries simply cannot generate the revenue they need by exclusively selling to their own government. Officials within Japan's own Ministry of Defense acknowledge that stiff competition in the international arms market may be a major challenge, compounded by the fact that Japan is inexperienced in the business: "The U.S. sets the global defense equipment standard ... Equipment that is not used by the U.S. is not going to be a viable business."¹⁶ The problem for newcomers is that established arms exporters like the U.S. control most of the market. One strategy to offset this problem is for Japan to market weapons systems and parts that are different and limited in supply.¹⁷ For example, Japan might "focus on areas such as diesel submarine propulsion technology, which is unique and advanced."¹⁸ Another possible approach might be to "take over production of equipment and parts no longer made in the U.S. For example, last year Tokyo approved plans to make seeker gyros used in the PAC-2 missile defense system."¹⁹ Hornung (referenced in Pollman's article) similarly

¹³ "Mina Pollman, 'The Trouble with Japan's Defense Exports,' *Diplomat*, October 02, 2015, <http://thediplomat.com/2015/10/the-truth-about-japans-defense-exports>.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ Mari Yamaguchi and Elaine Kurtenbach, "Japan's Ambitions for Defense Exports Boost Collide with Realities of Crowded, Tough Market," *US News*, May 13, 2015, <http://www.usnews.com/news/business/articles/2015/05/13/japan-defense-export-hopes-dimmed-by-latecomer-status>.

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ Ibid.

“believes the focus should be on exporting, smaller niche components, such as missile-tracking sensors used in ballistic missile defense systems.”²⁰

Other literature identifies problems and solutions within government. In analyzing Japan’s current acquisition reform efforts in support of the NDPG, Sugai diagnoses deficiencies within Japan’s bureaucracy, including an inability to share information across agencies and inefficiencies in organizational structure and function.²¹ Sugai first argues that Japan’s well-honed methods of optimization, or “*kaizen* activities,” are not part of its broad strategy, and so methods of improvement are not shared.²² Second, he argues that the roles and responsibilities of individual bureaucratic positions are not evenly distributed, which slows the decision-making process and leaves the organization unprepared for change.²³ Sugai argues that the “MOD has to establish a knowledge management system that can utilize all knowledge that the acquisition workforce has accumulated as explicit and tacit knowledge.”²⁴ He further adds that the MOD must establish “an autonomous improvement culture where the entire workforce can improve itself by having people with different jobs work interactively.”²⁵ He believes that sharing of information within groups will lead to improved output and decision-making.

Similarly, on the topic of defense production, Sato notes that meeting NDPG goals is partly dependent upon sound decision-making from Japan’s top bureaucrats, but argues that conflicts and gridlock between ministries are likely and are a sure way to slow progress, particularly on the critical issue of defense equipment production.²⁶ Similarly, Osius writes that “the Japanese and U.S. governments . . . suffer from the perennial predicament of all bureaucrats—turf battles. A successful strategic dialogue must cut across bureaucratic structures and overcome intragovernmental enmities (such as those

²⁰ Pollman, “The Trouble With Japan's Defense Exports.”

²¹ Sugai, “Defense Equipment Policy,” 19.

²² Ibid.

²³ Sugai, “Defense Equipment Policy,” 2.

²⁴ Ibid.

²⁵ Ibid.

²⁶ Heigo Sato, “Japan’s Arms Exports & Defense Production Policy,” Center for Strategic & International Studies, April 1, 2015, <http://cogitasia.com/japans-arms-export-defense-production-policy>.

between the State and Defense Departments and between the Foreign Ministry and JDA).”²⁷ For example, the MOD must make a balanced decision on how many F-35 aircraft to purchase in the future. There may be gridlock between those advocating for different numbers, since purchasing too many might reduce funding for other key platforms, while purchasing too few might jeopardize Japan’s ability to achieve air superiority in its own air space. Sato writes that “Japan should establish a permanent council within the National Security Council or, preferably, the Prime Minister’s Office to make decisions on arms trade and the direction of defense equipment development and production.”²⁸

As one would expect, the existing literature also indicates that Japan’s budget poses a major challenge for the government, despite the spike in defense spending in recent years. A budget shortfall would seriously hamper Japan’s ability to purchase the required hardware identified in its 2017 MOD budget request paper, and thus may threaten Japan’s ability to meet mission requirements. Additionally, it threatens funding for other mission-critical programs such as R&D, training, and personnel welfare. Among possible competing priorities that may cut money from defense, Sugai includes “the postponement of raising the consumption tax rate or the continuously increasing cost of social security due to Japan’s rapidly aging society.”²⁹ He also points out that only a portion of Japan’s defense budget is allocated to equipment, and that a large chunk of it is committed to maintenance and other costs.³⁰ Tatsumi and Kennedy, similarly, write, “Due to an aging and declining population, coupled with an economy that has yet to pick up from two decades of economic stagnation, Japan will not have the capacity to considerably increase its investment in national defense,”³¹ but also remind the reader of the scale of Japan’s defense budget, which they note is a tenth of that of the United

²⁷ Ted Osius. *The U.S.-Japan Security Alliance: Why It Matters and How to Strengthen It*. (Westport, CT: Praeger, 2002), 83.

²⁸ Sato, “Japan’s Arms Export.”

²⁹ Sugai, “Defense Equipment Policy” 31.

³⁰ Ibid.

³¹ Tatsumi and Kennedy, “Third Offset Strategy.”

States. The size and scope of Japan's defense budget deserves analysis, especially since one of Japan's goals is to deter China, whose budget eclipses Japan's.

To offset costs, one potential strategy is to partner with the U.S. technical sector. Tatsumi and Kennedy imply that Japan will be an integral partner in the U.S. Third Offset Strategy, which is the United States' plan to counter an adversary's growing technological capability. They write, "Already experienced in cooperative joint defense technological development with the U.S., Japan boasts a highly advanced Self-Defense Force (SDF) that has enjoyed deep military-to-military cooperation with the United States, share[s] many of the same security concerns worldwide, and has a very robust industrial and technological base."³² They also argue that Japan and the U.S. can form a mutually beneficial partnership in this area, since both sides seek to achieve technological growth.³³ Schoff, similarly, in response to Japan's establishment of the Acquisition Technology and Logistics Agency, writes that "U.S. policymakers are welcoming Japan's moves, in part for the opportunity to broaden the United States' supplier network, improve cost efficiency, enhance alliance interoperability, and maintain an allied edge in certain military technologies where they fear other states are gaining."³⁴

Newsham also expresses budget shortage concerns, but further argues that the government is mismanaging funds by not focusing on the needs of the SDF; he argues that the goal of acquiring advanced platforms has overshadowed the need for training: "Inadequate defense funding creates a readiness 'death spiral' of insufficient training time, inadequate aviation flight hours, lack of ability to fire assigned weapons, unrealistic field training, and critical personnel shortages."³⁵ Newsham also asserts that the defense strategy of Japan's bureaucrats is not in sync with the JSDF (this is a coordination problem as well as a budgetary one). He writes, "Japan's defense procurement strategy is

³¹ Tatsumi and Kennedy, "Third Offset Strategy."

³² Ibid.

³⁴James L. Schoff, "Navigating a New U.S.-Japan Defense Technology Frontier," Carnegie Endowment for International Peace, March 10, 2015, <http://carnegieendowment.org/2015/03/10/navigating-new-u.s.-japan-defense-technology-frontier-pub-59301>.

³⁵Grant Newsham, "Japan's Military Has Some Serious Problems (As China's Military Gets Stronger)" *The National Interest*, September 07, 2016, <http://nationalinterest.org/blog/the-buzz/japans-military-has-some-serious-problems-chinas-military-17613>.

not a well-thought-out, ‘requirements-based’ effort to buy or develop what Japan actually needs to defend itself – and enough of it. It often seems like a jobs program for Japanese industry, and with government ministries ... too often working at cross-purposes and seldom asking the JSDF what it thinks.”³⁶ Newsham’s solutions are in line with his problem statement: he advocates for increased spending on training, housing, and wages for the JSDF.³⁷

The literature also identifies political problems faced by both government and industry. One is the Japanese people’s potential and/or perceived lack of will to support Japan’s defense, given the country’s postwar pacifist history. As Sato writes that “open debate must be conducted both to address the anxiety among the Japanese public on the development of the defense trade, and to relax tension among Japan’s defense production companies, which are alarmed about facing public criticism.”³⁸ The challenge involves getting buy-in not only from the general public, but also from the companies that produce hardware. Schoff shares this concern: “Japanese firms also face an element of reputational risk. Defense-related sales often make up just a small percentage of a company’s total revenue, and many executives worry that high-profile arms exports might alienate the peace-loving Japanese public.”³⁹ Pryor, discussing the establishment of the ATLA, writes, “Businesses are concerned about the public labeling them as ‘merchants of death’ if they see their technology or goods used in warfare, and are looking to the government to take the lead.”⁴⁰ These authors pinpoint a serious roadblock for Japan that researchers often miss. The literature in this area focuses heavily on the inability of the defense and acquisition sectors to deliver required hardware, but the will of the Japanese people to go forward with these initiatives needs to be highlighted as well. Ultimately, technical capability cannot be attained if it conflicts with the ideology of the people.

³⁶ Newsham, “Japan’s Military Has Some Serious Problems,” 2.

³⁷ Ibid.

³⁸ Sato, “Japan’s Arms Exports.”

³⁹ Schoff, “U.S.-Japan Defense Technology Frontier.”

⁴⁰ Crystal Pryor, “Japan’s New Approach to Defense Technology,” *Diplomat*, November, 24, 2015, <http://thediplomat.com/2015/11/japans-new-approach-to-defense-technology/>.

Policymakers may be vulnerable to such concerns as well. The modernization of Japan's defense to the level proposed in the NDPG has many moving parts, and the literature points to the need for a massive joint effort from numerous sectors within the government and private sector, as well as support from the U.S. Such moves, however, would propel Japan to new levels of defense build-up, creating tough decisions for Prime Minister Abe and his cabinet at the domestic and international levels.

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II. CHALLENGES TO JAPAN'S DEFENSE INDUSTRY

As producers of high-tech military platforms and related components, Japan's defense industry plays a vital role in achieving the NDPG objectives. This chapter identifies three major challenges Japan's defense industry will likely face in supporting the NDPG objectives, in both the short long term. These include the lack of indigenous capabilities (*kokusanka*) in developing weapons systems, budget constraints, and troubles competing in the international arms export market. *Kokusanka* will especially be a focus item as it is key to an effective long-term strategy, and one that will prove particularly difficult to overcome. This thesis acknowledges Japan's elite global status in the defense production business, but also exposes the weaknesses and vulnerabilities that the Abe administration must address going forward.

A. CHALLENGES IN INDIGENOUS DEVELOPMENT (*KOKUSANKA*)

One strategic route Japan can take to support the NDPG goals is to strengthen its indigenous defense production capabilities (*kokusanka*): the ability to invent, procure, and develop weapons platforms 100 percent domestically. This section provides evidence of how *kokusanka* supports Japan's industrial capacity, explains why *kokusanka* supports long-term security objectives, and analyzes the challenges that might emerge if and when *kokusanka* is pursued.

Why is *kokusanka* so important to Japan's defense industry, and how does it support the national security strategy? More importantly, what factors have hindered Japan's indigenous production capabilities? To answer the former question, the NDPG itself states, "Retaining an adequate level of defense production and technological bases is essential . . . for research and development of equipment that fits the operational environment, and for the expected potential to contribute to enhancing deterrence."⁴¹

The current security situation in East Asia, as well as Japan's security strategy calls for effective deterrence. In Japan's case, North Korea's and China's (among other

⁴¹ Government of Japan, "National Defense Program Guidelines," 26.

nations) offensive weapons pose the greatest threat to its interests. Therefore, deterrence will translate into attaining military systems that are technologically superior, or at least on par with those nation's capabilities. This is especially true in confronting the Chinese juggernaut, which possesses high-tech hardware in massive quantities and where having an edge in the quality of weaponry could make up for its disadvantage in quantity. It is then safe to say that achieving deterrence will be highly dependent on Japan's R&D/technology institutions and defense industries to apply *kokusanka*, to facilitate in developing more advanced systems. An applicable comparison is the nation of Israel, which like Japan is a small state, and one that also relies on its alliance with the U.S. for national security. In addition to its close ties with the U.S., Israel possesses some of the most advanced indigenously developed weapons that have both defeated and deterred its hostile neighbor adversaries for decades. The strength of Israel's deterrence is weapons superiority; maintaining an edge in indigenous production will remain critical to this equation.

On a basic level, it is inarguable that nations with technologically superior weapons have the advantage in the 21st century. It is also important to consider the overarching positive effect *kokusanka* has on the overall industry in terms of research and development and logistics, which directly support Japan's national security strategy.⁴² As Green articulates, "with *kokusanka* . . . there are often other advantages: expanded resource utilization, experimentation with spin-on applications of technology, systems integration experience, and momentum in technology development."⁴³ The idea here is that autonomous defense production facilitates all aspects of Japan's industrial production capabilities, and that technology is transferable to other sectors.

The question then becomes, why is *kokusanka* necessary, when –unlike in Israel– there is an active U.S. military presence protecting Japan's mainland? This is not to say that Japan should shift its policies towards a gradual withdrawal from U.S. dependence. In fact, it is vital for Japan to continue hedging strategically with the world's greatest

⁴² Michael J. Green, *Arming Japan: Defense Production, Alliance, Politics, and Postwar Search for Autonomy* (New York: Columbia University Press, 1995), 3.

⁴³ *Ibid.*, 18.

superpower, especially given the United States' pivot to the Asia-Pacific region. However, Japan must also maintain and strengthen indigenous capabilities to achieve true deterrence because American hegemony today is highly contested. With factors such as budgetary constraints and the continued war on terrorism eating up military resources in recent years, the U.S. has, and will, ask more from the JSDF. Green brings up another compelling argument about the alliance when he states, "aligning with a powerful state is necessary to deter powerful enemies, but the client state (in this case Japan) always faces the risk of either entrapment or abandonment."⁴⁴ Although abandonment is far-fetched, entrapment has indeed been a reality. While Japan enjoys extensive protection from a heavy U.S. military presence in its homeland, this dependence also brings entrapment. Green argues that *kokusanka* is necessary in addition despite to the U.S. alliance because "autonomy in defense production capability leads to equality in alliance by providing Japan the ability to defend itself and to contribute to the maintenance of the alliance on an equal footing, rather than as a technology-dependent junior partner."⁴⁵ Maintaining a strong capability in defense equipment production is a necessary tool for leverage in negotiations with the United States and to maximize joint military operability.

Kokusanka is also in line with *technonationalism*, which Samuels describes as "a fusion of industrial, technology, and national security policies."⁴⁶ It essentially implies that a strong nation must maintain a domestic defense sector. The NDPG repeatedly emphasizes plans to build a "Dynamic Joint Defense Force,"⁴⁷ which is consistent with expectations that Japan will take on a greater military role in the Asia-Pacific, as well as conducting unprecedented operations to support U.S. objectives in the region. While it is true that America's commitment to Japan's defense remains solid today, Japan might incorporate *kokusanka* as part of its long-term strategy. While the alliance remains a cornerstone for defense, it would serve Japan well to plan for a future scenario in which national defense falls solely on its own shoulders. This initiative will be highly dependent

⁴⁴ Green, *Arming Japan*, 3.

⁴⁵ Ibid., 23-24.

⁴⁶ Ibid., 11.

⁴⁷ Government of Japan, "National Defense Program Guidelines," 7.

on the country's defense industries to deliver the goods. As it stands, Japan's lack of domestic development has left a legacy of struggles in procuring its own defense hardware.

1. Post WWII History

Among the factors that have hindered *kokusanka* since WWII, the most salient is Japan's historical reliance on the U.S. in terms of both defense equipment and military presence, thereby limiting its defense industry after WWII. As this section argues, this historical lack of experience will be a major limiting factor if *kokusanka* is pursued today.

In the post-World War II era, during the U.S. occupation, aside from the setbacks Japan faced in rebuilding its infrastructure and facing restrictions put on its defense industrial production, Japan's indigenous production sharply declined as industries were rebuilt under the U.S. umbrella of interests. Initially, Japan's industry was heavily aided by the U.S. rebuilding project, which provided money, weaponry, and other resources to the jumpstart the industrial acquisitions process.⁴⁸ This initiative, along with Japan's role in producing war goods for the U.S. during the Korean War, resulted in the successful resurrection of Japan's weapons industry operations in the first decade after WWII. However, these operations were primarily dominated by U.S.-directed contracts, mainly to produce munitions and to repair vehicles and aircraft.⁴⁹ Despite learning greatly from U.S. weapons platforms (particularly aircraft),⁵⁰ this period marked the beginning of not only Japan's reliance on the U.S. for its defense, but also Japan's reliance on American technology. Thus, it would be a slow process for Japan to establish its own research and development programs and begin indigenous production of its own defense hardware. As Green notes, "Japan produces about 90% of its military equipment at home, but much of that is built under license from U.S. firms with a considerable amount of technology black-boxed."⁵¹

⁴⁸ Kazuo Tomiyama "Japan's Defense Industry," *Japanese Economic Studies* 9, no. 4 (1981): 4, <http://dx.doi.org/10.2753/JES1097-203X09043>.

⁴⁹ Ibid., 12.

⁵⁰ Ibid.

⁵¹ Green, *Arming Japan*, 2.

Despite the initial momentum for *kokusanka* in the post-WWII period, particularly among nationalists among the LDP, it was ultimately perceived as an obstacle to the alliance as well as something that would hurt Japan's international relations. In the 1970s, the movement towards *kokusanka* took a deep hit with the creation of the National Defense Program Outline (NDPO). The NDPO was heavily influenced by Kubo Takuya, who popularized the concept of a pragmatic limited defense capability based on potential threat rather than preparations for the worst-case scenario, and who thus advocated reliance on the U.S. in order to improve international relations by assuring Japan's neighbors that militarization would not occur.⁵² The NDPO was eventually approved in 1976, and in it was Japan's policy of reliance on the U.S.-Japan alliance for defense, and a commitment to the "Peacetime Defense Force doctrine" for determining military requirements.⁵³ With an established commitment to rely on the U.S. for defense, there emerged the belief that a partnership with the U.S. in exchanging technology was important to Japan's own technology; *kokusanka* was then believed to be an obstacle in this collusion with the U.S.⁵⁴ The NDPO was thus a historical policy that suppressed the *kokusanka* movement, and one whose effects last today. Today, we see continued reliance on advanced U.S. weapons to achieve NDPG objectives, with foreign military sales (FMS) contracts at an all-time high, as illustrated by acquisition programs like the F-35A, V-22, and the Aegis system.

2. Challenges in Pursuing *Kokusanka*

The broad challenge when pursuing greater autonomous development is to restore lost capabilities in designing, procuring, and developing truly original weapons systems. This is not to suggest that Japan should stop purchasing American weapon systems; in fact, sharing common weapons platforms is good for the alliance. However, pursuing *kokusanka* is also important, because it provides Japan the technical expertise it needs to maintain a healthy industrial base. One problem Japan will encounter is that government

⁵² Ibid., 74-75.

⁵³ Ibid., 75.

⁵⁴ Ibid., 76.

and industry operate on a concept of dual-use technology. For a long period after World War II, Japan was prohibited from developing technologies that could be used for military systems. Today, it is the rule that technological development must have both military and civilian purposes. For example, when designing an avionics component for fighter jets, the Japanese believe it should be transferable to commercial airliners. This is unlike the U.S., where military and civilian projects run independently. The dual-use concept is a double-edged sword. While it is an incredibly advantageous method for developing advanced component technologies, it inhibits the ability to focus purely on military projects. While *kokusanka* requires a transition away from this practice, it will be a challenge because dual-use is so beneficial to the civilian sector and consistent with a pacifist nation narrative that puts greater emphasis on economic health.

Another roadblock in the pursuit of *kokusanka* is U.S. pressure to export American systems, develop weapons through U.S. license transfers, or co-develop on various projects. The argument that alliance dependency results in entrapment is true in this case. As Japan has historically benefited from the U.S. umbrella of protection, there is an expectation of reciprocity to support the American defense industry. Another significant factor is that the partnership is also beneficial to both sides, and thus only increases U.S. pressure. As Green points out, “The potential for growing reliance on Japanese technology in advanced U.S. weaponry has been well documented in two separate studies prepared for the DOD’s DARPA, TASC, and IDA.”⁵⁵ First, as Green articulates, “The pursuit of autonomous defense production also threatens to disrupt the macroeconomic benefits to Japan of alliance with the United States.”⁵⁶ The concern is that the high cost of indigenous production would cut into the money allocated to pay for cost associated with these benefits.⁵⁷ U.S. pressure did indeed come to fruition and intensified to full extent in the 1980s with Japan’s attempt to build an indigenous fighter jet, the FSX. This is the most prominent case of U.S. pressure. Seeking to support American defense companies and other economic gains, U.S. government agencies

⁵⁵ Green, *Arming Japan*, 157.

⁵⁶ *Ibid.*, 21.

⁵⁷ *Ibid.*

initially pressured Japan to buy American, and later proposed joint development.⁵⁸ The FSX issue sparked intense debates inside Japan's bureaucracy between pro- and anti *kokusanka* factions. At the same time, there was strong opposition in the U.S. to the idea of joint development, as many in Congress expressed concerns that sensitive U.S. technology would be leaked. The agreement for joint development of the FSX did ultimately win out, which left many on both sides feeling dissatisfied. Another example of U.S. pressure was Japan's decision to begin production of the P-3C rather than the locally designed PXL.⁵⁹ Cases like these, among others, not only hindered Japan's ability to procure its own aircraft, but also led to continued dependence on either U.S. aircraft license transfers or direct foreign military sales. U.S. pressure is not likely to go away and remains a major obstacle in seeking autonomy.

Kokusanka is not non-existent: there are some noteworthy indigenous projects, especially in the maritime and ground domain. However, these independent systems represent a small share compared to Japan's reliance on U.S. imports, U.S. license production, and technology transfers. This is particularly true for aircraft. As Hughes points out, "Japan succeeded in rebuilding its aircraft defense production in the post-war period, using a mix of licensed and indigenous production for the F-86F, F-104J, F-4EJ, and the F-15J fighters, the T-1, T-2, and T-4 trainer aircraft, and C-1 transport."⁶⁰ Hughes's statement raises the question whether some of these aircraft are truly indigenous. Even though they technically fall under *kokusanka*, the fighters listed above are licensed American jets with Japanese variants developed and built by Japanese companies. It is no secret that the T-1, T-2, and T-4 are mere adaptations of American jets, even though on paper they are considered purely indigenous. Today, Japan's two most operationally capable fighters the F-15J and Mitsubishi F-2 are derived from American models. Additionally, for years, Ministry of Defense and leaders in the JSDF have continually requested the purchase or licensing of America's F-22 stealth fighter,

⁵⁸ Green, *Arming Japan*, 91.

⁵⁹ Christopher W. Hughes, "The Slow Death of Japanese Techno-Nationalism? Emerging Comparative Lessons for China's Defense Production." *Journal of Strategic Studies* 34, no. 3 (2011): 459, doi: 10.1080/01402390.2011.574987.

⁶⁰ Ibid.

inarguably the most advanced fighter jet on the planet. With the U.S. Congress prohibiting transfer or sale of the F-22, the Japanese opted to purchase 42 F-35s this past year. Once again, this is a direct result of Japan's remaining in the catch-up phase of indigenous production of fifth-generation stealth fighters. Although current capabilities are secured through the purchase of the F-35s, if Japan truly seeks guaranteed deterrence from countries like China, it must also be able to independently produce its own stealth fighter. The challenge for Japan is to transition away from its dependence on American weapons systems. This is not to say that Japan is making no progress in autonomous projects. Many point to the successful flight of the Mitsubishi X-2 in 2016 as Japan's having achieved development of a stealth aircraft. Although the X-2 is a crucial project that has potential to become a legitimate sixth-generation stealth fighter, it is currently a lead into test stealth technology, not an actual stealth aircraft.⁶¹ According to a project manager, "X-2 gives us an experience of stealth airframe and engine integration only," meaning that many challenges lie ahead in trying to incorporate advanced avionics and weapons.⁶² If and when the X-2 evolves into the planned stealth F-3, there remain looming questions because the project is still in the early development stages with many milestones still yet to be accomplished.

Japan's most pressing existential threat is posed by North Korea's ballistic missile program, whose tests have recently increased in both frequency and technological advancement. However, Theater Missile Defense (TMD) is an area where Japan's arsenal consists of primarily U.S.-designed systems, including the Standard Missile-3 (SM-3), Patriot Advanced Capability-3 (PAC-3), and the Aegis destroyer. Japan has also expressed interest in the Terminal High Altitude Advanced Defense System (THAAD). Although these systems are now being jointly developed with the U.S., Japan's entrance into the TMD program has been late. The indigenously developed Chu-SAM Kai air

⁶¹ Rodrigo Ugarte, "Revealed: Japan's First Stealth Fighter," *The National Interest*, May 02, 2016, <http://nationalinterest.org/blog/the-buzz/revealed-japans-first-stealth-fighter-16007>.

⁶² Ibid.

defense system does show promise with successful upgrades and testing in late 2015.⁶³ However, Kazuhiro Tobo of the TRDI notes that “Kai is a complex system in which each sensor is networked to intercept anti-aircraft threats” and that much further testing is required to determine its true capabilities.⁶⁴

B. DEFENSE BUDGET CONSTRAINTS

Japan’s defense budget has shown consecutive growth in recent years, and it may appear that the pacifist country is transitioning towards military normalization. As the NDPG requires military modernization, Japan has taken bold actions such as creating the Acquisitions, Technology, and Logistics Agency (ATLA) and purchasing F-35s. However, while the defense budget has been on an upward trend, with plans to acquire expensive high-tech platforms, it has for years remained steady at only one percent of overall GDP. As this section will argue, the one percent budget cap has prevented Japan from developing a strong acquisitions base and puts into question whether it can fund newly established programs. Additionally, this section will identify two additional potential problems associated with Japan’s budget, fiscal troubles and deferred method of financing defense equipment. Lastly, this section will show that the claim of an increasing defense budget is misleading.

1. One Percent of GDP Spending on Defense

Following a policy established in 1976, the Diet abides by a rule keeping defense spending at around 1 percent of overall GDP. Due to post-WWII pacifism, there is an embedded lack of desire for militarism in Japanese society, which is reflected in microcosm in its defense budget. As Sugai notes, “this trend means that Japan’s defense budget has not been directly responding to its security environment, but has been pursuing the implicit restriction that Japan’s defense budget shouldn’t exceed one percent of the GDP.”⁶⁵ Even though major military acquisitions receive a great deal of public

⁶³ Franz-Stefan Gady, “100 Percent of Targets Destroyed: Japan is Testing New Missile in US,” *Diplomat*, November 13, 2015, <http://thediplomat.com/2015/11/100-percent-of-targets-destroyedjapan-is-testing-new-missile-in-us/>.

⁶⁴ Ibid.

⁶⁵ Sugai, “Defense Equipment Policy” 31.

exposure, it is important to remember that defense contracts represent a small portion of revenue for major companies like Mitsubishi, Toshiba, and Kawasaki. It is no secret that Japan's bread and butter is commercial civilian markets such as automobiles, electronics, robotics, and other specialized components. In fact, Herman notes that defense sales account for only 4 percent, with global industry giants like MHI standing at 5.6 percent.⁶⁶ Although the Abe administration appears to be reversing this trend, change will not come easily. Even the approved record budget hike for 2017 represents only a 1.4% increase since 2016, while remaining under one percent of overall GDP.⁶⁷ Table 1 and Figure 2 break down the defense budget since 1975 and show minimal fluctuation over the last 40-plus years.

Table 1. Japan's Defense Budget 1975–1990⁶⁸

Year	Defense Budget	R&D	Acquisition	R&D and Acquisition	Defense/ GNP	R&D and Acquisition/ Defense	Personnel/ Defense
1975	1327	11.9	252.0	263.9	.84	19.9	52.9
1976	1512	13.6	248.5	262.1	.90	17.3	56.0
1977	1691	15.2	293.9	309.1	.88	18.3	55.0
1978	1901	17.1	325.8	342.9	.90	18.0	54.4
1979	2095	21.0	392.5	413.5	.90	19.7	51.4
1980	2230	22.3	460.9	483.2	.90	21.7	49.3
1981	2400	24.0	539.9	563.9	.91	23.5	47.7
1982	2586	28.4	580.3	608.7	.93	23.5	46.6
1983	2754	30.3	684.4	714.7	.98	26.0	44.5
1984	2935	35.2	772.5	807.7	.99	27.5	44.6
1985	3137	50.2	822.1	872.3	1.00	27.8	45.1
1986	3344	56.8	899.7	956.5	.99	28.6	45.1
1987	3517	66.8	965.7	1032.5	1.00	29.4	43.9
1988	3700	74.0	1038.9	1112.9	1.01	30.1	42.7
1989	3920	82.3	1097.6	1179.9	1.01	30.1	41.2
1990	4159	92.9	1140.3	1233.2	1.00	29.6	40.1
1991	4386	102.9	1216.2	1319.1	1.00	30.0	40.1

SOURCE: Japan Defense Agency, *Defense of Japan*, various years.

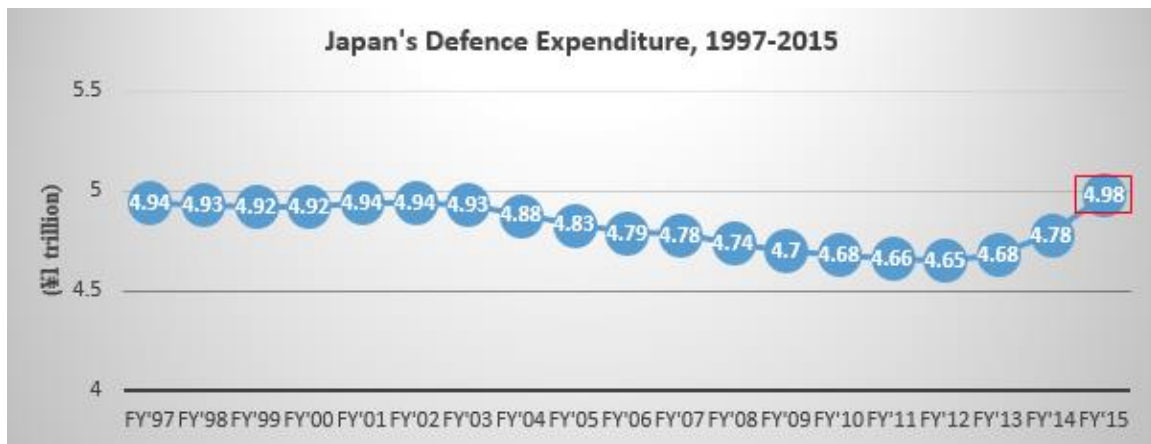
^aExpenditures in billions of yen; budget basis; ratios in percent.

⁶⁶ Arthur Herman, "The Awakening Giant: Risks and Opportunities for Japan's New Defense Export Policy," *Hudson Institute*, 6, <https://hudson.org/research/13145-the-awakening-giant-risks-and-opportunities-for-japan-s-new-defense-export-policy>.

⁶⁷ Franz-Stefan Gady, "Japan Approves Modest Defense Hike," *Diplomat*, December 23, 2016, <http://thediplomat.com/2016/12/japan-approves-modest-defense-budget-hike/>.

⁶⁸ Source: Arthur J. Alexander, *Of Tanks and Toyotas: An Assessment of Japan's Defense Industry*, Santa Monica, CA: RAND, 1993, 5, <https://www.rand.org/pubs/notes/N3542.html>.

Figure 1. Japan's Military Expenditure 1997–2015⁶⁹



The 1 percent policy has also slowed the development of Japan's defense acquisition process. It has greatly hindered Japan from developing an effective acquisitions methodology, and puts into question the funding availability for the newly created ATLA.⁷⁰ As discussed below, the ATLA is a newly formed organization that aims to revamp Japan's ability to design and deliver advanced defense equipment. Although it represents a major step towards acquisitions reform, is it questionable whether the Diet can continue to fund this organization in the long run. The fact that this agency has only just been established shows the lack of progress made in this field. As Wright describes, "Japan has been left with an under-developed government logistics arm, rather than one capable of developing a cohesive national acquisition strategy and interface with domestic defense firms."⁷¹ It will likely take years for the ATLA to develop into an effective organization, as growing pains are inevitable.

The big question is how much it will cost to sustain this agency. With high cost and significant time requirements associated with local procurement and sustainment, there is uncertainty as to whether the current budget will be adequate, because there are

⁶⁹ Source: Benjamin Schreer, "Japan's 'Record' Defence Budget Request," Australian Strategic Policy Institute, January 29, 2015, <https://www.aspistrategist.org.au/japans-record-defence-budget-request/>.

⁷⁰ John C. Wright, "The Persistent Power of 1 Percent," *Sasakawa USA* no. 4, accessed April 23, 2017, 6, <https://spfusa.org/wp-content/uploads/2016/09/1-percent-final.pdf>.

⁷¹ Ibid.

many unforeseen costs such as research, testing, and maintenance. And, as Wright notes, “one particularly unsavory problem caused by the 1 percent restriction has been the effect on the individual services within the Japanese Self-Defense Forces, which activate, staff, fund, and pay for their own service-specific research, development, and weapons acquisition.”⁷² Having committed to such an organization, the Diet may have to face unforeseen costs not currently calculated in the budget. For example, once a product is deemed fully operational, the challenge is to set up an efficient logistical support system to maintain it from cradle to grave. This includes establishing hundreds of parts manufacturers, contracting for maintenance vendors, training, and so on. This is currently the problem with the X-2 stealth program. If and when it progresses into an X-3 stealth jet program, the price tag is estimated to be \$40 billion, and the aircraft will not be mission ready until 2030.⁷³ High costs will likely spark debates in the Diet. They may very well lead to scrapping the program entirely and opting for continued dependence on the F-35, which is advantageous in cost, but still extraordinarily expensive nonetheless. Ultimately, the Diet may have to re-think its traditional 1 percent cap on defense budget if it wants to pursue the NDPG’s goals.

2. Fiscal Problems

Since defense spending is correlated with the economic health of a nation, Japan may face some serious hardships in the coming years. Japan’s current debt, which amounts to over 200% of GDP, poses a problem for the future.⁷⁴ Economist Takatoshi Ito argues “unless the Japanese government can raise its sales tax to north of 15%, from its current 8%, Japan’s economy will suffer a fiscal crisis sometime between 2021 and 2023.”⁷⁵ If such a crisis occurs, it puts into questions whether Japan can weather the costs associated with maintaining newly purchased systems. Where will the money come from

⁷² Ibid.

⁷³ Siva Govindasamy, “Japan, Mulling New Fighter Jets, Open Talks with Defense Contractors,” *Reuters*, accessed April 03, 2017, <http://www.reuters.com/article/us-japan-defence-jets-idUSKCN0WP00D>.

⁷⁴ “Data on Japan, General Government Debt,” OECD, accessed February 14, 2017, <https://data.oecd.org/japan.htm>.

⁷⁵ Chris Matthews, “Forget Greece, Japan is the World’s Real Economic Time Bomb,” *Fortune*, February 26, 2015, <http://fortune.com/2015/02/26/japan-economic-time-bomb/>.

to fund repair facilities, buy parts, or pay contractors? In terms of operating costs, will the JSDF be able to conduct enough training exercises to maintain readiness? These are questions to think about. Although not a major issue currently, if fiscal troubles lay ahead, defense industries will likely face tough cuts, as the government will have to prioritize spending.

An ongoing problem in East Asia, but particularly in Japan, is the lopsided demographics of an aging population as the birth rate continues to decline. Aside from the long-term problem of labor shortages, an aging population forces the government to allocate its budget toward social security and pension payments. This will be a serious problem in the long run. In fact, Gray points out that Japan's population is projected to decrease by 33 million in about 30 years while the population of senior citizens skyrockets, and he argues that this factor will stifle future defense budgets.⁷⁶ As the gap continues to grow, "government annual security benefits to the elderly, including pension and health care, are expected to grow to 27% of GDP in the next three decades, more than a 15% increase from 11.8% in 2000."⁷⁷ Another staggering statistic is that the social security budget has increased by 9 percent in the last three decades.⁷⁸ Figures 3 and 4 illustrate the rising cost of social security over the past three decades. With defense spending needs at an all-time high, this puts into serious doubt whether the defense industry and related activities will receive adequate funding in the long run. Although the aging population is a long-term problem, it will no doubt impact the defense budget and further complicate plans in purchasing and upgrading future defense equipment. This does not mean that security objectives cannot be met; it does mean that tough choices lie ahead in picking and choosing different weapons platforms and programs.

⁷⁶ Gavan Gray, "Japan's Defence Industry: Pacifism, Pragmatism, and Necessity," World Press, 2012, 16, <https://www.ritsueg.files.wordpress.com/2012/03/gray-japans-defense-industry.pdf>.

⁷⁷ Seongho Sheen, "Northeast Asia's Aging Population and Regional Security Demographic Peace?" *Asian Survey* 53, no. 2 (2013): 301, <http://www.jstor.org/stable/10.1525/as.2013.53.2.292>.

⁷⁸ *Ibid.*, 302.

Figure 2. Japan's Social Security versus Military Spending⁷⁹

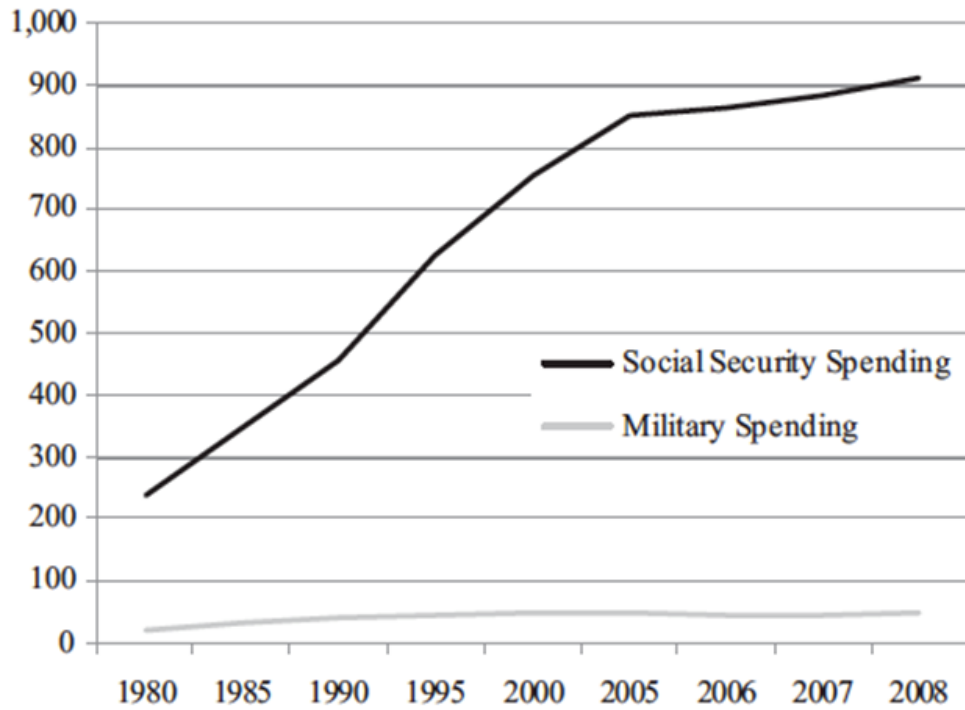
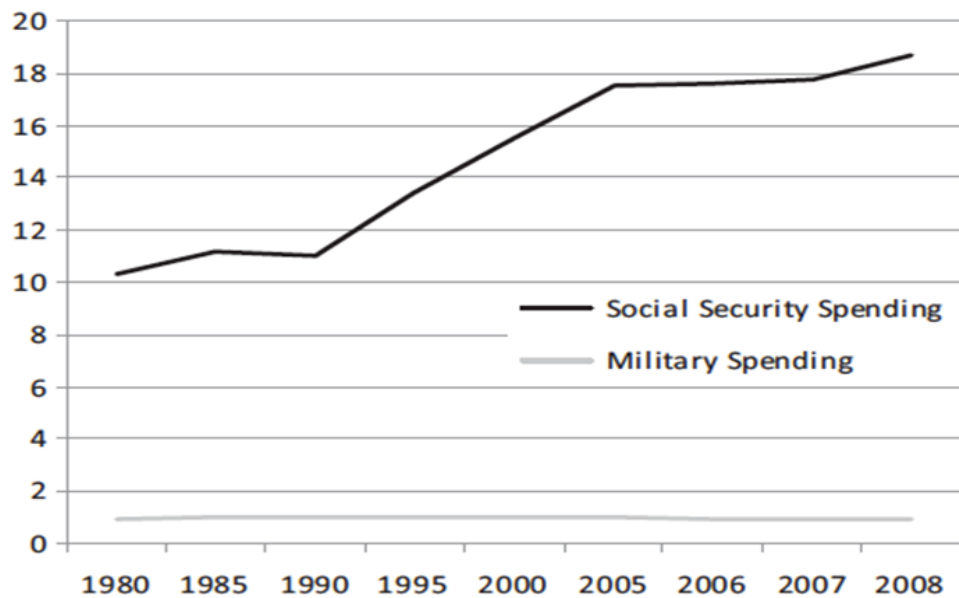


Figure 3. Japan's Social Security versus Military Spending Comparison in GDP⁸⁰



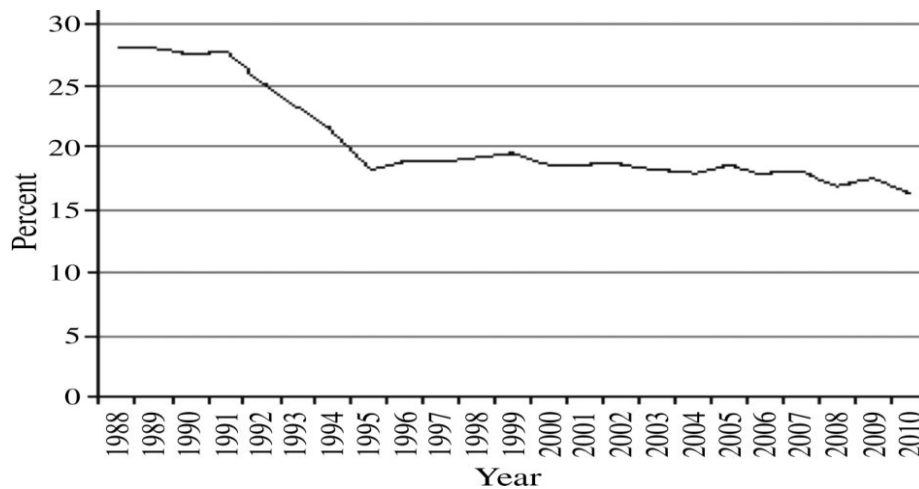
⁷⁹ Source: Sheen, "Northeast Asia's Aging Population and Regional Security," 302.

⁸⁰ Ibid.

3. Deferred Payment Method

Another interrelated potential problem is the Japanese defense payment practice known as *saimu futan koi*; essentially a “buy now, pay later” form of financing in which most payment is not made until the final years after purchase.⁸¹ While the practice of *saimu futan koi* has been useful in keeping the defense budget within one percent, continual deferment of payment can limit the purchase of vital future weapons platforms, because it puts restrictions on the future budget. Incurring payments from previous years can prove problematic when critical purchases are needed for the current year. Hughes notes that rising personnel wages and pensions add to the obligatory payments from *saimu futan koi*, giving the Diet no choice but to sacrifice defense equipment purchases.⁸² Hughes’ statistics in Figure 4 show that the budget for defense acquisition has decreased 6.5 percent over the last 20 years.⁸³ At a time when defense modernization is crucial to achieving deterrence, Japan could potentially be limited in its power to purchase major programs like ballistic missile defenses, submarines, and stealth aircraft.

Figure 4. Percentage of Japanese Defense Budget on Equipment (1998–2010)⁸⁴



⁸¹ Michael W. Chinworth, *Inside Japan's Defense: Technology, Economics & Strategy* (New York: Brassey's (US), Inc., 1992), 50-51.

⁸² Hughes, “Slow Death of Japanese Techno-Nationalism?” 461.

⁸³ Ibid.

⁸⁴ Ibid.

Although the Abe administration has consistently raised the defense budget during the past five years, this might not equate to massive purchases of military equipment or many more defense contracts. Additionally, increases in defense spending do not necessarily equate to boost for the defense industry. As Tatsumi notes for the historic budget increase of 2016, in which a significant portion was allocated to the “SACO (Special Action Committee on Okinawa)-related expenses,” which she asserts are unrelated to supporting the JSDF or weapons development.⁸⁵ Similarly, Crystal Pryor argues the budget increase of 2016 will only offset for the costs associated with the relocation of Futenma (SACO), growing personnel expenses, and depreciation of the yen; she further finds that Japan’s defense budget, not accounting for SACO, would be equivalent to the 2002 budget.⁸⁶ While it is true that major high-tech system purchases and upgrades are planned, the budget allocation towards them might not be very significant within the overall, big-picture budget. The weakening of the yen is also something to monitor with FMS from the U.S. accounting for a majority of Japan’s new acquisitions. Table 2 shows that Japan’s defense budget is actually on a downward trend when the depreciation of the yen is accounted for.⁸⁷ Ultimately, there are many competing budget priorities. The reality is that Japan will face stiff challenges in funding all its necessary defense modernization activities. Although Prime Minister Abe has articulated a bold vision to strengthen national defense, budget constraints will likely result in compromises.

⁸⁵ Yuki Tatsumi, “Japan’s New Defense Budget: Fact of Fiction,” *Diplomat*, September 05, 2015, <http://thediplomat.com/2015/09/japans-new-defense-budget-fact-vs-fiction>.

⁸⁶ Crystal Pryor, “Japan’s Security Policy Under Abe: Much Ado About Almost Nothing,” Center for Strategic & International Studies, April 02, 2016, <https://www.csis.org/analysis/pacnet-33-japan%E2%80%99s-security-policy-under-abe-much-ado-about-almost-nothing>.

⁸⁷ John C. Wright, “Japan Use of Force: Refinement & Normalization Amid Growing Regional Instability,” Canadian Global Affairs Institute, August 2016, 34, https://d3n8a8pro7vhmx.cloudfront.net/cdfai/pages/1176/attachments/original/1472575774/Japanese_Use_of_Force_-_John_Wright.pdf?1472575774.

Table 2. Pattern of Defense Spending (1955–2015)⁸⁸

(Unit: 100 million yen, %)

Item Fiscal year	GNP/GDP (Original Estimates) (A)	Annual Expenditures on General Account (B)	Growth Rate from Previous Year	General Annual Expenditures (C)	Growth Rate from Previous Year	Defense-Related Expenditures (D)	Growth Rate from Previous Year	Ratio of Defense-Related Expenditures to GNP/GDP (D/A)	Ratio of Defense-Related Expenditures to Annual Expenditures on General Account (D/B)	Ratio of Defense-related Expenditures to General Annual Expenditures (D/C)
1955	75,590	9,915	△0.8	8,107	△2.8	1,349	△3.3	1.78	13.61	16.6
1965	281,600	36,581	12.4	29,198	12.8	3,014	9.6	1.07	8.24	10.3
1975	1,585,000	212,888	24.5	158,408	23.2	13,273	21.4	0.84	6.23	8.4
1985	3,146,000	524,996	3.7	325,854	△0.0	31,371	6.9	0.997	5.98	9.6
1995	4,928,000	709,871	△2.9	421,417	3.1	47,236	0.86	0.959	6.65	11.2
2007	5,219,000	829,088	4.0	469,784	1.3	47,818 48,016	△0.2 △0.3	0.916 0.916	5.77 5.79	10.2 10.2
2008	5,269,000	830,613	0.2	472,845	0.7	47,426 47,796	△0.8 △0.5	0.900 0.907	5.71 5.75	10.0 10.1
2009	5,102,000	885,480	6.6	517,310	9.4	47,028 47,741	△0.8 △0.1	0.922 0.936	5.31 5.39	9.1 9.2
2010	4,752,000	922,992	4.2	534,542	3.3	46,826 47,903	△0.4 0.3	0.985 1.008	5.07 5.19	8.76 8.96
2011	4,838,000	924,116	0.1	540,780	1.2	46,625 47,752	△0.4 △0.3	0.964 0.987	5.05 5.17	8.62 8.83
2012	4,796,000	903,339	△2.2	512,450	△5.2	46,453 47,138	△0.4 △1.3	0.969 0.983	5.14 5.22	9.06 9.20
2013	4,877,000	926,115	2.5	527,311	2.9	46,804 47,538	0.8 0.8	0.975	5.05 5.13	8.88 9.02
2014	5,004,000	958,823	3.5	564,697	7.1	47,838 48,848	2.2 2.8	0.956 0.976	4.99 5.09	8.47 8.65
2015	5,049,000	963,420	0.5	573,555	1.6	48,221 49,801	0.8 2.0	0.955 0.986	5.01 5.17	8.41 8.68

⁸⁸ Source: Wright, “Japan Use of Force,” 34.

C. CHALLENGES IN THE DEFENSE EXPORT MARKET

In 2014, the Abe administration took the historic step of removing Japan's nearly 50-year ban on exporting arms. This was a milestone in that Japan can now internationally market its state-of-the-art military systems, such as tanks, submarines, and helicopters. Though long overdue, this decision is a step in the right direction for NDPG plan fulfillment because it allows Japan to interact with international partners in the back-and-forth exchange of marketing strategies. Also, as the "Strategy on Defense Production and Technological Bases" paper notes, "Japan's defense industries must strengthen their international competitiveness to respond to changes."⁸⁹ Additionally, international marketing will be a key activity in advancing the four missions of the ATLA, most notably its mission to "Strengthen Defense Equipment and Technology Cooperation."⁹⁰ Finally, another benefit is certainly the revenue this will bring in to boost the economy and thus offset the high cost of domestic production.

While removing the ban on arms export is an historic step that can strengthen national defense, achieving success in the international arms market will be a significant challenge because of Japan's late entry. Building legitimacy and competing with nations with established military sales programs will be a difficult task. Most problematic is the fact that the U.S. controls a majority of the international arms market with its unmatched and proven weapons platforms. For example, the F-16 and F-15 fighter jets are sold to multiple countries on almost every continent, while the list of F-35 customers is growing. Also, as previously identified, much of Japan's defense systems are U.S. technology transfers, and even much of Japan's indigenous platforms is derived from American designs. Therefore, as Herman points out, this reduces the "likelihood that foreign countries will buy Japanese when they can acquire the same technologies directly from the United States, probably at reduced cost."⁹¹ Table 3 ranks the top 25 defense exporters in the world; Japan is not included.

⁸⁹ Herman, "The Awakening Giant," 6.

⁹⁰ "Missions of ATLA," Japan Ministry of Defense, http://www.mod.go.jp/atla/en/soubichou_gaiyou.html.

⁹¹ Herman, "The Awakening Giant," 8.

Table 3. Defense Export International Ranking⁹²

Rank 2015-2015	Rank 2014-2014	Supplier	2015
1	1	United States	10,484
2	2	Russia	5,483
3	3	Germany(FRG)	2,049
4	4	France	2,013
5	6	China	1,966
6	7	Spain	1,279
7	5	United Kingdom	1,214
8	11	Isreal	710
9	8	Italy	570
10	10	Netherlands	444
11	12	Switzerland	369
12	9	Ukraine	323
13	14	Canada	312
14	15	Turkey	291
15	13	Sweden	186
16	18	Norway	155
17	25	Czech Republic	120
18	19	Australia	113
19	16	South Korea	105
20	39	UAE	63
21	41	Singapore	48
22	23	Brazil	41
23	21	South Africa	39
24		Uzbekistan	34
25	22	India	33
		Others	183
		Total	28,626

One major problem is the fact that Japanese hardware, though technologically advanced, is not battle tested. As Herman argues, “foreign customers may like the sophisticated features of Japan’s Type 90 battle tank or its OH-1 observation helicopter, but they also like a tank or helicopter that’s been tested on the battlefield, as Russian and U.S. export products have.”⁹³ Another problem is that defense contracts represent a tiny portion of sales for even Japan’s largest companies such as Mitsubishi Heavy Industries, and therefore are not a high-interest item from a managerial point of view.⁹⁴ Table 4

⁹² Source: Herman, “The Awakening Giant,” 6.

⁹³ Ibid.

⁹⁴ Herman, “The Awakening Giant,” 7.

shows that only 4 out of 20 top defense companies have a defense share above 5 percent. This problem is exacerbated by the fact that Japanese companies are leaving the defense business in large numbers in favor of the more lucrative civilian sector; they left in record numbers in the early 2000s due to lack of orders, thereby making it difficult for these companies to use defense contracts to profit from the civilian side.⁹⁵ It will then be difficult to convince corporate executives to invest their efforts into international sales. Another discouraging fact is that the MOD had been the sole customer for many companies, yielding an atmosphere where competition is nonexistent.⁹⁶ Finally, inexperience in marketing is something Japan will need to quickly overcome if it wants to succeed.

Table 4. Major Japanese Companies and Share of Defense Contracts⁹⁷

	Contractor	Items procured	Amount (in hundred million yen)	Amount (in hundred million USD) ^a	Share (%)
1	Kawasaki Heavy Industries	118	2,778	22.95	15.3
2	Mitsubishi Heavy Industries	178	1,998	16.51	11
3	IHI	37	1,147	9.48	6.3
4	Mitsubishi Electric	94	1,083	8.95	6
5	NEC Corporation	233	739	6.10	4.1
6	Toshiba	63	573	4.73	3.2
7	Japan Marine United	3	389	3.21	2.1
8	Fujitsu	98	364	3.01	2
9	Komatsu	29	291	2.40	1.6
10	Sumitomo Corporation	15	261	2.16	1.4
11	Fast Marine Transport ^b	1	250	2.07	1.4
12	JX Nippon Oil and Energy Corporation	134	184	1.52	1
13	Daikin Industries	35	156	1.29	0.9
14	Japan Steel Works	17	152	1.26	0.8
15	GS Yuasa Technology	19	145	1.20	0.8
16	Hitachi	64	143	1.18	0.8
17	Cosmo Oil Company	60	126	1.04	0.7
18	ShinMaywa Industries	8	123	1.02	0.7
19	Nakagawa Bussan	80	121	1.00	0.7
20	Fuji Heavy Industries	25	116	0.96	0.6
a. Based on Federal Reserve average yearly foreign exchange rates for 2015					
b. Source: http://www.mod.go.jp/j/procurement/jouhou.html					

⁹⁵ Hughes, “Slow Death of Japanese Techno-Nationalism?” 473.

⁹⁶ Ibid.

⁹⁷ Source: Herman, “The Awakening Giant,” 8.

The failure to sell the Soryu-class submarine to Australia is a perfect example. Mitsubishi Heavy Industries and Kawasaki were not able to adapt to requested system changes, while France (the fourth largest exporter) was able to capitalize; the Abe administration, further, failed to use political tools to engage the Australian leadership.⁹⁸ According to Newsham, “I haven’t seen . . . increased opportunities, partly owing to Japanese companies being ‘babies in the woods’ in what is a sharp-elbowed business. Nor is there much evidence I’ve seen that Japan Inc. sees defense exports as a particularly attractive niche.”⁹⁹ Newsham not only describes an inexperience problem, but also questions whether the government will remain in the export business if it deems it to be ineffective. These challenges can be overcome, but it will take years for Japan to succeed in the export business, as there will be growing pains. Also, as this thesis will later discuss, Japan will need to apply specific strategies that build on its strengths.

Aside from challenges to succeeding in the international arms market, the defense industry may also be reluctant to participate in the global weapons market for ideological reasons (on the public’s part, even if not their own). As pacifism still resonates strongly today in Japan, leaders of major defense firms might oppose the idea of being suppliers of war material. As noted above, Pryor writes that “businesses are concerned about the public labeling them as ‘merchants of death’ if they see their technology or goods used in warfare.”¹⁰⁰ Thus, far, there appear to be no specific cases of company leaders publicly expressing their opposition. However, as Herman writes, “if Japan does become a rising defense exporter, those narratives could be easily attached to the process, especially if Japanese technology is used in a conflict involving the loss of human life.”¹⁰¹ If such events do occur, there may be huge backlash from the public, which in turn will further dissuade defense companies from supporting the policy.

⁹⁸ James Simpson, “Why Doesn’t Australia Want Japan’s Submarines? (Some of Best in the World),” *National Interest*, May 09, 2016, <http://nationalinterest.org/blog/the-buzz/why-doesnt-australia-want-japans-submarines-some-best-the-16100>.

⁹⁹ Paul Kallender-Umezu, “Contractors Hope for Movement in Japanese Defense Market,” *Defense News*, September 11, 2016, <http://www.defensenews.com/articles/contractors-hope-for-movement-in-japanese-defense-market>.

¹⁰⁰ Pryor, “Japan’s New Approach.”

¹⁰¹ Herman, “The Awakening Giant,” 17.

The Japanese public has indeed been protesting Abe's pro-militarism path. Among many other protests, an estimated 120,000 people in August of 2015 assembled around the government building in Tokyo.¹⁰² Although these protests were not directed at the newly legalized defense export policy or at defense industries themselves, Herman explains that this was "in part because it was overshadowed by the controversy regarding Article 9, but also because defense exports do not have a notorious historical legacy linked to Japan's imperialist past."¹⁰³ In other words, the broad opposition towards Article 9 revision actually masked the awareness of an export ban policy, and thus was able to forestall criticism. But while defense exports are not being tied with Japan's past, this is primarily because Japan was banned from the practice. With the ban now lifted, there is potential for this situation to change. Employees of Japan's defense companies may also be ideologically opposed to exporting arms, which may lead them to leave the organization, which could then lead to production shortfalls.

This chapter has outlined the challenges of Japan's defense industry in supporting the NDPG. These boil down to history, policy, ideology, and ties with the U.S. This thesis does not underestimate the strengths of Japan's defense industry base, which ranks high by international comparison. It also does not conclude that Japan cannot overcome challenges related to *kokusanka*, the budget, or entering the international arms market. It does provide a specific framework for Japan's leaders to focus on in trying to meet NDPG objectives. The new NDPG is bold and contains unprecedented guidelines. As the defense industry is at the forefront of supported unprecedented capabilities, its leaders must work towards problem resolution because its challenges are significant.

¹⁰² Jon Queally, "In Japan, Tens of Thousands Anti-War Protesters Reject Return to Militarism," *Common Dreams*, August 15, 2015, <http://www.commondreams.org/news/2015/08/30/japan-tens-thousands-anti-war-protesters-reject-return-militarism>.

¹⁰³ Herman, "The Awakening Giant," 17.

III. CHALLENGES POSED BY JAPAN'S GOVERNMENT, SOCIETY, AND ECONOMIC PARTNERS

A. OVERVIEW

There is no doubt that the 2013 NDPG contains unprecedented aggressive language that articulates the imminent security threats that Japan faces today. It also specifies bold commitments the nation will take to confront threats in the new security environment. As the NDPG represents the official position of Japan's government, Prime Minister Abe and his cabinet should evaluate the strength and weaknesses of various government organizations in carrying out these commitments. Specifically, they should evaluate the capabilities of different ministries/agencies to formulate policies and strategies that are unified, effective, feasible, and will receive public support. Success will be dependent on the performance of Japan's cabinet and the ministries, the architects with the power to guide Japan's path going forward. This chapter will first investigate the internal deficiencies of the ministries, including the MOFA, MOD, METI, and MOF, by identifying issues/factors that cause gridlock and inefficient decision-making. This chapter will then examine specific challenges that hinder the Prime Minister and his cabinet from achieving the NDPG goals. This section will focus specifically on the factors that prevent Japan's militarization: 1) legal authority of the Cabinet Legislation Bureau; 2) roots of pacifism; and 3) geopolitical risks. Lastly, carrying out the NDPG objectives ultimately lies with the health and capability of the Japanese Self-Defense Forces. This chapter will examine the organizational and operational problems that the JSDF faces today. As this thesis argues, major deficiencies and shortfalls exist within these government organizations, and there are societal and regional factors that affect (and may limit) Japanese policies as well. This chapter identifies these problems and shortfalls, explains why they exist, and assesses how they may limit fulfillment of Japan's security objectives.

B. CHALLENGES TO JAPAN'S BUREAUCRACY

As the nation transitioned to a civilian-dominant society after WWII, Japan's central bureaucracy came to exert significant power over the nation as it controlled policies and regulations. Japan's bureaucrats still exercise enormous power through legitimacy gained over the years from an organizational structure that has survived through the U.S. occupation, and as the architects that transformed Japan into an economic giant.¹⁰⁴ It is widely known that bureaucratic seats in the government are reserved for Japan's academic elite graduating from top universities. On top of the food chain under the cabinet are the various ministries. Among the most influential in defense policy are the Ministry of Foreign Affairs (MOFA); Ministry of Economy, Trade and Industry (METI); and the Ministry of Defense (MOD), which was upgraded from the Japanese Defense Agency (JDA) in 2007. Also, despite not having formal decision-making authority, the Cabinet Legislation Bureau (CLB) is an agency with enormous power in influencing Japanese legislation. However, has history as shown, Japan's bureaucracy is filled with gridlock, as competing interests often result in inefficiencies in decision-making. This is especially true in regards to issues of national defense. Additionally, corruption among bureaucratic and defense industry leaders has been a widespread problem, which puts into question the integrity of appointed officials. As this thesis argues, these issues are major constraints on Japan's initiative to expand its defense apparatus to support the NDPG.

1. Gridlock within the Ministries

The post-war legacy of civilian control of the military brings with it inefficiencies and competing interests inside the bureaucracy. As with many political systems in the world, Japan's bureaucracy is comprised of various organizations vying to pursue different agendas. The politics of national defense have historically caused gridlock inside the bureaucracy as competing opinions have clashed. Why is gridlock problematic in terms of meeting NDPG objectives? Primarily, the NDPG lays out Japan's unique

¹⁰⁴ Joseph P. Keddell, *The Politics of Defense in Japan: Managing Internal and External Pressures* (Armonk, NY: M.E. Sharpe, Inc. 1993), 19.

defense challenges and priorities for the complex security environment of the 21st century, and therefore may change the paradigm in approaching defense strategy. Such changes will continue to raise new issues, spark debates, and increase the amount of complex decision making inside Japan, and it therefore may lead to increased gridlock in the ministries because it may result in more conflicting viewpoints. This may then undermine the ability of Japan's leaders to develop a cohesive defense strategy to support the NDPG.

One starting point for discussion is the former Japan Defense Agency, (JDA) which was established as a subordinate organization to the higher ministries in order to reduce military influence; the idea was to put serious checks on the JDA's ability to make key political decisions and to ensure civilian oversight of all activity.¹⁰⁵ In that sense, the JDA's scope of authority in the past did not go beyond control of the SDF, with limited influence on broader security matters.¹⁰⁶ Instead, other ministries' officials, working inside the JDA, were actually responsible for presenting legislation to the cabinet. But this structure also created a legacy of competition in which too many ministries compete on defense policies, which inevitably has led to gridlock. As Chinworth writes, "seconded officials from the Foreign Affairs, Finance, and International Trade and Industry ministries, are involved in key decisions in such critical areas as policy planning and procurement," and "with the presence of so many officials from key ministries throughout the JDA, it is difficult if not impossible for any single agency to prevail in all policy debates and every individual defense-procurement decision."¹⁰⁷ Although the JDA was upgraded to the MOD in 2007 and is now on equal footing with the MOFA, MITI, and MOF, it still lacks autonomous decision-making power when it comes to national defense. As Chinworth argues, this is primarily because the ministries for many years were embedded within the JDA in key posts. The most salient is the internal bureau

¹⁰⁵ Chinworth, *Inside Japan's Defense*, 3.

¹⁰⁶ Keddell, *The Politics of Defense in Japan*, 19.

¹⁰⁷ Chinworth, *Inside Japan's Defense*, 2.

inside the JDA with ultimate decision-making power, which before the transition to the MOD was staffed by other ministry officials, not the JDA.¹⁰⁸

The establishment of the MOD does not give the ministry free rein to push for defense modernization or more aggressive rules of engagement for the SDF. Even though the MOD now has greater power to advocate for increased roles for the JSDF, MOFA personnel are still the primary diplomats responsible for setting the framework of national security strategy and for taking the lead in managing policies related to the U.S.-Japanese alliance.¹⁰⁹ Additionally, as Japan's lead diplomats, MOFA officials represent the government during major multilateral talks with prominent international institutions such as ASEAN, and in doing so "[stress] Japan's positive postwar role as a peaceful contributor to the international community."¹¹⁰ Even though it would seem that the MOD has the greatest leverage in determining defense policies today, as Oros notes, "SDF and MOD independence to craft and pursue military policy is highly constrained by other actors and by the security identity of domestic antimilitarism."¹¹¹ As argued, the MOFA competes with the MOD over security policies.

Japan's METI (formerly known as MITI) has enormous power as the lead organization for managing all economic and trade activity. Although not directly involved in developing defense policy, it holds authority in decisions made inside the defense industry, as this is interconnected with economic policy. METI has historically taken positions against the defense industry if they conflicted with the interests of the overall industry, such as its opposition to exporting defense technology in 1983.¹¹² As the previous chapter detailed Japan's application of dual-use technology, METI has been the enforcer of this rule in that all new defense projects must be vetted through it to make

¹⁰⁸ Chinworth, *Inside Japan's Defense*, 3.

¹⁰⁹ Andrew L. Oros, "Japan's Strategic Culture: Security Identity, in a Fourth Modern Incarnation?" *Contemporary Security Policy* 35, no. 2 (June 2014): 241, doi:10.1080/13523260.2014.928070.

¹¹⁰ Oros. "Japan's Strategic Culture," 241.

¹¹¹ Ibid.

¹¹² Takao Sebata, *Japan's Defense Policy and Bureaucratic Politics, 1976-2007*. (Lanham, MD: University Press of America, Inc. 2010), 77.

sure it benefits the civil sector.¹¹³ For instance, if Japan were to pursue an indigenously developed intercontinental ballistic missile program, METI would most likely support the program only if certain components, (e.g., the guidance system) could also be used on commercial vehicles. This is an example of how each ministry approaches national defense from its own tunnel vision perspective.

Bureaucratic gridlock is especially problematic in that it has historically constrained Japan's defense budget. Similar to the way America's defense budget is highly affected by lobbying politics, so too is Japan's system. The root problem is that ministries make budget decisions based not only on actual operational defense needs, but also on legal terms, and the perceived equity of the budget allocation.¹¹⁴ In doing so, Peters argues, Japan's bureaucracy is "characterized by lack of direction and conservatism."¹¹⁵ For instance, the MOD will make an annual defense budget request based on what it feels is a fair entitlement compared to what other programs are receiving. For example, if it deems that healthcare is getting an unequal share of the pie, it might cry foul and demand redistribution. Also, the Ministry of Finance maintains the power to oversee and review the annual budget, and in doing so, it has historically put constraints on the defense budget.¹¹⁶ As noted in the previous chapter, Japan operates under the rule that defense spending cannot exceed one percent of overall GDP. The MOF is the enforcing organization of this rule in that any proposal for military spending by the MOD must be justified in part by having both civilian technology utilization and aiding the overall economy.¹¹⁷ This presents a problem in today's sensitive security environment, where the budget should be judged upon whether it reflects requirements to deter threats, not whether it violates the one percent rule.

The FSX conflict clearly illustrates how competing interests inside the bureaucracy can lead to massive gridlock. The FSX was the planned *kokusanka* project to

¹¹³ Sebata, *Japan's Defense Policy and Bureaucratic Politics*, 77.

¹¹⁴ Keddell, *The Politics of Defense in Japan*, 20.

¹¹⁵ Ibid.

¹¹⁶ Keddell, *The Politics of Defense in Japan*, 18.

¹¹⁷ Chinworth, *Inside Japan's Defense*, 20.

develop a fourth-generation fighter jet to replace the F-1. Initially, leaders of the JDA and SDF and some in MITI supported the initiative for autonomous development. However, there was polarization inside MITI between those who supported *kokusanka* in the belief that it would strengthen Japan's industrial base and those that felt the project would drain the nation of precious resources that would be better utilized elsewhere.¹¹⁸ The division was exacerbated when the U.S. relentlessly pressured for co-development. Ultimately, the decision for co-development prevailed, as there was fear that *kokusanka* would jeopardize trade relations with the U.S.¹¹⁹ Although Japan eventually benefited with the co-development of the F-2, it was a long, drawn-out decision that wasted years of healthy production.

The root cause of the gridlock problem is ultimately conflicting interests and power politics inside the bureaucracy. As the ministry with the most power in determining security policy, MOFA has traditionally prioritized the importance of the U.S.-Japan alliance in its overall strategizing, meaning it will abstain from making policies that will jeopardize the relationship.¹²⁰ As another major player in formulating defense policy, METI's interests are obviously driven by Japan's global economic strength. The MOD is, of course, focused on Japan's military capability and defense readiness. Gridlock is not surprising in Japan's bureaucracy, considering that each ministry views defense policy from such a different perspective.

2. Inefficient Decision-Making

Another enduring problem in Japan's bureaucracy is inefficient decision-making on many fronts. One salient reason is what Keddell describes as a culture that values "consensual decision-making" rather than "majority decision-making."¹²¹ He argues that this causes long lead times in actually making a decision, as well as poor decisions

¹¹⁸ Chinworth, *Inside Japan's Defense*, 19.

¹¹⁹ Green, *Arming Japan*, 115.

¹²⁰ Chinworth, *Inside Japan's Defense*, 15.

¹²¹ Keddell, *The Politics of Defense in Japan*, 20.

because group consensus is valued over the importance of the decision itself.¹²² And as Campbell contends, this discourages alternative options because decisions are made based on the dynamic relationship between ministry officials.¹²³ This is problematic because long critical thinking is required when formulating decisions on national security policy, especially when lives are at stake. While compromise leads to greater cohesion in decision-making, these decisions might not be in the best interest of the country.

Another criticism of the Japanese government system is that a small group of bureaucrats draft legislation and submit it to the cabinet without sufficient inputs from outside experts.¹²⁴ The NDPG falls into this category because it is a product developed primarily by the MOD and National Security Council, but without opinions from civilian leaders outside the government. Sugai draws a comparison with the American legislation process, in which Congress coordinates with multiple departments inside the cabinet as well as subject matter experts in academia, whereas the Japanese process is “bottom-up specific planning by career bureaucrats.”¹²⁵ This represents a decision-making problem because the cabinet is essentially approving a policy with a limited scope of perspective. For a policy document like the NDPG, which has huge strategic implications, it should also include advice from experts in Japan’s non-government organizations, such as academia, think tanks, the defense industry, etc. Shortfalls and limiting factors can only be identified through multilateral perspectives. In particular, the drafting policy should include leaders from the defense industry, because the NDPG calls for specific military capabilities that are dependent on weapons platforms. For example, Section Two states, “the SDF will seek to augment its various information collection capabilities, including HUMINT, OSINT, SIGINT, and IMINT, as well as persistent ISR capabilities using unmanned aerial vehicles.”¹²⁶ A detailed plan such as this requires consultation from defense company experts who can provide specific details on the production of

¹²² Keddell, *The Politics of Defense in Japan*, 23.

¹²³ *Ibid.*, 20.

¹²⁴ Sugai, “Defense Equipment,” 9.

¹²⁵ *Ibid.*, 10.

¹²⁶ Government of Japan, “National Defense Program Guidelines,” 17.

reconnaissance planes, satellites, and radar equipment, and who can determine the feasibility to sustain the program. Other important considerations might include logistical support, budgetary requirements, and operational testing.

A further deficiency inside Japan's bureaucracy, and a characteristic of Japan's work culture in general, is that information is not widely shared between organizations, leading to decisions based on limited information.¹²⁷ The various sub-organizations of Japan's bureaucracy are stove piped to the point of minimizing collaboration and coordination between departments. There is thus the risk of poor decisions being made on the basis on inadequate analysis and input. The other consequence is that new ideas do not flow between different organizations. It can therefore be assumed that Japan's bureaucracy is operating at low efficiency because problems and solutions are not communicated across the board. Sugai asserts that the MOD in particular must transition into a joint culture where interaction is maximized.¹²⁸ One exemplar of such a culture might be a weekly interdepartmental hotwash meeting where information is shared across the board on how to improve processes based on what is working and what isn't.

When it comes to bad decisions, none is more problematic than corruption. On issues regarding defense, there are deep ties between officials from the MOD and the major defense industries. This may be confusing because the previous paragraphs identified a lack of collaboration between the ministries and non-government organizations. The deep ties mentioned above are exclusive to the MOD and defense industries and do not apply to the bureaucracy as a whole. Such collusion might not be surprising considering that Japan has a culture where large portions of retired JSDF officials join the defense industry after retirement. This leads to backdoor deal-making between industry leaders who bribe MOD officials for defense contracts. Hughes describes the term "*amakudari* (literally "descent from heaven"), or placing of retired bureaucrats and uniformed officers on the boards of companies."¹²⁹ Some of the most

¹²⁷ Sugai, "Defense Equipment," 2.

¹²⁸ Ibid.

¹²⁹ Christopher W. Hughes, "Chapter Four: Japan's Military-Industrial Complex," *The Adelphi Papers* 48, no. 403 (2008): 69, doi: 10.1080/05679320902955252.

prominent cases that Hughes points out include: 1) a 1998 contracting scandal in which heads of the JDA allowed contractors to manipulate a defense contract; 2) a 2006 scandal in which Defense Facilities Administration Agency illegally conspired with private companies for a defense contract; and most famously 3) a 2007 case in which former MOD vice-minister Moriya was caught accepting ¥12m from a major company to grant an engine contract.¹³⁰ The Moriya case was a wakeup call that revealed the sheer level of networking between bureaucrats and industry, and it prompted the MOD to take action.¹³¹ Throughout the investigation it was revealed that hundreds of former high-ranking officers in the JSDF had transferred to high-profile companies like Mitsubishi Heavy Industries.¹³² Although there have been reform efforts to combat this problem, the underlying problem, as Hughes notes, is that “Japan faces a problem of essentially structural corruption due to the relatively young retirement age and delayed pensions, by international standards, of Ministry of Defense bureaucrats and JSDF officers, and contractors seeking to offer re-employment in return for information on defence procurement.”¹³³ Corruption of this kind undermines not only the integrity of Japan’s bureaucrats, but also the legitimacy of other decisions, not to mention the faith of the public. In terms of national defense, critical decisions on the weapons systems contracts should be strictly based on performance and economics. Decisions based on favoritism or loyalty to a certain faction can negatively affect national security.

Although the 2013 NDPG has successfully passed, it is not an end-all policy, and there are sure to be continued debates and disagreements on its application from many sides. For example, the NDPG states, “Japan will contribute even more proactively in securing peace, stability and prosperity of the international community while achieving its own security as well as peace and stability in the Asia-Pacific region.”¹³⁴ With the broad nature of this statement, there are looming questions as to the extent of the JSDF’s

¹³⁰ Ibid., 69-70.

¹³¹ Ibid., 70.

¹³² Ibid., 71.

¹³³ Ibid., 70.

¹³⁴ Government of Japan, “National Defense Program Guidelines,” 5.

deployment in joint international operations. What constitutes peacekeeping operations? What is the line drawn between peacekeeping and offensive combat operations? What level of offensive operations by the JSDF constitutes self-defense? How many stealth fighters are required to maintain adequate security within Japan's airspace? There are many more policy decisions to be made, and Japan's bureaucracy is far from unified when it comes to the future of its defense. This is not to say that effective policies cannot be passed and implemented. However, with so many officials with different interests involved in policy-making, and with the legacy of suppressed influence of the JDA, further decisions on the application of the NDPG will face obstacles, which at the very least will slow down the process. Furthermore, the process and culture of decision-making inside the bureaucracy is a recipe for inefficiency. Lastly, collusion between defense officials and bureaucrats greatly undermines the legitimacy of officials in high positions.

C. CHALLENGES OF JAPAN'S CABINET

With the successful publishing of the 2013 NDPG, there may be a general assumption that Prime Minister Abe and his cabinet will have no opposition in carrying out their defense objectives. While it is true that major milestones have been completed, there are powerful forces both domestically and internationally that will present stiff challenges for the administration going forward. Most salient is the post-war legacy of antimilitaristic pacifism, through which Abe will continue to face opposition from both the public and inside his cabinet. Also, any proposed change to defense policy is dependent on getting buy-in from the Cabinet Legislation Bureau (CLB). The CLB is the lead organization in interpreting laws, and thus can be a legal challenge for the prime minister. Finally, the NDPG presents a major political risk to Japan in the international relations arena because its neighbors are suspicious and fearful of Japan's militarism.

1. The Cabinet Legislation Bureau (CLB)

Despite their somewhat discreet stature and lack of decision-making authority, Japan's CLB is an agency of experts that wields enormous influence as the prime minister's top advisory group. Particularly depended upon to interpret the law, it holds

significant power in shaping security policy because its judgment is given the highest legitimacy. The CLB has been, and will continue to remain a potential obstacle for the prime minister and cabinet in pushing policies, especially if there is disagreement. As Samuels describes, “by exhaustively and authoritatively reviewing all proposed policies and by issuing ‘unified government interpretations’ (*tôitsu kenkai*), the CLB effectively ‘collateralizes’ the authority of bureaucrats, lawmakers, and jurists alike (*keni o urazukeru mono*).”¹³⁵ With such authority, the CLB is an agency that has historically restrained the power of the prime minister. When it comes to interpretations on issues relating to national security, this agency holds greater power than even the Supreme Court, who has never challenged a CLB ruling.¹³⁶ Therefore, Abe and future prime ministers wishing to push for securitization and NDPG objectives face the challenge of receiving support and consensus from the CLB.

The CLB presents an obstacle for the prime minister and cabinet primarily because of its efforts to maintain the Yoshida Doctrine.¹³⁷ As the NDPG is in line with increased securitization, the CLB in the future has the potential to put increased restriction on legal actions of the JSDF. Some examples include delaying the MSDF from deploying battleships in the aftermath of September 11th,¹³⁸ and deeming it unconstitutional for the SDF to conduct operations alongside the U.S. military during the first Gulf War.¹³⁹ Assuming that Japan remains on the current trajectory towards greater collective self-defense, Article 9 of the constitution will be further stretched and will again require CLB interpretations. The CLB particularly proved to be an obstacle for former Prime Minister Koizumi in pushing for interpretations of Article 9 on collective security, an effort which he officially gave up, “but added that ‘there is room for cautious

¹³⁵ Richard J. Samuels, “Politics, Security Policy, and Japan’s Cabinet Legislation Bureau: Who Elected These Guys Anyways?” Japan Policy Research Institute, JPRI Working Paper No. 99, (March, 2004), <http://www.jpri.org/publications/workingpapers/wp99.html>.

¹³⁶ Oros, “Japan’s Strategic Culture,” 237.

¹³⁷ Richard J. Samuels, *Securing Japan: Tokyo’s Grand Strategy and the Future of East Asia* (Ithaca, NY: Cornell University Press, 2007), 37.

¹³⁸ Samuels, “Politics, Security Policy.”

¹³⁹ Samuels, *Securing Japan*, 76.

and mature deliberation.”¹⁴⁰ Prime Minister Abe in his first term also faced opposition from the CLB when pushing for Collective Self-Defense (CSD) operations by the SDF. The CLB responded with: “government believes that the exercise of the right of collective self-defense exceeds the limit on self-defense authorized under Article 9 of the Constitution and is not permissible.”¹⁴¹

Many would argue that the CLB is declining in power and that both Koizumi and Abe have used their power to pressure it to favor their agendas. While it is true that the prime minister now has greater leverage over the CLB, it retains Supreme Court-like authority when it comes to constitutional interpretations. Even though the CLB has recently sided with Abe’s agenda to use the SDF for CSD, it nonetheless imposed strict limitations. These are often overlooked. For example, as Oros points out, in response to Abe’s goals for increased international operations by the JSDF, “the CLB issued an interpretation that allowed for the JSDF to operate in ‘areas surrounding Japan’ outside Japanese territory—with the restriction that the JSDF could *not* operate in the air, land, or sea territory of another state.”¹⁴² The last part puts into question exactly what roles the JSDF can play, or if the right to CSD is even achieved. Oros further expands on the limitations on CSD directed by the CLB which “directs that such CSD actions would be undertaken in only extremely limited circumstances: only when not acting ‘threatens Japan’s survival’ and ‘when there is no other appropriate means available to repel the attack’ and, even then, that the JSDF is permitted ‘the use of force to the minimum extent necessary . . . in accordance with the basic logic of the Government’s view to date.’”¹⁴³ When reading these limitations, one must question the exact interpretation of “extremely limited circumstances,” or the probability of the JSDF ever encountering a situation where the nation’s survival is at stake.¹⁴⁴ Taking this into consideration, it is reasonable to assume that the CLB’s decision to allow collective self-defense was only political,

¹⁴⁰ Samuels, “Politics, Security Policy.”

¹⁴¹ Andrew L. Oros. *Japan’s Security Renaissance: New Policies and Politics for the Twenty-First Century* (New York: Columbia University Press, 2017), 153.

¹⁴² Ibid., 154.

¹⁴³ Ibid.

¹⁴⁴ Oros, *Japan’s Security Renaissance*, 154.

because in reality, the operational environment will not allow the JSDF to practice CSD to the level requested by Abe. Even though the CLB seems to be more controlled by the prime minister today, this agency historically has significantly slowed Japan's tilt towards the perceived path of normalization. Considering that the NDPG is a step towards normalization, getting buy-in from the CLB will continually be a challenge for the prime minister and cabinet. The mere fact that prime ministers consult the CLB on major political decisions when technically not required to goes to show that legitimacy is only gained by receiving its seal of approval. As Samuels explains, "Japan's most conservative political leaders have never forgotten the constraints imposed by CLB interpretations, nor have they ever forgiven the CLB for playing upon divisions in the conservative camp and inserting itself so directly into the political debate."¹⁴⁵

2. The Roots of Pacifism

Perhaps the greatest challenge for Abe and his cabinet in modernizing Japan's defense and meeting the overall NDPG objectives is overcoming the nation's embedded ideology of pacifism post-WWII. Japan's society remains sensitive to and suspicious of any activities related to strengthening its defense. The historical memory of devastation that resulted from its militaristic past still resonates in a powerful way. Oros writes that non-militaristic ideas "did become hegemonic over time," and that these has become Japan's "strategic culture."¹⁴⁶ Despite Japan's heightened sense of vulnerability due to growing security threats in recent years, the forces of pacifism reinforced by tragic war memories are prevalent in all aspects of Japanese society, and will prove difficult to overcome. In fact, one might argue that in Japan, debates over national security are not about whether to increase military capabilities, but more about stretching the limits of the already established Japanese identity of pacifism.¹⁴⁷ That is, what is negotiable is not antimilitarism itself, but only how far it can be pushed. Japan's security strategy by and large is still tied to the Yoshida Doctrine of depending on the U.S. alliance for defense

¹⁴⁵ Samuels, "Politics, Security Policy."

¹⁴⁶ Oros, *Japan's Security Renaissance*, 154.

¹⁴⁷ Oros, "Japan's Strategic Culture," 239.

while focusing on economic growth. The challenge for Abe and future prime ministers seeking to enhance defense capabilities to support the NDPG will be to garner support from the peace-loving public.

A massive literature on Japan's path to normalization in the last decade argues that continuous reinterpretations of Article 9 are gradually chipping away the limits of self-defense and that the LDP under Abe will eventually revise the constitution. This thesis is not directly concerned with the debate on Japan's normalization, nor does it argue that Japan will not normalize its military. However, the issue of normalization is directly correlated to this thesis' discussion on the challenges of Japan's cabinet in achieving the NDPG, because the NDPG is tied to the current administration's goals of a more collective self-defense, particularly to increase joint operations with the U.S. While it is true that the LDP has been moving towards normalization with the DPJ also having moved more to the right, the building blocks that have put restraints on defense for almost 70 years are still powerful today. This restraint on defense is not only rooted in Article 9 of the constitution, but also further reinforced by internal laws that Japan's leaders have put into place. Therefore, to understand the power of postwar pacifism, it is important to review and understand these internal laws. Japan scholar Christopher Hughes provides them sequentially in Table 5:

Table 5. Japan's Internal Military Restrictions¹⁴⁸

Japan not to become a military great power ('gunji taikoku to naranai koto') • Japan's government has regularly repeated this public pledge. • Japan provides no strict definition of the criteria for this, but stresses that it will not acquire military capabilities above the minimum necessary or that can threaten other states.
Three Non-Nuclear Principles ('hikaku sangensoku') • Prime Minister Sato introduced the three non-nuclear principles in 1967: – Japan is not to produce, possess, or introduce nuclear weapons. • Japan is to rely instead on the US nuclear umbrella, although it does not regard the possession of its own nuclear deterrent as necessarily unconstitutional if used for the purposes of self-defence. • The first two principles were strengthened by Japan's entry into the Non-Proliferation (NPT) in 1976. • The third principle is believed to have been breached by the introduction into or transit through Japanese ports of nuclear weapons on US naval vessels.
Restrictions on the exports of arms and military technology • In 1967, Prime Minister Sato's administration first enunciated restrictions on arms exports to communist states, countries under UN sanctions, and parties to international disputes. • In 1976, Prime Minister Takeo Miki's administration ordered restraint in the case of all states, and prohibited the export of weapon-related technology. • Prime Minister Nakasone partially breached this principle by signing an Exchange of Technology Agreement between Japan and the United States in November 1983. • Restrictions have largely held, even though Japan has exported certain dual-use technologies with civilian and military applications. • Since 2003, there have been moves to lift this ban for BMD cooperation.
Peaceful use of space • In May 1969, the Diet imposed a resolution stating that Japanese activities in space should be limited to peaceful purposes ('heiwa no mokuteki ni kagiri'), interpreted as meaning non-military activities ('higunji'). • Japan's development of spy satellites and a BMD system since the 1990s has challenged this principle. Japan may seek a subtle reinterpretation of this principle, changing the meaning of peaceful purposes to 'defensive' rather than 'non-military', or it may seek to abandon the principle entirely.
One per cent of GNP limit on defence expenditure • In 1976, Prime Minister Miki established the principle that defence expenditure should be limited to 1% of GNP. • Prime Minister Yasuhiro Nakasone in effect breached this principle by pushing defence spending just above 1% in 1986. • Successive administrations have kept Japanese defence spending at around the 1% level.

¹⁴⁸ Source: Christopher W. Hughes, "Chapter One: Japan's Post-war Security Trajectory and Policy System," *The Adelphi Papers* 44, no. 368-369 (2004): 35, doi: 10.1080/05679320412331340327.

These extraordinary limitations on defense are arguably unmatched by any other nation. Although some of these restrictions have been lifted throughout the years, they still exist in the ideological sense and, at the very least, have slowed Japan in both defense modernization and in interpretations of defense policy.

One interesting aspect of Japanese society is that despite recognizing growing threats in the region, the public through the years still fails to clearly support an increased defensive posture. For example, in July of 1988, majority of participants believed there was a strong possibility that Japan would be involved in armed combat in the future; however, “only 3.6 percent said they would join the Self-Defense Forces in that event with 28.3 percent declaring they would ‘support’ the SDF.”¹⁴⁹ A decade later, in 1999, Oros points out an incident in which Japan’s MSDF fired warning shots at four unknown ships that entered into Japanese maritime territory; after the incident, public polling revealed that one-third of respondents opposed firing shots even when Japanese territory was breached.¹⁵⁰ Moreover, in 2004 SAGE polls, almost half felt that war was unjustified even when attacked, while less than a quarter felt that a stronger military led to peace.¹⁵¹ The most compelling data in these polls, as Oros points out, was that 85.9 percent felt diplomacy was the best method to avoid war, while emphasizing the importance of international institutions.¹⁵² If we fast-forward to the 2013/2014 period, we see no major changes in public opinion on the acceptable use of the JSDF. Specifically, in regards to opinions on the right of collective self-defense, Oros notes that “only a tiny minority supported ‘fighting on the front lines in combat with the United States (7 and 5 percent, respectively, so a *decline* year on year); only 17 percent of those polled thought it was acceptable for the JSDF to ‘provide weapons and fuels support to the U.S. military overseas’ (down from 20 percent in 2013).”¹⁵³ Furthermore, additional surveys reveal that only 30 percent support strengthening the JSDF, while half are opposed to overseas

¹⁴⁹ Chinworth, *Inside Japan’s Defense*, 8.

¹⁵⁰ Andrew L. Oros, *Normalizing Japan: Politics, Identity and the Evolution of Security Practice*. (Stanford, CA: Stanford University Press, 2008), 180.

¹⁵¹ Ibid., 174.

¹⁵² Ibid.

¹⁵³ Oros, *Japan’s Security Renaissance*, 151.

deployments.¹⁵⁴ The inconsistency is that despite general public consensus on potential threats, the public does not support a more aggressive military stance. Even though there is a growing sense of insecurity due to North Korea's nuclear/missile capability and China's militarization in the South China Sea, the public does not believe that this justifies a more offensive oriented use of the SDF. This sentiment is reflected in another 2014 poll collecting opinions on the best method to deal with the growing Chinese threat, in which half the participants believed that increased diplomacy with its neighbors was key; meanwhile, only 5.2 percent emphasized the utility of the U.S. alliance.¹⁵⁵ The decline is a worrisome trend because disputes with China have only escalated since 2010, especially over the Senkaku Islands and the massive buildup on the reefs of the South China Sea. This poses a significant challenge for the Abe administration, which in the long run must convey to the Japanese public a justification for the SDF's conducting more aggressive joint operations with the U.S. military in pursuit of a "dynamic joint defense force."¹⁵⁶ As in any democratic nation, Japan's public holds enormous influence in shaping defense policy.

As Satoh and Van de Velde argue, "the absence of a clear constitutional definition of 'self-defense' means public opinion will remain a major determinant in the formation of Japanese defense policy."¹⁵⁷ Ambiguity in the definition of self-defense is an important point given numerous reinterpretations over the years. It is reasonable to argue that continuous reinterpretations only delegitimize the government, thereby giving public sentiment greater authority in determining defense policy.

A significant and growing threat to Japan's security is posed by North Korea, which in 2016 conducted another underground nuclear test in addition to multiple ground-based and SLBM missile launches that landed directly in Japan's exclusive

¹⁵⁴ Adam P. Liff, "Japan's Defense Policy: Abe the Revolutionary," *The Washington Quarterly* 38, no. 2 (2015): 92, <http://dx.doi.org/10.1080/0163660X.2015.1064711>.

¹⁵⁵ Oros, *Japan's Security Renaissance*, 150.

¹⁵⁶ Government of Japan, "National Defense Program Guidelines," 7.

¹⁵⁷ Keddell, *The Politics of Defense in Japan*, 24.

economic zone. In response, as part of his speech to the UN General Assembly, Prime Minister Abe delivered the following statement:

This year alone, North Korea has launched a total of 21 ballistic missiles. In addition, it claims to have successfully detonated a nuclear warhead in a test on September 9. . . . This series of launches of missiles and a detonation of a warhead does change the landscape completely. . . . We must therefore respond to this in a manner entirely distinct from our responses thus far. We must concentrate our strengths and thwart North Korea's plans.¹⁵⁸

North Korea's increasing threats are, of course, reflected in the NDPG, which emphasizes strengthening of the alliance to deter such threats.¹⁵⁹ However, as this thesis asserts, there is a great disparity between public opinion and the official position of the government, which puts into question the likelihood of success of this measure. Despite the proximity of such dangers near its territory, the public remains steadfast in its anti-militaristic views. One might expect that only a direct attack on Japan's home soil causing massive casualties might reverse this trend – and even then, one might still question whether the public would push for a more offensive SDF rather than relying on the U.S. to take action.

Despite the increasing voices proclaiming Japan's rise to militarism, particularly with the Constitutional re-interpretation now allowing for CSD, it is important to peel the onion back and read the new policy. As previously mentioned, the CLB ruling on CSD determined that the use of force is only permissible when survival is at stake.¹⁶⁰ Furthermore, Japan's internal defense laws put strict limitations on the applications of force. First, the term "use of force" is permitted only under extreme situations using the least amount of firepower as possible.¹⁶¹ This is, of course, after it is determined that an ally of Japan is in imminent danger.

¹⁵⁸ Hiroyasu Akutsu, "Assessing North Korean Security and Military Threats: A Japanese Perspective," Carnegie Endowment of Peace, 2016, <http://carnegieendowment.org/2016/12/15/assessing-north-korean-security-and-military-threats-japanese-perspective-pub-67743>.

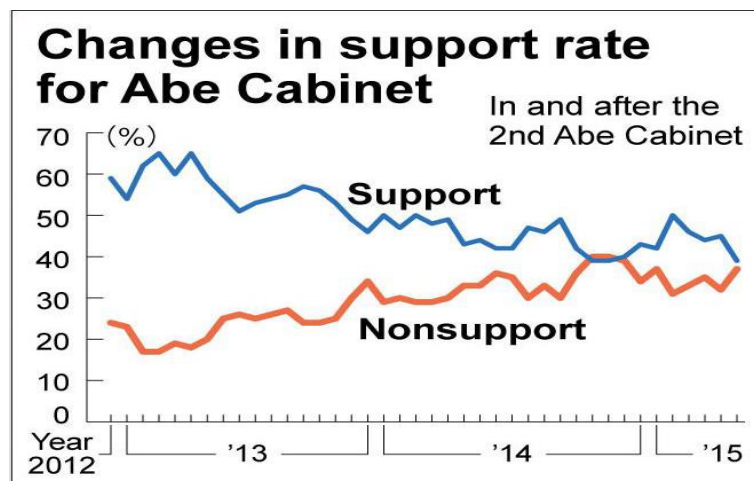
¹⁵⁹ Government of Japan, "National Defense Program Guidelines," 2.

¹⁶⁰ Oros, *Japan's Security Renaissance*, 154.

¹⁶¹ Liff, "Japan's Defense Policy," 90.

The massive protests that erupted in late 2015 in Tokyo in response to the decision to reinterpret the definition of collective self-defense illustrates the strong opposition that still exists despite clear existential threats. As a shift in public opinion is highly improbable, the legitimacy of Abe may decline. In fact, as Oros points out, “approval for the Abe cabinet slumped by almost ten percentage points in the first month after the legislation was introduced, to 37.7 percent.”¹⁶² Ultimately, democratic leaders in Japan simply cannot push their agenda without attaining legitimacy from the people. Figure 5 illustrates the declining support for Prime Minister Abe in recent years.

Figure 5. Changes in Support Percentage for the Abe Cabinet (2012–2015)¹⁶³



3. Geopolitical Risks

Aside from public backlash, another challenge for the cabinet upon increasing defense capabilities would be backlash from its neighbors, especially China. With historical memory still alive and well, nations that suffered from Japanese militarism during the war and occupation are still suspicious and fearful of perceived Japanese militarism and are willing to use this fear politically. Therefore, in attempting to fulfill the NDPG, Abe faces the difficulty of managing foreign policy to tilt in Japan’s favor as

¹⁶² Oros, *Japan’s Security Renaissance*, 151.

¹⁶³ Source: Wright, “Japan Use of Force,” 26.

well. With China and Japan increasing their defensive capabilities, power politics and the game of offensive realism are at play.

As alluded to throughout this paper, relations with China have deteriorated considerably in recent years amid China's buildup in the South China Sea and, especially, its dispute with Japan over the Senkaku Islands. There have been incidents of provocative Chinese behavior in the Senkakus' surrounding waters since 2010, with aggressive aerial maneuvers and radar targeting of ships, both of which have been condemned by the Japanese government.¹⁶⁴ The NDPG specifically points to Chinese activities in the maritime domain, stating, "as Japan has great concern about these Chinese activities, it will need to pay utmost attention to them, as these activities also raise concern over regional and global security."¹⁶⁵ The verbiage "great concern" represents the highest sense of urgency in Japanese foreign policy documents.

A large portion of Japan's defense modernization effort is in response to the growing Chinese threat. These two nations are regional rivals. Herman writes, "China sees Japan not only as an economic rival and an obstacle to China's rise to regional and world hegemony, but also as a potential competitor in the world defense and arms market, one with important comparative advantages in quality and reliability, as well as in advanced high-tech areas."¹⁶⁶ This is, of course, exacerbated by the fact that there is historical enmity dating back over a century, based on the Sino-Japanese War, the occupation of Manchuria in WWII, and Japan's overall war atrocities committed during this period. We now see theory of realism playing out, with each side trying to match or exceed the other's military capability, which could potentially lead to an arms race. This presents a serious dilemma for Abe and his cabinet, because increasing Japan's military capabilities might only result in China doing the same; and it is becoming ever clearer that Japan cannot compete with China in terms of defense spending. Figure 6 depicts China's sheer dominance over Japan in military spending during the last couple of decades.

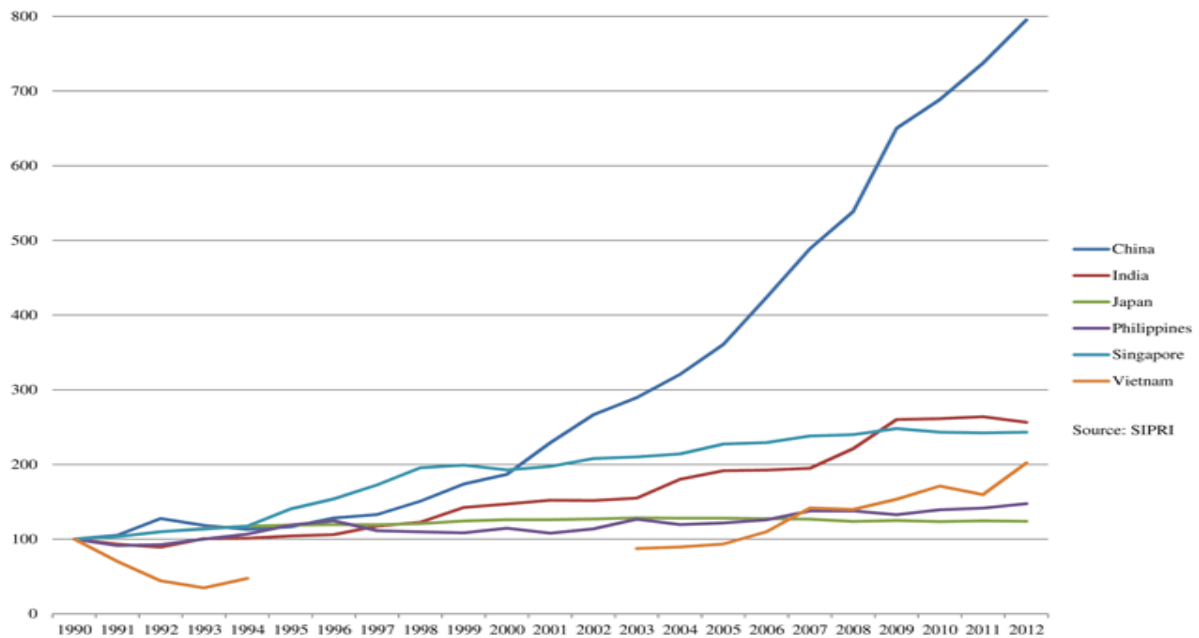
¹⁶⁴ Oros, *Japan's Security Renaissance*, 84.

¹⁶⁵ Government of Japan, "National Defense Program Guidelines," 4.

¹⁶⁶ Herman, "The Awakening Giant," 17.

The other issue to consider is that China's military rise is in response to confronting the U.S. military more than Japan. Therefore, managing the U.S.-Japanese alliance is another consideration that Japan's cabinet must navigate, and one that adds to the dilemma. Oros argues that China views the U.S.-Japan alliance as a threat to its interests in the region.¹⁶⁷

Figure 6. Asia's Military Spending Comparison¹⁶⁸



The bigger issue is the economic interdependence between Japan and China as they rank second and third largest in terms of world economic power. Despite a recent decrease, China is still the top source of foreign direct investment for the Japanese.¹⁶⁹ Additionally, tourism between the two nations has skyrocketed with more than 4.5 million visitors traveling between the two countries in 2013.¹⁷⁰ The question remains as

¹⁶⁷ Oros. *Japan's Security Renaissance*, 86.

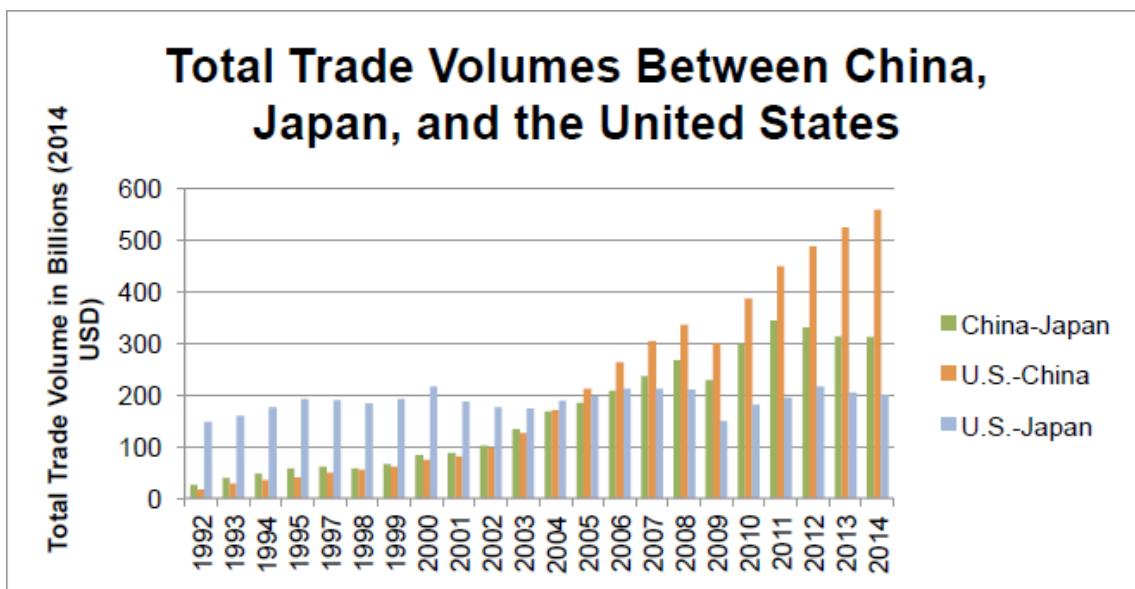
¹⁶⁸ Source: Felix K. Chang, "A Salutation to Arms: Asia's Military Buildup, its Reasons, And its Implications." Foreign Policy Research Institute, September 5, 2013, <http://www.fpri.org/article/2013/09/a-salutation-to-arms-asias-military-buildup-its-reasons-and-its-implications/>.

¹⁶⁹ Oros. *Japan's Security Renaissance*, 80.

¹⁷⁰ Ibid.

to how Japan's defense modernization efforts impact the economic relationship. There is no doubt that commerce between Japan and China is highly beneficial to the economic health of both countries. As illustrated in Figure 7, the sheer amount of trade that occurs between the two is enormous: around \$340 billion in 2014, with China serving as Japan's top trading partner.¹⁷¹ Economics is obviously a major factor in shaping foreign policy towards the region, which puts the Abe administration in a bind.

Figure 7. Trade Activity Between China, Japan, and the United States (1992–2014)¹⁷²



The previous chapter discussed the challenges to Japan's defense export market, one of which is the reluctance of companies to participate due to fears of their arms getting in the wrong hands. Similarly, Japanese defense companies might also be reluctant to export defense products for fear of Chinese opposition. There are two possible scenarios that Japanese companies may fear: 1) a boycott imposed by the

¹⁷¹ Peter Drysdale, "The Geo-Economic potential of the China–Japan Relationship," East Asia Forum, September 28, 2015, <http://www.eastasiaforum.org/2015/09/28/the-geo-economic-potential-of-the-china-japan-relationship/>.

¹⁷² Source: Michael Markey, "Extended Deterrence and Japan: How Much is Enough?" Center for Global Security Research, accessed May 25, 2017, 6, <https://cgshr.llnl.gov/content/assets/docs/Japan.pdf>.

Chinese government of all Japanese goods coming in; 2) resistance from Japan's neighbors toward buying Japanese weapons systems due to fears of upsetting China.¹⁷³ Although such a scenario is related to the defense industry, it adds to the complexity faced by Japan's government in its diplomatic approach to China. Although unrelated to Japan, one good example is China's recent boycott of one of South Korea's top companies, Lotte, in retaliation for the deployment of THAAD missile. As is also true for the U.S., the relationship with China is a complicated one because China is neither friend nor foe.

D. PROBLEMS AND CHALLENGES INSIDE THE JAPANESE SELF-DEFENSE FORCE

As the organization entrusted to carry out the defense objectives of Japan, the health, quality, and operational readiness of the JDSF is pivotal to carrying out the NDPG's broader security objectives. Created in 1954, the JSDF has evolved into a professional force with significant capabilities. All three branches – Maritime, Ground, and Air Self-Defense Forces have seen major upgrades to their defense equipment designed for the 21st century. The JSDF possesses some of most technologically advanced systems among all the world's militaries, and is continually upgrading its defense equipment to match opponents in the region. Despite its growth and progress throughout the years, though, the JSDF is not without major problems and challenges. These include a lack of combat readiness/training, recruitment gaps, and restrictions on its use of force. Without efforts to address these issues, the JSDF's efforts in responding to complex security threats and in joint operations with the U.S. military will be greatly hampered.

1. Lack of Training and Experience

Although positive gains have been made throughout the years, the JSDF's combat readiness is uncertain because of its lack of real-world experience and training. This is, of course, not surprising considering Japan's legal constraints and dependence on the U.S. Although Article 9 plays the clearest role here, there are other internal deficiencies that

¹⁷³ Herman, "The Awakening Giant," 18.

must be addressed. Maintaining combat readiness is especially critical now, given the newly interpreted rule on CSD and the overall objective of becoming a greater partner with the U.S. Today, there is a shortage of joint U.S.-Japan military exercises and an overall lack of training within the JSDF. Yamaguchi contends that “training is sporadic” within the military, with specialized units such as the “Special Forces Group” the only ones to maintain adequate proficiency, and further adds that realistic combat training is lacking across the entire force.¹⁷⁴ While it is true that the JSDF is conducting more operations in the realm of peacekeeping, humanitarian assistance, and disaster relief (HADR) and has contributed to many U.S.-led coalition operations, these remain minimal compared to other nations. In fact, “the number of Japanese military personnel contributing to UN operations is only 266, which ranks 47th among UN member states.”¹⁷⁵ This is an important point because readiness is only achieved during peacetime. Green *et al.* point out that the alliance “lacks the command and control elements necessary for a rapid combined and joint response to potential crisis or conflicts,” and advocates for a “joint operational command.”¹⁷⁶ This is an accurate assessment, considering that the scope of alliance is vital to maintaining peace and stability in the region. As Japan’s military gradually becomes more offensively oriented, training must also shift in the direction of more joint live combat training with the U.S. in order to prepare the forces for a real-world incident.

Despite these training deficiencies, there is reason to be optimistic, because joint exercises are increasing in frequency. However, much more progress is needed. Japan still lacks a robust system and joint exercises are still not a common practice. This is in contrast with the multiple annual joint exercises that occur every year between the ROK and U.S. Exercises such as KEY RESOLVE on the Korean peninsula test U.S.-ROK capabilities based on realistic scenarios.

¹⁷⁴ Ryo Hinata-Yamaguchi, “Future of the Japan-US Alliance: Reconfiguring the Japan Self-Defense Force to the Changing Regional Environment,” *Pacific Forum CSIS* 13, no. 8. (March 2013): 110, https://csis-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/issuesinsights_vol13no8.pdf.

¹⁷⁵ Wright, “Japanese Use of Force,” 35.

¹⁷⁶ Michael Green, et al., “Asia-Pacific Rebalance 2025,” 200.

Similarly, there is a lack of joint operability among the three branches of the JSDF. As Japan's military has not yet developed a joint training concept, the ASDF, MSDF, and GSDF traditionally operate independently of each other. For instance, in training for coastline defense, the ASDF practices combat air patrol without coordinating with the GSDF to provide close air support. Newsham points to the example of the annual Mt. Fuji military exercise, in which last year the JSDF put on an impressive public show demonstrating an "island re-taking" drill.¹⁷⁷ Newsham also notes the opinion of military experts who conclude that while the exercise demonstrates the JSDF's kinetic capability, the JSDF does not, in reality, actually have the capability to retake an island, due to a lack of joint operability.¹⁷⁸ As seen with Japan's ministries' not always working together, the JSDF suffers from a culture lacking inter-service cooperation. Technological advancement has changed warfare in the 21st century into a joint operation. Practicing joint operations is thus especially important for a comparatively small force like the JSDF, since its success depends on maximizing all resources. Only through inter-service collaboration can the SDF reach its maximum potential. This is exactly what the NDPG calls for.

The lack of joint training is partly due to a misallocation of the budget and lack of focus on the needs of the SDF personnel. While the defense budget commits heavily to acquiring advanced weapons platforms and maintenance of current systems, it devotes less attention to promoting quality of life and training opportunities for the SDF. Newsham, with this in mind, calls for increased spending on training, wages, and housing.¹⁷⁹ Instead, the 2017 defense budget emphasizes quality of life for the U.S. military by devoting ¥3.5 billion for the Special Action Committee on Okinawa (SACO).¹⁸⁰ While it is vitally important to provide better infrastructure for U.S. forces and to modernize Japan's defense equipment, investing in Japan's own SDF personnel is

¹⁷⁷ Newsham, "Japan's Military Has Some Serious Problems," 2.

¹⁷⁸ Ibid.

¹⁷⁹ Ibid.

¹⁸⁰ FY 2017 Budget, Japan Ministry of Defense, http://www.mod.go.jp/e/d_budget/pdf/290328.pdf.

equally important, if not more so: what good are all the most advanced military platforms in the world without enough qualified personnel to operate them?

This is not to say joint operations are not emphasized in the budget papers. In fact, these do state commitment to continuing of many of existing joint US-Japanese exercises related to island defense and various other HADR-type operations. However, Japan must now prepare for more offensive-type operations designed to prepare the force for direct attacks during combat, which is especially relevant to practicing collective self-defense.

2. Limited Use of Force

With training and combat readiness being major issues, an even greater obstacle the JDSF faces is limitations on the use of force. Commanders must adhere to strict and ambiguous rules of engagement during real-world operations. As Wright describes, “a defense-only mindset naturally skews all planning processes, creativity, and outcomes towards that situation.”¹⁸¹ This is an important assessment often overlooked. An effective military operation plan is one in which commanders have the leverage and flexibility to picture multiple scenarios and adapt to different situations. If not afforded this opportunity, commanders have no choice but to adopt a reactive rather than proactive mindset. Therefore, JDSF leaders are faced with the difficult task of formulating an effective strategy without breaking the rules of engagement. This is exacerbated by what Wright describes as a “cumbersome chain of command” in which authority to take action must first be vetted through civilian leadership.¹⁸² This is most problematic in the context of the newly established right to collective self-defense. If and when the JDSF encounters a situation in which the use of offensive force is necessary, commanders will first need to request permission through the MOD and Diet. Time, though, is not a luxury in combat operations. Commanders need the latitude to make decisions quickly based on their assessment of the situation. A delay in such decisions can be costly. According to one JDSF officer, “one of our biggest worries in the SDF is being unable to face a threat that

¹⁸¹ Wright, “Japan Use of Force,” 35.

¹⁸² Ibid.

has just emerged in a timely manner, according to the current policy . . . It's a little late when the missile is flying towards you.”¹⁸³

E. RECRUITING PROBLEMS

As Japan has adopted a pacifist and anti-militaristic culture in the post-war era, the SDF struggles to attract applicants, in terms of both quality and quantity. As previously mentioned, Japan is a civilian-dominant society in which top elites enter the bureaucracy or join top-rated firms. This is not to say there are no high-quality personnel in the ranks of the SDF, but there remains a big difference in prestige between, say, the Japanese Defense Academy and the University of Tokyo. As Chinworth writes, “the most promising college graduates intent on a government career set their sights for [non-defense] ministries instead of a state agency tainted by its wartime legacy.”¹⁸⁴

Related to this problem is a lack of social interaction between the JSDF and the public, and in turn a lack of public exposure to or information about the JSDF.¹⁸⁵ The public is very much in the dark about life inside the SDF, nor is there great interest. Advertising is minimal. This is unlike the U.S., whose military bases devote significant effort to the military-public relationship through their public affairs offices and organizing public events. Also, as previously mentioned, Japan's public does not necessarily support increased militarization despite acknowledging growing threats. Therefore, it remains questionable whether Japanese citizens will rally to serve their country when a major crisis occurs. In the United States, September 11th saw a rise in patriotism, with a record number of volunteers joining the military; one cannot assume that a similar scenario would play out in Japan. Lastly, recruiting might only become more difficult in the future given Japan's declining population, since this will further limit the pool of qualified applicants.

¹⁸³ Wright, “Japan Use of Force,” 34.

¹⁸⁴ Chinworth, *Inside Japan's Defense*, 5.

¹⁸⁵ Muthiah Alagappa, *Military Professionalism in Asia: Conceptual and Empirical Perspectives* (Honolulu: East West Center, 2001), 44.

The recruitment problem is reflected in the 2017 defense budget as the MOD is devoting ¥800 million to the “Enhancement of advertisement and readiness for recruitment to deal with the increasingly severe recruitment environment,” which includes the use of media and video technology.¹⁸⁶ This illustrates awareness of the problem, but also the severity of the problem in the first place. The JSDF will likely never be able to compete with the civilian sector in recruiting the best and the brightest. The JSDF can, however, narrow the gap with more public outreach initiatives. Revamping the recruitment process is critical to national security, because the SDF must focus increasingly on the quality of its force. Modernizing equipment is only one part of the equation. Ultimately, a strong military needs capable people to operate advanced equipment and to effectively execute its strategies during contingencies.

F. CONCLUSION

This chapter investigated major challenges within Japan’s government organizations and society to modernizing and strengthening Japan’s defense toward accomplishing the goals of the NDPG. Japan’s government is without doubt one of the most efficient among democracies. However, it still faces bureaucratic/organizational deficiencies and fierce differences in opinion, especially where defense issues are concerned, and even corruption between MOD and industry officials. Meanwhile, Japan’s anti-militaristic identity drives powerful public opposition that counters efforts to strengthen national defense. Despite the growing voices that predict normalization, the public is still wary. This chapter also discussed the potentially negative impact on Sino-Japanese relations from Japan’s strengthened defense architecture, given the economic interdependence between of the two countries and potential Chinese backlash. Also, the historical memory of Japanese aggression leaves its neighbors (especially South Korea and China), fearful and suspicious of any militarization or rise of nationalism in Japan. Lastly, this chapter pinpointed weak links inside the JSDF that might undermine its ability to carry out the mission. These various problems and challenges within and faced by Japan’s government are by no means a showstopper for NDPG execution, but they do

¹⁸⁶ FY 2017 Budget, Japan Ministry of Defense.

present deficiencies that leaders must address. As discussed more specifically below, the solutions would likely require fundamental domestic changes and both short-term and long-term national strategies that maximize all instruments of power.

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IV. CONCLUSION

In this final chapter, I will summarize the main topics, arguments, and overall research covered in this thesis. Additionally, since earlier chapters discussed the obstacles Japan faces in meeting the NDPG, this conclusion will propose specific strategies and areas of improvement that might give Japan the best chance to work around these obstacles, particularly in the technology realm. These strategies include: 1) strengthening the U.S.-Japan alliance; 2) marketing technologies in which Japan has a comparative advantage, which include lasers, niche defense-related components, robotics, and space assets; and 3) bureaucratic reforms that improve collaboration with outside organizations. These strategies/recommendations are not meant to provide conclusive answers to the problems, nor can I guarantee they will succeed or be even implemented. I do, however, assert that these are the most practical and feasible strategies, with the highest likelihood of success. Finally, this thesis concludes by discussing future implications for whether, how, and, when Japan might be able to meet the NDPG objectives.

A. SUMMARY

Amid great changes in East Asia, particularly China's military build-up and North Korea's ever-increasing belligerency, the military posture of Japan is changing as well. Japan's rise in military strength and Abe's move towards normalization – and the analytical narratives emphasizing these—can be seen clearly by examining Japan's National Defense Program Guidelines, which outline in detail Japan's security strategy in terms of concerns, priorities, and objectives going forward. Popular narratives surrounding the NDPG emphasize the changes this plan represents, but pay less attention to the problems and challenges involved. This thesis has investigated these problems and challenges, examining specifically those inside and faced by defense industry and the government. These include both internal deficiencies and outside factors that might prevent or slow Japan's efforts.

While Japan's industry is no doubt world class technologically, it also has major shortfalls and limitations that must be confronted. Japanese industry lacks *kokusanka*

ability – that is, the ability to indigenously develop its own weapons systems. *Kokusanka* saw serious deterioration after the destructive defeat of WWII, upon which the U.S. occupation enforced a ban on weapons development. By developing close ties with the U.S., and with the Yoshida Doctrine winning out politically, Japan also developed dependence upon American weapons. Although there are some impressive *kokusanka* platforms, Japan's defense equipment is still largely derived from U.S. foreign military sales, technology transfers, and co-development projects. This lack of *kokusanka* puts Japan's long-term security strategy in jeopardy, because it suppresses the development of Japan's defense production and R&D and thereby limits the ability to deter adversaries. The real challenge is contending with the forces that prevent *kokusanka*, including mandates for dual-use (military and civilian) application of technology and continued U.S. pressure to buy American weapons systems or jointly co-develop them.

Japan's budget constraints are another problem that the defense industry will have to contend with. The one percent of GDP limit on defense spending is incompatible with defense modernization, because it restricts the ability to maintain a healthy acquisitions and logistical support base. This is especially relevant for Japan's commitment to high-tech purchases that require extensive sustainment capabilities. The budget constraint is only projected to worsen in the future with Japan's ballooning debt, and in light of the massive funding needed for future social security and pension payments amid a rapidly aging population. The *saimu futan koi* method of deferred payment will likely exacerbate the problem by only increasing obligated payments during a budget crisis, which could put future defense purchases in jeopardy. Lastly, while Japan's defense budget may have technically risen on paper, it has actually declined when factoring in the depreciation of the yen and the larger portion of the increase committed to the costs associated with SACO.

With regard to Japanese government capabilities, this thesis argued that Japan's bureaucratic system suffers from inefficiencies, bottlenecks in decision-making, and corruption. These problems can be attributed to Japan's history, organizational culture, and domestic politics. With the three biggest players the (MOFA, METI, and MOD) approaching the issue of defense from different perspectives, gridlock continues to be a

problem. With the security situation becoming more complex in Asia, Japan's bureaucrats will face tougher challenges in formulating defensive policy, especially with the current trajectory clearly indicating a prioritization on defense modernization. This will only complicate Japan's domestic politics because it will impact issues like foreign relations, the economy, and national budget. This is a formula for even more gridlock within the ministries and puts greater uncertainty on how the NDPG will be carried out amid the need for more complicated decisions in the future.

Although Prime Minister Abe and the LDP-dominant cabinet are pushing for a more proactive stance on defense, this thesis has argued that this pursuit will still require careful navigation around difficult barriers. The Cabinet Legislation Bureau represents one of these barriers as the primary advisor to the prime minister in interpreting laws. Having already gained legitimacy in Japan's society, it holds great power in determining Japan's defense policies. Any future decisions pertaining defense laws will likely not pass without the approval of the CLB, which still maintains significant autonomy despite recent signs of vulnerability to pressure from political leadership.

This thesis has also emphasized the enduring power of pacifism in Japan's society. Public pressure is already putting great stress on the Abe administration's perceived path toward normalization and will continue to do so for future administrations who pursue the same agenda. The public does not necessarily support a stronger military, despite growing existential threats. Therefore, the question remains as to how far Abe (of future prime ministers) can push before public backlash becomes too much to handle. Currently, Abe and the LDP are walking a fine line with the newly established legal right of the JSDF to practice collective self-defense.

Abe and his cabinet also run the risk of agitating Japan's neighbors, who historically are wary of any form of militarism inside Japan. This problem is most applicable to Japan's relationship with China, who many Japanese view as seeking hegemony in the Asia-Pacific region. On the one hand, it is necessary to respond to China's military architecture; on the other hand, strengthening Japan's own military, both in terms of hardware and rules of engagement threatens the relationship. As Japan's

economic health is closely correlated with its commerce with China, risking this dynamic relationship is something the Diet will have to seriously assess.

Finally, the Japanese Self-Defense Forces themselves face significant weaknesses. Although the JSDF is a highly capable fighting force, it is also an organization that is not adequately tested, because combat experience and realistic training events have been minimal. Also, the JSDF still abides by the strictest rules of engagement by which commanders have to request permission through the civilian chain of command before engaging in offensive actions. This greatly reduces the latitude with which commanders can assess and respond to threats in a real combat situation, and can reduce the likelihood of mission success. Finally, the SDF struggles to recruit enough high-quality applicants because they cannot compete with the civilian sector. In a civilian-dominant society, the vast majority of elites join the bureaucracy or top business firms. This is greatly exacerbated by the fact that little interaction occurs between the JSDF and the public, limiting information about or exposure to the JSDF.

B. STRENGTHENING THE U.S.-JAPAN ALLIANCE

The U.S.-Japan alliance is vital to Japan's national defense, and strengthening it is the most effective strategy to mitigate the obstacles identified in this thesis. The following three sub-sections will examine the current state of the alliance and discuss the most comprehensive strategies to strengthen it. I will recommend practical strategies to improve military interoperability between USFJ and JSDF and discuss the opportunities and benefits for Japan if it partners with the U.S. through the Third Offset Strategy. I will justify why these strategies are sound options to confronting deficiencies and explain why they benefit the overall long-term security for both countries.

1. Current State of the Alliance

Japan's strategic partnership and alliance with the United States remains strong today, with both countries pledging not only to maintain the alliance, but also to strengthen it by increasing joint operability to respond to new threats. Despite Japan's concerns during the U.S. election cycle, President Trump has stated his commitment to maintaining a strong partnership between the two countries. On Japan's side, the NDPG

specifically states that “the Japan-U.S. Security Arrangements based on the Japan-U.S. Security Treaty, together with Japan’s own efforts, constitute the cornerstone for Japan’s national security.”¹⁸⁷ By all indications, the U.S.-Japanese alliance appears to be stronger than ever, with multiple plans to build on the concepts of the “Dynamic Joint Defense Force”¹⁸⁸ and collective self-defense.

The Mutual Defense Guidelines (MDG) are the official policy providing guidance on roles related to the operational relationship between the two countries.¹⁸⁹ The 2015 version of the MDG states that the relationship going forward “broadens the scope of functional cooperation to include ISR, air and missile defense, maritime security, space and cyber, peacekeeping operations, partner capacity building, HA/DR, and noncombatant evacuations (NEOs).”¹⁹⁰ All these plans are steps in the right direction to restructure the alliance for the new security environment and to operationally prepare the JSDF for future missions.

2. Strengthening JSDF-USFJ Interoperability

The U.S.-Japan alliance has strong initiatives to build on in preparation for challenges in the 21st century. One deficiency mentioned in the previous chapter is that the JSDF lacks the ability to work jointly with the U.S. military due to lack of experience and poor communications with USFJ. Strengthening interoperability between the two militaries is one strategy leaders can focus on to mitigate this deficiency. What are some practical steps that can be taken? If the USFJ and JSDF truly plan to embark upon the missions listed above, establishing a joint command is one logical step because, this can enhance the synergy between the two militaries. A good model is the Combined Republic of Korea-United States Forces Korea Command (CFC) headquartered in Seoul, South Korea. There, top commanders and staff offices from all branches work together jointly

¹⁸⁷ Government of Japan, “National Defense Program Guidelines,” 8.

¹⁸⁸ Ibid.

¹⁸⁹ Emma Chanlett-Avery and Ian E. Rinehart, “The U.S.-Japan Alliance,” Congressional Research Service, February 09, 2016, 12, <https://fas.org/sgp/crs/row/RL33740.pdf>.

¹⁹⁰ Michael Green, et al., “Asia-Pacific Rebalance 2025: Capabilities, Presence, and Partnership,” Center for Strategic & International Studies, January 2016, 56, https://csis-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/160119_Green_AsiaPacificRebalance2025_Web_0.pdf.

in highly sophisticated facilities. This allows for effective planning for exercises and rapid response to real world contingencies.

Second, USFJ and the JSDF should also conduct joint exercises on a more regular basis and at larger scales. More important, these exercises should encompass a joint warfighting concept that merges the efforts of all the service components to include air, land, maritime, and special operations forces. Currently, the JSDF is mostly involved in joint exercises on a service specific basis. For example, the JASDF periodically trains with the USAF in the well-known RED FLAG exercise. The GSDF also trains with the U.S. Marine Corps in California to improve amphibious assault capabilities. While these exercises provide unmatched combat training opportunities that greatly hone tactics, techniques, and procedures, these skills need to be applied in a joint service environment.

Additionally, as Japan seeks to be a more equal and proactive partner, the JSDF should increasingly take the lead, not follow the U.S.'s lead, in both the planning and operational command of these exercises. This would require the JSDF itself to design exercise scenarios based on realistic threats. Additionally, civilian leadership and commanders should test their communication capabilities during these exercises. Once strengths and vulnerabilities are identified, a robust chain of command structure can be established, so that commanders can make sound decisions on a timely basis. The bottom line is that JSDF commanders and senior government officials, both those within MOD and the Prime Minister himself, should establish clear communication mechanisms that eliminate ambiguity. Since collective self-defense is now technically legal, there must be a clear understanding of what the JSDF can and cannot do in specific scenarios.

Third, with the NDPG stating that “Japan will continue to expand joint training and exercises,”¹⁹¹ another feasible plan to meet this objective is to increasingly co-locate SDF and USFJ military installations, in addition to establishing a combined headquarter. This initiative is already in the works but requires greater urgency. The Congressional Research Service reports that although there has been integration of some headquarter

¹⁹¹ Government of Japan, “National Defense Program Guidelines,” 9.

buildings, “the two militaries do not share base facilities in Japan on a large scale.”¹⁹² Co-locating operational bases can improve communication and unity because the two militaries will be in close proximity in an environment where joint exercises are only projected to increase in frequency. This would also increase the interaction between USFJ-JSDF forces and allows for informal cultural and social exchanges. This is an aspect often ignored. Alongside tactical and strategic elements, joint operability is also about developing social relationships from the lowest to the highest ranks. By building healthy relationships, the USFJ and JSDF can meld together effectively during real-world operations.

Co-locating bases can potentially alleviate public opposition, another important obstacle this thesis discussed above, because it provides an opportunity to present a joint image to the public, especially in Okinawa. A joint presence can help reinforce the message that the strategic alliance between the two nations is critical for Japan’s defense and for regional security in Asia as a whole. Of course, the Japanese public is not unaware that the U.S. military is a key element of its security, but I argue that some public animosity towards the military, even in Okinawa, can be alleviated when local residents continually witness positive interactions between American and Japanese forces both socially and operationally. This effort will need to be supported with more public outreach activities by both USFJ and the JSDF on a larger scale.

The next question is whether both Japan and the U.S. can implement these changes, and, if so, why this hasn’t already happened. Some may question whether Japanese leaders are aware of or willing to take this approach. Evidence does exist, though, that some of these methods are already being implemented, especially with regard to increasing joint exercise and training events. Abe has expressed desire to participate more closely and proactively with the U.S. military, and the verbiage in the NDPG and the legalization of CSD in 2014 certainly reinforce these points. These indicators might give skeptics a certain amount of optimism that these strategies and recommendations can become reality in the future.

¹⁹² Chanlett-Avery and Rinehart, “The U.S.-Japan Alliance,” 24.

3. Technology Partnership

Another strategy to strengthen the U.S.-Japan alliance is greater partnership in the research and development of technology. Specifically, Japan should partner with the U.S. in the “third offset strategy.” This strategy can mitigate two of Japan’s obstacles identified in this thesis: 1) the relative inability to produce indigenous defense equipment (*kokusanka*), and 2) fiscal problems due to an aging population. Also, partnering with the U.S. in the technical realm not only provides Japan outlets to solve these problems, but can also be immensely beneficial for the U.S.’s technology and acquisitions base.

While Japan and the U.S. possess some of the most sophisticated technologies in both the military and civilian sectors, the gap is narrowing as China and other competitors also develop rival systems. In 2014, the U.S. implemented the third offset strategy to ensure America’s continued conventional advantage in future conflicts. The focus areas for this strategy include extensive research to produce systems such as “advanced manned-unmanned systems operations, and network-enabled autonomous weapons and high speed projectiles.”¹⁹³ The third offset strategy thus offers the opportunity for joint technological cooperation between the two nations. Japan is the perfect partner because its industries specialize in state-of-the-art component technologies that could greatly support such U.S. research agencies as the Defense Advanced Research Projects Agency. For example, Japan’s most advanced fields, such as robotics and fiber optics, could be the perfect lead-in to develop next-generation drones. It is a win-win situation because the Japanese defense industries and research agencies (particularly ATLA) can learn greatly from U.S. research, procurement, and acquisitions process, thereby growing their indigenous development capabilities. Such *kokusanka* can reinforce Japan’s ability to produce high tech weapons to meet NDPG objectives, and would allow Japan’s industries to gradually build the technical expertise it needs to produce weapons platforms in the future.

¹⁹³ Jesse Ellman, Lisa Samp, and Gabriel Coll, “Assessing the Third Offset Strategy,” Center for Strategic & International Studies, March 2017, 13, <https://www.csis.org/analysis/assessing-third-offset-strategy>.

Tatsumi and Kennedy introduce argument about Japan's need to collaborate: "due to an aging and declining population, coupled with an economy that has yet to pick up from two decades of economic stagnation, . . . Japan will have to rely on innovation, both to maintain its superiority in certain military and dual-use technology, and to collaborate with its allies and partners to maximize its limited defense resources."¹⁹⁴ Innovation is indeed the most efficient strategy for a nation that needs to make up for fiscal problems. More importantly, the only path to match China's military in strength is by gaining technological superiority, since it is unrealistic for Japan to match China in defense spending. What better opportunity is there than to learn the methodology from the nation with global weapons supremacy? Learning this methodology and combining it with Japan's superior component technology is a logical step in the right direction.

Of course, partnering with America's third offset strategy is a complicated process that will involve considerable negotiations. The sensitivity of certain defense projects might also present security clearance and access issues.

This thesis did argue that U.S. pressure to buy American systems is a major constraint to Japan's pursuit of *kokusanka*, which suggests the counter argument that such collaboration is irrelevant if such pressure continues. However, working together on the third offset strategy will aid the defense export business for both countries, and therefore makes this effort a research and development partnership rather than a game of political pressure. Also, since Japan is a contributor to the development of new U.S. defense systems in this scenario, this entitles it to use the collaboration to indigenously develop its own defense equipment.

C. EXPORT OF COMPARATIVE ADVANTAGE TECHNOLOGIES

1. Overview

Chapter two argued that Japan's problem competing globally in the defense export business was primarily due to inexperience and the fact that the market is already

¹⁹⁴ Yuki Tatsumi and Pamela Kennedy, "Leveraging the Third Offset Strategy in the US-Japan Alliance," *Diplomat*, October 28, 2016, <http://thediplomat.com/2016/10/leveraging-the-third-offset-strategy-in-the-us-japan-alliance/>.

saturated with products from nations with more established export programs. However, since Japan does have comparative advantages in certain technologies, it should maximize these advantages by marketing them to international customers, now that it has removed barriers to weapons exports. This section details four of technologies/systems not yet discussed in this thesis: lasers, electronic niche components for the defense industry, robotics, and space technologies. This section will describe these technologies and explain why, and, how Japan's comparative advantage can potentially develop the country into a major world exporter. In addition, this section will explain how these systems might help to alleviate some of the other challenges identified in this thesis.

2. Lasers

The idea of using laser weapon systems is no longer a futuristic concept but is actually being tested out in the field. Laser actually stands for "light amplification through the stimulated emission of radiation." This technology works by creating a powerful, concentrated light beam focused in one direction.¹⁹⁵ It is one element of "Directed-Energy Weapons" (DEW), which are described as "technologies that produce a beam of concentrated EM energy or atomic or subatomic particles," which are then used "to damage or destroy adversary equipment, facilities, and personnel."¹⁹⁶ The U.S. is leading in this field with defense companies Lockheed Martin and Boeing already having tested on airborne, land-based, and sea-based platforms. Lockheed claims, "we have showcased many of these technologies in our 10-kilowatt prototype system, which has defeated small airborne and sea-based targets, and our 30-kilowatt test bed system, which has disabled a stationary truck target."¹⁹⁷

Japan has also made advancements in laser technology. In 2015, the JMSDF's AEGIS destroyer was equipped with a specific delivery platform designed for a laser gun,

¹⁹⁵ Kyle Mizokami, "How the Military will be Revolutionized by Laser Weaponry," *Popular Mechanics*, accessed May 25, 2017, <http://www.popularmechanics.com/military/weapons/news/a19877/how-the-military-will-be-revolutionized-by-laser-weaponry/>.

¹⁹⁶ "Introduction to Directed-Energy Weapons Description," *New World War*, accessed May 23, 2017, <http://www.newworldwar.org/dewintro.htm>.

¹⁹⁷ "Laser Weapon Systems," Lockheed Martin, accessed May 23, 2017, <http://www.lockheedmartin.com/us/what-we-do/aerospace-defense/directed-energy/laser-weapon-systems.html>.

while the Technical Research and Design Institute is currently working on a laser weapon for this direct purpose.¹⁹⁸ Additionally, a noteworthy achievement can be attributed to a research team at Osaka University, which in 2015 successfully tested what they called the “Laser for Fast Ignition Experiments” (LFEX) and claimed to be the “world’s most powerful laser.”¹⁹⁹ Although LFEX is currently not designed for a weapon system, it is nonetheless a scientific accomplishment that Japan might build upon for future projects. It proves that Japan has some of the leading researchers in this field.

Laser development is still in its early stages, and major problems and limitations do exist. These include “line-of-sight dependence, requirement of finite dwell time, problems due to atmospheric attenuation and turbulence, and ineffectiveness against hardened structures.”²⁰⁰ Effects from the weather are a particular concern because the laser’s ability to focus its beam can be degraded by debris and weather conditions. Finally, the United Nations Convention on Certain Weapons Protocol IV prohibits the use of laser weapons for the purposes of blinding an enemy.²⁰¹ This makes it illegal for use in ground warfare between troops on the battlefield. The use of lasers is therefore, only applicable to major kinetic defense platforms such as aircraft, ships, and large ground vehicles. Further R&D will most likely flesh out some of these technical limitations in the future. The advancement of laser technology is still well within the progressive stages with many more milestones yet to be achieved. The good news is that Japan is among the leading nations working towards this progress. Even though there are many uncertainties about the future of laser weapons, I argue that this technology, at the very least, has potential for Japan’s future defense export business because it is rapidly

¹⁹⁸ “Japan to Equip Two Warships with Laser Weapons,” Sputnik International, July 29, 2015, <https://sputniknews.com/military/201507291025169308/>.

¹⁹⁹ Bob Yirka, “Japanese Team Fires World’s Most Powerful Laser,” July 29, 2015, <http://phys.org/news/2015-07-japanese-team-world-powerful-laser.html>.

²⁰⁰ “Directed Energy Weapons: High-Energy Laser Weapons,” Electronics For You, January 27, 2015, <http://electronicsforu.com/technology-trends/directed-energy-weapons-laser-weapons>.

²⁰¹ “Protocol on Blinding Laser Weapons,” United Nations at Geneva, accessed May 24, 2017, [http://unog.ch/80256EDD006B8954/\(httpAssets\)/8463F2782F711A13C12571DE005BCF1A/\\$file/PROTOCOL+IV.pdf](http://unog.ch/80256EDD006B8954/(httpAssets)/8463F2782F711A13C12571DE005BCF1A/$file/PROTOCOL+IV.pdf).

being developed for military purposes. Japan's government should continually commit to the advancement of laser through investment and through utilizing its top researchers.

3. Electronic Niche Components

As this thesis identified early on, Japan's industries will have difficulty competing internationally exporting weapons platforms like aircraft, tanks, and ships because the U.S. and other established countries already control the lion's share of the market. Instead, Japan should focus on small niche electronic components where it maintains a comparative advantage, such as capacitors, resistors, sensors, and semiconductors. This makes sense considering that Japan's electronic industry ranks third in the world.²⁰² One example is missile navigational guidance sensors. In 2014, Mitsubishi Heavy Industry officially marketed this technology to the U.S. to be incorporated into PAC-3 air defense missile.²⁰³ Also, as identified in Chapter One, navigational gyros for missiles are no longer produced in the U.S.,²⁰⁴ which provides an opening for Japan to capture this industry. Another promising niche component and one that Japan dominates in, is the "complementary metal-oxide semiconductor (CMOS)," which Herman identifies as an export business that will "grow ... to more than \$16 billion by 2020, and that the range of military as well as commercial applications will grow with the size and flexibility of CMOS technology."²⁰⁵ Electronic components will become more prominent in the future as weapons become more sophisticated. Japan has the opportunity to be the leading exporter of crucial components for ballistic missile defenses and possibly other platforms.

²⁰² "Japan-Semiconductors," U.S. Commercial Service, last modified June 28, 2016, <https://www.export.gov/article?id=Japan-Semiconductors>.

²⁰³ "Japan OKs First Major Military Tech Deals since Arms Export Ban Eased," *Japan Times*, July 18, 2014, <http://www.japantimes.co.jp/news/2014/07/18/national/japan-supply-arms-parts-u-s-sensor-technology-u-k/>.

²⁰⁴ Yamaguchi and Kurtenbach, "Japan's Ambitions For Defense Exports."

²⁰⁵ Herman, "The Awakening Giant," 14.

4. Robotics Industry

Japan possesses the world's most advanced robotics industry and is also the world's largest supplier of robots.²⁰⁶ The scope of its program is very diverse, with many different types of robots being developed in both the industrial and service sector. The EU-Japan Center for Industrial Cooperation breaks it down into three areas: 1) "Industrial robots for the manufacturing industry"; 2) "Service robots for industrial and personal use"; and 3) "RoboTech – Components for the Robot Industry."²⁰⁷ These include advanced technologies like artificial human robot helpers, sophisticated machineries in the industry assembly lines, and specialized precision components. Japan's robotics market "is expected to almost double in size to 2.85 trillion JPY by 2020."²⁰⁸ Figure 8 illustrates the enormous growth projected in the next couple of decades. Also, as depicted in Figure 9, Japan recently implemented a plan for what it called the "Robot Revolution," a strategy that injects robotics into all forms of modern technology.²⁰⁹ These trends indicate that robotics will eventually be infused in all aspects of Japanese society.

²⁰⁶ Anthony Fensom, "Japan's Robot Revolution: As the Nation Grapples with a Shrinking Workforce, are Robotics the Solution?" *Diplomat*, July 10, 2015, <http://thediplomat.com/2015/07/japans-robot-revolution/>.

²⁰⁷ Peter Van der Ween, "Robotics in Japan," EU-Japan Center for Industrial Cooperation, January 2015, 3, http://cdn.eubusinessinjapan.eu/cdn/farfuture/UZSjrbFBFG_vZ9iRP6LCZdGGJ3OmD7N2nxT55S6Turo/mtime:1423560606/sites/default/files/robotics-pdf.pdf.

²⁰⁸ Van der Ween, "Robotics in Japan," 3.

²⁰⁹ Fensom, "Japan's Robot Revolution."

Figure 8. Japan's Robot Market Projection²¹⁰

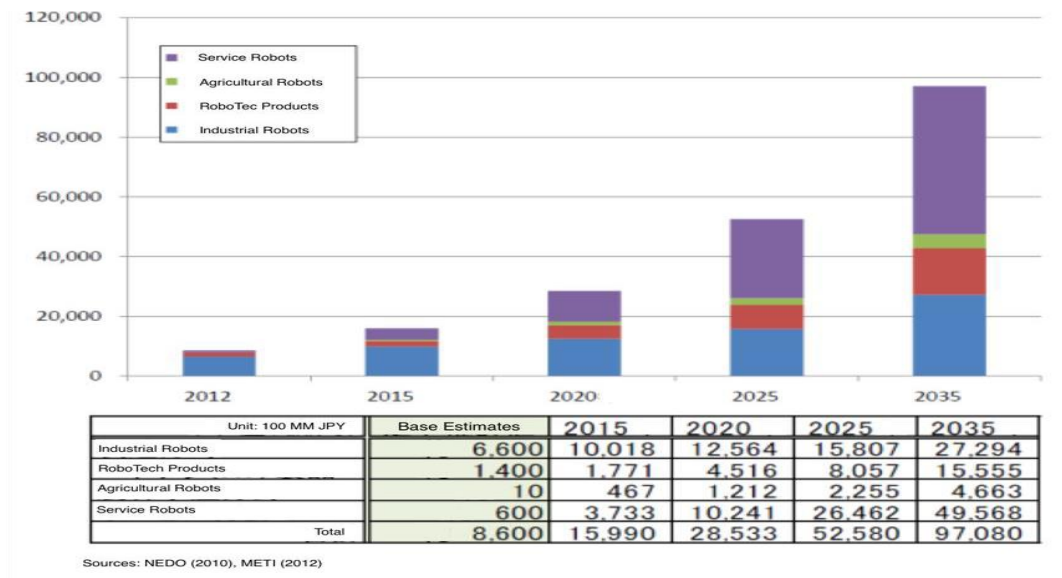
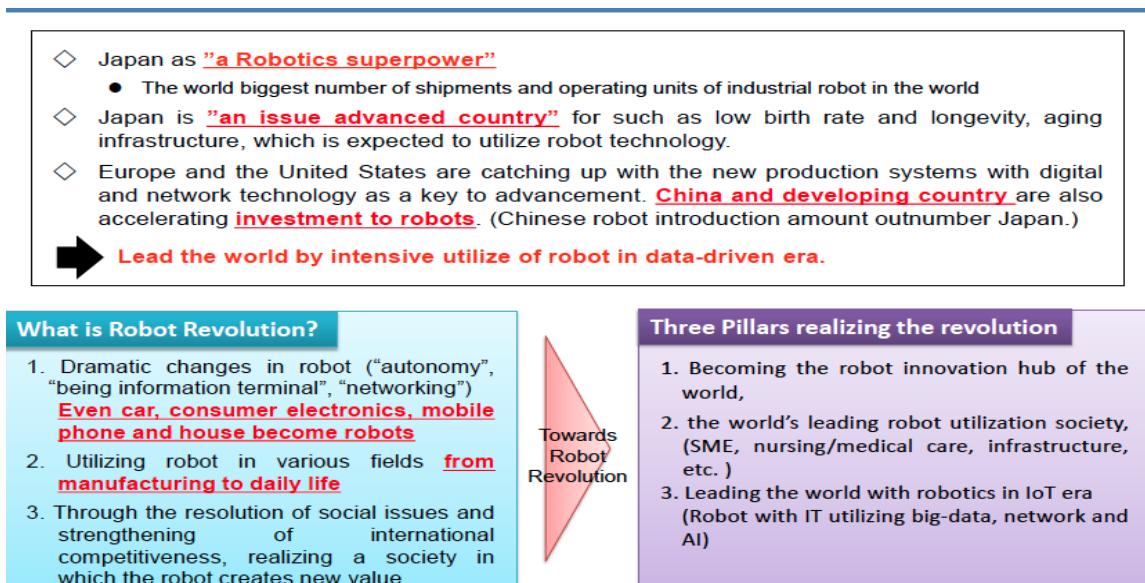


Figure 9. Information on Japan's Robotic Revolution²¹¹



²¹⁰ Source: Fensom, "Japan's Robot Revolution."

²¹¹ Source: "Summary of Japan's Robot Strategy: It's Vision, Strategy, and Action Plan," Ministry of Economy, Trade and Industry, January 23, 2015, http://www.meti.go.jp/english/press/2015/pdf/0123_01c.pdf.

The robotics industry could also play a significant role in developing high-tech weapon systems because the JSDF's strength in the future will depend on the quality of its defense equipment. The possibilities of military applications of robotics are endless. Herman writes, "above all, Japanese expertise in highly sophisticated robotics could provide ideal platforms for AI developments in the future sector."²¹² While the idea that future warfare will be fought using artificial intelligence is often associated with popular science, it is not far removed from reality, as Honda has already developed a humanoid robot called Asimo that can perform a wide array of simple tasks.²¹³ There are many other types of humanoids already being used.

The robotics industry is also a viable solution for two of the problems identified in this thesis: a future labor shortage due to declining population and troubles in the defense export market. For the defense export market, if Japan's R&D teams can successfully infuse robotics into modern defense equipment, it may provide Japan with a unique brand that every nation would want to purchase. For example, if building a robot soldier is truly possible in the future—one that possesses all the combat skills of human soldiers—it could be a revolutionary game-changer in warfare. By all indications, Japan is the world leader in making this concept a reality. Although these goals will no doubt have their share of challenges, they nonetheless provide a strategic vision for the future that could be profitable for Japan's international export industry. Currently, the robotics industry has massive support from hundreds of companies, and annual sales are projected to increase to "2.4 trillion yen by 2020."²¹⁴ It is so important that Abe has reached out to its industries, exhorting them in a speech to "spread the use of robotics from large-scale factories to every corner of our economy and society."²¹⁵

²¹² Herman, "The Awakening Giant," 16.

²¹³ Van der Ween, "Robotics in Japan," 22.

²¹⁴ Fensom, "Japan's Robot Revolution."

²¹⁵ Ibid.

5. Japan's Space Program

Japan's space program is very well established and ranks high in the world in R&D, budget, and technological advancement. The government continues to invest heavily in space because it is vital to projecting national power both militarily and economically, while providing the nation with international prestige. As the lead government organization overseeing all space activities, the Japan Aerospace Exploration Agency (JAXA) maintains diverse programs that span into the areas of satellites, launch vehicles, human spaceflight, research, and so on.²¹⁶ Space is the epitome of the dual-use technology policy to which Japan is committed, because it has an equally significant application to military and civilian technology. Japan's space program is thus an area of enormous potential in the commercial export business. Pekkanen and Kallender-Umezu writes, "because of the unusual prevalence of dual-use technology in the space industry, this could be economically profitable and, as it turned out, politically attractive and legitimately possible over time as Japan faced rising external security challenges."²¹⁷

One area where Japan's space program can compete internationally is in the launch business with its prominent H-2 series space launch vehicles. The H-2 rocket program that was successfully developed in the 1990s gradually evolved to the development of the more capable H-2A by the early 2000s.²¹⁸ Further upgrades led to the H-IIB rocket, which has greater payload capacity, and according to JAXA official Jiro Kochiyama, "they not only enable us to carry out national missions such as the launch of earth observation or navigation satellites and the transportation of supplies to the International Space Station (ISS) by the H-II Transfer Vehicle (HTV), but also allow us to launch the multiple satellites simultaneously."²¹⁹ Both the H-2A and H-2B launch vehicles are competitors on the world stage because they are advanced and reliable, and,

²¹⁶ "Missions," Japan Aerospace Exploration Agency, accessed May 13, 2017, <http://global.jaxa.jp/projects/index.html>.

²¹⁷ Saadia Pekkanen and Paul Kallender Umezu, *In Defense of Japan: From the Market to the Military in Space Policy* (Stanford, CA: Stanford University Press, 2010), 2.

²¹⁸ Steven Berner, *Japan's Space Program: A Fork in the Road?* Santa Monica, CA: RAND, accessed May 13, 2017, 1, http://www.rand.org/pubs/technical_reports/TR184.html.

²¹⁹ Jiro Kochiyama, "The H-IIB Launches a New Rocket Era in Japan," Japan Aerospace Exploration Agency, accessed May 23, 2017, http://global.jaxa.jp/article/special/transportation/kochiyama_e.html.

therefore, have the potential to expand Japan's space launch service. Opportunities exist especially in Southeast Asia, because some of these nations are relatively new players in space and are eager to advance their own programs. Since Japan's space program is more advanced and established, Southeast Asian countries may possibly look to JAXA as the delivery service of choice. Reliability is a huge factor to drawing in customers in the space business. According to a MHI representative, "clients attach the greatest importance to 'track record and reliability.'"²²⁰ Japan's H-2A rocket does indeed pass this test because 97 percent of its launches have been successful.²²¹

One of the major challenges to Japan's space launch program is the cost both in labor and material. JAXA is, however, making progress in this area. In an effort to reduce the cost of the H-2 program, Moltz describes JAXA's newest projects, including the larger H-3 rocket and the small booster program Epsilon, which he holds "can be ordered and launched with short lead times, making it more flexible for commercial customers."²²² Additionally, JAXA is developing an even smaller rocket called SS-520, which has a produced by the company Canon. The SS-520 may reduce launch costs even further by using an alternate fuel source.²²³ Figure 10 provides details/specifications on Japan's rocket launch program. Although it is not without challenges, Japan's space launch business is one area that might alleviate the defense export problem described above.

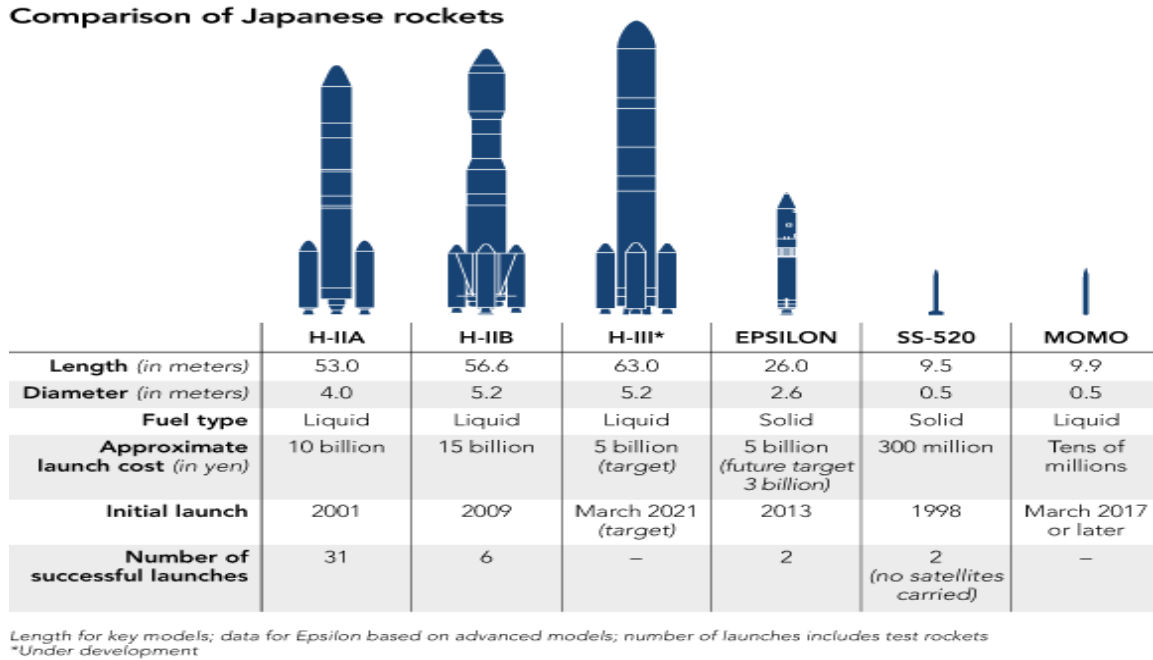
²²⁰ Akimoto Yuko, "Japan's Satellite Launch Business Lifts Off," *Japan Foreign Policy Forum*, September 25, 2010, <http://www.japanpolicyforum.jp/archives/economy/pt20100925154025.html>.

²²¹ Tomohiro Ichihara, "Scheduling, Costs Still a Challenge for Japan's H-IIA Rockets," *Nikkei Asian Review*, March 18, 2017, <http://asia.nikkei.com/Business/Companies/Scheduling-costs-still-a-challenge-for-Japan-s-H-IIA-rockets>.

²²² James Clay Moltz, "Northeast Asia's Space Launch Nationalism," *The Asan Forum*, August 12, 2016, <http://www.theasanforum.org/northeast-asias-space-launch-nationalism/>.

²²³ "Japan's Space Industry Charts Leaner, Cheaper Course," *Nikkei Asian Review*, January 10, 2017, <http://asia.nikkei.com/Tech-Science/Tech/Japan-s-space-industry-charts-leaner-cheaper-course>.

Figure 10. Comparison of Japan's Rocket Launch Systems²²⁴



Space satellites may also open the door for Japan's commercial export business. The space industry has already made progress in this area. For example, as early as 2002 the industrial giant Melco already had 30 different satellites in the international market.²²⁵ Also, Dunphy points out by 2016, "Japanese delegation[s] consisting of METI, MOFA, NEC and several ICT companies ha[d] already started approaching countries in South East Asia, Africa and the Middle East" and received order requests from Vietnam for their satellite.²²⁶ Although this was paid for by the Official Development Assistance department of MOFA, it nonetheless indicates a potential market opportunity in the future. Another example is the Tokyo-based company NEC's continued development of the Advanced Satellite with New System Architecture for

²²⁴ Source: *Nikkei Asian Review*, "Japan's Space Industry Charts Leaner, Cheaper Course."

²²⁵ *Nikkei Asian Review*, "Japan's Space Industry Charts Leaner, Cheaper Course," 82.

²²⁶ Ryuichi Dunphy, "Space Industry Business Opportunities in Japan: Analysis on the Market Potential for EU SMEs Involved in the Earth-Observation Products & Services," EU-Japan Centre for Industrial Cooperation, October 2016, 40, <http://cdnsite.eu-japan.eu/sites/default/files/publications/docs/2016-10-space-industry-business-opportunities-japan-ryuichi-dunphy-min.pdf>.

Observation (ASNARO), which includes various versions of the NX-series satellites.²²⁷ NEC has strong aspirations to grow its commercial export business. According to executive specialist Toshiaki Ogawa, “we aim to double our annual space-related revenues from about 50 billion yen now to 100 billion yen in 2020.”²²⁸ Ogawa also points out that the NX satellite caters to the needs of emerging countries because it provides the ideal amount of power and is also more cost effective.²²⁹ The Diet should continually invest in the R&D and commercialization of space satellites because it is another area where the country possesses a comparative advantage. Like other space programs, the research and development of satellites is heavily subsidized by the government, and, given the fiscal troubles mentioned above, funding for this program may be a challenge in the future. Also, like many of the weapon systems produced by defense industries, most satellite sales thus far have been to the Japanese government.

The issue of legitimacy pointed out by Pekkanen and Kallender-Umezu is an important one, because Japan’s defense modernization efforts, including the lifting of the arms export ban, are often viewed in a negative light by the public. However, the space program is more associated with civilian scientific research or commercial services, as opposed to having a military connotation, and this gives legitimacy to both the government and industry when exported on the international market. While space projects are often supportive of military capabilities such as ISR, ICBMs, and missile defenses, Japan’s space program for the most part has a non-militaristic reputation. None of the core projects/missions listed by JAXA mention any association to military weaponry or related support systems. The space program, therefore, offers Japan the opportunity to build on its military capabilities without public accusation, something identified in Chapter Two as a major barrier to meeting NDPG objectives. Space projects, by and large, do legitimately have peaceful scientific and commercial objectives.

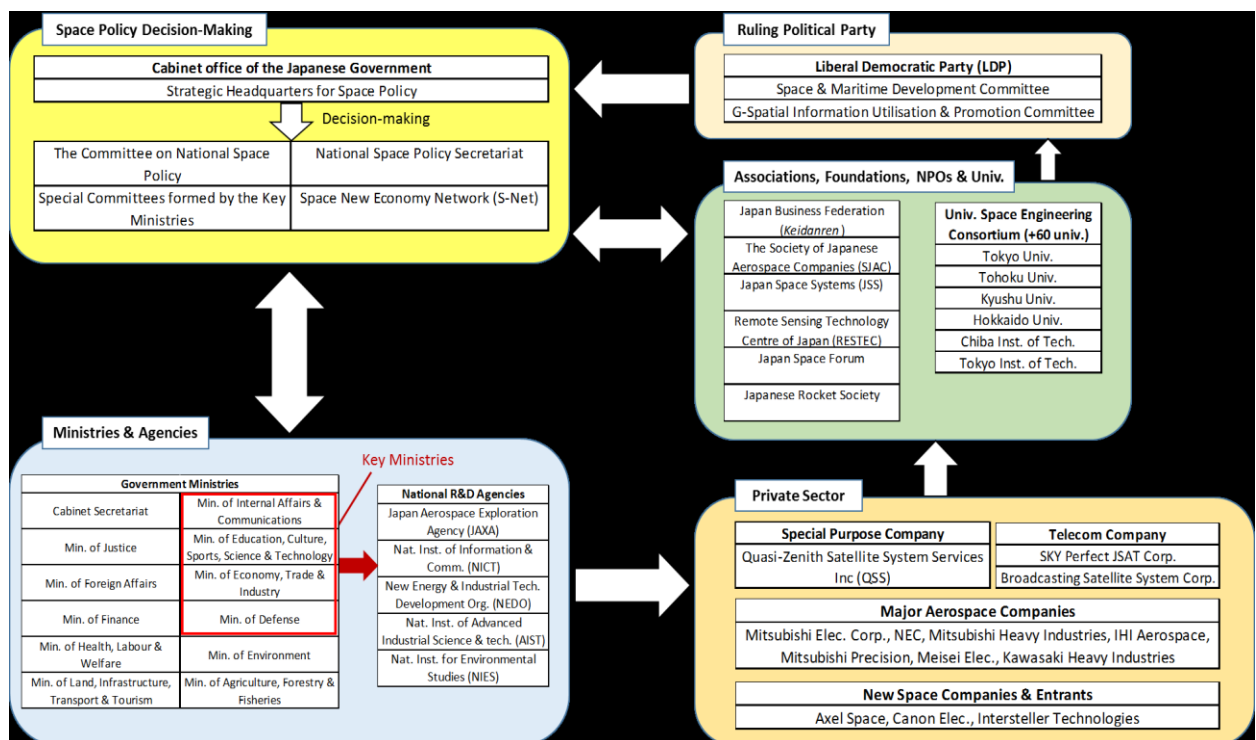
²²⁷ Paul Kallender-Umezu, “Japan’s NEC Looks to Expand Commercial Market Footprint,” *Space News*, November 24, 2014, <http://spacenews.com/42644japans-nec-looks-to-expand-commercial-market-footprint/>.

²²⁸ Ibid.

²²⁹ Ibid.

Finally, large portions of Japan's space program have been built indigenously. Japanese firms will develop many of its future acquisition projects domestically. As the space program continues to grow, so too will the industry's capacity for *kokusanka*. The space program therefore addresses two major problems identified in this thesis. Some keynote projects in the works include the Quasi-Zenith Satellite and the G-Spatial Information System, designed to be the next generation in GPS/navigational technology.²³⁰ Japan's space program is unique in that it encompasses all elements of society except the military, including industry, academia, bureaucracy, and other organizations that contribute to its advancement. Although it is not without challenges, the program is world class and continually evolving. It is a valuable source that will continue to strengthen the country by contributing dual-use technologies.

Figure 11. Scope of Japan's Space Program²³¹



²³⁰ Dunphy, "Space Industry Business Opportunities in Japan," 41.

²³¹ Source: Dunphy, "Space Industry Business," 28.

D. BUREAUCRATIC REFORM

Given the deficiencies inside Japan's bureaucracy identified above, reform is needed. Leaders within the ministries must transition to a more progressive approach to doing business. First, as identified in Chapter Two, Japan's decision-making can improve by incorporating the opinions of outside non-government experts, including those from academia, think tanks, and industry. Ironically, Japan's space program has an organizational structure that fits this model. As shown in Figure 11, the space program is a mix of government ministries/agencies, aerospace companies, universities, and non-profit organizations. It is my assessment that the ministries should follow this model. This is not to suggest that government should completely restructure the ministries. This is not feasible. However, more can be done to collaborate with outside groups so that ministry officials can gain an alternative perspective before making decisions. In addition, as already described above, Japan's ministries would function better if they were to follow Sugai advocacy for a "knowledge management system that can utilize all knowledge that the acquisition workforce has accumulated as explicit and tacit knowledge."²³² Although it is unclear whether the government is headed in this direction, or if it even realizes this deficiency, stove piping and reluctance to share information are two of the weakest characteristics of the government.

Last, Japan's bureaucrats receive a disproportionate amount of prestige. While the bureaucracy is a critically important job that must attract high-quality candidates, Japan's culture puts too much prominence on top government positions, thereby reducing the importance of other vital occupations. Jones writes that bureaucrats receive an enormously generous retirement package, earn salaries much higher than those working for top firms, and enjoy other perks such as a three-year maternity leave.²³³ While bureaucrats deserve recognition for their service, and are entitled to a pension, other NGOs also deserve monetary bonuses, subsidiaries, and recognition. Particularly, it would serve the nation well to increase the wages for JSDF personnel and to provide them bonuses. Such efforts are

²³² Sugai, "Defense Equipment, 2.

²³³ Colin P.A. Jones, "Bloated Bureaucracy Exposed: Book Blows Whistle on Waste of Tax Cash by Public Servants," *Japan Times*, January 13, 2009, <http://www.japantimes.co.jp/community/2009/01/13/issues/bloated-bureaucracy-exposed/#.WRaKExMrLow>.

necessary to attract the best and the brightest into military service—and it might be more feasible to make the military portion of the public sector more attractive than to do the same for the private sector or to make the bureaucracy less so.

E. FUTURE IMPLICATIONS

The changing security environment in East Asia, as shown by recent events, confirms Japan's need to execute the objectives outlined in the NDPG. This thesis formulated a comprehensive list of challenges that Japan must contend with in meeting those objectives. In spite of these challenges, Japan is still one of the most capable and advanced militaries in the world, and one that is supported by a world-class defense industry and well-functioning government.

As these strengths and challenges combine, the ultimate question is whether, how, and when (if ever) Japan can accomplish the NDPG objectives. The research above suggests there is reason for both optimism and pessimism. Militarily, there are some doubts as to whether the SDF will act decisively in a timely manner. Even though policy has changed to allow for CSD, there is still the stipulation that national survival must be in jeopardy. This leaves too much room for interpretation and for hesitation by SDF commanders and is exacerbated by the fact that permission is required from civilian leadership before acting. However, Abe and the LDP seem to be chipping away at obstacles to full revision of Article 9, which, if it occurs, could make the rules of engagement clear. Of course, opposition from more pacifist sectors of society will be a huge influence on the Diet and Cabinet. Japan's anti-militaristic culture adds much pessimism to this mix, although further security vulnerabilities might potentially reverse this trend. Furthermore, the joint U.S.-SDF military capability is still in the building stages, with joint exercises and other collaborate activities projected to increase frequency. Operationally, there is reason to be optimistic about future capabilities, because the alliance seems to be strengthening. However, much more time is needed for all these initiatives to solidify.

Finally, this thesis has taken a fairly pessimistic tone concerning Japan's inability to indigenously develop its own weapons systems (*kokusanka*). This is obviously a major

long-term challenge, but is another area in which Japan is making progress. The establishment of the ATLA and the trend towards greater technological collaboration with the U.S. is a positive sign. However, leaders must continually assess the budget situation, as well as establish and strengthen their position in the global export market.

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