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**NAVAL
POSTGRADUATE
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MONTEREY, CALIFORNIA

THESIS

**AN ANALYSIS OF THE CIVILIANIZATION OF THE
MINISTRY OF NATIONAL DEFENSE IN THE REPUBLIC
OF KOREA IN SUPPORT OF DEFENSE REFORM 2020**

by

Seunghun Jang

March 2009

Thesis Co-Advisors:

William D. Hatch II
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**AN ANALYSIS OF THE CIVILIANIZATION OF THE MINISTRY OF
NATIONAL DEFENSE IN THE REPUBLIC OF KOREA IN SUPPORT OF
DEFENSE REFORM 2020**

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Submitted in partial fulfillment of the
requirements for the degree of

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ABSTRACT

The purpose of this study is to investigate the feasibility of the civilianization plan of the Ministry of National Defense (MND) in the Republic of Korea (ROK). MND developed a plan to construct modernized military power and to operate it efficiently and effectively. MND promotes the plan to increase civilian personnel ratio inside the Headquarters by 2009, which is relatively faster than other main policies. Moreover, the environment inside and outside the organization is not mature enough to drive this policy quickly. There are also widely differing points of view on this policy between military members and civilian personnel. Defense ministries in other countries, especially the United States, have well-developed systems to educate and recruit civilian experts. By doing so, they attained a high level of civilian participation while minimizing possible problems. Many people in the organization worry about this plan because there are not enough organizations and systems to educate and train civilian defense experts. Although the direct comparison of workforce capability between military members and civilian personnel is limited, there are advantages and disadvantages that can be obtained through civilianization. Therefore, it is necessary to change this policy to a long-term one with more elaborate procedures.

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I. INTRODUCTION

A. BACKGROUND OF STUDY

In September 2005, The Ministry of National Defense in the Republic of Korea announced Defense Reform Plan 2020, which is a comprehensive and long-term plan for the 2005-2020 period. The Defense Minister said that the plan focuses on developing the country's manpower-intensive force into a "smaller but stronger" one suitable for the warfare of the future. The plan addresses four main policies: downsizing and reorganizing force structure, increasing the civilian workforce ratio in the Defense Ministry, strengthening the system of the Joint Chiefs of Staff, and securing defense budgets to support the defense reform. However, contrary to other initiatives that are making steady progress, the civilianization of the Defense Ministry is coming under close scrutiny. This is due to the Defense Ministry imposing a time limit to increase the civilian ratio in the organization by 2009.

The civil reform plan's general idea is that the future manpower structure has a well-balanced civilian workforce and enough military personnel to effectively and efficiently implement the defense policies. Unlike other developed countries, the civilian workforce ratio in the South Korean Defense Ministry is relatively low, and is currently at 62%. In 2007, the Defense Ministry requested the Korea Institute for Defense Analyses (KIDA) to survey people's attitudes about what needs to be improved about this policy inside and outside the ministry. The results from this survey differ depending on the participant's occupation and origin. Moreover, the newly appointed Defense Minister directed the Defense Ministry to review the policy of filling 70% of ministry posts with civilians ("Defense Chief orders 'about face'", 2008). The policy of increasing the civilian workforce ratio in the Ministry of National Defense headquarters became deadlocked and is increasingly drawing public attention.

The United States Department of Defense performed a qualitative and quantitative analyses to figure out the best human resources plan for the organization. A variety of institutes published related papers and literature and the DoD has tried to reflect those

opinions and results actively. By doing so, the military as a professional entity for national security becomes well harmonized with civilian control. In light of this, it is worthwhile for the Defense Ministry to consider what it is not focusing on and to view the DoD's approach for achieving civilian control.

B. PURPOSE OF STUDY AND RESEARCH QUESTIONS

The purpose of the study is to examine the feasibility of the plan to increase the civilian workforce ratio in the Ministry of National Defense. The most important thing to be considered is not the ratio itself, but the improvement of experience and expertise throughout this plan.

1. Primary Research Questions

- How would the civilianization of military positions support the Defense Ministry's reform objectives?

2. Secondary Research Questions

- What factors are considered in the examination of converting military jobs to civilian ones?
- How does the civilianization process differ between of the Republic of Korea Ministry of National Defense (ROK MND) and the United States Department of Defense (US DoD)?

C. SCOPE AND ORGANIZATION OF STUDY

The positions under examination in this research are the positions within the Defense Ministry Headquarters, which consists of 16 directors and 57 sectional chiefs, as well as 652 working-level positions. The reason behind this is the fact that most Koreans recognize the conversion from military positions to civilian ones in the Ministry Headquarters as the process of civilianization cited in the defense reform.

Chapter II presents the background and main policies' objectives supporting South Korea's plan for defense reform. Chapter III focuses on civilian defense reform in

South Korea and shows the United States case for civilian control over the defense system. Consideration of economic aspects will be explained in Chapter IV. Economic analysis will be focused on the cost differences between uniformed personnel and civilian workforce. Finally, Chapter V presents the summary, conclusions and recommendations.

D. METHODOLOGY

The study primarily consists of a qualitative organizational policy analysis. Reports from the Defense Ministry and survey results from the Korea Institute for Defense Analyses were analyzed. The methodology used in this study consists of the following steps:

1. Review South Korea's defense reform plan
2. Focus on the civilian portion of the reform plan
3. Review Korea Institute of Defense Analyses survey results
4. Review the U.S. literature about civilian defense reform and cost comparisons between uniformed personnel and civilian workforce
5. Research benefits from the civilian defense reform
6. Analyze costs and benefits

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II. ROK DEFENSE REFORM 2020

A. BACKGROUND

Defense Reform Plan 2020 began from the government's security policy plan and understanding of defense reform. In December 2004, former President Roh Moo Hyun said, "France legislates for its defense reform plan, and it is critical for consistent defense reform to make a foundation by law. The key point of the plan is to convert the current manpower-based military structure into a technology-intensive one, and the military should develop the defense reform's long-term goals and visions clearly by its own initiative" (Presidential Commission on Policy Planning, 2008, p. 21-22). In June 2005, the Ministry of National Defense organized a taskforce and proposed the defense reform draft to the National Assembly.

There have been several attempts to reform the defense system in South Korea since the early 1970s. At the end of 1971, U.S. forces in Korea had been cut by 20,000, which caused fear that there would be a gap in the nation's security (Sung-Joo Han, 1980, p. 1078-1080). Then President Park Chung Hee proposed a self-reliant defense in order to build South Korea's own defense industrial base to fill this gap. This first defense reform achieved remarkable success thanks to President Park's strong determination and considerable financial support (Yong-sup Han, 2006, p. 113-114). After that, following administrations also tried to implement defense reform, but they failed to accomplish the goal due to political and economic problems. In the case of Defense Reform 2020, however, the Defense Ministry has been receiving strong support from the President and little resistance from the opposition parties, as they were a minority.

As acquisition for defense is becoming more difficult, a flexible defense management system and performance-focused management are necessary to accommodate rapid societal change and development. Defense reform, with the governments' strong support, is prevailing worldwide in countries such as the United States and Russia, as well as in Korea's neighbors China and Japan. Many countries with strong militaries are modernizing their weapon systems with highly developed

technologies, and reducing and integrating troops and units. After analyzing other countries' examples of defense reform and evaluating the current status of its military, the South Korean government and Defense Ministry concluded that they needed to carry out reform in order to solve increasing problems in the military.

B. CURRENT PROBLEMS

South Korea traditionally has maintained a manpower-intensive military structure in preparation against North Korea's massive conventional forces. As Table 1 shows, North Korea's military consists of more than 1 million troops, of which about 90% are army. South Korea had no choice but to maintain a similar ratio of its troops to cope with viable threats. However, current development of information and technology makes the arena of modern warfare bigger, more precise and network-oriented. There is an urgent need for South Korea's military to change its military structure to correspond with the new warfare phase, which is structured around elite and streamlined forces and the balanced development of all services.

Table 1. Comparison of Military Capabilities between ROK and DPRK (After: Ministry of National Defense, 2006)

Classification		ROK	DPRK
Troops (Peace Time)	Total	More than 674,000	More than 1,170,000
	Army	541,000	1,000,000
	Navy	68,000	60,000
	Air Force	65,000	110,000
Reserve Forces (troops)		3,040,000	7,700,000 (including instruction guidance units, Worker/Peasant red guard units, and Red youth guard)

Given the current manpower-intensive military structure in South Korea, investment for the build-up of military capabilities is insufficient. In consequence, the essential equipment for modern warfare (e.g., long-range precision strike capability, intelligence assets and surveillance equipment) is insufficient. As the demand for military members' welfare and benefit keeps growing, investment for military modernization becomes more difficult. Therefore, the effort toward a flexible defense management system, performance-oriented administration, and management innovation to reduce defense budget is imperative.

From its inception, South Korea's military was recognized as an organization that was based on military-oriented thinking, a leadership grounded in authoritarianism, and an inflexible organizational culture. These pre-modern military cultures create many reasons for inefficiency and a lower reliance on the military, and have the effect of leading the young generation to evade military service. The now open and democratic society demands that the military become an advanced organization that can meet its various demands.

C. FOUR KEY POINTS

In a 2006 defense white paper, the Defense Ministry stated that the goal of defense reform is to “build an advanced, elite, and strong force and to work together with the people” (Ministry of National Defense, 2006, p. 73). The four focuses were also clarified as follows:

First, the armed forces in South Korea will build their military structure and force systems that best fit the characteristics of modern warfare.

Second, the civilian workforce in the Ministry of National Defense will be expanded, while the military will concentrate on the fulfillment of combat missions.

Third, the defense management system will be innovated to promote information and science for the military force in a highly efficient and low cost manner.

Fourth, the defense system will be transformed into a highly efficient one by improving the “barracks culture” and overall national defense.

1. Manpower Structure

When it comes to manpower structure, the military will reduce its present force from 680,000 to 500,000 by the year 2020. To meet the designated size, the Army will reduce its troops to 371,000, the Navy will be reduced to 64,000, and the size of the Air Force will remain the same. Since this troop reduction is designed to build an officer-oriented structure, the target for personnel reduction will be enlistees. The Defense Ministry underlines securing advanced combat capability with the acquisition of state-of-the-art weapon systems and the establishment of intelligence, surveillance and command & control capability.

The Army's current 10 corps and 47 divisions will be reduced to 4-6 corps and approximately 20 divisions. Military operations performed by large units (e.g., divisions) are not regarded as optimal to attain the goals of coping with the current operational environment. For these reasons, the U.S. Army reorganized from a division-based to a brigade-based force (Johnson, Grissom, & Olikier, 2008, p. 2). Therefore, the U.S. Army has streamlined to its current 10 active divisions, down from 18 active divisions in 1991. The existing three field commands will be integrated or reorganized into operations commands. In other words, the 1st and 3rd Army Commands will become the Ground Forces Operations Command and the 2nd Army Command will become the Rear Area Operations Command. The subordinate corps commands will also be reorganized to simplify the chain of command. By dropping the number of units and shortening the mid-level of commands, the chain of command will be reduced.

Though the number of Army corps and divisions will be reduced, it is critical to maintain or improve combat capability. To achieve unit reduction and at the same time improve combat power, the respective units' intelligence surveillance capabilities, maneuverability and firepower will be enhanced.

On the way to developing force structure, the Navy and Air Force were somewhat alienated. However, the strategic environment on the Korean peninsula, whose three sides are surrounded by the sea, makes the role of the Navy and the Air Force more important. Compared to neighboring countries, the combat strength of the Navy and Air Force is

relatively inferior. The Navy has a plan to reinforce its force structure by reorganizing the current three fleets, one submarine flotilla and one aviation flotilla into three fleets, one submarine command, one aviation command and one mobile flotilla. By implementing this plan, the Navy expects considerable improvement in combat capabilities. By raising submarine and aviation units to higher status, the execution of their mission in future battlefields will be ensured. In the case of the Marine Corps, it has the battalion-level landing operation capabilities only. For that reason, the Marine Corps has a plan to expand its landing capabilities to the brigade-level by reinforcing its assets. The Air Force currently has only one command, Southern Combat Command. However, it will restructure the Air Force operational command system into two combat commands by including the newly established Northern Combat Command.

2. Civilian-led Control System

To accomplish the national security objectives, it is important to establish civil-military relations based on the democratic system (Participatory Government Policy Report, 2008, p. 59). When it comes to civil-military relations, the U.S. Department of Defense (2002) states the purpose clearly in the principles of democracy as follows:

In democracies, questions of peace and war or other threats to national security are the most important issues a society faces, and thus must be decided by the people, acting through their elected representatives. A democratic military serves its nation rather than leads it. Military leaders advise the elected leaders and carry out their decisions. Only those who are elected by the people have the authority and the responsibility to decide the fate of a nation. (p. xx) If no page number, leave as is.

South Korea also defines the civil-military relations in its constitution, government organization law and military organization law as the U.S. does. The fundamental meaning of civil-military relations is also completely the same. However, the Defense Ministry headquarters as a central administration organization have long been operated by active-duty officers. This makes the effort to foster civil servants who

can establish and execute the defense policy very hard. Moreover, as the result of a lack of interest from the civilian side, a shortage of civilian defense experts contributes to a weak civilian base.

Due to the weak civilian base, the Defense Ministry fills its major positions with active-duty officers, which results in several problems. First of all, the military standpoint has priority over other points of view. This issue restricts the establishment of national security policy connected with the government's foreign security policy. Second, uniformed personnel have a tendency to put emphasis on their own service's interest. Therefore, the ministry has difficulty in balancing each service's development and promoting integrated military strength. The uniformed personnel's decision-making system deepens a resistant atmosphere among the defense organization. Lastly, promotion restriction for civil servants who work in the Defense Ministry keeps quality civilian members of the workforce from staying in their positions for long periods of time.

In 2003, the Defense Ministry proposed the need to increase the civilian-led control system to the presidential transition team. Since director-level positions were occupied by active-duty flag officers who have to move their positions frequently, their experience and expertise were hard to apply to the defense policy. Furthermore, flag officers in the ministry have their own service backgrounds, which make it hard to maintain neutrality when making consistent and objective defense policy. Therefore, the necessity for civilianization in the Defense Ministry has gradually increased.

In the defense reform plan, the civilianization plan consists of three main parts (Ministry of National Defense, 2005, p. 26). First, the civil servant ratio in the Defense Ministry will be increased from 52% to 71% by 2009.¹ To improve newly employed members' expertise, an education program will be established at the National Defense University and the number of civilian defense workers who are given the opportunity to take part in domestic long-term education and training will be expanded. Second, military civilians will be increased from the current 3.9% to 6% of active duty servicemen by 2020. The current ratio in the defense administration is significantly lower than in other

¹ As of December 2005.

countries, such as the United States and England (32%), Germany and France (22%) and Japan (8%) (Participatory Government Policy Report, p. 73). Since military civilians have expertise and continuity in defense administration, it is necessary to increase these quotas. Finally, personnel hearings on both the caliber and morality of key military appointments will be initiated, which will help the Defense Ministry to improve the reliability of its personnel.

3. Transparent Defense Management System

Although the defense acquisition plan is vital to secure the national security and requires a significant budget, it has failed for a long time to avoid issues of transparency and efficiency. There are several reasons for this (Participatory Government Policy Report, p. 75). First, overall decision making for the acquisition plans was made by an organization that consisted of military personnel only, who raised transparency issues by applying excessive security. Second, acquisition processes were very complex and internal authorization structures also overlapped unnecessarily. Third, it has been difficult for civil servants and uniformed personnel who dealt with acquisition projects to accumulate expertise. Fourth, outsourcing was insufficient. Fifth, poor integration of management and acquisition plans restricted efforts at analysis and appraisal. Finally, the national defense industry and competitiveness for research and development were weakened. A protection policy for the defense industry resulted in low efforts to improve its competitiveness. Not only that, but most plans for military strength reinforcement were import-centered.

The Defense Ministry is pursuing improvement in transparency, efficiency and professionalism in the defense management system. In January 2006, the Defense Acquisition Program Administration (DAPA) was established. By creating DAPA, the aim is to achieve high standards of efficiency by integrating the management of eight independent project-related organizations: each service's project groups, acquisition-related Joint Chiefs of Staff offices, the defense procurement agency, acquisition-related Ministry of National Defense offices, the quality management center, and the agency for defense development (Defense White Paper, 2006, p. 27). The mission of DAPA is to

contribute to the national interest by pursuing customer-centric defense acquisition programs. The commissioner of DAPA stresses that all employees act as role models of fair public servants possessed with high ethical standards of self discipline and professionalism (Defense Acquisition Program Administration, 2008).

Personnel management will correspond to the level of the personnel structure of advanced nations. Currently, 75% of the entire manpower structure consists of enlisted personnel. By decreasing this ratio to 60% by 2020, the military expects improvements in the personnel structure and management system. While reducing the total number of troops, combat service support and the high technology requirements will be outsourced. High-quality combat service support makes it possible for uniformed personnel to concentrate on combat and operational missions. In the U.S., the Department of Defense increasingly outsources commercial activities to enhance management in conjunction with the increase in outsourcing studies on areas such as cost comparison (Robbert, Gates & Elliott, 1997, p. 83). The Defense Ministry in South Korea will also perform examination on 29 units related to supply, maintenance and welfare of each service. After their own innovation efforts, some of the jobs will be outsourced to private companies in the civilian sector (Defense White Paper, 2006, p. 29).

4. Improving Organizational Culture

Since South Korea uses conscription system to maintain its huge military end-strength, all young men of a specific age must enlist in the military unless they are not eligible for various reasons. However, many people think of compulsory military service as a waste of their valuable time and many enlistees just await their discharge from the service without objectives. Some young men become draft dodgers and draft resisters rather than enlistees. The current military culture has several problems. First of all, military culture is very different from its civilian counterpart. The mission has a priority over human rights, authoritarianism still exists, and the barracks environment is hard for new generations to easily adapt to. Second, there is little effort to ensure sympathy and support from the people. People view military society as a narrow, closed one because the military does not attempt to open it. Furthermore, improper practices and accidents result

in people's distrust. Finally, fundamental and consistent efforts at reform have fallen short. For a long time, the military has had a tendency to focus solely on complementing the external system, not making basic changes in members' awareness, a tendency that results from a shortsighted policy that fails to see the inner problems of the barracks.

The Defense Ministry is attempting to establish a value system. In 2006, it established a research center to help uniformed personnel to set correct values (Participatory Government Policy Report, p. 110). The objective of the center is to investigate the military's special characteristics, the value difference between officers/NCOs and enlistees, changes in the new generation's psychology and verification of behavior. The military expects this center to offer research results to field commanders. Moreover, 56,000 Internet PCs will be supplied for self-development for servicemen. The technology helps them to study foreign languages and to obtain certificates in line with the government's special law for young people's employment. By establishing an e-learning system, enlistees who are temporarily out of school are able to receive credits in their military career.

A legal and systematic basis for guaranteeing human rights will be established. The military will recruit civilian specialists to deal with military human rights. The current mass barracks life will be modified to a more autonomous one to minimize external control and guarantee individual life as much as possible. Since advanced leadership starts from selection of excellent cadre, the military will develop scientific and objective selection procedures. More officers and NCOs will have advanced leadership and respect their subordinates as companions. The current selection system for enlistees often fails to screen disqualified individuals, which leads to a huge burden on commanders. Therefore, this system will be improved by strengthening humane examination and using psychologists as support staff. Through this change, negative attitudes toward the military will be reduced, in tandem with a decrease in accidents that hinder the organization's development.

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III. CIVILIANIZATION

A. BACKGROUND

Under the National Defense Reform Act, expansion of the civilian base in national defense policy making is clearly defined. “Expansion of the civilian base” refers to the expansion of civilian participation in the national defense decision-making process based upon the principle that the Ministry of National Defense must effectively manage and support the Korean Armed Forces by realizing the national defense policy in the military aspect, while the specialty and expertise of civilians and military personnel are mutually balanced and harmonized (National Defense Reform Act, 2007). When it comes to the advancement of the national defense operation system, the Defense Ministry clarifies the necessity to expand the use of civilian personnel in order to enhance and ensure continuity of the assignment related to national defense.

Establishing civil-military relations that are compatible with democratic systems is crucial to attaining the nation’s security goals while guaranteeing the military’s original realm. The civil-military relations represent civilian control, which means a political system where a civilian president who is selected by the people, and a civilian Defense Minister who is selected by the president, command and control the nation’s military. In other words, civilian control means that civilian experts make decisions about national defense and undertake the use of military power based upon the nation’s political and foreign policy. Although the principles for civilian control are secured by the Constitution, the government organization law and the military organization law, active-duty military personnel have been in the majority in the Headquarters of the Ministry of National Defense since the military was established. Military-dominated defense management makes it difficult to foster quality civil servants, which leads to low interest from civilian candidates.

The predominance of military personnel in the Defense Ministry headquarters creates a problem in keeping defense policy in line with the government’s foreign policy, because uniformed workers often give priority to the military’s point of view. Since

military personnel have a tendency to consider their own service's interest, service-centered thinking becomes an obstruction to developing balanced military structure and integrated military power. In addition, the military-centered decision-making system has made the organization less flexible. Rigid organization and limited promotion keep quality civilian personnel from remaining in their positions longer.

In January 2003, the office of the President-elect raised a question to consider the existing issues in the Defense Ministry while preparing for the transition (Participatory Government Policy Report, p. 60). The office pointed out that uniformed personnel do not have enough time to manifest their experience and expertise since they switch jobs more frequently than civilian staff members. It also emphasized that quality civilians should be appointed to high positions (i.e., directors and section chiefs) to provide objectivity, consistency and specialty in defense policy. This strategy did not make steady progress at first. Expanding the civilian workforce requires increasing the civil servant quota in the Defense Ministry. However, the Ministry of Government Administration and Home Affairs (MOGAHA)² opposed the quota increase for the reason of government downsizing. The Defense Ministry kept explaining its plan and the Defense Minister agreed to cooperate with the minister of MOGAHA regarding the personnel quota in Defense Ministry headquarters. Finally, the Defense Ministry was able to establish multiple director offices so that both civilian and military are appointed to the same position and to expand civilian working-level positions.

B. U.S. CIVILIANIZATION PLAN

In the U.S., the Department of Defense employs more than 700,000 civilian personnel in important positions all around the world. Among them, the majority of the workforce in the Office of the Secretary of Defense is civilian personnel. In the past, the number of civilian personnel was not the same as the current scale. Attempts to substitute civilians for uniformed personnel were partially associated with the transition to an all-volunteer force. Though Congress denied it, the Gates Commission viewed the civilianization plan as a method to reduce the demand for new recruits. At that time, the

² In 2008, the ministry was renamed the Ministry of Public Administration and Security.

expected number of positions that could be civilianized was based on “meeting possible accession shortages” for each of the services (Rostker, 2006, p. 199-200). After completing transition from conscription to all-volunteer forces in 1973, the transfer of positions performed by uniformed personnel to civil service personnel has gone forward continuously. According to a defense manpower requirements report by the Office of the Under Secretary of Defense for Personnel and Readiness, the number of civilian personnel who work in the Office of the Secretary of Defense (OSD) keeps increasing every year. During FY 2005-2007, the OSD-level civilian ratio ranged from 81 to 82%.

Table 2. Manpower in Defense-Level Activities and Accounts (After: Office of the Under Secretary of Defense for Personnel and Readiness, 2006)

OSD-Level	FY05 Actual				FY06 Estimate				FY07 Estimate			
	Active	Selected Reserve	Civilian	Total	Active	Selected Reserve	Civilian	Total	Active	Selected Reserve	Civilian	Total
Office of the Inspector General	29	0	1,293	1,322	29	0	1,422	1,451	29	0	1,404	1,433
Office of the Secretary of Defense	453	153	1,445	2,051	476	153	1,460	2,089	475	153	1,512	2,140

The Department of Defense maintains or increases its civilian workforce ratio because military personnel have frequent rotation of their positions, and civilian workers are cheaper sources compared with uniformed personnel. In particular, the DoD asked researchers and research institutes to analyze the costs and benefits of substituting civilian workforces for military personnel. It considers economical grounds as well as other theoretical bases like those of society and the constitution. As part of the efforts to foster civilian personnel’s quality and cost effectiveness, it established various programs under the Joint Leader Development Division (JLDD), such as the Civilian Education and Professional Development (CE&PD) Branch, the Defense Leadership and

Management Program (DLAMP), the Defense Senior Leader Development Program (DSLDP), the Executive Leadership Development Program (ELDP) and the National Security Professional Development (NSPD).

C. ROK CIVILIANIZATION PLAN

The plan to increase civilian personnel in the Ministry of National Defense (MND) began in earnest following the appointment of Defense Minister Yoon Kwang-Ung in July 2004. He wrote a research paper on civilian control of the military before taking office, in which he proposed a “New Paradigm and Tasks for the Defense Reform.” In setting forth the defense reform, the Defense Minister was pursuing an internal transformation based on the new paradigm in national defense. He stressed that it was important for the MND headquarters to promise a harmonious flow between national policy and defense policy. Also, it was necessary to install a civilian-oriented administration of MND by successively adjusting the active military ratio.

Table 3. Manpower in the MND Headquarters before civilianization in 2004 (After: Participatory Government Policy Report, 2008)

	Total	Active Duty	Civilian	Note
Total	856	421 (49%)	435 (51%)	Exception (179)
Director-level	18	10 (55%)	8 (45%)	· Administrative Official (2)
Section Chief-level	68	35 (51%)	33 (49%)	· Policy Assistance (3)
Working-level	770	376 (49%)	394 (51%)	· O-3 and below / Technical Official (174)

In August 2004, Defense Minister Yoon said that all director-level positions and 75% of all section chief positions were required to become civilian-filled by the end of 2006. By doing so, he expected to enhance the ability to mediate between policy and national defense, and to adjust conflicts among services. The plan began analyzing current active-duty positions to determine whether or not those positions should be

managed by uniformed personnel. However, the Defense Minister's first plan was modified slightly due to several constraints. In November 2004, the Defense Ministry proposed its headquarters civilianization plan. The main issues and constraints were (Planning and Coordination Office, 2007):

1. Increase civilian workforce ratio to 70% by 2009
 - Maintain active-duty positions requiring military specialty (Policy Planning Bureau, Mobilization Planning Bureau)
 - Switch over certain positions that need to understand national policy and cooperate with other organization to civilian positions
 - Exchange civilian staff and uniformed personnel in certain director-level and section chief positions
2. Secure quality civil manpower
 - Transfer from active-duty experts to civilian and foster civilian experts within the MND
 - Employ quality, new civilian personnel (Civil Service Examination, transfer from other organization, special appointment)
 - Use quality reserves and experts
3. Improve current civilian employees' expertise
 - Manage personal career: appointment → education → promotion
 - Improve education and training system (short-term and long-term defense-oriented program development)

1. Manning Decisions

It is important to define those positions that could be manned by civilian personnel in order to implement the civilian substitution plan. Albrow applied seven criteria to evaluate the validity of military-civilian substitutions: legal requirements, training, discipline, rotation, combat readiness, military background and tradition. He did

not consider cost estimation. Instead, he simply assumed that costs of employing civilians were less than for military, citing such casual observations as the supposed lower turnover rates exhibited by civilian personnel (Albro, 1970, p. 1-20). In 1977, Cooper clarified the required factors for manning decisions: military requirements, personnel management constraints, cost-effectiveness and tradition. When it comes to manning decisions, there are some positions that are intrinsically “military” in nature, just as there are some that are intrinsically civilian. Cooper found that the number of such jobs is relatively small, probably no more than 25% of the combined present military and civilian personnel strengths (Cooper, 1977, p. 291-292).

The Ministry of National Defense gave guidelines for the selection of positions to be manned by military personnel. It separated all positions within headquarters into three areas: positions to be manned by military personnel, positions to be manned by civilian personnel and positions that can be manned by either. First, military positions are those that require active-duty members’ specialties such as military strategy, crisis management, military training and field operations. Equal positioning of each service member is also required to design a balanced national defense policy. Second, civilian positions are those that require full understanding about nationwide policy and cooperation with other governmental and civilian organizations. People who work at those positions need to develop defense policy from the civilian viewpoint. Some tasks that uniformed personnel are unlikely to experience are also required to be operated by civilian personnel. Finally, it is possible for some positions in the Defense Ministry to be manned by both military personnel and civilian personnel. Although Cooper mentioned that positions with intrinsic characteristics were relatively small, the Defense Ministry determined after analysis that up to 30% of all positions required military personnel.

Table 4. Civilianization Plan in 2005 (After: Planning and Coordination Office, 2007)

	Civilian (2004)	Active Duty → Civilian						Civilian (2009)	Finish by
		Total	2005	2006	2007	2008	2009		
Total	374 (52%)	129	32	32	23	21	21	503 (71%)	
Director-Level	6	5	3	2	-	-	-	11	2006
Section Chief-Level	38	10	4	3	3	-	-	48	2007
Working-Level	330	115	25	27	20	21	21	444	2009

In 2007, the Ministry of National Defense asked the Korea Institute for Defense Analyses (KIDA) to analyze the understanding and improvement of its civilianization plan from all levels of society as the plan was being executed. According to the survey, both civilian and military personnel had a similar interest in the goal of this plan. However, those on active duty showed little sympathy toward the final military-civilian ratio in the Defense Ministry Headquarters. Only 27% of all military personnel in the organization agreed with this ratio and more than 70% of them answered that this plan needed to be adjusted (Dokgo, Cho, Ki, Shin, Kim & Hong, 2007, p. 14). This caused discord because the effort to determine those positions that were essential to the military was inadequate, since the goal ratio was decided in a top-down manner. Some directors and section chiefs do not have military subordinates in their offices though more than half of them require military expertise to perform their jobs (Planning and Coordination Office, 2007). When the number of positions for civilian personnel increased, the complaints from active duty personnel increased. Uniformed individuals thought that positions for civilian personnel were relatively influential while their positions were not significant. In fact, it is in departments such as the Woman's Affairs Policy Division (50%) and Defense Policy Division (55%) that the majority of members serve on active duty. Consequently, the preference of military personnel to work in the Defense Ministry has declined and quality military members do not want to make their career in the

Defense Ministry. According to a report from the Defense Ministry, 55% of the entire active duty personnel in the organization prefer not to work at Ministry positions due to future uncertainty, overwork from decrease of military members, and the fact that their civilian seniors are often younger than they themselves are.

2. Securing Quality Civilian Manpower

The success of the civilianization plan hinges upon hiring and retaining a quality civilian workforce. According to the Civilian Human Resources Strategic Plan from the Office of the Assistant Secretary of Defense for Force Management Policy, the Department of Defense is well aware of the current difficulties in recruiting and keeping its quality civilian members. Accordingly, the DoD sets the vision and the goals, along with associated strategies and objectives, as follows (U.S. Department of Defense, 2002, p. 6):

Vision

- Design, develop and implement HR policies, strategies, systems and tools to ensure a mission-ready civilian workforce that is motivated to excel

Values

- High personal and professional moral standards
- Honesty in word and deed
- Inherent worth and dignity of every person in the workforce
- Inherent worth of workforce diversity
- Public service as a valued career

Principles

- Support for the warfighters and those who support them
- Commitment to excellence
- Best-value HR solutions

- Best business practices
- Flexible, customer-focused HR programs
- Cost-effective personnel programs
- Open and honest communication
- Optimum delegation authority with accountability

Based on the vision, values and principles above, the Department tried to promote its recruiting plan to hire the best quality civilian workers available. This recruiting effort includes retired military hires as well as outside hires. To make the Department of Defense a premier employer in the Federal Government, the Department built several objectives and sub-plans (U.S. Department of Defense, 2002, p. 13-14). It developed a recruitment strategy to draw candidates at any level by expanding coverage of recruitment, relocation and retention bonuses, identifying incentives and features of employment, developing legislative and/or regulatory changes and identifying funding sources.

In Defense Reform Plan 2020, the Defense Ministry made clear that promoting the current quality civilian workforce should be the first and employing new members the second choice to fill current military positions. To fill its positions with quality members from other ministries, a ministry-wide job posting program will be applied. Job posting is a competitive recruitment program within the civil service. Civilians are not permitted to apply, and the right person for the post is selected from a competition among civil servants. The number of posts and agencies participating in this program is increasing year by year.

Table 5. Numbers of posts and agencies participating in Job Posting Program
(After: Namkoong, 2007)

	Before 2000	2001	2002	2003	2004	2007.5
Agencies	4	6	8	29	36	-
Posts	48	5	13	244	460	530

The Defense Ministry developed its human resources management by expertise and job characteristics. Using the open position system (OPS) with the civilianization plan, the number of civil servants in Grade 5 has increased from 26 (9%) in 2004 to 43 (14%) in 2007, while the career management system has also improved (Namkoong, 2003, p. 53-66). Nonetheless, the number of civil servants in Grade 5 is quite small, compared to other ministries like the Ministry of Strategy and Finance (81%) and the Ministry for Health, Welfare and Family Affairs (40%). A career management system also requires improvement to give more expertise and capabilities to the workforce in the Ministry. In response, 77% of working-level employees and 40% of section chiefs stated that they did not have prior experience for performing their current tasks (Planning and Coordination Office, 2007). This happened because the civilianization plan had progressed so promptly without elaborate preparation for fostering quality civilian defense specialists. In the U.S., the Defense Department has been successful in hiring members who have recently retired from military service with expert organizational, managerial and technical qualifications (U.S. Department of Defense, 2002, p. 12). Therefore, the Defense Ministry should consider a general plan to employ active duty and/or retired people before securing civilian defense experts.

3. Improving Civil Servants' Expertise

In order for civilian personnel to become experts in military organization, they should have not only specialized knowledge and skills for doing their jobs, but also accumulated knowledge acquired from diverse experience. Currently, there are not enough civilian defense experts within the Ministry of Defense. For example, more than

60% of the director-general level positions in the Defense Ministry are filled by Army generals; clearly, finding skilled civilian substitutes in the short-term is not simple (Yong-sup Han, p. 122). The Defense Ministry has built a plan to institute education and training programs in many facilities like the National Defense University, not to mention the plans to hire relevant civilian experts through outsourcing.

Table 6. Short career development courses in 2006 (After: Planning and Coordination Office, 2007)

	Institute	Course	Duration (week)	Target	Plan	Done
New Appointee Course	National Defense University	Advanced Administration	3	Grade 5	5	5
		New Appointees	2	Grade 6 & below	12	12
Special Education Course	National Defense University	National Defense General Administration	3	Grade 6	2	2
		Joint Chiefs of Staff	2	Grade 5 & above	9	9
		National Security Policy	2	Grade 6 & above	10	10
		Organizational Manpower	2	Grade 6 & above	5	5
		Public Affairs	1			
	Acquisition Management	2~3				
	Logistics School	Support and Logistics (4)	2			
Total		14 Courses			75	75

Table 7. Domestic and Foreign Long Career Development Courses in 2006 (After: Planning and Coordination Office, 2007)

	Institute	Course	Duration	Target	Plan	Done
Domestic	Central Officials Training Institute	Advanced Policy	1 year	Director	1	1
	National Defense University	National Security	1 year	Director/Section Chief	2	2
		Joint Chiefs of Staff	1 year	Grade 5	4	4
		Master's Course (night)	2-1/2 years	Grade 6 & above	2	2
	Sejong Institute	National Administration Subject	1 year	Section Chief	1	1
	Graduate School	Master's Course (night)	2-1/2 years	Established Service	7	7
	Korea National Open University	Bachelor's Course	4 year	Established Service	10	10
	Hankuk University of Foreign Studies	Foreign Language Course	5 months	Established Service	5	5
Foreign	Career Development/Degree Course				6	6
Total	9 Courses				38	38

Traditionally, the quality of Korean public employees has been consistently high in most areas due to high competition at the recruiting stage. Education and training, however, show serious imperfections and cannot ensure that public servants consistently improve their professional competence (Kim & Lee, 2001). In the career development courses, however, education and training that are related to national defense policy are

relatively insufficient. The Ministry is responsible for designing basic and specialized training programs for its own members. Therefore, it should develop a career management system that is involved in assignment, education and promotion, establish an essential education system by positions and/or stages, and give opportunities to work and to study at defense organizations in the developed countries.

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IV. COST ANALYSIS

A. BACKGROUND

In the United States, the substitution of civilian employees for military personnel has been viewed as a resource allocation issue. In the 1960s, civilianization was considered as a possible solution to skyrocketing manpower costs. Supporters of this policy brought significant pressure to bear on the Department of Defense to substitute civilians for uniformed personnel wherever possible, resulting in 31,000 military billets changing to civilian status during fiscal 1974 (Cooper, 1977, p. 291). The current situation remains largely unchanged. The Defense Department still has increasing interest in identifying ways to save costs while maintaining and enhancing force effectiveness. Extensive research and publications have become the theoretical and practical basis for the transfer of military functions to civilian personnel. Civilianization is an often-cited way to do this, for two main reasons. First, due to frequent moves, military members have a high turnover rate, as well as high training costs. Second, military members cannot invest their whole time in office because of their training requirements and other duties (Gates & Robbert, 1998, p. 13).

In South Korea, cost is not considered as a critical factor in military-civilian substitution analysis. The Ministry of National Defense only focuses on increasing the civilian workforce ratio while keeping and securing quality civilian personnel. Moreover, the civilianization plan is subject to modification by the characteristics of each political administration. Many people criticized the administration of President Lee Myung-bak for systematically reversing the defense policies of his predecessor, President Roh Moo-hyun, including the civilianization of the Ministry of National Defense (Cho, 2008, p. 180-199). The conventional assumption has been that civilians are less expensive than military personnel, but there has been no actual analysis to determine whether such substitutions are actually cost-effective. If it turns out that civilian personnel are cheaper than military ones after cost comparison, the Defense Ministry can have another

justification for the civilianization plan with economic and theoretical support. However, the Ministry of National Defense has made no effort to conduct such analysis.

B. COST ANALYSIS IN THE UNITED STATES

It is possible to say that the civilianization of the Department of Defense began with the advent of all-volunteer forces in 1973. Manning decisions have been made based upon various factors, cost effectiveness among them.³ However, cost was not considered an important factor from the beginning. In one of the studies conducted for the Gates Commission Albro used seven criteria to assess civilian assumption of military duties: legal requirements, training, discipline, rotation, combat readiness, military background, and tradition. Instead of mentioning the cost-effectiveness, Albro assumed that civilian personnel were less expensive, mentioning such casual observations as the supposed lower turnover rates showed by civilian personnel. He recommended that half of the approximately 152,000 enlisted billets and 41,000 officer billets could be civilianized out of a total military force of about 2.25 million (Albro, 1970, p. 1-20). Taking Albro's recommended substitution, the Gates Commission proposed that 84,000 enlisted billets and 23,000 officer billets be converted to civilian ones. Cooper objected to Albro's idea, saying that there was a weakness in his argument, namely, that average turnover rates between direct-hire civilians and military personnel were not significantly different (Cooper, 1977, p. 291-293). As current budget costs are divided by average personnel strengths, it was possible to measure the average costs of military and civilian manpower (Table 8).

³ To illustrate, Cooper mentioned criteria to evaluate the desirability of military-civilian substitution: military requirements, personnel management constraints, cost-effectiveness, and tradition.

Table 8. Average Costs of Military and Civilian Personnel (\$ thousands/year)
(After: Cooper, 1977, p. 297)

Fiscal Year	Average Current Budget Cost Per Man					Average Cost Per Billet		U.S. Private Sector
	Military	All	Direct-Hire GS	Other	Indirect Hire	Military	Direct-Hire	
56	3.76	4.35	4.60	4.16	0.60	5.97	5.30	4.03
60	4.44	5.72	5.97	5.50	1.58	7.19	6.97	4.79
64	4.57	7.02	7.65	6.40	2.17	7.65	8.47	5.71
68	5.53	7.85	8.96	6.79	2.78	9.29	9.52	7.04
70	6.67	9.37	10.86	7.82	3.21	11.19	11.34	7.89
72	8.75	11.56	12.54	10.60	5.17	14.65	14.03	8.94
74	9.16	12.81	n.a.	n.a.	7.84	16.57	15.61	10.42
76	11.81	15.06	n.a.	n.a.	11.46	19.42	18.44	12.15
77	12.31	15.83	n.a.	n.a.	n.a.	20.29	19.46	13.12

n.a.: data for estimates not available

To meet the demand for a rapid-response manpower cost-estimation capability, the Department of Defense Comptroller’s Office produced a series of “Average Cost” reports including cost estimates for military and civil service personnel, per man-year by pay grade between 1966 and 1980 (Palmer & Osbaldeston, 1988, p. 1-4). However, these estimates did not take into account the training costs, which were usually large for military personnel, the future retirement benefits and personnel support costs like medical support and defense family housing (Palmer & Osbaldeston, 1988, p. 298). For these reasons, following studies measured the incremental costs of adding or removing personnel from a service branch, as well as analyzing direct labor costs, indirect labor costs, and the costs of one-time events (Gates & Robbert, 1998, p. 11).

1. Costs for Military Personnel

The two major elements of costs for military personnel are direct costs and indirect costs. According to the Office of the Secretary of Defense, direct costs are payments triggered by using personnel in a productivity activity and indirect costs are payments for resources used to obtain, train, locate, and support the personnel (Palmer & Osbaldeston, 1988, p. 6). Direct costs include basic pay, basic allowance for subsistence (BAS), basic allowance for housing (BAH), retirement accrual, employer Social Security contributions, and clothing allowance. According to the Office of the Under Secretary of

Defense for Personnel and Readiness, basic pay is typically the largest component of military pay that all members receive. The amount of basic pay received is determined by a member's rank and years of service.

The other direct costs serve specific purposes. Basic allowance for subsistence (BAS) is intended to cover the costs of a member's meals. Beginning in January 2002, all enlisted members get full BAS, but pay for their meals (including those provided by the government) (Office of the Under Secretary of Defense for Personnel and Readiness, n.d.). As of 2009, the monthly BAS rates for officers and enlisted members are \$223.04 and \$323.87, respectively.

Basic Allowance for Housing (BAH) is an allowance to offset the cost of housing when military personnel do not live in government-provided housing, and is based on geographic duty location, pay grade, and dependency status (U.S. Department of Defense, 2009).

Retirement pay is money paid to those members who have completed a full career. Military members who remain on active duty for at least 20 years become eligible for retirement. Currently, there are three active component retirement systems⁴: the Final Basic Pay System, "High Three" and Military Retirement Reform Act of 1986 (more commonly referred to as Redux). Table 9 shows a brief comparison of retirement methods.

⁴ Also frequently referred to as regular non-disability retirement.

Table 9. Comparison of Retirement Methods (After: Henning, 2008, p. 6)

	Final Basic Pay	“High Three”	Redux
Applies to	Service members entering before September 8, 1980	Service members entering from September 8, 1980 through July 31, 1986 and persons entering after July 31, 1986 but opting not to accept the 15-year Career Status Bonus	Service Members entering After July 31, 1986 and accepting 15-year Career Status Bonus with additional 5-year service obligation
Basis of Computation	Final rate of monthly basic pay	Average monthly basic pay for the highest 36 months of basic pay	Average monthly basic pay for the highest 36 months of basic pay
Multiplier	2.5% per year of service	2.5% per year of service	2.5% per year of service Less 1% for each year of service less than 30 (restored at age 62)
Cost-of-Living Adjustment	Full CPI	Full CPI	CPI less 1% with one-time catch up at age 62, then resumption of CPI less 1%
Additional Benefit			\$30,000 Career Status Bonus Payable at the 15-year anniversary with assumption of 5-year obligation to remain on active duty

Military personnel are not required to contribute a portion of their salary to help pay for retirement benefits (Henning, 2008, p. 9). Retired Pay Accrual means that each service pays a fixed percentage of basic pay into the military retirement fund.

Table 10. Military Retirement Outlays (billions of current dollars) (After: Henning, 2008, p. 13)

	Military Retirement Fund Payments to Military Retirees	DoD Accrual Payments to the Military Retirement Fund
Estimated FY2008^a	\$45.5	\$14.9
Actual FY2007^a	43.5	14.4
Actual FY2006^b	41.1	13.7
Actual FY2005^b	39.0	15.0
Actual FY2004^b	37.2	14.1
Actual FY2003^c	35.6	13.7
Actual FY2002^c	35.1	12.9

a. *FY2008 Budget of the United States Government*. Appendix, p. 937.

b. *FY2006 Budget of the United States Government*. Appendix, pp. 953-954.

c. *FY2005 Budget of the United States Government*. Appendix, p. 927.

According to the DoD Financial Management Regulation, the Federal Insurance Contribution Act requires federal agencies to withhold FICA (Social Security and Medicare) taxes from the basic pay of military members covered by the Social Security Act and to pay matching FICA taxes to the Social Security Administration (SSA) (Office of the Under Secretary of Defense (Comptroller), 2007, p. 45-3). As a federal agency, the Department of Defense must pay a FICA tax on wages paid to uniformed personnel.

Indirect costs include health care costs for active duty and retired personnel and their dependents, military recruiting and training costs, and other costs. The military health system is a major source of medical care to active duty military personnel, eligible military retirees, and eligible dependents of both groups. In the Department of Defense, costs of military health care have doubled over the past decade and can be expected to reach \$64 billion by FY2015 (Best Jr., 2007, p. 3).

The military gives a compensation package to service members and tries to make it competitive with what the civilian sector offers, balancing cash and non-cash benefits. The Defense Department offers incentive and/or continuation pay to retain high-quality military personnel in critical specialties such as fighter pilots, doctors and nuclear engineers. For example, a commissioned officer who completes officer naval nuclear power training successfully is eligible to get the Nuclear Career Accession Bonus (\$2,000) as well as the Nuclear Officer Accession Bonus (\$15,000). Once he or she requests career extension and the Chief of Naval Personnel approves it, the Nuclear Officer Continuation Bonus is given, which is \$25,000 per contract year (Office of the Under Secretary of Defense (Comptroller), 2007, Ch. 3).

2. Cost Comparison between Military Personnel and Civilian Personnel

Contrary to former studies on average costs analysis, recent studies use the relative incremental cost to compare costs of military personnel with those of DoD civil service personnel. By adding the direct- and indirect-cost factors, the incremental costs for military personnel are calculated in Tables 11 and 12. Table 11 represents the average DoD incremental costs for pay grades O-4 and E-5, while Table 11 shows the relative incremental cost of military personnel in Fiscal Year 1996.

Table 11. FY96 Incremental Costs (\$) for a DoD Average O-4 and E-5 (After: Gates & Robbert, 1998, p. 43)

Components of Military Pay	O-4 (\$)	E-5 (\$)
Direct Costs		
Basic Pay	45,941	18,350
BAS	1,789	2,604
BAQ	8,677	4,895
VHA	2,548	1,318
Retired Pay Accrual	15,115	6,037
Social Security (FICA)	2,848	1,138
Clothing Allowance	10	260
Indirect Costs		
Active-Duty Health Care Costs	6,323	5,853
Retire Health Care Costs	790	747
Reenlistment Bonuses	-	181
Military Recruiting and Training	7,913	3,994
Other Costs	302	291
Total Compensation	92,256	45,668

Table 12. FY96 Relative Incremental Cost (\$) of Military Personnel (After: Gates & Robbert, 1998, p. 43)

Flag Officer		Other Commissioned Officer		Warrant Officer		Enlisted Personnel	
Grade	DoD Avg. (\$)	Grade	DoD Avg. (\$)	Grade	DoD Avg. (\$)	Grade	DoD Avg. (\$)
O-10	179,919	O-6	127,507	W-5	94,512	E-9	77,142
O-9	173,941	O-5	108,257	W-4	87,105	E-8	66,604
O-8	160,710	O-4	92,256	W-3	73,729	E-7	58,921
O-7	146,336	O-3	78,075	W-2	63,841	E-6	52,478
		O-2	64,569	W-1	56,611	E-5	45,667
		O-1	52,618			E-4	39,021
						E-3	35,101
						E-2	32,926
						E-1	29,956

To compare costs of military and civilian personnel, it is important to consider both workforces' grade. This is because both military and civil service pay and compensation are normally based on the grade of the position. There are two approaches to doing substitution analysis: traditional approach and alternative approach. The traditional approach is to build cost estimates for military and civilian personnel at each grade level, then compare both costs at comparable grade levels, as determined by the

table of equivalent grades contained in DoD Instruction (DoDI) 1000.1, reproduced in Table 13. The civil service grades consist of two kinds of salaried workers—Senior Executive Service (SES) personnel and General Schedule (GS) personnel. According to the Federal Wage System (FWS), there are three kinds of employees: Wage Grade (WG) personnel, Wage Leader (WL) personnel, and Wage Supervisor (WS) personnel (Gates & Robbert, 1998, p. 8).

Table 13. General Civil Service and Military Grade Equivalencies (After: Gates & Robbert, 1998, p. 43)

Military Grade	Equivalent Civil Service Grade				
	SES	GS	WG	WL	WS
O-10	X				
O-9	X				
O-8	X				
O-7	X				
O-6		15		15	14-19
O-5		13,14		15	14-19
O-4		12		15	14-19
O-3		10,11	12-15	6-14	8-13
O-2		8,9	12-15	6-14	8-13
O-1		7	12-15	6-14	8-13
W-4		8,9	12-15	6-14	8-13
W-3		8,9	12-15	6-14	8-13
W-2		7	12-15	6-14	8-13
W-1		7	12-15	6-14	8-13
E-9		6	9-11	1-5	1-7
E-8		6	9-11	1-5	1-7
E-7		6	9-11	1-5	1-7
E-6		5	9-11	1-5	1-7
E-5		5	9-11	1-5	1-7
E-4		4	1-8		
E-3		1-3	1-8		
E-2		1-3	1-8		
E-1		1-3	1-8		

Note: With the exception of SES categories, this table represents grade equivalencies found in DoDI 1000.1 (U.S. DoD, 1974)

The alternative approach is designed to complement the weakness of the traditional one. The traditional approach ignores the inflexibility of total military-grade structures, which mandate specific proportions of military personnel in each grade.

Cutting the military requirement at particular grade levels by substituting civilian positions for military ones should be considered. Therefore, Gates and Robbert (1998, p. 10) set three separate assumptions in this alternative:

1. The substitution is one-for-one (one civil service worker is replacing one military worker)
2. The civil service grade structure is altered by civilianization (the proportion of people at different grade levels changes)
3. The military grade structure does not change

To determine the desirability of a military-civilian conversion, the cost break-even point was examined to perform cost-effectiveness analysis, as in Table 14.

Table 14. Cost Break-Even Grades for Military-Civil Service Conversions (After: Gates & Robbert, 1998, p. 54)

Military Grade	Highest Civil Service Grade with Lower Cost per Workyear				
	SES	GS	WG	WL	WS
O-10	X	15	15	15	18
O-9	X	15	15	15	18
O-8	X	15	15	15	18
O-7	X	15	15	15	18
O-6		15	15	15	18
O-5		14	15	15	18
O-4		13	15	15	18
O-3		12	15	15	15
O-2		11	15	13	11
O-1		9	11	9	5
W-4		13	15	15	18
W-3		13	15	15	17
W-2		12	15	15	14
W-1		11	15	13	11
E-9		10	13	10	7
E-8		12	15	15	15
E-7		11	15	15	12
E-6		11	15	12	8
E-5		9	11	9	5
E-4		8	8	6	2
E-3		6	5	3	-
E-2		5	3	2	-
E-1		4	2	1	-
		3	1	1	-

Note: This table uses DoD-wide composite military and civil service marginal costs by grade. The civil service grade shown is the highest grade that costs the same or less than the corresponding military grade.

The researchers found that civilian personnel at certain specific grades are more expensive than military personnel. For example, Table 14 shows that GS-14, GS-15, and Senior Executive Service (SES) personnel are more costly than all commissioned officers up to flag level (O-7 and above), but commissioned officers are more expensive than GS-13 and below. Therefore, they concluded that civilianization could be a cost-saving method, but was not applicable to all cases.

C. KOREAN CIVIL SERVICE SYSTEM

The Korean civil service system can be characterized as the merit system, the rank-oriented classification system, and the centralized management system. The merit system represents the recruiting and promoting process for the civil service. Although this system was declared in the 1949 National Civil Service Act, it was during the Park administration that the merit principle was finally codified in the 1963 National Civil Service Act, by officially announcing that “civil servants are employed in accordance with exam result, work performance, and actual ability” (Namkoong, 2007, p. 6). As a result, the open competitive entrance examination became the common recruiting method. Currently, open competitive entrance examinations have three types by grades: the Senior Civil Service Examination for Grade 5, the open Competitive Entrance Examination for Grade 7, and the Open Competitive Entrance Examination for grade 9. The Civil Service Commission in the Ministry of Public Administration and Security (MOPAS) administers the examinations, and endeavors to select capable and talented individuals as civil servants. Because the Korean people think that the civil service jobs are more secure than civilian jobs, all three civil service exams are highly competitive.

All civil servants are grouped into two major service categories: the special category and the general category. The special category includes officials below:

- Officials who are elected or whose appointment requires the consent of the National Assembly
- Members of the Council of State (Ministers), heads of offices, and Vice-Ministers, Ambassadors and Ministers in the foreign service

- Judges, teachers, secretaries, members of the Armed Forces, and other personnel who are designated by law as being in special categories
- Personnel who are engaged in manual work

All positions other than the special category positions belong to the general category. There is a nine-grade system, with grade 1 being the highest and grade 9 the lowest, in the civil service system. This grade system applies to the engineering and administrative occupational groups. Although other occupational groups do not match completely with the nine-grade system, they usually use a grade-equivalency to define their status relative to those in the administrative occupational group. For example, public school principals, police chiefs, and O-4 level military are regarded as being equivalent to a grade 4 official in the administrative group.

Table 15. Classification System for General Service (After: Republic of Korea Civil Service Commission, 2009)

Horizontal Classification: 9 Grades

Senior Civil Service (formerly Grade 1-3)		Grade 4	Grade 5	Grade 6-9
Secretary-General	Director-General	Division Director	Deputy Director	Officer

Vertical Classification: 18 Occupational Groups → 75 Occupational Series →
141 Occupational Sub-Series

The civil service system was the closed career system, which meant that the middle rank positions were not open to outside candidates and the hierarchical system was characterized as seniority-based personnel management with lifetime employment guaranteed. While filling manpower vacancies at the grade 9 by recruiting new candidates, vacancies at the grade 5 and 7 were filled by promotions and transfers from other positions as well as by new recruitment. Although promotions were made either by competitive examination or by performance evaluation of employees, seniority was the key for promotion. Currently, the Promotion Review Committee determines promotion by selecting candidates based on job performance, skills, career history, specializations, ethics, and aptitude, which makes seniority less decisive.

The Participatory Government tried to revise the closed career system by opening the door of civil service to attract more competent people from inside and outside government. As a result, the Open Position System (OPS), the leave of absence for private work program, and the Senior Civil Service (SCS) Program came into effect. The open position system is a way to attract talented experts from both the public and private sectors through diversifying hiring methods for the civil service. Table 15 shows the prior positions of appointees under the open position system in May 2007. Outside appointments were almost half of total positions of the open position system (48.9%). The personnel exchange program was introduced to build competitiveness in the civil service by strengthening close interagency cooperation and fostering quality civil servants. Middle managers become participants of the leave of absence for private work program, which has a two-year term of exchange and which expects to bring close cooperation between the sectors.

Table 16. Prior Positions of OPS appointees as of May 2007 (After: Namkoong, 2007, p. 14)

	Total OPS Positions	Positions not appointed	Positions appointed	Within the Ministry	Outside of the Ministry		
					Subtotal	Civilian	Other Ministry
Total	219	33	186 (100%)	95 (51.1%)	91 (48.9%)	76 (40.9%)	15 (8.0%)
SCS Positions (former grades 1-3)	175	32	143 (100%)	81 (56.6%)	62 (43.4%)	49 (34.3%)	13 (9.1%)
Division Chief Positions (grade 4)	44	1	43 (100%)	14 (32.6%)	29 (67.4%)	27 (62.8%)	2 (4.6%)

Although there have been many efforts to create a more flexible and decentralized personnel management system, the civil service system of Korea is still centralized. The Central Personnel Agency (CPA) of Korea has been changed several times since the establishment of the Korean Government in 1948. In 1948, personnel administration was

managed by the Personnel Bureau within the Ministry of Government Administration (MOGA) under the Office of the Prime Minister. Competitive and noncompetitive recruitment was separately managed by the Recruitment Examination Commission (REC) under the Office of the President. From February 1955, when the prime ministerial system was abolished and the State Council Secretariat was established, personnel management functions were executed by the Administrative Bureau of the State Council Secretariat. From May 1963, the Ministry of Government Administration (MOGA) took charge of personnel administration functions. With the government restructuring of February 28, 1998, MOGA was combined with the Ministry of Home Affairs (MHA) to make the Ministry of Government Administration and Home Affairs (MOGAHA). In 2008, the Ministry of Public Administration and Security (MOPAS) was established by integrating MOGAHA, the Civil Service Commission, the National Emergency Planning Commission, and the national informatization strategy functions of the Ministry of Information and Communication. Consequently, personnel functions were performed by MOPAS.

The personnel management functions were centralized from the start and were not changed even though the Central Personnel Agency was changed many times. During the authoritarian regimes (1961–1992), the centralized personnel management system was reinforced even more. The CPA managed all civil service entrance examinations and got involved in the process of promotions within the government as a whole. The CPA administered not only personnel management functions of the central government but also, to a certain extent, those of local governments. It is true that centralized personnel management has some advantages, such as improving standardization, efficiency, and specialized counseling. However, it also has disadvantages like administration delay and inflexibility. The current administration is trying to bring autonomy and decentralization, so that all members of its workforce can do their best while increasing the government's capability at the same time.

D. COST ANALYSIS IN KOREA

1. Pay System for Civil Servants

The pay for civil service personnel is determined by such factors as the standard cost of living and the relative pay for comparable jobs in the private sector. The civil servants' pay consists of a basic salary, allowances and welfare expenses. The basic salary is the major component of the pay of civil service personnel. Grade and length of service are significant determinants of basic pay. There are pay-step schedules by job categories, with each schedule differing from the others. The concept of step is similar to years of service to a certain extent. However, it is different from years of service because if a civil servant had other careers relative to a particular position before, extra pay-steps might be given to him/her. Table 17 shows the pay-step conversion rate of previous careers.

Table 17. Illustrative conversion rates of previous careers (After: Republic of Korea Civil Service Commission, 2009)

Previous Career	Conversion Rate
Government Officer Career Military Service Career	100%
Career worked as a doctor, pharmacist or nurse Career worked in the training or research institutions Career worked as a journalist or reporter	80%
Career worked in the international organizations Career worked in the public enterprises Career worked as teachers in private schools	70%

When one civil service member is promoted, his/her next pay-step is determined by the following conversion table (Table 18). For example, when he/she is promoted from step 21 of Grade 5, his/her new pay-step will be step 19 of Grade 4. The pay-step conversion for promotion is shown in Table 18.

Table 18. The Pay-Step Conversion (After: Republic of Korea Civil Service Commission, 2009)

Pay-step before promotion	New pay-step at the promoted position
Step 1	Step 1
Step 2	1 pay-step reduced
Step 21-32	2 pay-steps reduced

The allowances and welfare expenses are an additional remuneration that is paid separately based on the position, dependents, and living location of individuals. There are 43 kinds of allowances and 6 kinds of welfare expenses in the civil service pay system.

Table 19. Allowances and Welfare expenses in Korean Civil Service (After: Republic of Korea Civil Service Commission, 2009)

Allowance (43)	Bonus(3)	Diligence allowance (0-50% of basic pay) Seniority allowance (50,000-130,000won) Performance bonus (Grade 4 and below)
	Family support (4)	Family support allowance (20,000won per dependent, 30,000won for spouse, up to four dependents) Allowance for children's educational expenditures Housing allowance (Middle & High School expenses) Baby care leave allowance (500,000won)
	Hardship post allowance	Islets, Remote place, Borderline (30,000-60,000won), Foreign countries
	Special allowance (32)	Hard risk allowance (40,000-50,000won) Special task allowance (28) Judge advocate allowance (less than 40% of basic pay)
	Extra work allowance (4)	Overview work allowance Midnight work allowance Holiday work allowance Managerial allowance (Grade 4 and above)
Welfare expenses (6)	Household support payments (16.7% of basic pay) Meal payments (130,000won) Grade payment (70,000-150,000won) Commutation payment (120,000-200,000won) Traditional holiday's bonus (60% of basic pay, twice a year) Non-vacation payment (Grade 1 and below, within 20 days)	

In Korea, the public pension scheme for military personnel is not significantly different from that for government employees. Although the public pension system for military personnel is managed by the Ministry of National Defense, the major schemes are identical to the Government Employees' Pension. Military personnel or civilian personnel who have served more than 20 years are eligible for pensions. Pension rates range from 50% (minimum 20 years) to 76% (maximum 33 years) of the final three-year average salary. Unlike the United States, Korean military personnel contribute a certain portion of their pay to their future pensions. The contribution rates for the pension system for civil service employees as well as military personnel are currently set at 17%, with the government and the personnel sharing the expense equally.

2. Cost Comparison between Military and Civilian Personnel

In Korea, the major factor in deciding to use military or civilian personnel is military requirement, not cost estimation. Moreover, civilianization plans tend to be controlled by political interest. Most people just assume that military personnel cost more than civilian personnel without deeply analyzing costs. As a matter of fact, the pay and compensation scheme, as well as the pension plan, for military personnel is not significantly different from its civilian equivalent. However, the basic pay schedule varies according to the occupational groups in the civil service. There are 12 basic salary schedules in the civil service pay scheme. Pay schedules for military and civilian personnel are given in Appendices A and B.

To compare cost, it is important to identify the comparable grade levels between military and civilian personnel in the Defense Ministry. According to the Civil Service Classification System, director level positions are manned by O-8 (Major General and Rear Admiral (upper half)) and Grade 2/3. Section-chief level positions are filled with O-6 (Colonel and Captain for Navy) and Grade 3/4. O-5 and Grade 4/5 are assigned to working level positions. However, direct cost comparison is not simple because the amount of basic pay is determined by grade and pay-step. In addition, the civilian pay schedule is more complex than the military's because there are various ways to become a civil servant. For example, when one person passes the Senior Civil Service Examination

for Grade 5, he becomes Grade 5 with pay-step 1. However, another person who passed the open Competitive Entrance Examination for grade 7 and was promoted to Grade 5 would have a higher pay-step than direct Grade 5 appointees. The number of current section-chief and working-level civilian positions (Grade 3, 4 and 5) is as follows. Due to the difficulty of acquiring exact data, the following numbers are not accurate, but are close to the real values (Table 20).

Table 20. Number, Pay-step, Basic Pay of Civilian Personnel (Grades 3, 4 and 5)

Position	Grade	Entrance	Number	Pay-step (average)	Basic Pay (won)
Section-chief Position	Grade 3 (10)	Senior Civil Service Examination	2	20	3,340,000
		Open Competitive Entrance	8	27	3,585,200
	Grade 4 (40)	Senior Civil Service Examination	10	13	2,596,400
		Open Competitive Entrance	30	23	3,095,500
Working-level Position	Grade 4 (40)	Senior Civil Service Examination	5	9	2,286,400
		Open Competitive Entrance	35	20	2,978,900
	Grade 5 (180)	Senior Civil Service Examination	45	5	1,728,700
		Open Competitive Entrance	135	16	2,483,500

When it comes to section-chief positions, Grade 3 personnel who passed Senior Civil Service Examination have an average of pay-step 20, which makes their basic pay 3,340,200 won. O-6 level military personnel who receive more basic pay are those who have pay-step 12 and above. Grade 3 personnel from Open Competitive Entrance Examination earn an average of 3,585,200 won as basic pay. Only O-6 who earn at pay-step 15 are more expensive than them. By applying the same technique, it is possible to save costs when Grade 4 personnel from Senior Civil Service Examination (2,596,400 won) and Open Competitive Entrance (3,095,500 won)—with pay-step 4 and above and pay-step 10 and above, respectively—substitute for O-6 level military positions.

In the case of working-level positions, Grade 4 from Open Competitive Entrance is the most expensive source. The amount of basic pay is 2,978,900 won, which is more expensive than O-5 with pay-step 10 and below. The next most expensive source is as costly as O-5 with pay-step 5. Therefore, substituting civilian personnel other than Grade 4 from Open Competitive Entrance for O-5 level positions offers more potential for cost savings.

Considering the substitution matter as a whole, the most cost-saving method is for the Defense Ministry to select and make the best use of talented civilian personnel from the Senior Civil Service Examination pool. Moreover, those individuals can stay and work at the organization longer, since they enter the Ministry when they are relatively young. The Senior Civil Service Examination is the most difficult civil service recruiting test, which makes those who have passed the exam more competitive and competent. However, it takes time for them to acquire job skills comparable to those of current military personnel.

Although the pay and compensation schemes of military and civilian personnel are similar, training and recruiting costs for military personnel make them more expensive. In the Republic of Korea, there are three primary sources of officer commissioning: the Academies (Army, Navy and Air Force), the Reserve Officer Training Corps (ROTC), and Officer Candidate School (OCS). When looking into the monetary investment in each program, the officer commissioning cost is seen to be considerable, especially for academy graduates. On the other hand, civilian personnel

enter the Government organizations without going through such programs. Although some of them take orientation courses, the costs of such courses are not comparable with program costs for officers.

Table 21. Officer Commissioning Program Investment (After: Over 200 million won per cadet in military academies, 2008)

Program	Service	Investment (won)
Academy	Army	210 million
	Navy	200 million
	Air Force	220 million
	Army Academy at Yeongcheon⁵	59 million
ROTC	All	2-year scholarships
OCS	Army	10 million
	Navy	8 million
	Air Force	6 million
	Marine	4 million

3. Summary

Military personnel have special allowances that civilian personnel cannot receive, such as overseas tour pay, hardship-duty pay, submarine-duty pay, flight pay, diving pay, and so on. However, military personnel who are working at the Defense Ministry are not able to receive those additions. The military pay schedule is one part of the larger civil service pay scheme, with military basic pay constituting the primary difference from other civil services. Basic pay for military personnel is slightly higher than that for

⁵ The Korean Army Academy at Yeongcheon (KAAY) is a two-year commissioning program, formerly the Korean Third Military Academy. The four-year Army officer commissioning school is the Korean Military Academy (KMA), which is located in Seoul.

civilian personnel with equivalent time of service. And recruiting and training costs make military personnel more expensive. However, there are talented military personnel who have working experience at the Defense Ministry, which means that they are more productive. The Defense Ministry does not have feasible career plan for military personnel who lose their positions due to civilian substitution, which makes them have a negative view on the substitution plan. Although the Defense Ministry makes an effort to ensure the quality and productivity of education and professional development activities for civilian personnel, it takes time to get the expected outcome since the effort is in an early stage.

Substituting civilians for military personnel does not correspond to direct retirement of military members. Since the Armed Forces maintain a force sufficient to perform their capabilities, most military personnel who worked at the Defense Ministry go back to field units and each service's headquarters. That means that although the Defense Ministry might save its budget through the civilian substitution, the Government will have more budgetary burden due to new civilian recruits' increase.

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V. SUMMARY, CONCLUSION, RECOMMENDATIONS

A. SUMMARY

The Ministry of National Defense developed Defense Reform Plan 2020 with a comprehensive and long-term vision. To make a “smaller but stronger” force suitable for future warfare, four main policies were developed: downsizing and reorganizing the force structure, increasing the civilian workforce ratio in the Defense Ministry, strengthening the system of the Joint Chiefs of Staff, and securing defense budgets to support the defense reform. Among these initiatives, progress in civilianizing the Defense Ministry has been faltering due in part to the control exercised by political interests and therefore has been unable to gain the approval of all members in the Defense Ministry.

Establishing national defense under civilian control is important because it is compatible with democratic systems under the Constitution. However, for a long time, active-duty military personnel have formed a majority in the Defense Ministry Headquarters, which has been problematic in keeping defense policy in line with the national policies in areas such as foreign affairs and reunification. By setting a specific civilian workforce ratio (71%) by 2009, the Defense Ministry is now beginning to implement a civilian control system in the organization.

In the United States, the Department of Defense faced a similar challenge of substituting civilians for military personnel after the transition to an all-volunteer force. While pursuing civilianization in the Defense sector, the Defense Department examined the characteristics of all positions and asked researchers and research institutes to analyze the costs and effectiveness of the policy. Many research papers give practical and theoretical support to the Defense Department by evaluating the desirability of civil-military substitution. Cost estimation technique has been well developed with support from the Department of Defense. The Defense Department continues to develop a civilian management plan that enhances the quality of civilian members within the organization.

In Korea, the Ministry of National Defense has also tried to inspect its members' response to the civilianization plan. However, the survey results from the Korea Institute for Defense Analyses (KIDA) showed that there were some discrepancies among members. Although most members agreed with the goal of the plan - a more rational defense management system through expansion of civilian-led policy decision-making - there were differing views on the final civilian-military ratio. The reasons were that the goal ratio (71%) was decided by top officials and members were not prepared sufficiently to accept the sudden changes. The Defense Ministry is well aware of the importance of securing quality civilian manpower and improving the expertise of current civilian personnel. Hiring knowledgeable personnel is applicable to a variety of areas, such as the Job Posting Program and Career Management System. The Defense Ministry also developed short and long career development courses to enhance the expertise of current civilian personnel. Because these plans have only recently been developed, it will take some time for the results to become apparent; therefore, the process of increasing the civilian personnel ratio is too hasty.

When it comes to cost comparison between military and civilian personnel, direct comparison is limited because grade and pay-step are not fixed to a certain position. Moreover, there are different methods of entrance to service, which makes civilian personnel's pay-steps too diverse. In general, military personnel are more expensive sources than civilian personnel, even though cost difference varies with grade and pay-step. However, the savings are not considerable because basic pay is the main difference between the military and civilian pay system.

B. CONCLUSIONS

1. How Would the Civilianization of Military Positions Support the Defense Ministry's Reform Objectives?

There are expected benefits from expanding the civilian-led foundation of national defense. The Ministry of National Defense can establish an advanced defense management system corresponding to the democratic constitution and process. In a democratic society, the military should follow the orders of the elected political

leadership. By expanding the number of civilian personnel and enhancing their competencies, they can make and implement defense policy effectively. Since civilian personnel can stay longer than military personnel, quality and consistency of defense policies can be expected. This makes the Defense Ministry more expertise-oriented, more flexible and more acceptable of political advice. In this way, military personnel can concentrate on accomplishment of their combat missions.

2. What Factors are Considered in the Examination of Converting Military Jobs to Civilian Ones?

Several factors can be considered when making the manning decision to convert military positions to civilian ones. The most important thing to be considered is which positions are military essential. The Ministry of National Defense also gave guidelines for certain positions to be manned by military personnel. In addition to military requirements, personnel management constraints, cost-effectiveness and tradition can be examined. The Defense Ministry should consider how to manage outgoing military members' careers and institute a career development program. Cost estimation will give an economic basis for substituting civilian personnel for military personnel. This economic basis can be developed further by analyzing the effectiveness of both military and civilian personnel.

3. How Does the Civilianization Process Differ between the Republic of Korea Ministry of National Defense (ROK MND) and the United States Department of Defense (US DoD)?

Currently, the Department of Defense employs more than 700,000 civilians in an array of critical positions worldwide; over 81% of the Office of the Secretary of Defense are civilian personnel. The Defense Department builds the human resource strategic plan and promotes focused, well-funded recruiting to hire the best talent available (U.S. Department of Defense, 2002, p. 8). This recruiting effort includes retired military hires as well as outside hires. Furthermore, use of intern programs, student employment

programs, and mentoring are considered to recruit and hire candidates. Rotational assignments, developmental flexibilities, and educational opportunities are efforts to promote members' expertise and retention.

The civilianization process of the Republic of Korea is not significantly different from that of the United States. Most civilian billets in the Ministry of National Defense are filled by the merit principle, the competitive recruitment examination. In the process of civilianization, the Defense Ministry tries to attract more competent people using the open positioning system, personnel exchange program and special appointment. However, the effort to use talented military personnel is relatively low. Military personnel with expertise do not require training and education for newcomers. It is not recommended to let outgoing military members leave the organization. Therefore, the Defense Ministry should take measures to make the best use of current and outgoing military personnel with expertise.

C. RECOMMENDATIONS

1. The Timetable for the Civilianization Plan's Implementation Should be Extended until More Civilian Defense Experts are Developed

From its foundation, the Defense Ministry has been staffed by a majority of military members and military personnel, who preferred to work at the Defense Ministry due to career development and location advantage. While the number of military personnel who have experience working at the Defense Ministry is relatively large, there is an insufficient number of talented civilian defense experts. In general, longer-serving managers run organizations well because they have the relevant job skills and knowledge to accomplish tasks. Moreover, they know how to foster good communication among work units. Once talented civilian defense experts are cultivated and they enter the Defense Ministry, it becomes a more consistent and effective organization. This is because civilian personnel do not have to rotate frequently through positions. Therefore, the Defense Ministry should foster civilian defense experts first before promoting the civilianization plan.

2. The Defense Ministry Must Develop a Plan to Fill Positions with Members Who have Recently Retired from Military Service, and Who Possess the Requisite Expertise

Military personnel rotate frequently through positions every two to three years, while civilian personnel stay in the organization. The military members' frequent moves give them a broad spectrum of experience they can apply to various tasks. However, military personnel have difficulty in maintaining the expertise required in the policy centered organization. In spite of that, the relatively large number of military personnel who have experience at the Defense Ministry should not be overlooked. In the United States, the Defense Department makes an effort to hire members who have recently retired from service, and who possess the required expertise. This allows the Department of Defense to establish defense policies that are linked with the individual military organizations' realities and capabilities. It is military members who have a thorough knowledge of military organization. Therefore, the Defense Ministry must build a plan to use active-duty members and recent retirees with expert knowledge.

3. The Defense Ministry and Research Organizations Should Consider the Economic Aspects of the Civilianization Plan

One important thing that should not be overlooked while promoting a policy is money. The Ministry of National Defense's projected budget requirement for defense reform totals some 621 trillion won between 2006 and 2020 (Bennett, 2006, p. 2). Considering that the 2009 state budget in the Republic of Korea is 284 trillion won, the amount needed for defense reform is not trivial. For that reason, all defense reform policies should be implemented in a cost-effective way. The civilianization plan is one of the main policies of the defense reform. Therefore, the Defense Ministry and research organization must consider thoroughly the cost-effectiveness of the main policies.

D. FURTHER RESEARCH

Further studies must refine a way of estimating both military and civilian personnel cost. Therefore, it is necessary to make personnel data more quantitative. In addition, there should be an effort to monetize productivity of military and civilian

personnel. Although no direct solution to monetizing productivity exists, there are possible components for benefit calculation, such as decreased errors/reject rate and higher retention rate. The sociological and psychological effects of civilian substitution could be evaluated from retention intentions. As mentioned earlier, analyses of the process and outcomes for civilianization have so far focused predominantly on political interests. Therefore, understanding social and psychological effects as well as economic outcomes can help decision makers and manpower planners to make better manning decisions.

APPENDIX A. OFFICER BASIC PAY SCHEDULE (2009)

Rank Pay Step	O-8	O-7	O-6	O-5	O-4	O-3	O-2	O-1
1	3,184,200	2,997,900	2,414,000	2,138,700	1,743,500	1,379,800	1,060,700	961,600
2	3,265,600	3,077,500	2,498,700	2,223,400	1,826,500	1,457,800	1,126,300	1,023,900
3	3,347,000	3,157,100	2,583,400	2,308,100	1,909,500	1,535,800	1,191,900	1,086,200
4	3,428,400	3,236,700	2,668,100	2,392,800	1,992,500	1,613,800	1,257,500	
5	3,509,800	3,316,300	2,572,800	2,477,500	2,075,500	1,691,800	1,323,100	
6	3,591,200	3,395,900	2,837,500	2,562,200	2,158,500	1,769,800	1,388,700	
7	3,672,600	3,475,500	2,922,200	2,646,900	2,241,500	1,847,800	1,454,300	
8	3,754,000	3,555,100	3,006,900	2,731,600	2,324,500	1,925,800		
9	3,835,400	3,634,700	3,091,600	2,816,300	2,407,500	2,003,800		
10	3,916,800	3,714,300	3,176,300	2,901,000	2,490,500	2,081,800		
11	3,998,200	3,793,900	3,261,000	2,985,000	2,573,500	2,159,800		
12	4,079,600	3,873,500	3,345,700	3,070,400	2,656,500	2,237,800		
13	4,161,000	3,953,100	3,430,400	3,155,100	2,739,500			
14			3,515,100	3,239,800	2,822,500			
15			3,599,800	3,324,500				

* Unit: South Korean Won (KRW)

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APPENDIX B. CIVILIAN BASIC PAY SCHEDULE (2009)

Grade Pay Step	1	2	3	4	5	6	7	8	9
1	2,381,100	2,126,200	1,901,000	1,656,800	1,453,000	1,186,100	1,052,700	935,100	820,100
2	2,473,200	2,213,800	1,979,900	1,731,300	1,518,200	1,247,700	1,107,100	986,600	868,400
3	2,567,900	2,302,600	2,061,100	1,807,000	1,585,800	1,311,500	1,164,600	1,041,000	919,600
4	2,664,700	2,392,800	2,143,300	1,884,700	1,656,200	1,376,800	1,225,200	1,096,400	973,900
5	2,764,000	2,484,000	2,226,700	1,963,500	1,728,700	1,444,000	1,287,900	1,154,400	1,028,900
6	2,864,700	2,575,700	2,311,300	2,043,200	1,802,700	1,513,300	1,352,300	1,213,700	1,085,200
7	2,967,000	2,668,600	2,396,900	2,123,800	1,878,000	1,582,700	1,417,400	1,273,500	1,139,200
8	3,070,500	2,761,800	2,482,800	2,205,000	1,954,400	1,652,600	1,482,800	1,330,900	1,191,400
9	3,175,300	2,855,500	2,569,600	2,286,400	2,031,000	1,722,900	1,545,200	1,385,900	1,241,600
10	3,281,000	2,949,600	2,656,600	2,368,100	2,108,400	1,789,000	1,605,000	1,438,200	1,289,900
11	3,386,800	3,044,100	2,743,800	2,450,500	2,180,800	1,851,900	1,661,600	1,488,800	1,336,200
12	3,492,700	3,138,800	2,831,500	2,525,900	2,248,700	1,912,000	1,715,600	1,537,000	1,380,900
13	3,599,200	3,234,100	2,913,000	2,596,400	2,313,200	1,968,600	1,766,900	1,583,300	1,423,600
14	3,706,000	3,320,200	2,988,600	2,662,200	2,373,300	2,022,100	1,816,000	1,627,400	1,465,200
15	3,799,200	3,399,900	3,058,200	2,724,100	2,430,100	2,073,400	1,862,700	1,669,800	1,505,000
16	3,882,100	3,472,800	3,123,300	2,782,400	2,483,500	2,121,500	1,907,100	1,710,700	1,543,600
17	3,955,500	3,539,900	3,183,600	2,836,600	2,533,800	2,167,400	1,949,700	1,749,000	1,581,100
18	4,021,000	3,601,200	3,239,700	2,887,400	2,581,400	2,210,900	1,990,300	1,786,100	1,616,200
19	4,079,500	3,657,800	3,291,800	2,934,700	2,626,000	2,252,000	2,028,500	1,821,700	1,650,500
20	4,132,200	3,709,600	3,340,200	2,978,900	2,667,800	2,290,800	2,065,000	1,855,600	1,683,400
21	4,180,500	3,756,700	3,385,200	3,020,300	2,707,300	2,328,000	2,099,800	1,888,100	1,714,300
22	4,223,700	3,800,200	3,426,900	3,059,000	2,744,400	2,363,000	2,132,700	1,919,200	1,744,100
23	4,260,000	3,839,900	3,465,400	3,095,500	2,779,400	2,395,900	2,164,500	1,948,900	1,772,300
24		3,872,200	3,501,300	3,129,600	2,812,000	2,427,400	2,194,700	1,977,500	1,799,600

25		3,903,200	3,531,000	3,161,000	2,842,800	2,457,200	2,223,100	2,004,500	1,825,400
26			3,558,900	3,187,700	2,871,900	2,485,400	2,250,500	2,030,800	1,848,900
27			3,585,200	3,212,200	2,896,100	2,512,100	2,273,700	2,052,800	1,869,100
28				3,235,600	2,919,300	2,534,500	2,295,300	2,073,900	1,888,500
29					2,940,600	2,555,600	2,316,200	2,093,900	1,907,400
30					2,961,300	2,576,200	2,336,000	2,113,300	1,925,500
31						2,595,300	2,354,800	2,132,000	1,943,500
32						2,613,600			

* Unit: South Korean Won (KRW)

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