



Defence Procurement Organizations: A Global Comparison

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CONTENTS

1		INTR	ODUCTION	1	
2		THE	CANADIAN DEFENCE PROCUREMENT SYSTEM	. 2	
	2.1	The Gov	e Departments of National Defence and Public Works and vernment Services	2	
	2.2	Ind	ustry Canada	. 2	
	2.3	Tre	asury Board of Canada Secretariat	. 3	
	2.4	Other federal government departments and agencies			
	2.5	Gov	vernance and Accountability	3	
3		DEFE	ENCE PROCUREMENT IN OTHER COUNTRIES	3	
		Indi 1.1 1.2	ividual Armed Services United States Other Countries	4	
	3. 3. 3.	Cer 2.1 2.2 2.3 2.4 2.5	Other Countries	5 5 6	
	3.	Inde 3.1 3.2 3.3	ependent Civilian Corporations Sweden Switzerland South Africa	6 7	
4		DEFE	ENCE PROCUREMENT REFORMS	. 7	
	4.1	Car	nada	. 8	
	4.2	Aus	stralia	. 8	
	4.3	Uni	ted Kingdom	. 9	
	4.4	Uni	ted States	. 9	
5		CON	CLUSION	10	

i

DEFENCE PROCUREMENT ORGANIZATIONS: A GLOBAL COMPARISON

1 INTRODUCTION

The surge in global military spending in the context of an unpredictable and volatile international security environment since the terrorist attacks of 11 September 2001 has led governments around the world to pay close attention to the issue of defence procurement. This paper examines some of the different defence procurement organizations now in place in the industrialized world, including in Canada.

Since those attacks, global military spending has grown significantly, from US\$839 billion in 2001¹ to US\$1,747 billion in 2013.² A large proportion of this money has been used to acquire new weapon systems and military equipment, including artillery, small arms, automotive and armoured vehicles, military aircraft and helicopters, warships and submarines, and a wide range of other defence products. Global arms sales and trading have also increased. Total arms sales of the world's top 100 largest arms-producing companies increased by 51% between 2002 and 2012,³ standing at US\$395 billion at the start of 2013.⁴ The volume of international arms transfers was 14% higher between 2009 and 2013 than it was in the period 2004 to 2008.⁵

In many countries, the volume of and increase in military spending have generated considerable interest in defence procurement issues in government, industrial, and military circles, as well as with the media and the general public. In addition, growing concerns about problems and delays encountered with major defence procurement projects in a number of countries have added to the interest in reviewing defence procurement organizations and processes.

Several different models of defence procurement exist around the world. Each country operates its own distinct military acquisition processes, which tend to be tailored to meet the specific needs and requirements of its armed services but also reflect its economy and defence industrial base. In recent years, several governments have implemented measures to reform and streamline their national defence procurement organizations and processes to better manage and accelerate their acquisition of defence materiel.

The following section of this paper provides a general overview of the defence procurement process in Canada. The next section discusses the different models of defence procurement organizations in certain industrialized countries, namely the United States, the United Kingdom, Australia, France, India, Sweden, South Africa and Switzerland. Many of the countries appearing in this paper, including Canada, are among the world's largest military spenders. The subsequent section looks at recent defence procurement reforms in Canada, Australia, the United Kingdom and the United States and highlights some of the existing defence procurement challenges for these countries. That section will demonstrate, in particular, how different defence procurement models around the world face similar issues when it comes to acquiring major weapon systems and military equipment for their country's armed forces.

2 THE CANADIAN DEFENCE PROCUREMENT SYSTEM

Canadian defence procurement is a complex process involving several federal government departments and agencies, notably the Department of National Defence (DND), Public Works and Government Services Canada (PWGSC), Industry Canada and the Treasury Board of Canada Secretariat. Each department and agency is responsible for different stages of the defence procurement process. This multidepartmental approach to defence procurement is unique to Canada.

2.1 THE DEPARTMENTS OF NATIONAL DEFENCE AND PUBLIC WORKS AND GOVERNMENT SERVICES

Although PWGSC is the federal government's central procurement organization⁸ and has "exclusive authority" under the *Defence Production Act* to purchase defence products required by DND,⁹ the two departments have agreed to a "division of responsibilities" for the "acquisition of goods and services" and for the "quality assurance of materiel and services, as it applies to military specifications, acquired on behalf of DND." New weapon systems and military equipment are generally the types of defence products procured to military specifications.

However, although DND and PWGSC are jointly engaged in every phase of the defence procurement process, each has distinct "lead" responsibilities. PWGSC, for example, has overall responsibility for the development of the procurement plans, the solicitation and evaluation of bids, the contracting process, and the administration of contracts. DND has overall responsibility for, among other things, the definition of operational and technical requirements, the development of the procurement instruments (requisition), the inspection and selection of defence products, and post-delivery appraisals. In other words, DND decides what it requires in terms of defence products, but responsibility for contracting and acquiring those products rests with PWGSC.

2.2 INDUSTRY CANADA

Industry Canada is responsible for the coordination and administration of the federal government's new Industrial and Technological Benefits (ITB) program. Introduced with the Defence Procurement Strategy in February 2014, ITBs will replace the Industrial and Regional Benefits (IRB) policy, which had been in place since 1986. ITBs will allow the federal government to use defence procurement contracts to leverage industrial and economic benefits for the Canadian defence industry and to generate economic activity across Canada. Under an ITB plan, for example, domestic and foreign companies bidding for defence contracts will be measured by "rated and weighted" Value Propositions that "favour actions that lead to improved economic outcomes" for Canada through "investments that strengthen Canadian KICs [Key Industrial Capabilities]," that "support enhanced productivity in Canadian firms," and that promote "industrial and technological high-value activities." Moreover, foreign contractors will still be required to make business investments in the Canadian economy in an amount equal to 100% of the contract value, just as they did previously under the IRB policy. 13 ITBs will be a requirement for each defence procurement project.

2.3 TREASURY BOARD OF CANADA SECRETARIAT

The Treasury Board of Canada Secretariat is responsible, among other things, for the federal government's overall procurement policies, directives and guidelines, the approval of preliminary funding for major capital projects that have been accepted by Cabinet, and financial oversight of those projects.¹⁴

2.4 OTHER FEDERAL GOVERNMENT DEPARTMENTS AND AGENCIES

Other federal government departments and agencies are involved in different stages of the defence procurement process, such as the Privy Council Office, Finance Canada, and Foreign Affairs, Trade and Development Canada. 15

2.5 GOVERNANCE AND ACCOUNTABILITY

No single department or minister is in charge of Canada's multi-departmental defence procurement system. However, with the introduction of the Defence Procurement Strategy in February 2014, a Defence Procurement Secretariat was created within PWGSC to oversee the defence procurement system and to coordinate the implementation of the strategy across the multiple federal government departments involved in the process. This Secretariat reports to a Deputy Ministers Governance Committee (DMGC), chaired by PWGSC, which consists of deputy ministers from DND, Industry Canada, Foreign Affairs, Trade and Development Canada, and Fisheries and Oceans Canada, acting as the "key decision-making body" for defence procurement. The DMGC in turn provides guidance on defence procurement matters to a Working Group of Ministers, chaired by the PWGSC minister, which includes the ministers of National Defence, Industry, Foreign Affairs, Trade and Development, and Fisheries and Oceans. This Working Group of Ministers was established "to ensure shared accountability in defence procurements" and "act as the forum for discussion, advice and to resolve issues in the implementation of major procurement projects." 16

3 DEFENCE PROCUREMENT IN OTHER COUNTRIES

The multi-departmental defence procurement model that currently exists in Canada is unique; most countries use different approaches to defence procurement. These other defence procurement models can be divided into three broad categories:

- procurement by individual armed services;
- procurement by centralized government organizations; and
- procurement by independent civilian corporations.

These different procurement models are described in the sections below.

3.1 INDIVIDUAL ARMED SERVICES

In several countries, the individual armed services (army, navy, and air force) are responsible for acquiring the weapon systems and military equipment they require. Each armed service thus operates its own procurement process. In most cases, the procurement actions of the individual armed services are supervised by the country's defence department. The development and management of the defence procurement policies and regulations used by the armed services often originate from the defence department. Nevertheless, this system allows the individual armed services to have almost complete control over their respective defence procurement actions. The United States uses this decentralized defence procurement model.

3.1.1 UNITED STATES

The defence procurement process in the United States is managed by the Department of Defense (DOD). It is a complex system that involves several organizations within the DOD. The Office of the Under Secretary of Defense for Acquisition, Technology and Logistics is responsible for the oversight of the procurement activities of the various segments of the DOD.¹⁷

Each individual armed service (U.S. Army, U.S. Navy, U.S. Air Force, U.S. Marine Corps, and U.S. Coast Guard) executes its own defence procurement and is supported by distinct procurement offices. The Office of the Assistant Secretary of the Navy for Research, Development and Acquisition, for example, is responsible for U.S. Navy and U.S. Marine Corps procurement functions and programs; the Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology is responsible for those of the U.S. Army; the Office of the Assistant Secretary of the Air Force for Acquisition is responsible for those of the U.S. Air Force; and the United States Coast Guard Acquisition Directorate is responsible for those of the U.S. Coast Guard. Each of these offices, in turn, operates a range of sub-organizations that specialize in specific fields of procurement, such as research and development, the acquisition of weapon systems and military equipment, the acquirement of infrastructures, the purchase of commercial products, and the provision of support services.¹⁸

A number of DOD agencies also act as purchasing organizations. One of the most important is the Defense Logistics Agency, which is responsible for furnishing many of the supplies and services used by U.S. military forces, including food, fuel, medical supplies, and spare parts. ¹⁹ Other DOD agencies involved in defence procurement include the Defense Advanced Research Projects Agency (DARPA), which is the central research and development agency for the DOD, as well as the National Security Agency (NSA), which conducts intelligence, cryptology and information security. ²⁰

In all, DOD comprises some 22 different acquisition organizations.²¹ In 2011, more than 136,000 military and civilian personnel worked in defence procurement within the different armed services and agencies of the DOD.²²

3.1.2 OTHER COUNTRIES

Chile, ²³ Mexico²⁴ and Nigeria²⁵ are examples of other countries where responsibility for defence procurement rests with the armed services.

3.2 CENTRALIZED GOVERNMENT ORGANIZATIONS

Many countries have established centralized government organizations to control their defence procurement process. These entities are responsible for acquiring all of the weapon systems and military equipment required by their country's armed forces. Most of these organizations operate within the purview of their country's defence department, although they generally remain independent of the military and have their own budgets. In certain cases, however, these procurement organizations function as independent government departments or agencies. The United Kingdom, Australia, France and India are among the countries that conduct defence procurement through a single government organization.

3.2.1 UNITED KINGDOM

Defence procurement in the United Kingdom is administered by a single agency known as Defence Equipment and Support (DE&S). The organization defines itself as a "bespoke trading entity, an arm's length body of the Ministry of Defence." DE&S was created in April 2007 through the merger of two Ministry of Defence organizations: the Defence Procurement Agency and the Defence Logistics Organisation. The aim of the merger was to create a new integrated procurement and support organization. DE&S is headed by a Chief of Defence Materiel and is overseen by the Minister for Defence Equipment, Support and Technology. DE&S employs approximately 12,500 people. 27

3.2.2 AUSTRALIA

The Defence Materiel Organisation (DMO) is the Australian government agency responsible for defence procurement. It was formed in 2000 and is part of the Australian Department of Defence. In July 2005, the DMO became a prescribed agency under Australia's *Financial Management and Accountability Act*. Although still part of the Department of Defence portfolio, the DMO gained greater autonomy, as well as control over its own resources and staff, when it received prescribed agency status. The organization is responsible for the purchasing, through-life support and disposal of all the weapon systems and military equipment used by the Australian Defence Force. The DMO employs about 7,000 people.²⁸

3.2.3 FRANCE

A single government organization is responsible for defence procurement in France. Created in 1961, it is known as the *Direction Générale de l'Armement* (DGA). The DGA is the central procurement agency of the *Ministère de la Défense et des Anciens Combattants*. It is responsible for the acquisition of all weapon systems and military equipment destined for France's armed forces, from conception to delivery.

It is also responsible for promoting French defence industry export sales. The DGA employs more than 10,500 people.²⁹

3.2.4 INDIA

The procurement of defence products in India is administered by a central government organization known as the Defence Acquisition Council (DAC), which was established in 2001. The DAC oversees the entire procurement process for the Indian armed services and is part of India's Ministry of Defence. Decisions taken by the DAC are implemented by three boards: the Defence Procurement Board, the Defence Production Board, and the Defence Research and Development Board. Of the three DAC boards, the Defence Procurement Board is the only body that deals specifically with defence procurement for the armed forces. The two other boards deal with matters pertaining to defence production as well as defence research and development in India. The Defence Procurement Board's functions are governed by India's Defence Procurement Procedure, which was updated in 2013.

3.2.5 OTHER COUNTRIES

Several additional countries conduct defence procurement through single government departments or agencies, including Brazil, ³¹ China, ³² Denmark, ³³ Germany, ³⁴ Italy, ³⁵ South Korea, ³⁶ and Spain. ³⁷ Japan also plans to establish a separate defence procurement agency, to be modelled on France's DGA. ³⁸ Russia, on the other hand, is moving away from a separate defence procurement organization model. In September 2014, the Russian government announced it was disbanding its two centralized defence procurement agencies (*Rosoboronzakaz* and *Rosoboronpostavka*) and concentrating the procurement process within the Russian Ministry of Defence. ³⁹

3.3 INDEPENDENT CIVILIAN CORPORATIONS

In some countries, responsibility for defence procurement is contracted to civilian organizations that are either state-owned or part of the private sector. Such is the case in Sweden, Switzerland and South Africa.

3.3.1 **SWEDEN**

In Sweden, the *Försvarets materielverk* (Swedish Defence Materiel Administration), or FMV, was established in 1968 as "an independent, civil authority" that "answers to the [Swedish] government." FMV deals directly with the *Försvarsdepartementet*, the Swedish Department of Defence, and provides the Swedish armed forces with the weapon systems and military equipment they require. It also provides procurement services to the Swedish Coast Guard, the Swedish Emergency Management Agency and the Swedish Police. FMV also assists the Swedish defence industry in the promotion of exports and represents the Swedish government in international matters related to defence procurement and materiel cooperation. ⁴⁰ The organization is led by a board of directors that is directly accountable to the Swedish government. The

board meets five times per year, and daily operations are led by a director general.⁴¹ FMV has a workforce of about 3,000 employees.⁴²

3.3.2 SWITZERLAND

In Switzerland, defence procurement is undertaken by an independent procurement organization known as Armasuisse, which operates outside the scope and responsibility of the Swiss armed forces. The organization reports directly to the Swiss Department of Defence, Civil Protection and Sports (DDPS). The origin of Armasuisse dates back to 1968 when the Swiss government decided to centralize defence procurement under a single government organization: the Gruppe für Rüstungsdienste (Defence Procurement Agency), or GRD. The system was set up after technical problems and massive cost overruns were encountered with some major weapon systems acquired by the Swiss armed forces in the 1960s. The Swiss government concluded that the country's armed services - which up to that time had purchased all defence materiel themselves - could no longer properly manage the acquisition of complex and sophisticated modern weapon systems. 43 The GRD was reorganized into Armasuisse in 2000. The main reason for the reorganization was the fusion in 1999 of several government-owned armament factories formerly managed by the GRD into a new state-owned defence technology company known as RUAG (Rüstungs Unternehemen Aktiengesellschaft). Armasuisse employs about 1,000 people.44

3.3.3 SOUTH AFRICA

In South Africa, defence procurement is administered by a state-owned civilian company known as the Armaments Corporation of South Africa Ltd. (ARMSCOR). Created in 1948, ARMSCOR is managed and controlled by a board of directors that operates under the leadership of a chairman who, in turn, is directly accountable to the Minister of Defence and Military Veterans. ARMSCOR is mainly responsible for the acquisition, maintenance and disposal of defence materiel for the South African National Defence Force and the Department of Defence and Military Veterans as well as for any South African government departments and agencies requiring similar services (for example, the South African Police Service). ARMSCOR employs over 1,300 people.

4 DEFENCE PROCUREMENT REFORMS

The surge in global defence spending over the past 15 years has placed significant pressure on the defence procurement systems of the world's top military spending countries. In most cases, defence procurement systems have been unable to effectively respond to rising military demand or to avoid bureaucratic challenges, political influence, technological difficulties, cost overruns, and delays with the delivery of new weapon systems and military equipment. In many countries, these problems have generated public criticism and a desire to reform defence procurement systems in order maximize efficiency, accelerate product delivery time, reduce expenses and provide better oversight.

4.1 CANADA

In Canada, DND and PWGSC have implemented a number of initiatives in recent years to improve defence procurement processes and reduce acquisition cycle times. The federal government also launched a National Shipbuilding Procurement Strategy in June 2010 and a Defence Procurement Strategy in February 2014 to streamline and enhance the efficiency of the defence procurement system, increase accountability and leverage greater industrial and economic benefits from defence contracts. Although there has been debate in recent years on whether Canada should centralize defence procurement under a single federal government department or agency, the federal government decided to retain the current multidepartmental system, which it committed to reform with its Defence Procurement Strategy in 2014.

Like Canada, many other countries have implemented, or are in the process of initiating, various defence procurement reforms. Australia, the United Kingdom and the United States are cases in point.⁵⁰

4.2 AUSTRALIA

Australia has implemented several defence procurement reviews and reforms in recent years.⁵¹ One of the most recent reviews was commissioned by the Australian government in 2008 and looked at the DMO and the country's defence procurement system. The review made 46 recommendations to improve the DMO and the efficiency and cost-effectiveness of the acquisition process. One recommendation was that the DMO be separated from the Department of Defence and become an independent executive agency of the Australian government. The aim of this recommendation was to provide the DMO with greater control over its resources and activities and to ensure better accountability and transparency. The Australian government accepted 42 of the 46 recommendations in 2009. However, it refused to accept that the DMO be made an executive agency on the grounds that doing so would not result in a more efficient organization, would likely affect Department of Defence operations, and would potentially entail significant costs. 52 By 2012, most of the accepted reforms had been implemented.⁵³ Additional reforms have since been introduced to further improve the defence procurement process, strengthen project management accountability and reporting, identify problems early on, and minimize risks.54

However, despite these reforms, concerns with the defence procurement systems continue to be raised. In 2013, for example, the Australian National Audit Office (ANAO) reported average schedule "slippage" on the order of 36% (or 957 months, the cumulative number of months of slippage) on the 29 largest defence procurement projects in fiscal year 2012–2013. ANAO also reported a cumulative total budget increase of 15.5% (A\$6.5 billion) for these major projects over the years. ⁵⁵ In another 2013 report, the ANAO made a number of recommendations to strengthen the effectiveness of the defence procurement system, improve transparency, enhance accountability, and report progress on reforms. ⁵⁶

4.3 UNITED KINGDOM

In the United Kingdom, a number of defence procurement reforms have been implemented in recent years, resulting in the establishment of the DE&S in 2007 and numerous changes to processes and oversight mechanisms.⁵⁷

Despite the introduction of reforms, however, issues with the defence procurement system continue to be reported. In 2009 and 2010, for example, reports of the House of Commons Defence Committee and the National Audit Office noted significant delays and cost overruns with existing British defence procurement projects. The reports also drew attention to a major funding gap between equipment ordered and the ability to pay for it. The funding gap was estimated to be between £6 billion and £36 billion. ⁵⁸

In 2009, the Ministry of Defence ordered an independent study of the British defence procurement system. The study identified a number of problems with the system and found that individual defence procurement projects faced, on average, delays of five years, which translated into additional costs of between £900 million and £2.2 billion each year. The study made several recommendations to enhance the defence procurement process and improve skills, efficiency, project management and transparency. One of the recommendations was that DE&S cease to be part of the Ministry of Defence and be transformed into a Government Owned and Contractor Operated (GOCO) company. ⁵⁹ The Ministry of Defence accepted most of the recommendations in 2010, but rejected the GOCO proposal. ⁶⁰

Since then, problems have persisted, despite reforms and some improvements to the defence procurement system. ⁶¹ For instance, in 2014, the National Audit Office reported that the cost of the 11 largest defence procurement projects rose by about £708 million, and delays in the forecast time to complete these projects increased by 17 months in fiscal year 2012–2013. ⁶²

New reform measures are under consideration or being implemented. ⁶³ In 2014, the DE&S was reformed, ⁶⁴ and the *Defence Reform Act 2014* gave the Secretary of State the option to make arrangements "for a commercial organisation to provide defence procurement services under contract with a ... GOCO company in future should ministers decide the model offers the best value for money." ⁶⁵

4.4 UNITED STATES

The U.S. government has also initiated a number of reforms to improve its defence procurement system over the past decade or so. ⁶⁶ These reforms include introducing legislative changes to reform the defence procurement system and redrafting defence procurement policies and rules and regulations to achieve greater accountability, efficiency and effectiveness. The U.S. has also launched new initiatives to improve the overall performance of the defence procurement process, including new policies and measures to eliminate unproductive practices and bureaucratic processes, achieve greater efficiency and productivity, increase competition, control project costs, reduce delivery times and enhance the quality and professionalism of the workforce. ⁶⁷

However, assessments of the success of defence procurement reforms in the U.S. remain mixed. A 2014 Government Accountability Office (GAO) report, for example, noted that despite the introduction of reforms, many of the DOD's major defence procurement programs still face significant cost growth and schedule delays. ⁶⁸

5 CONCLUSION

Several different models of defence procurement systems exist throughout the industrialized world. Most countries choose approaches to defence procurement and generally customize their military acquisition processes to meet the specific needs and requirements of their armed forces. With its decentralized, multi-departmental model, Canada is unique in its approach to defence procurement. Most industrial countries have opted for other systems, namely procurement by individual armed services; procurement by centralized government organizations; and procurement by independent civilian corporations.

However, despite their differences and the introduction of defence procurement reforms in recent years, most defence procurement systems, no matter the model, continue to face similar challenges and criticism. Most have been unable to avoid bureaucratic hurdles, political influence, cost overruns, and delays with the delivery of major projects. All industrialized countries, including Canada and its closest allies, have encountered difficulties with their defence procurement systems.

In sum, challenges continue to plague defence procurement practices throughout the industrialized world, regardless of the systems in place. No existing model seems to be a solution to the challenges associated with defence procurement in the 21st century, challenges that include the growing complexity and rising cost of major weapon systems and of global supply chains. ⁶⁹

NOTES

1. Elisabeth Sköns et al., "Military Expenditure," in SIPRI Yearbook 2002: Armaments, Disarmament and International Security, Stockholm International Peace Research Institute [SIPRI], pp. 231–265.

- 2. Sam Perlo-Freeman and Carina Solmirano, "<u>Trends in World Military Expenditure, 2013</u>," *SIPRI Fact Sheet*, April 2014; and SIPRI, <u>SIPRI Yearbook 2013: Armaments</u>, *Disarmament and International Security Summary*, pp. 6–7.
- 3. SIPRI, "SIPRI Top 100 Arms Sales Decreased in 2011: Companies Pursue Diverse Strategies in Response to Austerity Measures," News release, 18 February 2013.
- 4. Sam Perlo-Freeman and Pieter D. Wezeman, "<u>The SIPRI Top 100 Arms-Producing and Military Services Companies</u>, 2012," *SIPRI Fact Sheet*, January 2014.
- 5. Siemen T. Wezeman and Pieter D. Wezeman, "<u>Trends in International Arms Transfers</u>, 2013," *SIPRI Fact Sheet*, March 2014.
- 6. SIPRI, "<u>Table 3.3. The 15 countries with the highest military expenditure in 2012</u>;" and Perlo-Freeman and Solmirano, "<u>Trends in World Military Expenditure, 2013</u>," *SIPRI Fact Sheet*, April 2014.

- 7. Public Works and Government Services Canada [PWGSC], <u>Defence Procurement Strategy</u>. For a better understanding of the defence procurement process in Canada, consult, among others, Aaron Plamondon, "Equipment Procurement in Canada and the Civil-Military Relationship: Past and Present," <u>Calgary Papers in Military and Strategic Studies</u>, Occasional Paper No. 2, Centre for Military and Strategic Studies, University of Calgary, Calgary, 2008; Aaron Plamondon, <u>The Politics of Procurement: Military Acquisition in Canada and the Sea King Helicopter</u>, University of British Columbia [UBC] Press, Vancouver/Toronto, 2010; Craig Stone, "Defence Procurement and the Need for Disciplined Capital Investment," in Craig Stone, ed., <u>The Public Management of Defence in Canada</u>, Breakout Education Network, Toronto, 2009, pp. 93–109; and Alan S. Williams, <u>Reinventing Canadian Defence Procurement: A View from the Inside</u>, McGill-Queen's University Press, Montréal/Kingston, 2006.
- 8. Department of National Defence, <u>Canadian Government Defence Procurement</u>.
- 9. PWGSC, "Chapter 1 Public Procurement," in Supply Manual, Version 2014-4 (effective 25 September 2014), Article 1.20.10.
- 10. PWGSC, "Chapter 1 Public Procurement," <u>Annex 1.1.2.1</u> and <u>Annex 1.1.2.2</u>, in *Supply Manual*.
- 11. Ibid.
- 12. Ibid.
- 13. Government of Canada, "Value Proposition and Industrial and Technological Benefits," Backgrounder, 5 February 2014. For information on the Industrial and Regional Benefits policy, see Industry Canada, Industrial and Regional Benefits.
- Treasury Board of Canada Secretariat, "<u>Treasury Board Secretariat Sources of Federal Government and Employees Information 2014 (Info Source)</u>"; and PWGSC, "Chapter 1 Public Procurement," in *Supply Manual*.
- 15. Foreign Affairs, Trade and Development Canada, "Government Procurement;" Plamondon (2010), p. 9.
- 16. PWGSC, "<u>Streamlined and Coordinated Decision-Making</u>," *Defence Procurement Strategy*.
- Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, "Welcome To AT&L."
- 18. For more information, consult the websites of the <u>Assistant Secretary of the Navy</u>, <u>Research, Development and Acquisition</u>; the <u>Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology</u>; the office of the <u>Assistant Secretary of the Air Force (Acquisition)</u>; and the <u>United States Coast Guard Acquisition Directorate</u>.
- 19. Defense Logistics Agency [DLA], "DLA at a Glance."
- 20. Defense Advanced Research Projects Agency [DARPA], "Our Work"; and National Security Agency [NSA], "About NSA."
- 21. Susan M. Gates et al., <u>Analyses of the Department of Defense Acquisition Workforce Update to Methods and Results through FY 2011</u>, RAND, 2013, p. 4.
- 22. United States Government Accountability Office [GAO], <u>Acquisition Workforce: DOD's Efforts to Rebuild Capacity Have Shown Some Progress</u>, Statement of John P. Hutton, Director, Acquisition and Sourcing Management, Washington, D.C., 16 November 2011; John Birkler et al., <u>From Marginal Adjustments to Meaningful Change: Rethinking Weapon System Acquisition</u>, RAND, 2010, pp. xvii and 89; and Gates et al. (2013), pp. xiv and 15.

- 23. Francisco Rojas Aravena, "Chile," in *Arms Procurement Decision Making*, Vol. 2, ed. Ravinder Pal Singh, SIPRI/Oxford University Press, 2000, pp. 9–38; and Sam Perlo-Freeman and Carina Solmirano, *Why arms procurement goes wrong*, SIPRI, n.d., pp. 8–9.
- 24. Jordi Díez, "<u>Legislative Oversight of the Armed Forces in Mexico</u>," *Mexican Studies*, Vol. 24, No. 1, Winter 2008, pp. 129–132.
- 25. Wuyi Omitoogun and Tunde Oduntan, "Nigeria" in Budgeting for the Military Sector in Africa: The Processes and Mechanisms of Control, eds. Wuyi Omitoogun and Eboe Hutchful, SIPRI, 2006, pp. 167–168.
- 26. Government of the United Kingdom, Ministry of Defence [MOD], <u>Defence Equipment and Support</u>.
- 27. MOD, Defence Equipment and Support, "About us"; and MOD, "Defence Equipment & Support Organisation Chart," August 2014.
- Australian Government, Department of Defence, Defence Materiel Organisation [DMO], "About DMO"; and DMO, <u>Inside the Defence Materiel Organisation</u>, March 2012. For information on the prescribed agency status of the DMO, see Department of Defence (Australia), "Section 2: Defence Materiel Organisation," in *Portfolio Budget Statements* 2005–06, pp. 241–245.
- Government of France, Direction générale de l'armement [DGA], "Présentation de la direction générale de l'armement," 9 September 2014; DGA, "La DGA a 50 ans,"
 April 2011; DGA, Les origines de la Délégation générale pour l'armement, Comité pour l'histoire et l'armement, Paris, 2002; Ministère de la Défense et des Anciens Combattants, "Bilan d'activités 2013 de la DGA," 18 February 2014; and Ethan B. Kapstein, Smart Defense Acquisition: Learning from French Procurement Reform, Center for a New American Security. Washington, D.C., December 2009.
- 30. Government of India, Ministry of Defence (MOD), Department of Defence, "About Department of Defence;" MOD, Defence Procurement Procedure 2013, pp. 1–351; and Confederation of Indian Industry, Defence Procurement Organisation.
- 31. For information on Brazil's Secretaria de Produtos de Defesa, or SEPROD [Secretariat of Defence Products] see Ministério da Defesa (Brazil), "Ministério da Defesa (MD)," Organization Chart, 5 September 2014; RESDAL, "Brazil: The Legal Framework and the Defence System," A Comparative Atlas of Defence in Latin America and Caribbean, Buenos Aires, 2012, pp. 148–157; and Laxman Kumar Behera et al., Defence Acquisition: International Best Practices, Pentagon Press, New Delhi, 2013, pp. 380–381.
- 32. For information on China's Government Armament Department, or GAD, see Government of The People's Republic of China, "Organizations of the Central Military Commission (CMC)"; and Ministry of National Defense (China), "Structure and Organization of the Armed Forces."
- 33. For information on Denmark's Forsvarets Materieltjeneste, or FMT [Defence Acquisition and Logistics Organisation, DALO], see Forsvaret (Denmark), "Acquisition and Logistics Organisation."
- 34. For information on Germany's Bundesamt für Ausrüstung, Informationstechnik und Nutzung der Bundeswehr, or BAAINBw (Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support), see BAAINBw, "The Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support (BAAINBw)"; and Bundesamt für Wehrtechnik und Beschaffung (BWB), "Establishment of the Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support."

- 35. For information on Italy's Segretariato Generale della Difesa e Direzione Nazionale degli Armamenti, or SGD-DNA [Secretariat General of Defence/National Armaments Directorate], see Ministry of Defence (Italy), "The Secretariat General of Defence/National Armaments Directorate."
- For information on South Korea's Defence Acquisition Program Administration, or DAPA, see DAPA, "Introduction."
- 37. For information on Spain's Dirección General de Armamento y Material, or DGAM [Directorate-General of Armament and Materiel], see Ministerio de Defensa de España (Spain), "Armament and Equipment"; and "Spanish Government Approved Defence Procurement Reforms," Jane's Defence Weekly, Vol. 51, No. 27 (2 July 2014), p. 21.
- 38. Tim Kelly and Nobuhiro Kubo, "<u>Japan plans arms procurement agency to promote exports-sources</u>," *Reuters*, 29 May 2014.
- 39. President of Russia, "<u>Executive order abolishing Rosoboronpostavka and Rosoboronzakaz signed</u>," 8 September 2014; and "Russia Scraps Defence Procurement Agencies," *Jane's Defence Weekly*, Vol. 51, No. 38, 17 September 2014, p. 12.
- FMV, "<u>About FMV</u>;" and FMV, Interaction between Business Skills and Technology for People, Security and the Environment, Stockholm, February 2006, pp. 1–8. For more information on FMV activities, see FMV, FMV Annual Report 2010, Stockholm, 2011, pp. 1–38.
- 41. FMV, "Board of Directors," "Organization," and "Areas of Operation."
- 42. FMV, FMV, 2012, p. 3.
- 43. "Armasuisse for Defence Procurement," *Military Technology*, Vol. 34, No. 7, 2010, pp. 118–119.
- 44. Armasuisse, "Organization," Factsheet 2014, and Armasuisse: The Competence Sectors; "Armasuisse for Defence Procurement," Military Technology, Vol. 34, No. 7, 2010, pp. 118–120; and Federal Department of Defence (Switzerland), Civil Protection and Sports [DDPS], Procurement Strategy, Bern, 16 March 2010. For information on the creation of RUAG, see RUAG, "About us," 2011.
- 45. ARMSCOR, "<u>Historical Overview (1948–1998)</u>," *About ARMSCOR*; ARMSCOR, "<u>Corporate Information</u>," *About ARMSCOR*; and ARMSCOR, "<u>Organisational Structure</u>," *About ARMSCOR*.
- ARMSCOR, "<u>Vision & Mission</u>," About ARMSCOR; and ARMSCOR, "<u>Acquisition</u>," Products & Services.
- 47. ARMSCOR, Annual Report 2012/13, Pretoria, 2013, p. 59.
- 48. Alan S. Williams, *Reinventing Canadian Defence Procurement: A View from the Inside*, McGill-Queen's University Press, Montréal/Kingston, 2006, pp. 95–96, 159–160.
- 49. Government of Canada, "Leveraging Defence Procurement to Create Jobs and Economic Growth in Canada," News release, 7 February 2014; and Government of Canada, "Government of Canada Announces National Shipbuilding Procurement Strategy," News release, 3 June 2010.
- For general studies of defence procurement outside Canada, see, among others, Ugurhan G. Berkok, ed., Studies in Defence Procurement, Queen's University, Kingston, 2006, pp. 1–114; and Ross Fetterly, Defence Procurement Reform in Other Nations, Defence Management Studies Program, School of Policy Studies, Queen's University, Kingston, 2009, pp. 1–74.
- 51. Fetterly (2009), pp. 25-33.

- Government of Australia, <u>Going to the Next Level: The Report of the Defence Procurement and Sustainment Review</u>, 2008; Department of Defence (Australia), <u>The Response to the Report of the Defence Procurement and Sustainment Review – The Mortimer Review</u>, May 2009, pp. 1–46; and DMO, <u>Implementing the Mortimer Review</u>, May 2009.
- 53. DMO, "Defence Procurement Reform Update," 18 June 2012.
- Department of Defence (Australia), "Minister for Defence Stephen Smith Defence and Industry Conference 2011, Opening Address, Convention Centre, Adelaide,"
 June 2011; Department of Defence (Australia), "Minister for Defence and Minister for Defence Materiel Defence Capability Reform," 16 October 2012. See also Department of Defence (Australia), Defence Procurement Policy Manual, 2014; and Department of Defence (Australia), Defence Capability Plan Public Version, 2012.
- 55. Australian National Audit Office [ANAO], <u>2012–13 Major Projects Report Defence Materiel Organisation</u>, 2013, pp. 23–26.
- 56. ANAO, <u>Capability Development Reform Department of Defence</u>, 2013.
- 57. Fetterly (2009), pp. 15-23.
- House of Commons Defence Committee (United Kingdom), <u>Defence Equipment 2010 Sixth Report of Session 2009–10</u>, 23 February 2010, pp. 1–64; National Audit Office [NAO], <u>Ministry of Defence: The Major Projects Report 2009</u>, 15 December 2009; NAO, <u>Ministry of Defence: The Major Projects Report 2009 Appendices and Project Summary Sheets</u>, 15 December 2009; NAO, <u>Ministry of Defence: The Major Projects Report 2010</u>, 15 October 2010; and NAO, <u>Ministry of Defence: The Major Projects Report 2010 Appendices and Project Summary Sheets</u>, 15 October 2010.
- 59. Bernard Gray, Review of Acquisition for the Secretary of State for Defence: An Independent Report by Bernard Gray, October 2009.
- 60. MOD, *The Defence Strategy for Acquisition Reform*, Stationery Office Limited, London, February 2010, pp. 1–27.
- 61. Lord Levene, <u>Defence Reform: An independent report into the structure and management of the Ministry of Defence</u>, June 2011, pp. 50–52; MOD, <u>Better Defence Acquisition: Improving how we procure and support Defence equipment</u>, June 2013; and Trevor Taylor, "British Defence Acquisition Reforms: Three Years On," *RUSI Journal*, Vol. 159, No. 1, February–March 2014, pp. 32–38.
- 62. NAO, <u>Ministry of Defence: The Major Projects Report 2013</u>, 13 February 2014, pp. 4–9; and NAO, <u>Ministry of Defence: Major Projects Report 2013 Appendices and project summary sheets</u>, 13 February 2014.
- 63. MOD, Better Defence Acquisition, June 2013.
- 64. MOD, <u>Defence Equipment and Support: Framework Document</u>, 13 May 2014; and MOD, <u>Defence Equipment and Support: Corporate Plan 2014–2017</u>.
- 65. Government of the United Kingdom, "<u>Defence Reform Act 2014</u>," 15 May 2014. See also Government of the United Kingdom, *Defence Reform Act 2014*, 14 May 2014, pp. 1–28.
- 66. Fetterly (2009), pp. 3–13; J. Ronald Fox, <u>Defense Acquisition Reform, 1960–2009: An Elusive Goal</u>, U.S. Army Center of Military History, 2011; and Moshe Schwartz, <u>Defense Acquisitions: How DOD Acquires Weapon Systems and Recent Efforts to Reform the Process</u>, Congressional Research Service [CRS], 23 May 2014.

- 67. Schwartz (2014), pp. 15–18; Department of Defense (DOD), Office of the Under Secretary of Defense, "Memorandum for Acquisition Professionals (Better Buying Power)," 14 September 2010; "Memorandum for Defense Acquisition Workforce (Better Buying Power 2.0)," 13 November 2012; "Implementation Directive for Better Buying Power 2.0 Achieving Greater Efficiency and Productivity in Defense Spending," memorandum, 24 April 2013; DOD, Interim DOD Instruction 5000.02: Operation of the Defense Acquisition System, 25 November 2013; and DOD, "New DOD Instruction Aims to Streamline Acquisition Process," 3 December 2013.
- 68. GAO, Defense Acquisitions: Assessments of Selected Weapon Programs, March 2014.
- 69. Jeffrey A. Drezner et al., <u>Are Ships Different? Policies and Procedure for the Acquisition of Ship Programs</u>, RAND, 2011; Mark V. Arena et al., <u>Why Has the Cost of Fixed-Wing Aircraft Risen? A Macroscopic Examination of the Trends in U.S. Military Aircraft Costs over the Past Several Decades</u>, RAND, 2008; Obaid Younossi et al., <u>Is Weapon System Cost Growth Increasing? A Quantitative Assessment of Completed and Ongoing Programs</u>, RAND, 2007; Mark V. Arena et al., <u>Historical Cost Growth of Completed Weapon System Programs</u>, RAND, 2006; and John Birkler et al., <u>Differences Between Military and Commercial Shipbuilding: Implications for the United Kingdom's Ministry of Defence</u>, RAND, 2005.