

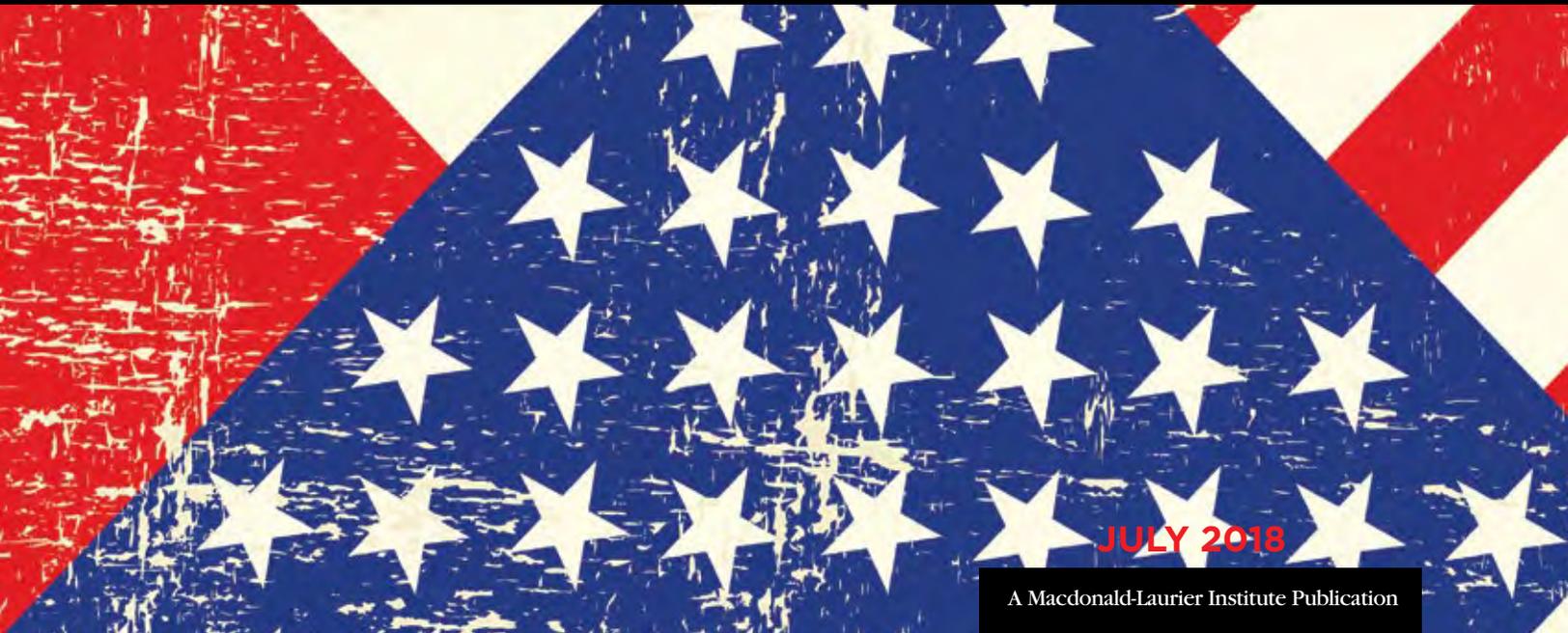


True North in
Canadian public policy

Should Canada Participate in Ballistic Missile Defence?

A SURVEY OF THE EXPERTS

By Jeffrey F. Collins

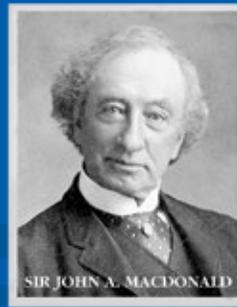


JULY 2018

A Macdonald-Laurier Institute Publication



True North in
Canadian public policy



Board of Directors

CHAIR

Pierre Casgrain

Director and Corporate Secretary,
Casgrain & Company Limited, Montreal

VICE-CHAIR

Laura Jones

Executive Vice-President of the Canadian Federation
of Independent Business, Vancouver

MANAGING DIRECTOR

Brian Lee Crowley, Ottawa

SECRETARY

Vaughn MacLellan

DLA Piper (Canada) LLP, Toronto

TREASURER

Martin MacKinnon

CFO, Black Bull Resources Inc., Halifax

DIRECTORS

Blaine Favel

Executive Chairman, One Earth Oil and Gas, Calgary

Jayson Myers

Chief Executive Officer,
Jayson Myers Public Affairs Inc., Aberfoyle

Dan Nowlan

Vice Chair, Investment Banking, National Bank
Financial, Toronto

Vijay Sappani

Co-Founder and Chief Strategy Officer,
TerrAscend, Mississauga

Veso Sobot

Director of Corporate Affairs, IPEX Group of
Companies, Toronto

Advisory Council

John Beck

President and CEO, Aecon Enterprises Inc., Toronto

Erin Chutter

Executive Chair, Global Energy Metals Corporation
Vancouver

Navjeet (Bob) Dhillon

President and CEO, Mainstreet Equity Corp., Calgary

Jim Dinning

Former Treasurer of Alberta, Calgary

David Emerson

Corporate Director, Vancouver

Richard Fadden

Former National Security Advisor to the Prime Minister,
Ottawa

Brian Flemming

International lawyer, writer, and policy advisor, Halifax

Robert Fulford

Former Editor of *Saturday Night* magazine,
columnist with the *National Post*, Ottawa

Wayne Gudbranson

CEO, Branham Group Inc., Ottawa

Calvin Helin

Aboriginal author and entrepreneur, Vancouver

Peter John Nicholson

Inaugural President, Council of Canadian Academies,
Annapolis Royal

Hon. Jim Peterson

Former federal cabinet minister,
Counsel at Fasken Martineau, Toronto

Barry Sookman

Senior Partner, McCarthy Tétrault, Toronto

Jacquelyn Thayer Scott

Past President and Professor, Cape Breton University,
Sydney

Rob Wildeboer

Executive Chairman, Martinrea International Inc.,
Vaughan

Research Advisory Board

Janet Aizenstat

Professor Emeritus of Politics, McMaster University

Brian Ferguson

Professor, Health Care Economics, University of Guelph

Jack Granatstein

Historian and former head of the Canadian War Museum

Patrick James

Dornsife Dean's Professor,
University of Southern California

Rainer Knopff

Professor Emeritus of Politics, University of Calgary

Larry Martin

Principal, Dr. Larry Martin and Associates and Partner,
Agri-Food Management Excellence, Inc.

Christopher Sands

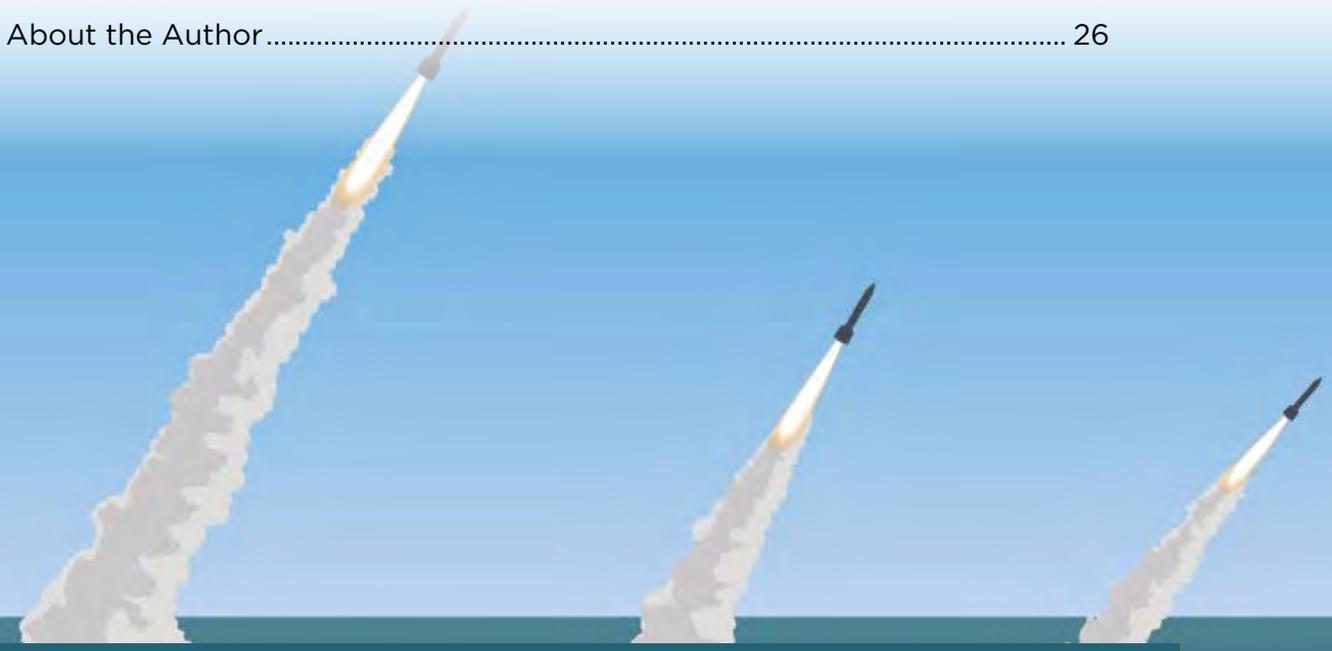
Senior Research Professor, Johns Hopkins University

William Watson

Associate Professor of Economics, McGill University

Table of Contents

Executive Summary	4
Sommaire	5
Introduction	7
What is Ballistic Missile Defence?	8
Context: Canada, North Korea and BMD	9
Question 1: Does Canada face a significant current or near-future threat from North Korean ballistic missiles or those of other rogue states?	12
Question 2: Can BMD technology provide an effective defence against a limited ballistic missile strike?	13
Question 3: Would continental BMD be prohibitively costly for Canada to join?	14
Question 4: Do you think the domestic political situation in Canada is amicable to BMD participation?	16
Question 5: If Canada joined BMD, would it entail unacceptable consequences for diplomatic relations with other nations?	17
Question 6: Would cooperating on US continental BMD strengthen the Canada-US alliance?	18
Question 7: Should Canada cooperate with the United States on continental ballistic missile defence?	19
Conclusion	20
Appendix A: List of Respondents	21
References	23
About the Author	26



The author of this document has worked independently and is solely responsible for the views presented here. The opinions are not necessarily those of the Macdonald-Laurier Institute, its Directors or Supporters.

Executive Summary

The question of Canada's participation in ballistic missile defence (BMD) has returned to the forefront after a decade-plus hiatus. The last time BMD was the topic of national discussion was in 2004-2005. Then, possible Canadian participation in the US BMD system was scuttled by the minority Liberal government of Paul Martin, which was overly sensitive to anti-American sentiment arising from the Bush administration's post-9/11 actions, not least the invasion of Iraq.

The Trudeau government faces a similar (and perhaps even more voracious) anti-American sentiment with the Trump administration in power. But the circumstances are also very different, not least from the threat posed by North Korea's increasingly advanced nuclear and ballistic missile capabilities. Despite some recent (misplaced) optimism, the Trump-Kim summit in June 2018 has not fundamentally changed things. The US also seems increasingly less inclined to protect Canada - a fact that was brought home in 2017, when Canadian Lieutenant-General Pierre St-Amant testified that US policy was not to defend Canada against ballistic missile attack.

The benefits of missile defence also go beyond simply providing a possible defence against "rogue states." Participation in BMD could further strengthen the Canada-US defence relationship and ensure that this alliance remains salient to the evolving threat environment for many years to come. Such a move could also perhaps assuage the Trump administration's growing concerns over our modest defence spending, which remains well below two percent - a yardstick that Canada, alongside other NATO countries, had pledged to reach in a decade's time at the 2014 Wales Summit.

To be sure, the Trudeau government's new defence policy statement did not raise Canadian involvement in BMD, despite clearly identifying the threat that ballistic missiles posed to North America. However, the report did point out the need

to work with the United States in both modernizing the North American Aerospace Defence Command (NORAD) and renewing the North Warning System's line of early-warning radar. While the government has taken some tentative steps that indicate it takes the North Korean ballistic missile threat seriously, Prime Minister Trudeau has acknowledged that BMD is officially off the table.

To get an independent, dispassionate, and expert assessment of the merits of formal Canadian participation in BMD, the Macdonald-Laurier Institute surveyed the country's foremost security and defence policy thinkers and practitioners. Respondents have expertise in Canadian security and defence issues generally, although missile defence experts and practitioners are well represented among them. More than 70 people were asked to take the survey, and we received responses from 49 of them. The survey was by no means scientific, but it did canvass the views of a diverse range of participants.

The key results of the survey could not be clearer: 80 percent of those replying to the survey held the view that Canada-US relations would be strengthened by this country's involvement in BMD, and 90 percent favour Canadian participation in continental ballistic missile defence with the United States. Notably, the Singapore Summit between Donald Trump and Kim Jong-Un has not altered the view of whether Canada should join BMD.

Ninety percent of respondents also stated that Canadian involvement in BMD would not worsen Canada's diplomatic relations. In fact, some felt its participation would better align Canada's defence and foreign policies, especially considering the indirect support Canada already provides to both US continental and NATO BMD programs. Further, the limited scope of current BMD systems is broadly seen as not destabilizing to Canada's relations with Moscow and Beijing.

Admittedly, there was ambiguity on the results to the other questions, showing a greater debate on the threat posed by North Korea, the cost and technical capabilities of BMD, and whether joining BMD would be politically palatable in Canada. Irrespective of these results, however, what is clear is that there exists a strong consensus among those Canadian defence and security experts surveyed on the need to directly participate with the US on BMD.

The Trudeau government would do well to consider a policy reversal of then Prime Minister Paul Martin's decision to not directly join BMD.

Sommaire

La question de la participation du Canada au programme de défense antimissile balistique (DAB) est revenue au premier plan après un hiatus de plus de 10 ans. La dernière discussion de portée nationale sur la défense antimissile remonte à 2004-2005. La participation éventuelle du Canada au système de DAB des États-Unis avait été sabordée par le gouvernement libéral minoritaire de Paul Martin, alors extrêmement préoccupé par le sentiment antiaméricain suscité par les mesures postérieures au 11 septembre de l'administration Bush, notamment l'invasion de l'Irak.

Le gouvernement Trudeau doit lui aussi composer avec le même sentiment antiaméricain (un sentiment peut-être même encore plus féroce) vis-à-vis de l'administration Trump. Toutefois, ajoutons que les circonstances sont fort différentes, notamment en raison de la menace que posent les capacités nucléaires et balistiques grandissantes de la Corée du Nord. Malgré un certain optimisme récent (mal fondé), le sommet Trump-Kim en juin 2018 n'a pas fondamentalement changé les choses. Les États-Unis semblent aussi de moins en moins enclins à protéger le Canada – situation dont on a pris conscience en 2017, lorsque le lieutenant-général canadien Pierre St-Amant a témoigné à l'effet que la politique américaine n'était pas de défendre le Canada contre les attaques de missiles balistiques.

We should restart discussions with our American counterparts on the possibility of participating in the continental BMD system. Canada remains largely alone among our major allies in not directly participating in some form of BMD. Important voices in the Liberal Party itself, including not least former Prime Minister Martin and his defence ministers, have come out in support of BMD. It is time for Canada to listen to those voices and work with the United States in protecting North America from ballistic missile attacks. It is time for Canada to cooperate with the United States on BMD.

Or, la défense antimissile irait au-delà du simple objectif de protection contre les « États voyous ». La participation à la DAB pourrait renforcer les relations canado-américaines en matière de défense et faire en sorte que cette alliance demeure importante pour écarter durant de nombreuses années le climat de danger croissant. Une telle mesure pourrait même peut-être apaiser les préoccupations grandissantes de l'administration Trump à l'égard de nos modestes dépenses en matière de défense, ces dernières demeurant bien en dessous de deux pour cent – seuil que le Canada s'est engagé à atteindre en une décennie lors du Sommet du Pays de Galles de 2014, aux côtés d'autres pays de l'OTAN.

Certes, la participation canadienne à la DAB n'a pas été mentionnée dans le nouvel énoncé de la politique de défense du gouvernement Trudeau – même si la menace que posent les missiles balistiques en Amérique du Nord a été clairement signalée. Cependant, le rapport souligne qu'il est nécessaire de collaborer avec les États-Unis, tant pour moderniser le Commandement de la défense aérospatiale de l'Amérique du Nord (NORAD) que pour rafraîchir le réseau radar d'alerte avancée du Système d'alerte du Nord. Alors que les quelques mesures timides prises par le gouvernement indiquent qu'il prend la menace balistique nord-coréenne au sérieux, le

premier ministre Trudeau a reconnu que la DAB n'était pas une question formellement à l'ordre du jour.

Pour obtenir une évaluation indépendante, objective et experte du bien-fondé d'une participation canadienne formelle à la DAB, l'Institut Macdonald-Laurier a interrogé les spécialistes des politiques et les praticiens les plus éminents au pays en matière de sécurité et de défense. Les répondants étaient des spécialistes des questions générales de défense et de sécurité au Canada, bien que les experts et les praticiens en matière de défense antimissile étaient bien représentés parmi eux. Plus de 70 personnes ont été invitées à participer à l'enquête, et 49 d'entre elles y ont répondu. Il ne s'agissait absolument pas d'une enquête scientifique, mais celle-ci a quand même pu servir à recueillir l'opinion d'un éventail diversifié de participants.

Les principaux résultats de l'enquête ne peuvent pas être plus clairs : 80 pour cent des répondants considèrent que la participation du pays à la DAB renforcerait les relations entre le Canada et les États-Unis, tandis que 90 pour cent sont en faveur de la participation du Canada à la défense antimissile balistique continentale avec les États-Unis. Fait notable, le sommet de Singapour entre Donald Trump et Kim Jong-Un n'a pas modifié les points de vue sur la question de l'adhésion du Canada à la DAB.

Quatre-vingt-dix pour cent des répondants ont aussi déclaré que la participation à la DAB ne détériorerait pas les relations diplomatiques du Canada. En fait, certains estiment que la participation du Canada permettrait de mieux aligner les politiques étrangères et de défense, en particulier lorsqu'est prise en compte l'aide indirecte déjà offerte par le Canada aux fins des programmes de DAB des États-Unis pour le continent et de l'OTAN. En outre, les répondants estiment dans l'ensemble que la portée restreinte des systèmes actuels de DAB ne peut pas déstabiliser les relations du Canada avec Moscou et Pékin.

Les positions révélées dans les réponses aux au-

tres questions sont certainement beaucoup plus ambivalentes, ce qui indique qu'un débat a toujours cours en ce qui a trait à la menace posée par la Corée du Nord, le coût et les capacités techniques de la DAB ainsi que sur la question de savoir s'il est acceptable sur le plan politique d'adhérer à la DAB. Cependant, indépendamment de ces résultats, ce qui est clair, c'est que l'appui à une participation directe du Canada aux côtés des États-Unis fait consensus parmi les experts canadiens de la défense et de la sécurité interrogés.

Le gouvernement Trudeau ferait bien d'envisager un renversement de la politique du premier ministre Paul Martin ayant donné lieu à la décision de ne pas joindre directement la DAB. Nous devrions commencer par reprendre les discussions avec nos homologues américains sur la possibilité de participer au système continental de DAB. Le Canada demeure généralement isolé de ses principaux alliés en n'adhérant pas directement à une certaine forme de DAB. D'importantes voix à l'intérieur du parti libéral lui-même, y compris notamment celles de l'ancien premier ministre Martin et de ses ministres de la défense, se sont élevées en faveur de la DAB. Il est temps que le Canada écoute ces voix et travaille avec les États-Unis pour protéger l'Amérique du Nord des attaques de missiles balistiques. Il est temps que le Canada collabore avec les États-Unis sur la DAB.

Introduction

The question of Canada's participation in ballistic missile defence (BMD) has finally returned to the forefront after a decade-plus hiatus. The impetus for the latest BMD discussion has arisen in the context of North Korea's increasingly advanced nuclear and ballistic missile capabilities. This threat was particularly salient in 2017, given that country's accelerating number of ballistic missile launches and its nuclear test in September – and despite some misplaced optimism around the Trump-Kim summit in June 2018, it continues to be a serious challenge. The same can also be said about Iran. The US withdraw from the Joint Comprehensive Plan of Action (JCPOA), and the nuclear deal's possible collapse, means there is little to no constraint on Iran's nuclear ambitions – and less reason for Tehran to curtail either its nuclear or ballistic missile programs.

BMD will remain an increasingly important response to dealing with the threat posed by regional powers armed with nuclear weapons and/or ballistic missiles. Simply put, BMD is not going away any time soon. For that reason, many of Canada's key allies in Europe and the Indo-Pacific have already opted to participate in BMD. Indeed, that has placed Canada in an awkward position of supporting BMD indirectly through its contributions to the North Atlantic Treaty Organization (NATO), while eschewing any open role in BMD (and possible protection from such a system) in North America. It also explains why Canada will likely continue to face pressure to participate in BMD, lest it be left out of the cold on this important initiative.

The benefits of missile defence also go beyond simply providing a possible defence against "rogue states." Participation in BMD could further strengthen the Canada-US defence relationship and ensure that this alliance remains salient to the evolving threat environment for many years to come. Such a move could also perhaps assuage the Trump administration's growing concerns

over our modest defence spending, which remains well below two percent – a yardstick that Canada, alongside other NATO countries, had pledged to reach in a decade's time at the 2014 Wales Summit.

“A policy guide issued by the Department of National Defence (DND) in 2016 for public consultation identified BMD as an issue potentially worth revisiting in light of the threat surrounding the Iranian and North Korean ballistic missile programs.

To shed light on this issue, the Macdonald-Laurier Institute surveyed the country's foremost security and defence policy thinkers and practitioners to get an independent, dispassionate, and expert assessment of the merits of formal Canadian participation in BMD. Potential respondents were selected for their expertise in Canadian security and defence issues generally, although missile defence experts and practitioners were well represented among them. Importantly, we contacted a wide range of experts. In total, more than 70 people were asked to take the survey, and we received responses from 49 individuals (see Appendix A). Participants included noted scholars and doctoral students on Canadian defence and security, former senior political advisors for past defence ministers, representatives of Canadian

What is Ballistic Missile Defence?

BMD consists of missile interceptors, radars, and sophisticated command and control systems “designed to track, locate and shoot down enemy nuclear (or conventional) armed ballistic missiles when they are in flight.” The core idea is to intercept a ballistic missile as it follows its trajectory high into the atmosphere (or in space) and begins its descent back to earth (Futter 2015).

Once fired, ballistic missiles proceed along three phases: boost (when the missile is moving under the power of its own rocket booster after being launched); midcourse (when the missile or warhead coasts on a trajectory near or outside the earth’s atmosphere); and terminal (when the missile or warhead falls towards its target).

Since countermeasures typically take place during the mid-course phase, a boost phase interception would have important advantages, not least less onerous discrimination requirements since it allows the defender to avoid midcourse phase countermeasures like decoys, etc. Yet, due to the need to be in close proximity to the launch site, coupled with a tight targeting window measured in minutes, no BMD system has currently been designed to deal with interception at the boost phase – although research continues in possible boost-phase interception technology, such as directed energy weapons on unmanned aerial vehicles. Operational BMD systems are therefore either midcourse or terminal systems.

Midcourse BMD systems are capable of defending “large geographic areas, with dimensions of hundreds of thousands of kilometres” (Lewis 2017). Currently there are two operational midcourse systems: the **Ground-based Midcourse Defence (GMD)**, with 40 interceptors based at Fort Greely, Alaska, and four at Vandenberg Air Force Base, California; and the US Navy’s **SM-3 Aegis BMD**. As of 2017, the SM-3 Aegis BMD system is deployed on 33 cruisers and destroyers, an Aegis Ashore site in Romania (and one is planned for Poland, with completion expected in 2020), and an Aegis Ashore testing facility in Kauai, Hawaii. SM-3 Aegis BMD uses a different interceptor than GMD; the SM-3 is smaller, slower, and covers less territory, being specifically designed against medium and intermediate-range missiles, although the US is working with Japan on a new interceptor (SM-3 Block IIA) for longer-range missiles (Missile Defense Agency 2018).

Terminal systems are more plentiful and, in some cases, have been deployed for operations. Terminal systems include the **Patriot** family of missile systems, which are in use by over a dozen countries, Israel’s **Iron Dome**, and the US Army’s **THAAD** (Terminal High Altitude Area Defence). Terminal systems are sometimes referred as regional or theatre BMDs because they “typically cover small areas, can operate as stand alones or as second tier defences behind midcourse” systems (Lewis 2017).

foreign policy think tanks, and retired senior military officers and diplomats.

Participants not only came from across the political spectrum, but many also had widely differ-

“The Macdonald-Laurier Institute surveyed the country’s foremost security and defence policy thinkers and practitioners to get an independent, dispassionate, and expert assessment of the merits of formal Canadian participation in BMD.

ing opinions on defence issues. The survey was by no means scientific. Its point was to canvass the views of a diverse range of participants who comprise a large part of Canada’s security and defence community. The survey itself consisted of seven questions to be answered yes, no, or unsure, which allowed us to aggregate the responses. Respondents were allotted space to provide comments as well. From both the answers and the comments we were able to assess their collective views on this matter and gauge, in an “evidence-based” manner, whether there is any broad consensus on the wisdom of participating in BMD.

The results of this survey could not be clearer: 90 percent favour Canadian participation in continental ballistic missile defence with the United States. Ninety percent also stated that Canadian involvement in BMD would not worsen Canada’s diplomatic relations, especially given the limited scope of BMD systems. Furthermore, 80 percent

held the view that Canada-US relations would be strengthened by this country’s involvement in BMD. However, respondents were also sceptical of Canada’s domestic political situation, with 55 percent either unsure or not convinced that support exists for BMD. In addition, 51 percent were unsure if the cost of participation – whether in-kind or with the outright purchasing of new assets – would be prohibitively costly and therefore politically unpalatable. Still, while survey respondents noted technical challenges with BMD, 59 percent did not view them as a barrier to participation; the same percentage saw the proliferation challenges emerging from North Korea and Iran as sufficient enough to justify Canada’s involvement in BMD.

Before turning to the results of each of the seven questions posed to our expert respondents, this paper will first look at the underlying context to the current discussions on BMD.

Context: Canada, North Korea and BMD

The last time BMD was the topic of national discussion was in 2004-2005 when possible Canadian participation in the US continental Ground-based Midcourse Defence (GMD) program was scuttled by the minority Liberal government of Paul Martin. Blame for that about-face has been attributed to a combination of anti-US sentiment (in the wake of the 2003 Iraq War), public angst over Cold War-era fears of weaponizing space, and the threat of electoral punishment in Quebec.

Still, BMD advocacy never completely died either. An attempt by then Foreign Minister John Baird and Defence Minister Peter MacKay to get Prime Minister Stephen Harper to pursue continental BMD options in 2012 was quashed. Yet paradoxically, the same Conservative government also

approved of NATO's European ballistic missile defence efforts at the 2010 Lisbon Summit (McDonough 2013). A 2014 bi-partisan Senate report unanimously recommended that Canada "enter into an agreement with the United States to participate as a partner in ballistic missile defence" (Canada, Parliament, Standing Senate Committee on National Security and Defence 2014), a position even supported by two former Martin-era Liberal defence ministers, David Pratt and Bill Graham. Predictably, the report was ignored.

“To be sure, the situation with North Korea appears to have changed since 2017.... There was no breakthrough at the Singapore Summit – it was high on promises, but extremely sparse on substance.”

After it came to power in 2015, the Liberal government of Justin Trudeau committed itself to a new defence policy review. A policy guide issued by the Department of National Defence (DND) in 2016 for public consultation identified BMD as an issue potentially worth revisiting in light of the threat surrounding the Iranian and North Korean ballistic missile programs. As the document makes clear, this threat "is expected to endure and grow more sophisticated in the coming decades" (Canada, Department of National Defence 2016, 13). Later that year, a follow-up report based on the results of the public consultation found that respondents generally favoured integration and collaboration with the US on missile defence (Ipsos Public Affairs 2016).

When released in June 2017, however, the Trudeau government's new defence policy statement, *Strong, Secure, Engaged: Canada's Defence Policy*, did not raise Canadian involvement in BMD – despite clearly identifying the threat that ballistic missiles posed to North America. The report did point out the need to work with the United States in both modernizing the North American Aerospace Defence Command (NORAD) and renewing the North Warning System's line of early-warning radar. NWS is designed to detect atmospheric threats such as aircraft and cruise missiles, but an update could incorporate the ability to detect ballistic missiles, thereby potentially tying the system to BMD. Such a possibility was raised in public discussions (Panetta 2014). Yet no mention was made of such a possibility in the defence policy statement. Indeed, also conspicuously absent was any discussion of the potential cost of updating the NWS.

Prime Minister Trudeau has acknowledged that BMD is officially off the table. This position would not change "any time soon," he noted in late 2017. Yet he also seemed to soften his stance shortly afterwards due to the threat posed by North Korea. While the Liberal position has not changed "for the time being," the government is "continuing to look at the situation" (Bruce Campion-Smith 2017). It likely did not help that the deputy commander of NORAD, Canadian Lieutenant-General Pierre St-Amand, testified that US policy was not to defend Canada against ballistic missile attack (Berthiaume 2017). Notably, former Prime Minister Paul Martin has also mused that his decision in 2005 to not participate in BMD might be different today (Scotti 2017).

To be sure, the situation with North Korea appears to have changed since 2017. Following a meeting in April between the leaders of North and South Korea, a summit took place in June between North Korean leader Kim Jong-Un and United States President Donald Trump in Singapore. Yet it is important not to read too much into these theatrics. There was no breakthrough at the Singapore Summit – it was high on promises, but extremely sparse on substance. Much as it has done in the past, the North made promises on denuclearization that no serious analyst

expects will be fulfilled, and in return received some important benefits – from being treated as a respectable regional power to Trump’s abrupt cancellation of so-called “war games” with South Korea. (see McDonough 2018; Shimooka and McDonough 2018).

Certainly, this is not the first time the North has arrived with an apparent (but misleading) olive branch. Similar promises of denuclearization, as a way to extract concessions and economic benefits from the international community, have been made before with little to show for it. We also need to be suspicious of any claims of an end to nuclear testing or missile launches. Such so-called “concessions” are easily reversible, especially in the absence of inspectors that North Korea has shown absolutely no willingness to accept.

Tellingly, the North itself has declared that its quest for nuclear weapons is “complete” and that it “no longer needs” to test its nuclear capabilities – an indication that its nuclear and ballistic missiles programs are here to stay. And these capabilities are not insignificant. North Korea already has an arsenal of short and medium-range ballistic missiles, and it is developing a submarine launched ballistic missile, the KN-11, and a land-based equivalent capable of being fired from mobile launchers, the KN-15. These missiles are intended to give North Korea a second-strike capability against US military assets in Japan and South Korea (McDonough 2017).

North Korea has also made important strides in developing an intercontinental ballistic missile (ICBM) capable of striking North America. In 2017, North Korea tested two ICBMs – the KN-20 (Hwasong-14) and the KN-22 (Hwasong-15); the latter is a full-fledged ICBM capable of hitting the entire continental United States, and Canada as well. This incipient intercontinental strike capability is all the more worrisome given the numerous nuclear tests that North Korea has already accomplished, most recently a thermonuclear test that took place in September 2017.

The Canadian federal government has taken some tentative steps that indicate that it takes

the North Korean ballistic missile threat seriously. Last year it emerged that two undisclosed bunkers at Canadian Forces bases outside of Ottawa were designated for use in the event that the national capital became “unviable” (Brewster 2017). Meanwhile, in March 2018, the submarine HMCS *Chicoutimi* wrapped up a deployment to Asia, allegedly to monitor and enforce the economic sanctions against North Korea – the first Canadian submarine deployment to that region in 50 years (Common 2018). Diplomatic solutions have not been foresworn either, as witnessed by foreign affairs minister Chrystia Freeland’s hosting of an international summit on North Korea in Vancouver in January 2018 (Simpson 2018).

“Tellingly, the North itself has declared that its quest for nuclear weapons is “complete” and that it “no longer needs” to test its nuclear capabilities – an indication that its nuclear and ballistic missiles programs are here to stay.

While these efforts are certainly commendable – and necessary – none directly address the fact that Canada remains acutely and increasingly vulnerable to North Korea’s advanced ballistic missiles. That in turn leads directly to the possible value of BMD. There are other possible benefits to joining BMD, which our survey questions certainly cover. But, given the impetus to the current BMD discussion has been sparked by North Korea, it makes sense to begin the survey with that question foremost in mind

We will now turn to the results of each of the seven questions posed to our expert respondents.

QUESTION 1: Does Canada face a significant current or near-future threat from North Korean ballistic missiles or those of other rogue states?

At the heart of the BMD debate is a discussion over Canada's vulnerability to ballistic missiles, specifically those equipped with nuclear warheads. This was a very real threat during the Cold War. Canadian decision-makers were conscious of the fact that Canada represented "fly-over" territory for any potential nuclear exchange between US and Soviet strategic bombers and, by the 1960s, intercontinental ballistic missile (ICBMs). The close proximity between Canadian and US cities meant the population centres of both countries were threatened by Soviet strategic forces.

With a largely bi-partisan consensus, successive Canadian governments implemented policies that cemented our alliance with the US and Europe. Canada was a founding member of NATO, and expanded continental air defence cooperation that eventually led to the establishment of NORAD in 1958. Radar lines and command and control facilities were built at home (e.g., the Pine Tree Line, and the "Diefenbunker" at Canadian Forces Station Carp) and the Canadian Armed Forces (CAF) were deployed to bases in France and West Germany. The CAF was equipped with CF-104 "Starfighters" and CF-101 "Voodoos" to interdict Soviet bombers, including with US-supplied "Genie" nuclear tipped rockets in the case of the CF-101. The Pearson government made the controversial decision to deploy 56 BOMARC nuclear missiles in Ontario and Quebec.

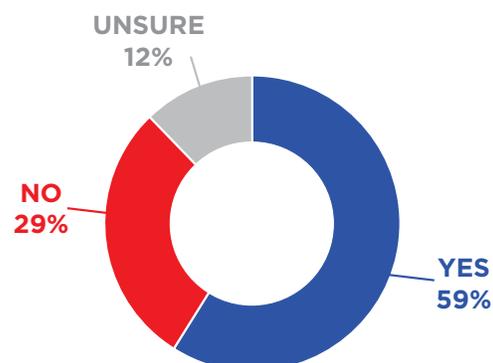
Today, even amid tensions over Ukraine, Syria, and allegations of Russian electoral interference in the US, there is little worry that Washington and Moscow will engage in a nuclear showdown akin to the brinkmanship evident during the Cold War. Recent rhetoric to the contrary, neither the US nor Russia have made efforts to reverse the decades-long reduction in their respective nuclear stockpiles, although they have undertaken plans to modernize their nuclear forces (Saine 2018). Thanks to a series of agreements between the US and the USSR/Russia - from the 1972 Strategic Arms Limitation Talks (SALT I) to the 2010 New Strategic Arms Reduction Treaty (New START) - each state's respective nuclear stockpiles have plummeted from 6,000 deployed nuclear war-

heads in 1991, to an estimated 1,550 deployed nuclear warheads each today (Nuclear Threat Initiative 2017).

In the absence of "vertical proliferation" there has been a growing preoccupation with "horizontal proliferation" - that is, the growth of new nuclear power states beyond the Permanent Five (US, Russia, UK, France, and China) (Futter 2015). In the 1990s, the predominant nuclear aspirant "rogue" states included Iraq, Libya, Syria, Iran, and North Korea. With US-led regime change in Iraq and Libya, and civil war in Syria, international attention remains fixed on containing the nuclear efforts of Tehran and Pyongyang.

North Korea's increased bellicosity in recent years under Kim Jong-Un has been particularly alarming. Consequently, 59 percent of respondents agreed with the view that Canada faces a significant threat from ballistic missiles. But they also acknowledged that it likely comes in the form of North Korean missiles aimed inaccurately at the United States or accidental launches. Of the remaining respondents, 29 percent viewed Canada as not facing a ballistic missile threat with another 12 percent unsure. Existing US and allied conventional and nuclear deterrence is seen as capable of containing North Korea. However, even among those unsure, many also note that advances in Pyongyang's ballistic missile technology could be a "game changer."

QUESTION 1: Does Canada face a significant current or near-future threat from North Korean ballistic missiles or those of other rogue states?



QUESTION 2: Can BMD technology provide an effective defence against a limited ballistic missile strike?

A longstanding debate regarding BMD is the effectiveness of the anti-ballistic missile technology itself. The concern is valid. The failed Reagan-era Strategic Defense Initiative (SDI), or “Star Wars” as it was known, was a research and development program that envisioned space-based lasers and ground-based interceptors to stop thousands of Soviet ICBMs. While only a research program, not an operational system, the program proved controversial due to its technical infeasibility and the costs of its many projects. Successive American BMD programs are much narrower in scope. For example, the *National Missile Defence Act* of 1999 “set the goal of defending the United States against a limited ballistic missile attack.” Nevertheless, even with a limited scope, technical challenges persist, especially with the Ground-based Midcourse Defence.

“In short, the respondents generally indicated that a defence system that limits damage in North America is one worth investing in.”

A product of the Clinton administration’s National Missile Defence program, the GMD received a big boost from the George W. Bush administration following US withdrawal from the Anti-Ballistic Missile Treaty in 2002. However, in 2004 the GMD was deployed much too early and lacked sufficient levels of testing – this, despite a US \$66 billion commitment to the system from the Bush administration (Pifer 2015). According to Steve Pifer of the Brookings Institution, be-

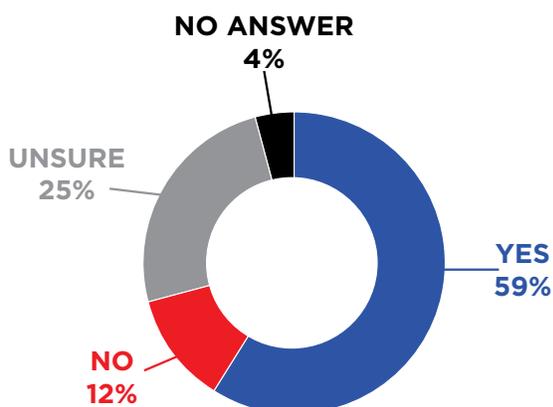
tween 1999 and 2017 the GMD only passed 9 out of 17 tests and those tests have been “highly scripted, with target trajectory known in advance” (Pifer 2015).

Terminal BMD systems have not escaped technical controversy either. The Patriot was first deployed in combat during the 1991 Gulf War to counter the threat of Iraq’s mobile-launched “Scud” missiles. MIT analysts disputed early reports by the US Army that claimed the Patriot as having achieved an impressive 96 percent hit rate (Broad and Sangar 2013, 11). While the US Army stands by the Patriot’s Gulf War performance, albeit at a reduced hit rate percentage, it is not entirely clear today whether the Patriot in fact intercepted any of the 46 or 47 Iraqi Scuds fired at Saudi Arabia and Israel during the Gulf War (Kaplan 2003). Nearly two decades later, Israel’s “Iron Dome” theatre BMD has not escaped similar critiques from defence analysts (Marcus 2013).

Still, there has been progress in addressing technical gaps. As of 2017, the Aegis SM-3 missile has scored an impressive 33-out-of-40 test record while THAAD has hit all 14 targets in tests since 2006. THAAD systems are deployed by the US in South Korea. Even the GMD has achieved technical success lately; in May 2017, the US Missile Defence Agency had its first successful ICBM interception test (Ferguson and MacDonald 2017).

Despite these limitations, 59 percent of the respondents to this survey generally leaned towards Canada’s participation in BMD. Those in the “yes” column generally recognized the technology’s limitations – but also its usefulness. For example, as one respondent noted, the “GMD could be useful to counter missiles accidentally fired or [that had] strayed away from testing demonstrations.” Likewise, technical limitations could still be addressed with multi-layered theatre missile systems, where midcourse and terminal systems operate in tandem with one another.

QUESTION 2: Can BMD technology provide an effective defence against a limited ballistic missile strike?



In contrast, 12 percent of the respondents viewed the technology as incapable of defending against Multiple Independent Re-entry Vehicles (MIRVs) or believed that it would simply be overwhelmed by numerous missile launches. Of course, such criticism needs to be balanced by the recognition that BMD – as currently constructed – is designed to protect against limited missile strikes from rogue states. Such countries do not have either MIRV-technology or extensive ICBM arsenals; and the additional cost for these countries to develop such capabilities, or indeed

countermeasures, should be seen as another important hurdle for them to overcome.

Other experts answering the survey were sceptical of the operational performance of BMD systems – particularly GMD and THAAD – considering that they have “never been tested in a real world circumstance.” Indeed, a quarter of the expert respondents felt unsure about the potential of the systems. But even here, there was nuance. Limited technological capability was viewed as a strength: the ability to only “take out individual missiles, even a handful of missiles fired simultaneously, but not a large-scale attack... does not threaten the balance of power with Russia or China as the critics claim.” Others suggested that due to the constantly evolving technology, US BMD will become more viable over time. Besides, “even a questionable defence is better than no defence” and “the good should not be the enemy of perfect.” Given the consequences of a nuclear missile strike, “even a system that can knock down 20% of incoming warheads should be considered a worthwhile investment.” In short, the respondents generally indicated that a defence system that limits damage in North America is one worth investing in.

QUESTION 3: Would continental BMD be prohibitively costly for Canada to join?

With lingering doubt surrounding the true cost of major procurement projects like the Canadian Surface Combatant (CSC) and the Future Fighter Capability, and longstanding trepidation on the part of past and current governments on BMD in general, the question of resource allocation remains pertinent. University of Manitoba ballistic missile defence expert James Fergusson has pinned the cost of joining the GMD program at \$10 billion (Globe and Mail 2018). Writing in 2013 during a time of defence cuts under the Harper government, David McDonough argued that Canadian involvement in BMD could be done through either in-kind or asymmetrical contributions like equipping the to-be-built CSCs with Aegis BMD or building a ground-based “X-band” radar in Labrador in support of US Northern Command (McDonough 2013).

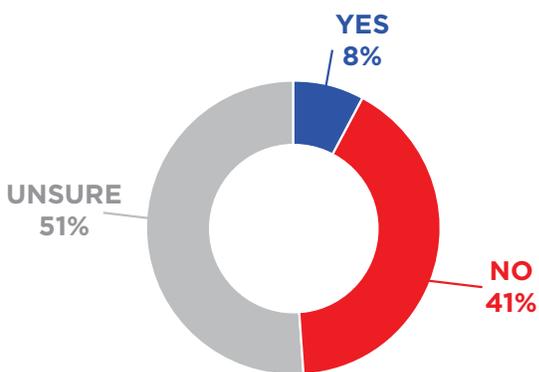
By a slight majority, 51 percent of survey respondents were unsure of whether BMD would be prohibitively costly to join, with a few questioning the meaning of the phrase “prohibitively costly.” Another view from respondents was that it is hard to estimate the cost because “we don’t have anybody giving us a price on membership.” More precise comments identified that any cost is linked to how involved Canada wants to be: “[i]f it’s just integration of command and control between US and Canadian staff, then that’s on the lower end of costs.” Costs escalate once money is spent on hard assets.

Related to this latter point will be how Canada frames its own “national defence needs” around BMD, as distinct from those needs associated with North America more broadly. The final cost

will be dependant on negotiations with the US (assuming that Canada does not want to implement its own BMD system). In exchange for input in the interception priorities list and BMD coverage, the US may request that Canada acquire and deploy “a missile tracking, interceptor cueing/guidance, and battle damage assessment (lowest cost) to an interceptor site and co-located radar (highest), relative to possible locations.” NORAD’s 60/40 funding arrangement between the US and Canada offers a possible window into how the cost could be broken down.

Another view, which was proposed by McDonough, is for Canada to participate in BMD, but to avoid playing a direct role in a GMD system in favour of equipping the new CSC ships with “an anti-missile radar and with missile-defence missiles such as the Standard SM-3 Block 2A or SM-6.” Such a purchase would allow Canada to participate in BMD and offer a potentially useful missile defence capability when Canada’s military is deployed abroad, while strengthening bilateral relations and ameliorating any US concerns over Canada’s “free riding.” Of course, much depends on whether participation in sea-based BMD would be sufficient to garner missile defence coverage through GMD at home.

QUESTION 3: Would continental BMD be prohibitively costly for Canada to join?



A significant minority of opinion, 41 percent, thought that participation in BMD for Canada would not be prohibitively costly. One line of thinking from the experts posits that “the US would simply like us to openly support the concept of BMD and offer real estate, such as Goose

Bay” or Vancouver Island, in order to place “gap-filling radars.” GMD interceptors would not be necessary in this scenario. Moreover, some argued, domestic firms participating could benefit from economic offsets and high-tech investment. Canada could also “negotiate a reasonable price” with the US, possibly using the renewal of the Northern Warning System radars announced in *Strong, Secure, Engaged* as leverage, or by financially contributing to the US-based assets.

Of course, when Canada last discussed BMD with the US, the Bush administration was then interested in both political cover after leaving the ABM Treaty and acquiring use of NORAD’s data to feed its then incipient BMD system. The context today is very different. Still, as one respondent went on to say, if Canada wants a “seat at the table... we ought to pay.” Likewise, cost was deemed “relative” by another respondent who contended that the country would “have to step up in other ways” even if there was no direct cost. This could come in the form of Aegis-equipped CSCs capable of deploying “off Japan or South Korea... [so] the US can redeploy one of its Aegis destroyers elsewhere.” A more resolute view held that not paying its share of “the costs of defending North American from ballistic missile attack” was to act “ungratefully and shamefully as though Canada was morally superior.”

Finally, 8 percent viewed BMD participation as too costly for Canada. One respondent stated that the technical problems of BMD by default make it “prohibitively costly whatever the price” and that the financial contribution would come at the price of funding other national programs. The cost of the GMD interceptors - estimated at US \$70M to \$100M per interceptor - means that the US would likely expect Canada to advance significant sums of money to locate GMD systems on Canadian soil and to use “the associated long-range radars, space-based satellites and sensors” (Daniels 2017). According to one participant, Canada could also be expected to foot the bill for protecting interceptor silos as well as “radars and associated command and control communication capabilities.”

QUESTION 4: Do you think the domestic political situation in Canada is amicable to BMD participation?

The retreat from BMD participation in 2004-2005 was the result of domestic political calculations. An unpopular administration in Washington, the minority status of Paul Martin's Liberal government, unease within the Liberal caucus, and anti-military sentiment in Quebec (a key Liberal constituency) led to a rejection of the US offer to participate in BMD. The domestic political fallout from the 2004-2005 period likely chilled Stephen Harper's Conservative government from considering involvement in BMD, even in its majority years.

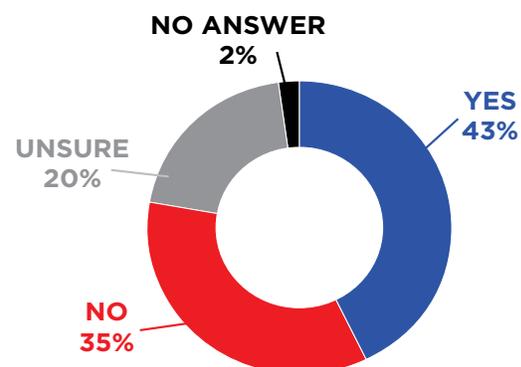
“Political parties may also come on side once it is clear to them that the intelligence and defence communities see the need for BMD amid “rising missile threats to Canada.”

A plurality of experts (43 percent) think that the circumstances have since changed, particularly as North Korea's “dramatic provocations against our allies” have raised the spectre of nuclear war for the first time since the end of the Cold War. One respondent thought that the Canadian public could be brought on side if there is emphasis placed on the BMD being a “limited defensive system” and able to influence “the US to avoid privileging kinetic military solutions to the ongoing situation.” Political parties may also come on side once it is clear to them that the intelligence and defence communities see the need for BMD amid “rising missile threats to Canada.” Participation would likely only be deemed acceptable if the financial cost is not seen as burdensome and that “related infrastructure is built outside of populated areas so as not to provide a target.”

However, over a third (35 percent) of respondents remained unconvinced that the domestic context is amicable to BMD, with another 20 percent unsure. The presence of another unpopular president remains an impediment for Canadian involvement in BMD. Alleged anti-military sentiment in Quebec is similarly seen as a consistent barrier. This could change but only because of “a very dramatic shock such as nuclear weapons use in Korea or elsewhere, or detonation of a covertly introduced weapon in the US mainland.” The federal government's growing deficit spending and debt will likely dissuade the “appetite for adding to the fiscal burden.”

More pessimistic views pointed to the lack of media coverage of defence issues and that “politicians of all of Canada's political parties at the federal level have failed to provide leadership on this question for more than thirty years.” The risk-averseness of Canadian governments has made them susceptible to “hard-core anti-BMD advocates” even though there is also a “strong and vocal constituency of support for BMD.” Such opponents are said to have succeeded in painting BMD “with the same brush as the 1980s era SDI” and in doing so, have “convince[d] the populace that such a system would not only be ineffective, but prohibitively costly.” Senior government officials and politicians are perhaps not well informed on BMD's technical progress or the fact that its deployment has not provoked Russia or China.

QUESTION 4: Do you think the domestic political situation in Canada is amicable to BMD participation?



QUESTION 5: If Canada joined BMD, would it entail unacceptable consequences for diplomatic relations with other nations?

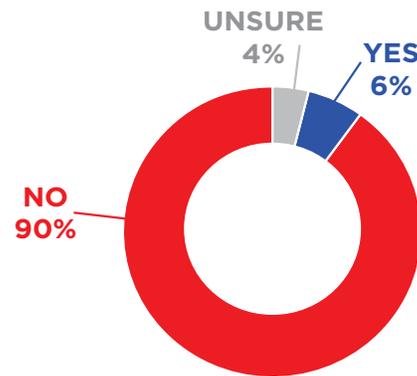
An overwhelming majority (90 percent) of respondents viewed Canadian participation in BMD as not detrimental to the country's diplomatic relations. More than one expert remarked that its participation would align Canada's defence and foreign policies, especially considering the indirect support Canada already provides to both US continental and NATO BMD programs. World powers would not be surprised by a Canadian request to join either; "[d]espite pretensions and myths, outside actors fully realize the close and shared interests and values of the Canada-US relationship, and Canada as part of the western community of nations."

Respondents also re-emphasized the fact that Canada endorsed NATO's BMD efforts during the 2010 Lisbon Summit (hence, political scientist Frank Harvey's 2014 characterization of Canada's post-Lisbon BMD stance as "puzzling"). The alliance's statement on BMD at the Lisbon Summit was unequivocal, labelling ballistic missile defence as a "core element of... collective defence." NATO later reiterated its support for BMD at the 2012 Chicago Summit and in its 2012 Deterrence and Posture Review, declaring ballistic missile proliferation as "an increasing threat to Alliance security" (Harvey, Robertson, and Fergusson 2014).

Canada's relations with non-NATO states were viewed as not likely to suffer either, given that "[a]ll of the great powers operate missile defense systems and all of the world's middle powers including Canada are protected by them." Russia, for example, has deployed the nuclear-armed A-135 interceptor around Moscow and other important military sites since 1995. An earlier model, the A-35, was deployed in the mid-1960s. Officially, China has been conducting BMD research since 2010, though this is seen as political cover for the successful anti-satellite interceptors that were first deployed in 2007. Alarmed by China's sale of M-11 missiles to Pakistan in the 1990s, India initiated a "Defence of Delhi" BMD policy in 2000 with the aim of defending the capital city, Mumbai, and key nuclear facilities. During

the George W. Bush administration, the Indians received Washington's approval to purchase Israel's "Arrow-2" missile interceptors and "Green Pine" radar (Ferguson and MacDonald 2017).

QUESTION 5: If Canada joined BMD, would it entail unacceptable consequences for diplomatic relations with other nations?



In terms of Russia and China, the limited scope of both midcourse and terminal BMD systems is broadly seen as not destabilizing Canada's relations with Moscow and Beijing. Both countries already have sizable ICBM numbers that could easily overwhelm any existing missile defence. Canada's relations with Russia are already frosty and are unlikely to change should the country participate in alliance-based BMD systems.

Poignantly, the NATO and US BMD systems failed to deter (or indeed justify) Russia's actions in eastern Ukraine, Crimea, or Syria. They also did little to stymie China's island-building program in the South China Sea (McDonough 2016). Beijing, like Moscow, may rhetorically voice criticism on Canadian BMD activities but in practice will still want to pursue economic relations with Ottawa. In the end, regardless of their views, neither country should be able to "dictate Canadian security nor drive a wedge between the US and Canada," as one survey respondent put it.

Regarding North Korea specifically, Canada's efforts to help de-escalate tensions likely will not be affected. Pyongyang has not expressed any public concern about BMD (it takes more issue

with US-South Korean military exercises). With BMD remaining a limited system, it is not likely to raise the ire of North Korea; likewise, Ottawa's diplomatic standing in East Asia should be unaffected if it sticks to a strictly North American GMD system and does not become involved in the deployment of terminal interceptors to South Korea or Japan, like THAAD or the Patriot. A blunter view stated that, "North Korea and Iran might notice a bit, but who cares?"

In the minority view, some respondents felt that Canada's participation would weaken its "honest broker" reputation among non-NATO states, including China; although they also recognized that taking a stand "in support of our major ally... is worth the risk to show some resolve." Another opinion posited that Canadian participation in BMD could see the North Koreans incorporate Canada into its targeting of the United States, thereby "necessitating increasing investment in BMD sites in Canada (with their increasing costs)."

QUESTION 6: Would cooperating on US continental BMD strengthen the Canada-US alliance?

An absolute majority (80 percent) agreed that Canadian participation in a continental BMD system would strengthen the two countries' longstanding military alliance. In the words of one expert, "We have been slackers in too many ways to count and this would go a long way to reassuring the US that we can be reliable partners in the defence of North America." However, there was a divergent spectrum of opinion on the actual degree of benefit to be gained from Canadian involvement in BMD.

Joining BMD could improve defence relations but it is unlikely that Canada would share equal decision-making authority or a dual command structure. Instead, participating in the US continental BMD system would give Canadian decision-makers the ability to incorporate ballistic defences into defence planning and "tease out" the political consequences of their decisions. Others took the opposite view, suggesting that the US would restructure NORAD and NORTHCOM to "further integrate Canada into the processes of North American defence," giving the Canadian Armed Forces access to information about US strategic planning on missile defence and space and a view of the BMD screens at Peterson Air Force Base in Colorado Springs.

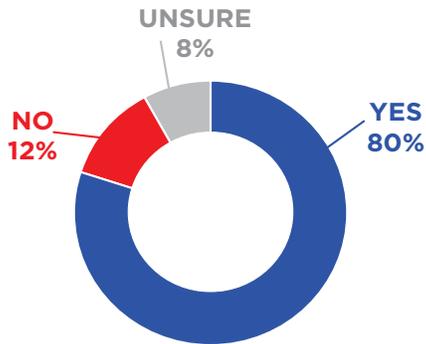
BMD is seen as a "no brainer" and may "help smooth ruffled feathers" between the two countries over Ottawa's pass on re-engaging in Afghanistan. More than a few experts expressed

the opinion that committing to BMD could assist in trade disputes with the Trump administration. Of course, there will always be the issue of how much money Canada may have to contribute and a continuing concern remains whether the cost could ever be negotiated to a level that is not burdensome.

“There was a divergent spectrum of opinion on the actual degree of benefit to be gained from Canadian involvement in BMD.”

The Canadian-US defence relationship is unlikely to be weakened by non-participation, either. Washington may be "prefer us to be more engaged around the globe where real security threats need to be addressed." BMD could represent an area for leverage for Canada, as it "would reinforce our commitment to mutual security and the relationship as a whole." However, it could also become another Canadian commitment taken for granted by the US.

QUESTION 6: Would cooperating on US continental BMD strengthen the Canada-US alliance?



Countering the majority view were 8 percent of experts who felt unsure about the impact of BMD on the Canada-US alliance. For example, it was noted that “[s]aying no in 2005 has had little

effect” on the relationship while agreeing to participation may have little noticeable impact on relations given the close ties between the two countries. Sitting out the US wars in Vietnam and Iraq did not fundamentally alter Canada’s relationship with Washington.

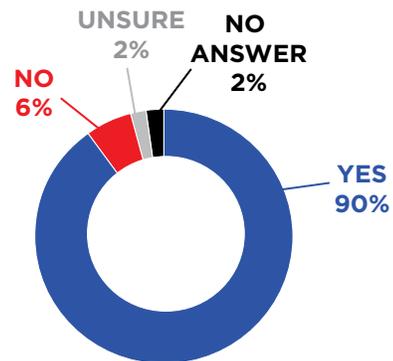
Lastly, 12 percent viewed BMD participation as having no improvement in the alliance. Canada’s NORAD contributions are seen as sufficient enough to assist in threat detection and warning without having to contribute additional monies. It was also noted that Canada-US relations are both deep and beyond being defined by single issues. Therefore, it is difficult to ascertain how participation in BMD would improve things beyond the status quo. As in question four, a final challenge is the Trump administration.

QUESTION 7: Should Canada cooperate with the United States on continental ballistic missile defence?

Despite the challenges outlined above, 90 percent of survey respondents recommended that Canada cooperate with the US on continental BMD, compared to only 6 percent who disagreed. To the overwhelming majority, Canada’s current position is seen as “inconsistent” and what one respondent viewed as lacking “national self-respect.” Another respondent stated that Canadians need to “lose the ‘holier than thou’ position and take steps to defend itself and its neighbours.” The fact that Canada supports BMD for its European NATO allies but not on its own continent was seen as particularly indicative of policy incoherence.

The technical and operational limitations of BMD should not dissuade Canadian involvement; on the contrary, a limited ballistic missile defence “is of greater value to a small nation” for it gives Canada access to an existing system under a great power guarantor. Even if the North Korean crisis stabilizes, BMD participation allows for a limited defence against accidents. For these reasons, “Canada can only benefit politically, militarily, and diplomatically from participating in missile defence.”

QUESTION 7: Should Canada cooperate with the United States on continental ballistic missile defence?



Moreover, continental BMD is a reality; the GMD interceptors are already operational in Alaska and California with plans to add more interceptors in coming years. Canadian involvement in North American BMD would at least give Ottawa “a portal into... decision-making spaces.” Iran’s nuclear program could restart, especially given the US withdrawal from the 2015 Joint Comprehensive Plan of Action, opening the possibility for the establishment of an eastern North American GMD interceptor site.

Conclusion

These results show that a large majority of respondents (90 percent) believe that Canada should cooperate with the United States on BMD. In contrast, only 6 percent objected to Canadian participation in BMD. Admittedly, there was ambiguity on the results to the other questions, showing a greater debate on the threat posed by North Korea, the cost and technical capabilities of BMD, and whether joining BMD would be politically palatable in Canada. Irrespective of these results, however, what is clear is that there is exists a strong consensus among those Canadian defence and security experts surveyed on the need to directly participate with the US on BMD.

Based on these results, the Trudeau government would do well to consider a policy reversal of then Prime Minister Paul Martin's decision to not directly join BMD. We should start by restarting discussions with our American counterparts on the possibility of participating in the continental BMD system. Canada remains largely alone among our major allies in not directly participating in some form of BMD. Important voices in the Liberal Party itself, including not least former Prime Minister Martin and his defence ministers, have come out in support of BMD. It is time for Canada to listen to those voices and work with the United States in protecting North America from ballistic missile attacks. It is time for Canada to cooperate with the United States on BMD.

Appendix A: List of Respondents

1. Adam Macdonald, PhD Student in Political Science, Dalhousie University
2. Alan Stephenson, Fellow, Canadian Global Affairs Institute
3. Alex Wilner, Assistant Professor of International Relations, Norman Paterson School of International Affairs, Carleton University, and Munk Senior Fellow, Macdonald-Laurier Institute
4. Alexander Moens, Professor, Department of Political Science, Simon Fraser University, and Senior Fellow, Macdonald-Laurier Institute
5. Allen Sens, Professor of Teaching, Department of Political Science, University of British Columbia
6. Andrew Deschamps, Lieutenant-General (Ret'd), Former Commander of the Royal Canadian Air Force (2009-2012)
7. Annessa L. Kimball, Associate Professor of Political Science, Université Laval
8. Charles Davies, Colonel (Ret'd), Research Fellow, CDA Institute
9. Chris Kilford, Fellow, Centre for International and Defence Policy, Queen's University
10. Christian Leuprecht, Professor of Political Science, Royal Military College of Canada, and Munk Senior Fellow, Macdonald-Laurier Institute
11. Christopher Sands, Senior Research Professor and Director, Center for Canadian Studies, Johns Hopkins University School of Advanced International Studies, and Member, Research Advisory Board, Macdonald-Laurier Institute
12. Colin Robertson, Vice President and Fellow, Canadian Global Affairs Institute
13. David Beitelman, PhD Candidate in Political Science and Doctoral Fellow, Centre for the Study of Security and Development, Dalhousie University
14. David Huddleston, Lieutenant-General (Ret'd), Former Commander Air Command (1991-1993) and Deputy Chief of the Defence Staff (1989-1991)
15. David McDonough, Deputy Editor at the Macdonald-Laurier Institute, and Research Fellow at Dalhousie University's Centre for the Study of Security and Development
16. Don Macnamara, Brigadier-General (Ret'd), Former President, CDA Institute
17. Douglas Bland, Professor Emeritus and Former Chair, Defence Management Studies, Queen's University
18. Douglas Ross, Professor of Political Science, Simon Fraser University
19. Elinor Sloan, Professor of International Relations, Carleton University
20. Eric Lerhe, Commodore (Ret'd), Former Commander Canadian Fleet Pacific, and Research Fellow, Centre for the Study of Security and Development, Dalhousie University and Munk Senior Fellow, Macdonald-Laurier Institute
21. Eric Morse, Deputy Director, Defence and Security Studies Programme, Royal Canadian Military Institute
22. Ernie Regehr, Senior Fellow, The Simons Foundation, and Research Fellow, Centre for Peace Advancement, Conrad Grebel University College

23. Frank Harvey, Chair, Department of Political Science, Dalhousie University
24. George Macdonald, Lieutenant-General (Ret'd), Former Air Force Officer, Deputy Commander NORAD, and Vice Chief of the Defence Staff (2001-2004)
25. George Petrolekas, Colonel (Ret'd), Fellow, Canadian Global Affairs Institute
26. Jack Granatstein, Independent Scholar Emeritus, History, York University, and Member, Research Advisory Board, Macdonald-Laurier Institute
27. James Fergusson, Professor of Political Studies, and Deputy Director, Centre for Defence and Security Studies, University of Manitoba
28. Jean-Christophe Boucher, Assistant Professor, Department of Political Science, MacEwan University
29. James Cox, Brigadier General (Retired), and Research Fellow, CDA Institute
30. Joel J. Sokolsky, Professor of Political Science, Royal Military College of Canada
31. Joseph T. Jockel, Piskor Professor of Canadian Studies, St. Lawrence University
32. Joseph Varner, Former Director of Policy to the Minister of National Defence, and Fellow, Inter-University Seminar on Armed Forces and Society
33. Ken Pennie, Lieutenant-General (Ret'd), Former Chief of the Air Staff (2003-2005)
34. Kim Richard Nossal, Professor of Political Studies, Queen's University
35. Laurie Hawn, Former Parliamentary Secretary to the Minister of National Defence (2007-2011)
36. Mark Collins, Distinguished Alumnus, Canadian Global Affairs Institute
37. Martin Shadwick, Contract Faculty, York University
38. Nancy Teeple, Strategic Analyst and Instructor, Simon Fraser University
39. Paul Chapin, Executive Editor, TheVimyReport.com, and Former Director General, International Security at Foreign Affairs
40. Paul Manson, General (Ret'd), Former Chief of the Defence Staff (1986-1989)
41. Peter Kasurak, Instructor, Royal Military College of Canada
42. Rachael Bryson, Senior Research Associate, Conference Board of Canada
43. Richard Cohen, Senior Defence Advisor to the Minister of National Defence (2007-2011)
44. Richard Shimooka, Senior Fellow, Macdonald-Laurier Institute
45. Rob Huebert, Associate Professor of Political Science, and Senior Research Fellow, Centre for Military, Strategic and Security Studies, University of Calgary
46. Srdjan Vucetic, Associate Professor, Graduate School of Public and International Affairs, University of Ottawa
47. Stéfanie von Hlatky, Assistant Professor of Political Studies and Director, Centre for International and Defence Policy, Queen's University
48. Stephen Saideman, Paterson Chair in International Affairs, Norman Paterson School of International Affairs, Carleton University
49. Timothy Choi, PhD Candidate, Centre for Military, Security, and Strategic Studies, University of Calgary, and Research Fellow, Centre for the Study of Security and Development, Dalhousie University

References

- Berthiaume, Lee. 2017. "Policy says U.S. won't defend Canada from missile attack: Norad general." *Globe and Mail*, September 14. Available at <https://www.theglobeandmail.com/news/politics/policy-says-us-wont-defend-canada-from-missile-attack-norad-general/article36258719/>.
- Broad, William J., and David E. Sangar. 2013. "Debate Emerges Over Effectiveness of Israel's Antimissile System." *New York Times*, March 21.
- Brewster, Murray. 2017. "Canada sets aside two bunkers at military bases amid global uncertainty, North Korean threat." *CBC News*, November 29. Available at <http://www.cbc.ca/news/politics/north-korea-canada-cold-war-plan-1.4424523>.
- Campion-Smith, Bruce. 2017. "Trudeau weighs call to join ballistic missile defence." *Toronto Star*, September 19. Available at <https://www.thestar.com/news/canada/2017/09/19/trudeau-weighs-calls-to-join-ballistic-missile-defence.html>
- Canada, Parliament, Standing Senate Committee on National Security and Defence. 2014. *Canada and Ballistic Missile Defence: Responding to the Evolving Threat*. Government of Canada, Senate, June. Available at <https://sencanada.ca/content/sen/committee/412/secd/rep/rep-10jun14-e.pdf>.
- Common, David. 2018. "Canadian sub on mission to bolster North Korea surveillance." *CBC News*, February 6. Available at <http://www.cbc.ca/news/canada/hmcs-chicoutimi-submarine-canada-pacific-north-korea-1.4511238>.
- Daniels, Jeff. 2017. "North Korean threat leads to flurry of missile defense proposals - including space interceptors." *CNBC*, August 3. Available at <https://www.cnbc.com/2017/08/03/political-support-growing-for-boosting-missile-defense.html>.
- Department of National Defence [DND]. 2016. *Defence Policy Review: Public Consultation Document*. Government of Canada, DND. Available at <http://dgpaapp.forces.gc.ca/en/defence-policy-review/docs/defence-policy-review-consultation-paper.pdf>.
- Department of National Defence. 2017. *Strong, Secure Engaged: Canada's Defence Policy*. Government of Canada, DND. Available at <http://dgpaapp.forces.gc.ca/en/canada-defence-policy/docs/canada-defence-policy-report.pdf>.
- Ferguson, Charles D., and Bruce W. MacDonald. 2017. *Nuclear Dynamics in a Multipolar Strategic Ballistic Missile Defense World*. Federation of American Scientists. Available at <https://fas.org/wp-content/uploads/media/Nuclear-Dynamics-In-A-Multipolar-Strategic-Ballistic-Missile-Defense-World.pdf>.
- Futter, Andrew. 2015. *The Politics of Nuclear Weapons*. Sage Publications Ltd.

- Globe and Mail. 2018. "It's time for the Liberals to get serious about missile defence." Globe Editorial. *Globe and Mail*, January 16. Available at <https://www.theglobeandmail.com/opinion/editorials/globe-editorial-its-time-for-the-liberals-to-get-serious-about-missile-defence/article37626449/>.
- Harvey, Frank, Colin Robertson, and James Fergusson. 2014. *Canada and Ballistic Missile Defence*. Canadian Defence and Foreign Affairs Institute, March.
- Ipsos Public Affairs. 2016. *Department of National Defence. Defence Policy Review: Public Consultation Online Report*. Ipsos (October 24). Available at <http://dgpapp.forces.gc.ca/en/defence-policy-review/docs/reports/public-consultation-online-report.pdf>.
- Kaplan, Fred. 2003. "Patriot Games: The missile didn't really work in 1991. Is it working now?" *Slate*, March 24. Available at http://www.slate.com/articles/news_and_politics/war_stories/2003/03/patriot_games.html.
- Kimball, Daryl, and Kingston Reif. 2017. *U.S.-Russian Nuclear Arms Control Agreements at a Glance*. Fact Sheets and Briefs. Arms Control Association, June. Available at <https://www.armscontrol.org/factsheets/USRussiaNuclearAgreementsMarch2010>.
- Lewis, George N. 2017. *Ballistic Missile Defense Effectiveness*. AIP [American Institute of Physics] Conference Proceedings, 1898: 03007 (2017). Available at <https://aip.scitation.org/doi/pdf/10.1063/1.5009222>.
- Marcus, Jonathan. 2013. "Israel's Iron Dome: Doubts over success rate." *BBC News*, March 13. Available at <http://www.bbc.com/news/world-middle-east-21751766>.
- McDonough, David S. 2013. *Back to the Future: Debating Missile Defence in Canada... Again*. Canadian Defence and Foreign Affairs Institute. Available at https://d3n8a8pro7vhmx.cloudfront.net/cdfai/pages/43/attachments/original/1413677576/Debating_Missile_Defence_in_Canada_Again.pdf?1413677576.
- . 2016. *Canada, NORAD, and Missile Defence: Prospects for Canadian Participation in BMD*. Conference of Defence Associations Institute.
- . 2017. "What Trump's Showdown with North Korea Means for Canada." *Inside Policy*. Macdonald-Laurier Institute, April 18. Available at <https://www.macdonaldlaurier.ca/what-trumps-showdown-with-north-korea-means-for-canada-david-mcdonough-for-inside-policy/>.
- . 2018. "Trump's short-lived foreign policy successes." OpenCanada.org, May 24. Available at <https://www.opencanada.org/features/trumps-short-lived-foreign-policy-successes/>.
- Missile Defense Agency. 2018. *Elements: Aegis Ballistic Missile Defense*. Web page. United States Department of Defense, April 20. Available at https://www.mda.mil/system/aegis_bmd.html.

- Nuclear Threat Initiative [NTI]. 2017. *Treaty between The United States of America and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START)*. NTI, June 29. Available at <http://www.nti.org/learn/treaties-and-regimes/treaty-between-the-united-states-of-america-and-the-russian-federation-on-measures-for-the-further-reduction-and-limitation-of-strategic-offensive-arms/>.
- Panetta, Alexander. 2014. "U.S. military wants multi-purpose sensors in Canada's Arctic." CBC News, September 2. Available at <http://www.cbc.ca/news/canada/north/u-s-military-wants-multi-purpose-sensors-in-canada-s-arctic-1.2753084>.
- Pifer, Steve. 2015. *The Limits of U.S. Missile Defense*. Op-Ed. Brookings Institution, March 30. Available at <https://www.brookings.edu/opinions/the-limits-of-u-s-missile-defense/>.
- Scotti, Monique. 2017. "Paul Martin: Decision on ballistic missile defence might be different today." *Global News*, September 21. Available at <https://globalnews.ca/news/3761574/paul-martin-decision-on-ballistic-missile-defence-might-be-different-today/>.
- Saine, Cindy. 2018. "Despite Tensions, US and Russia Complying With Key Nuclear Arms Reduction Treaty." *VOA News*, February 5. Available at <https://www.voanews.com/a/despite-tensions-us-russia-are-complying-with-key-nuclear-arms-reduction-treaty/4240717.html>.
- Shimooka, Richard and David McDonough. 2018. "Let's lower expectations on North Korea." *Toronto Sun*, May 28. Available at <http://torontosun.com/opinion/columnists/opinion-lets-lower-expectations-on-north-korea>.
- Simpson, Katie. 2018. "Canada, U.S. looking for diplomatic end to North Korea crisis at Vancouver summit." *CBC News*, January 15. Available at <http://www.cbc.ca/news/politics/north-korea-summit-vancouver-1.4488338>.

About the Author



Jeffrey F. Collins is a fellow at the Canadian Global Affairs Institute, as well as a research fellow with the Centre for the Study of Security and Development at Dalhousie University, and the University of Manitoba's Centre for Defence and Security Studies. He received a PhD in Political Science from Carleton University in 2018 and a law degree from the University of Aberdeen in 2009.

Jeff is an experienced policy advisor at the provincial and federal levels and has written and spoken widely on Canadian military affairs, particularly on defence procurement, defence policy, and Arctic security.

He is the co-editor, with Andrew Futter, of the book *Reassessing the Revolution in Military Affairs: Transformation, Evolution and Lessons Learnt* (Palgrave Macmillan, 2015). A second book, *Canada's Defence Procurement Woes*, is due out in 2019. He lives in Prince Edward Island.



True North in
Canadian public policy

Critically Acclaimed, Award-Winning Institute

The Macdonald-Laurier Institute fills a gap in Canada's democratic infrastructure by focusing our work on the full range of issues that fall under Ottawa's jurisdiction.

- One of the top five think tanks in Canada and No. 1 in Ottawa according to the University of Pennsylvania.
- Cited by five present and former Canadian Prime Ministers, as well as by David Cameron, the British Prime Minister.
- First book, *The Canadian Century: Moving out of America's Shadow*, won the Sir Antony Fisher International Memorial Award in 2011.
- *Hill Times* says Brian Lee Crowley is one of the 100 most influential people in Ottawa.
- The *Wall Street Journal*, the *Economist*, the *Globe and Mail*, the *National Post* and many other leading national and international publications have quoted the Institute's work.



"The study by Brian Lee Crowley and Ken Coates is a 'home run'. The analysis by Douglas Bland will make many uncomfortable but it is a wake up call that must be read." former Canadian Prime Minister Paul Martin on MLI's project on Aboriginal people and the natural resource economy.

Ideas Change the World

Independent and non-partisan, the Macdonald-Laurier Institute is increasingly recognized as the thought leader on national issues in Canada, prodding governments, opinion leaders and the general public to accept nothing but the very best public policy solutions for the challenges Canada faces.

Where You've Seen Us



About the Macdonald-Laurier Institute

What Do We Do?

When you change how people think, you change what they want and how they act. That is why thought leadership is essential in every field. At MLI, we strip away the complexity that makes policy issues unintelligible and present them in a way that leads to action, to better quality policy decisions, to more effective government, and to a more focused pursuit of the national interest of all Canadians. MLI is the only non-partisan, independent national public policy think tank based in Ottawa that focuses on the full range of issues that fall under the jurisdiction of the federal government.

What Is in a Name?

The Macdonald-Laurier Institute exists not merely to burnish the splendid legacy of two towering figures in Canadian history – Sir John A. Macdonald and Sir Wilfrid Laurier – but to renew that legacy. A Tory and a Grit, an English speaker and a French speaker – these two men represent the very best of Canada’s fine political tradition. As prime minister, each championed the values that led to Canada assuming her place as one of the world’s leading democracies. We will continue to vigorously uphold these values, the cornerstones of our nation.



Working for a Better Canada

Good policy doesn’t just happen; it requires good ideas, hard work, and being in the right place at the right time. In other words, it requires MLI. We pride ourselves on independence, and accept no funding from the government for our research. If you value our work and if you believe in the possibility of a better Canada, consider making a tax-deductible donation. The Macdonald-Laurier Institute is a registered charity.

Our Issues

The Institute undertakes an impressive program of thought leadership on public policy. Some of the issues we have tackled recently include:

- Aboriginal people and the management of our natural resources;
- Making Canada’s justice system more fair and efficient;
- Defending Canada’s innovators and creators;
- Controlling government debt at all levels;
- Advancing Canada’s interests abroad;
- Ottawa’s regulation of foreign investment; and
- How to fix Canadian health care.

Macdonald-Laurier Institute Publications



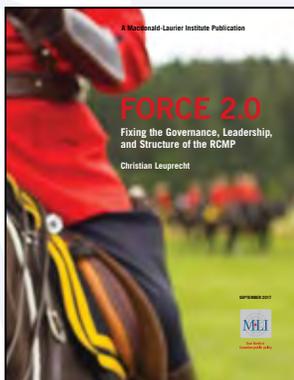
Winner of the
Sir Antony Fisher
International Memorial
Award BEST THINK
TANK BOOK IN 2011, as
awarded by the Atlas
Economic Research
Foundation.

The Canadian Century
By Brian Lee Crowley,
Jason Clemens, and Niels Veldhuis

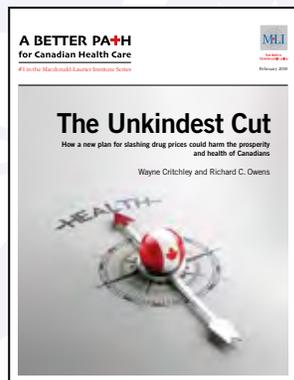
Do you want to be first to hear
about new policy initiatives? Get the
inside scoop on upcoming events?

Visit our website
www.MacdonaldLaurier.ca and
sign up for our newsletter.

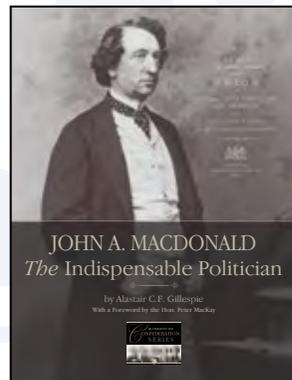
RESEARCH PAPERS



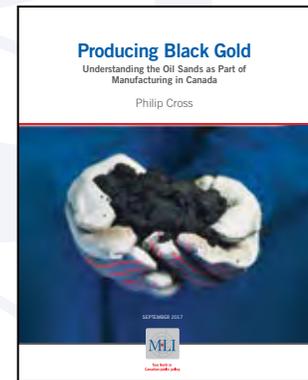
Force 2.0
Christian Leuprecht



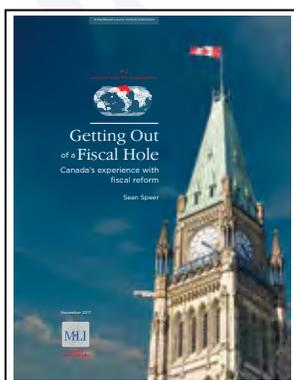
The Unkindest Cut
Wayne Critchley and
Richard C. Owens



**John A. Macdonald:
The Indispensable
Politician**
Alastair C.F. Gillespie



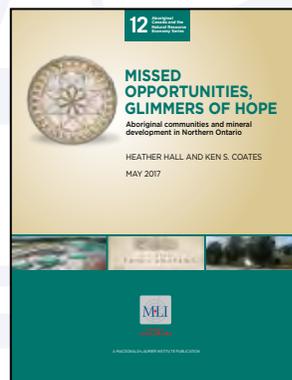
Producing Black Gold
Philip Cross



**Getting Out of a Fiscal
Hole**
Sean Speer



Getting the Big Picture
Bram Noble



**Missed Opportunities,
Glimmers of Hope**
Heather Hall and
Ken S. Coates



Running Out of Time
Brian Ferguson, Sean Speer,
and Ariel Freeman-Fawcett



True North in
Canadian public policy

CONTACT US: Macdonald-Laurier Institute
323 Chapel Street, Suite #300
Ottawa, Ontario, Canada
K1N 7Z2

TELEPHONE: (613) 482-8327

WEBSITE: www.MacdonaldLaurier.ca

**CONNECT
WITH US:**



@MLInstitute



[www.facebook.com/
MacdonaldLaurierInstitute](http://www.facebook.com/MacdonaldLaurierInstitute)



[www.youtube.com/
MLInstitute](http://www.youtube.com/MLInstitute)

What people are saying about the Macdonald-Laurier Institute

In five short years, the institute has established itself as a steady source of high-quality research and thoughtful policy analysis here in our nation's capital. Inspired by Canada's deep-rooted intellectual tradition of ordered liberty – as exemplified by Macdonald and Laurier – the institute is making unique contributions to federal public policy and discourse. Please accept my best wishes for a memorable anniversary celebration and continued success.

THE RIGHT HONOURABLE STEPHEN HARPER

The Macdonald-Laurier Institute is an important source of fact and opinion for so many, including me. Everything they tackle is accomplished in great depth and furthers the public policy debate in Canada. Happy Anniversary, this is but the beginning.

THE RIGHT HONOURABLE PAUL MARTIN

In its mere five years of existence, the Macdonald-Laurier Institute, under the erudite Brian Lee Crowley's vibrant leadership, has, through its various publications and public events, forged a reputation for brilliance and originality in areas of vital concern to Canadians: from all aspects of the economy to health care reform, aboriginal affairs, justice, and national security.

BARBARA KAY, NATIONAL POST COLUMNIST

Intelligent and informed debate contributes to a stronger, healthier and more competitive Canadian society. In five short years the Macdonald-Laurier Institute has emerged as a significant and respected voice in the shaping of public policy. On a wide range of issues important to our country's future, Brian Lee Crowley and his team are making a difference.

JOHN MANLEY, CEO COUNCIL
