OFFICE OF THE
PARLIAMENTARY BUDGET OFFICER

BUREAU DU
DIRECTEUR PARLEMENTAIRE DU BUDGET

Fiscal Impact of the Canadian Mission in Afghanistan

Ottawa, Canada
October 9, 2008
www.parl.gc.ca/pbo-dpb

Note to Reader: The cost estimates and observations presented in this report represent a preliminary set of data for discussion and may change, as detailed financial and non-financial data are made available to the PBO by the relevant departments. The costs estimates and observations included reflect a point-in-time set of observations based on very limited and high level data obtained from publicly available Estimates documents including the Departmental Performance Reports and Reports on Plans and Priorities. These high-level cost estimates and observations are not to be viewed as conclusions in relation to the policy merits of the initiative. They are provided to inform Parliamentary deliberations and to identify watch items for the final review if and when departments provide the PBO with detailed financial data. The report provides a rough approximation of costs based on a top-down estimate. This report is not intended to measure the overall economic costs on account of the Canadian mission in Afghanistan.

This report should be read in conjunction with the report of the Office of the Parliamentary Budget Officer on the methodology for estimating the fiscal impact of the costs incurred by the Government of Canada in support of the Afghanistan mission. Amounts in tables may have been rounded.

The authors would like to thank the members of the advisory panel for their comments and guidance. The advice and guidance of the members of the advisory panel implies no responsibility for the final product, which rests solely with the Office of the Parliamentary Budget Officer.

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Abbreviations

Abbreviation	Full Form
ADM	Assistant Deputy Minister
CAD	Canadian Dollars
CBO	Congressional Budget Office (United States)
CF	Canadian Forces
CIDA	Canadian International Development Agency
CRS	Congressional Research Service (United States)
CSC	Correctional Service of Canada
DND	Department of National Defence (Canada)
DPR	Departmental Performance Report
FAC	Foreign Affairs Canada
FY	Fiscal Year
GC	Government of Canada
IED	Improvised Explosive Device
N/A	Not Available
NPV	Net Present Value
OEF	Operation Enduring Freedom
PBO	Parliamentary Budget Officer (Canada)
PTSD	Post Traumatic Stress Disorder
RCMP	Royal Canadian Mounted Police
RPP	Report on Plans and Priorities
TBD	To Be Determined
TBS	Treasury Board Secretariat
UOR	Unforecasted Operational Requirement
US	United States of America
USD	United States Dollars
VA	Veterans Affairs (United States)
VAC	Veterans Affairs Canada

Executive Summary

After the terrorist attacks of September 11, 2001, Canada joined the United States in the mission in Afghanistan. Although Canada is in the seventh year of the operation, Parliament has not yet been provided with annual estimates or the total costs of the operation incurred by all of the relevant departments. To-date, Parliament has been provided with only limited information, often after-the-fact, on these costs and has not been given estimates on future costs that may be incurred in the support of the veterans of these conflicts.

The purpose of this report is to examine the estimated fiscal impact of Canada's mission in Afghanistan to the Government of Canada (GC) by taking into account the incremental costs incurred by all departments for supporting the mission. Understanding the incremental cost of the mission requires delineation of the Afghanistan specific costs incurred by the relevant departments. **Incremental costs are costs that would not have been incurred except for the operation**. Alternatively put, these would be the total savings to the GC had Canada not been involved in the Afghanistan mission. *Incremental costs* include: increased reset costs[1], accelerated depreciation, operations and maintenance costs due to increased operational tempo in theatre of war, fuel, reservists pay, imminent danger pay, and increased death and disability (veterans) benefits payout.

Therefore, *incremental costs represent those costs that are being incurred, and will be incurred by the GC on account of the Canadian mission in Afghanistan.*

There is an important distinction between *"full costs"* and *"incremental costs"* explained above. **"Full costs", as reported by DND and various other sources include incremental costs plus steady state costs** (i.e. costs that the GC would have incurred regardless of the Afghanistan mission). For example, regular salaries, allowances, peace time maintenance costs, expected peace time fuel costs and expected peace time capital asset depreciation costs are not incremental costs and would have been incurred anyways. Given, that "full costs" include steady state costs that the GC would have incurred regardless of the Afghanistan mission; it is a less useful figure in understanding the fiscal impact stemming from the mission. Hence, the Office of the Parliamentary Budget Officer (PBO) report focuses solely on the relevant incremental costs to the fiscal planning framework on account of the Afghanistan mission. It is these costs that may impact the GC's fiscal planning balance.

The various kinds of incremental costs can be broadly grouped under the following headings:

- cost of running the military operations,
- cost of taking care of the veterans,
- development and reconstruction costs,
- increased costs at head offices of relevant departments, and
- cost of the diplomatic efforts

Such an approach to costing requires the examination of all costs incurred by the various government departments including the Department of National Defense (DND), Veterans Affairs Canada (VAC), Canadian International Development Agency (CIDA), Foreign Affairs Canada (FAC), the Royal Canadian Mounted Police (RCMP) and the Correctional Service of Canada (CSC). Given the scope limitation of this report, PBO's effort is limited to the budgetary implications and precludes the assessment of the economic and social costs to Canada, although these costs are important. Based on financial materiality, the report focuses on the incremental costs of the military operations, foreign aid (i.e. development and reconstruction) and veterans' benefits. These three expenditure categories represent most of the Afghanistan mission costs.

Certain costs relevant to the costing exercise have been excluded from this report due to a lack of reliable data. In particular, the military expenditure category excludes certain accelerated procurement of new capital asset items (see Table 32 and Table 33 in *"Appendix 6: DND: Analysis of Capital Expenditures"*). Also, the *"Incremental cost"* figure as reported by DND in its Departmental Performance Report/Report on Plans & Priorities (DPR/RPP), which the PBO used

[1] Reset refers to the servicing and overhaul of equipment that restores the equipment back to as-new state. In accounting terms, this would extend the useful life of the equipment past its original shelf life at procurement.

to determine the incremental operating expenditures on account of the mission, excludes incremental personnel related costs such as war-time allowances, danger pay, etc. **This implies that the PBO estimate may likely understate the costs of the military operations.**

Incremental Cost to Date from FY2001-02 to FY2007-08

Table 1a below summarizes the total incremental cost of the mission under three main mission categories. We have provided a low-high range based on two different assumptions for the capital assets deployed for the Afghanistan mission[2].

Table 1a(i): Total **Incremental Costs to-date** for the Afghanistan Mission (FY2001-02 to FY2007-08)

($ billion)	**Costs to-date FY2001-02 to FY2007-08**	
	Low	High
Military operations	5.85	7.42
Veterans Benefits	0.84	2.08
Foreign Aid	0.97	
Total	7.66	10.47

As noted in the Table above, the total estimated cost of the Afghanistan mission to-date ranges between $7.66 billion to $10.47 billion. The total incremental costs of the military operations alone during the period FY2001-02 to FY2007-08 fall in the range of $5.85 billion to $7.42 billion. Over the same period, foreign aid costs amounted to $0.97 billion. The death and disabilities related costs during the period FY2001-02 to FY2007-08 fall in the range of $0.84 billion and $2.08 billion. The percentage split of the costs for the period FY2001-02 to FY2007-08 amongst the three major cost categories are as follows:

Table 1a(ii)

Category	**Low**	**High**
Military Operations	77%	71%
Veterans Benefits	11%	20%
Foreign Aid	12%	9%

Future Costs from FY2008-09 to FY2010-11

Table 1b, below, depicts a range of potential future costs for the period FY2008-09 to FY2010-11[3]. The sensitivity analysis is depicted to provide Parliamentarians with a benchmark of the potential future costs, should they be asked to consider an increase or decrease in the scale of the mission (i.e. troop strength). The PBO has calculated the future costs for the period FY2008-11 based on three possible assumptions with regard to troop deployment strength.

- Scenario 1 assumes that the deployed strength will remain constant at 2,500 troops
- Scenario 2 assumes that the deployed strength will be reduced to 1,000 troops during FY2008-09
- Scenario 3 assumes that the deployed strength will be increased to 3,500 troops during FY2008-09

[2] Please see *"Appendix 6: DND: Analysis of Capital Expenditures"* for more details.

[3] The future costs are calculated for the period FY2008-09 to FY2010-11 only, because Canada's mission in Afghanistan will come to an end in FY2010-11 (From: *"Canada Sets Benchmarks to Track Progress in Afghanistan"*, Honourable Peter Gordon MacKay, Minister of National Defence and Minister of the Atlantic Canada Opportunities Agency, September 5, 2008, http://www.canadainternational.gc.ca/canada-afghanistan/news-nouvelles/2008/2008_09_05a.aspx).

The John Manley Panel report[4] recommended that Canada continue its mission beyond FY2009 in Kandahar province contingent on *"the assignment of an additional battle group (of about 1,000 soldiers) to Kandahar by NATO and/or other allies before February 2009",* and hence Scenario 3 runs a sensitivity analysis assuming that the additional battle group of 1,000 soldiers is contributed to by Canada itself, in addition to its existing commitment of 2,500 soldiers.

Table 1b: Total **Incremental Future Costs for** the Afghanistan Mission (FY2008-09 to FY2010-11)

($ billion)	**Future Costs[5] FY2008-09 to FY2010-2011**					
	Scenario 1: Deployed strength maintained at 2,500 until FY2010-11		Scenario 2: Deployed strength reduced to 1,000 by FY2008-09		Scenario 3: Deployed strength increased to 3,500 by FY2008-09	
	Low	High	Low	High	Low	High
Military Operations	5.06	5.73	2.03	2.3	7.1	8.03
Veterans Benefits	0.52	1.26	0.21	0.50	0.73	1.76
Foreign Aid	0.68					
Total	6.26	7.67	2.92	3.48	8.51	10.47

The PBO estimates that combined **future mission costs of all the relevant departments** could range from $2.92 billion to $10.47 billion based on various scenario assumptions, through FY2008-09 to FY2010-11.

Table 1c: Grand Total (cost to-date plus future costs FY2001-02 to FY2010-11)

($ billion)	Scenario 1: Deployed strength maintained at 2,500 until FY2010-11		Scenario 2: Deployed strength reduced to 1,000 by FY2008-09		Scenario 3: Deployed strength increased to 3,500 by FY2008-09	
	Low	High	Low	High	Low	High
Total costs to-date (FY2001-02 to FY2007-08)	7.66	10.47	7.66	10.47	7.66	10.47
Total future costs (FY2008-09 to FY2010-11)	6.26	7.67	2.92	3.48	8.51	10.47
Grand Total (cost to date plus future cost scenarios) (FY2001-02 to FY2010-11)	**13.92**	**18.14**	**10.58**	**13.95**	**16.17**	**20.94**

The PBO estimates that the total cost of the Canadian mission in Afghanistan for the relevant departments for the entire FY2001-02 to FY2010-11 period lies in the range of $13.92 billion to $18.14 billion, assuming that the deployed strength of the Canadian Forces in Afghanistan is maintained at an annual level of 2,500 members.

Future costs will depend on the number of troops deployed in Afghanistan, type of military personnel, duration of their stay, type of combat equipment, operational tempo and other factors. Projecting future costs depends on accurate financial information on current costs, cost drivers and assumptions with regard to troop strength, rotations, equipment used in theatre, future deaths, disabilities, medical costs and de-mobilization. Future cost projections are quite difficult to undertake given Parliament's lack of access to data related to key facts, including accurate deployed troop levels and capital assets used in the mission.

With regard to future costs, it is important to note that the high level estimates with respect to disability and health care costs calculated by Mercer Canada (annexed to this report) are based on very limited data. Establishing accurate estimates is also made more difficult by the fact that it can often take years for claims to be reported.

According to a well cited study led by Dr. Charles Hoge of the Walter Reed Army Institute of Research (US) "*Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care*". New England Journal of Medicine; Jul 1, , 351(1):

4 *"Independent Panel in Canada's Future Role in Afghanistan"*, January 2008, ISBN: 978-0-662-05444-3, http://dsppsd.pwgsc.gc.ca/collection_2008/dfait-maeci/FR5-20-1-2008E.pdf

5 The future costs scenario uses FY2007-08 spending patterns for future projections.

13-22", Hoge CW, Castro CA, Messer SC, McGurk D, Cotting DI, Koffman RL. (2004), the US experience with post traumatic stress disorder (PTSD) suggests that incidence rates, and corresponding disability and health claims, could be significantly higher than previously understood. Therefore, any estimates on future costs, including those undertaken by Mercer Canada, should be used with caution.

Challenges to Estimating the Cost of the Afghanistan Mission

- **Lack of mission-specific Parliamentary appropriations**: Although there are costs incurred due to the Canadian mission in Afghanistan, it is important to note that there are no Afghanistan mission-specific appropriations by the Parliament for the various departments. This makes it impossible to isolate the total amounts of money appropriated by the Parliament, specifically for the Afghanistan mission.
- **Parliamentary appropriations[6] and costs are not one and the same**: Simply put, Parliamentary appropriations, provide departments with authority to spend money and are not the same as costs of a program or project. DPRs and RPPs do not provide total *incremental* cost of the Afghanistan mission on an accrual basis. Hence, examining the Estimates for a given fiscal year will not reveal the total incremental costs for that year due to the disconnects between cash-based Parliamentary appropriations and costs.
- **Inaccurate and incomplete financial reporting coupled with insufficient methodology in the Estimates (DPRs and RPPs):**
    - There is a significant lack of fiscal transparency due to the current system of financial reporting. For example, there are incremental costs reported in the DPRs that vary from the numbers reported to the PBO by DND's Corporate Finance Services. Refer to *"Appendix 2: The Fiscal Context"* for a more complete explanation.
    - **The Estimates documents including the DPRs do not provide complete annual financial data** for the Afghanistan mission. Listed below are some examples:
        - The CIDA DPRs do not provide *annual* spending in Afghanistan for *individual* projects.
        - For DND, mission specific details are not presented to Parliament to assess the detailed yearly cost. For example, it is impossible to determine how many reservists were deployed *for each year* of the mission; how much fuel was consumed; or the level of expenditure on equipment reset and betterment, for all Afghanistan related operations.
    - Although costs are reported by the departments in a few cases, they are not justified with sufficient methodology or explanation, making their utility very subjective and of limited value. It is also unclear if the numbers being reported are on a cash basis or accrual basis.
        - The expenditures reported by departments (including VAC) in their DPRs and RPPs do not reveal the present value of incurred future costs or unfunded liabilities, such as death and disability payments stemming from the Afghanistan mission[7].
        - VAC does not report basic financial data specific to the Afghanistan mission, although Canada's involvement in the Afghanistan mission is a major project and the resulting death, disability, medical and stress related payments are fiscally material.

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[6] Parliamentary appropriations provide departments with the spending authority.

[7] Excerpts from *"Veterans Affairs: Notes to Financial Statements (unaudited), 2). Summary of Significant Accounting Policies"*, VAC Departmental Performance Report for FY2006-07, from http://www.tbs-sct.gc.ca/dpr-rmr/2006-2007/inst/dva/dva03-eng.asp "(f) *Disability benefits:* The majority of the programs administered by Veterans Affairs Canada are meant to provide future benefits for members and Veterans of the Canadian Forces. As such, an actuarially determined liability and related disclosure for these future benefits are presented in the financial statements of the Government of Canada, the ultimate sponsor of these benefits. **This differs from the accounting and disclosures of benefits presented in these financial statements as Veterans Affairs Canada expenses these benefits as they become due and records no accruals for future benefits**. Payments of benefits made directly to beneficiaries, such as pensions and allowances for disability, death and economic support, are recorded as grants or contributions, while benefits delivered through service providers, such as certain health care benefits are recorded as operating expenses. This accounting treatment corresponds to the funding provided to the Department through Parliamentary appropriations."

- **Difficulties in obtaining financial data from departments:** To-date, the PBO has not received specific financial data from the relevant departments that would enable it to determine the incremental fiscal costs using a rigorous bottom-up analysis. This problem, combined with incomplete information and discrepancies in the financial data from different sources within the GC hinders effective Parliamentary oversight.

In light of the above-mentioned challenges, the PBO has used a top-down methodology towards estimating the costs using publicly information available through Estimates documents including the DPRs and RPPs. Therefore data reliability and data sufficiency contained in this report has to be viewed within the context of the challenges noted above. For a detailed discussion regarding the methodologies in estimating the cost of the Canadian mission in Afghanistan, please refer to the PBO methodology paper[8]. As noted in the methodology paper, assessing the fiscal impact of the mission based on a rigorous bottom-up financial analysis would give Canadians the highest level of assurance on the costs of the mission. The PBO will prepare and release an updated report based on bottom-up financial data, if and when the data is received from the relevant departments.

Fiscal Considerations for the Next Parliament

As referenced in *"Appendix 2: The Fiscal Context"* , the actual incremental costs of the mission could exceed the Parliamentary appropriations. This highlights the following key considerations for Parliamentarians:

- How are the relevant departments and the Treasury Board Secretariat managing and funding this gap? Is it through internal re-allocations?
- Does Parliament concur with these internal re-allocations?
- Importantly, given the actual incremental costs could exceed the Parliamentary appropriations, how does it impact the projected fiscal balance presented in Budget 2008. To answer this question, Parliamentarians need to know, how much of these liabilities related to veteran's benefits and accelerated depreciation charges have been provisioned-for in the fiscal planning framework.

[8] Mathilakath Ramnarayanan, Rajekar Ashutosh, Khan Sahir, and Fetterly Ross, "*Methodology for Estimating the Fiscal Impact of the Costs Incurred by the Federal Government in Support of the Afghanistan Mission"*, the Office of the Parliamentary Budget Officer, Ottawa, Canada

PBO Recommendations

The PBO recommends that:

- The next President of the Treasury Board and the officials of the Treasury Board Secretariat work with federal departments involved in the Afghanistan Mission and agree on a common methodology for costing the fiscal impact and that the methodology be made fully transparent to parliamentarians and Canadians.

- Detailed financial and non-financial information be used to generate fiscal costs on the Canadian Mission in Afghanistan using a published methodology and that these costs be reported in a consistent fashion to Parliament beginning with the 2009-10 Reports on Plans and Priorities (RPP) and Departmental Performance Reports (DPR). This would give Parliamentarians the information they need for an informed debate on the mission and enable them to undertake their oversight role with respect to the stewardship of public funds on behalf of all Canadians.

    - In this regard, the PBO recommends that the Treasury Board Secretariat provide accrual-based cost estimates to examine the incremental costs of the Afghanistan mission, taking into consideration the costs incurred by all relevant departments and provide cost estimates at multiple troop levels. This would help Parliamentarians with decision support information to examine the fiscal dimensions of policy options such as an increase or decrease in troop levels, rotations, troop withdrawal rates, etc.

- The next Parliament move to an accrual-based appropriation system from the current cash-based appropriation system. This would provide greater fiscal transparency and a more informed parliamentary and public debate.

1. Introduction

The objective of this paper is to examine the incremental costs of the Canadian mission in Afghanistan. Understanding the incremental cost of the mission requires delineation of the Afghanistan specific costs incurred by all the departments involved. Incremental costs are costs that would not have been incurred except for the operation. For example, regular salaries, allowances, peace time maintenance costs, expected peace time fuel costs and expected peace time capital asset depreciation costs are not incremental costs and would have been incurred anyways. Incremental costs are increased reset costs, accelerated depreciation, fuel, operations and maintenance costs due to increased operational tempo in theatre of war, increased death and disability (veterans) benefits payout, reservists pay, imminent danger pay and all incremental personnel costs that would not have been incurred except for the operations in Afghanistan. In other words, incremental costs are those costs that are being incurred, and will be incurred by the GC specifically on account of the Canadian mission in Afghanistan. Put in other words, what would be the total savings had Canada not been involved in the Afghanistan mission?

The various kinds of costs incurred due to the Afghanistan mission can be broadly grouped under the present and future cost of running the military operations, of taking care of families of the deceased, disabled and veterans, of the military efforts, of development and reconstruction aid and increased costs at head offices of these departments. These costs flow through the concerned departments including Department of National Defence (DND), Veteran's Affairs Canada (VAC), Canadian International Development Agency (CIDA), Foreign Affairs Canada (FAC), Treasury Board Secretariat (TBS), Royal Canadian Mounted Police (RCMP) and Correctional Service of Canada (CSC).

In the following pages, we have examined the incremental costs that flow through the three departments which account for most of the costs: DND, VAC and CIDA.

2. Incremental Costs to DND

The incremental costs to DND fall under operating expenditures and capital expenditures, which are analyzed in greater detail in the ensuing sections. Operating expenditures are costs related to mission-specific operations and maintenance, spares, repair, fuel costs, transportation, incremental allowances, and reservist salaries, etc., and do not include depreciation expense.

Capital expenditure refers to the cost of capital assets used in the Afghanistan mission. The major capital assets used in the mission include tanks, aircrafts, armoured vehicles, trucks, ammunition, etc. Capital costs arise on account of accelerated depreciation of these existing as well as new mission specific capital assets in theatre of war, attrition and premature retirement of existing capital assets as a result of war damage.

2.1. DND: Analysis of Operating Expenditures

DND reports operating expenditures for various operations under the heading *"incremental cost"* in the DND DPR/RPPs. However, this "*Incremental cost"* figure excludes incremental personnel related costs such as wartime allowances, danger pay, etc. Therefore, the planned and actual incremental spending for DND on account of the various operations conducted in support of the Afghanistan mission noted in Table 2 below underestimates the actual operating expenditures for DND. The figures for the DND Total Planned Incremental Spending for FY2007-08 and FY2008-09 are estimated figures reported in the respective DND RPPs.

Table 2: Planned and Actual Incremental Operating Expenditures for the Mission in Afghanistan

($ million)	**2001-02**	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**TOTAL**
DND Total Planned Incremental Spending[9] **(Source: DND DPR/RPP)**	N/A	181	238	411	104	605	1,087*	1,085*	3,710
DND Total Actual Incremental Spending[9] **(Source: DND DPR/RPP)**	N/A	234	601	645	425	817	N/A	N/A	2,722
DND Total Actual Incremental Spending ***(Source: DND, Finance and Corporate Services)***	*216*	*234*	*593*	*297*	*402*	*803*	*1,060*	*1,010*	*4,615*

We have included two sets of figures for DND's actual incremental spending. The first set shows the public amounts ($2.72 Billion) reported to Parliamentarians in the DPRs. The second set ($4.61 Billion) was obtained from the internal books of the department. Financial data from two different sources within the GC has been depicted in Table 2 above to highlight the issue of the lack of data reliability in reporting to the Parliament. There appears to be at least the following two visible reasons for the differences in the total actual incremental spending amounts obtained from the two different data sources within the GC.

- Firstly, a comparison of the figures obtained from these two different sources (depicted in *"Appendix 5: DND: Planned and Actual Incremental Spending for the Mission in Afghanistan"*) shows differences in reported numbers for almost all operations. The DND DPR and RPP as reflected in Table 2 above do not report any data for FY2001-02.

[9] This spending excludes all incremental personnel related costs.
* Figures for FY2007-08 are estimated figures from the DND RPP for FY2007-08.
* Figures for FY2008-09 are estimated figures from the DND RPP for FY2008-09.

- Secondly, there is a significant time lag in reporting to the Parliament. While the internal books of DND show over a billion dollars of actual incremental spending for the FY2007-08 and FY2008-09 respectively, the DPRs have not yet been released for the FY2007-08. Hence a portion of the differences in amounts from the two different sources could be attributed to timing differences.

We are unable to assess which set of figures is more reliable**.**

An examination of the spending trend reveals that DND's actual spending has been consistently higher than the planned spending for each fiscal year. Although *actual* incremental spending has consistently outpaced *planned* incremental spending for Afghanistan, the Estimates do not contain any explanation for this overshoot. For details, refer to *"Appendix 5: DND: Planned and Actual Incremental Spending for the Mission in Afghanistan"*.

2.2. DND: Analysis of Capital Expenditure

Deployment of the Canadian Forces is accompanied by the assets and equipment used to fulfill the mission mandate. Capital expenditure on account of the military equipment deployed for the Afghanistan mission fall under three main categories as noted below. The total planned incremental spending and the total actual incremental spending for the Afghanistan mission reported in the DND DPR and RPPs do not include any depreciation expense. As per the methodology paper, the PBO calculated the accelerated depreciation on account of the Afghanistan mission as described in detail in *"Appendix 6: DND: Analysis of Capital Expenditures"*.

1. **Accelerated depreciation of existing capital assets and new capital assets**
   Accelerated depreciation[10] occurs on account of excessive wear and tear due to increased activity rate caused by heightened operational tempo in theatre of war and hostile theater conditions. Excessive wear and tear will cause accelerated depreciation of the asset, i.e. it will shorten the lifespan of the asset being used. In some cases, accelerated depreciation will happen on account of attrition, i.e. complete asset write-off due to damage during combat, ex. complete destruction of the asset on account of an IED (improvised explosive device) explosion will cause the asset to be written off.

   In addition, there has been an accelerated procurement of new capital assets specifically for the Afghanistan mission. This procurement would not have happened except for the Afghanistan mission. The expenditure on account of this accelerated procurement, although not fully incremental to the Afghanistan mission[11], is already having a materially significant fiscal impact**.** A detailed description of some of the accelerated procurement is given in Section 6.1 in Appendix 6.

2. **Premature retirement of capital assets**
   This pertains to the early retirement of capital assets on account of the Afghanistan mission. This retirement may happen due to unsuitability of the asset to the theatre conditions, or change in the nature of the warfare, or a revolution in military affairs making certain assets unsuitable for use. For example, withdrawal of the Leopard C1 tanks due to unsuitability to conditions in the theatre of war in Afghanistan.

3. **Unforecasted Operational Requirements (UOR) Procurement**
   UOR Procurement refers to capital asset procurement specifically required to fulfill the mission mandate. Such assets will get fully consumed during the mission itself. Examples include mine-clearing equipment, etc.

[10] The PBO use of the term *"accelerated depreciation"* refers to using straight-line depreciation over a much shorter useful life of the capital asset in theatre of war.

[11] The accelerated procurement is not fully incremental to the Afghanistan mission because this equipment will possibly be used beyond the mission for future deployments elsewhere.

Therefore, to get a full picture of the capital equipment costs of the war in Afghanistan, all relevant items of major capital assets that have been shipped or deployed for the mission in Afghanistan need to be analyzed. Whether their utilization in the hostile war conditions has resulted in increased wear and tear, front-ending the depreciation (or attrition[12]), or whether the deployment has indicated total obsolescence of the equipment need to be taken into account.

Issue: The exact deployment (total number, type and residual dollar value of equipment) of capital assets in theatre by the Canadian Forces in Afghanistan is unavailable in the publicly available Estimates documents. The PBO has not yet obtained the details of the deployment of capital equipment from DND. We will update the report if and when we receive this information. Given that the exact nature of wear and tear of the Canadian Forces' capital assets in Afghanistan is not known, the PBO will use the accelerated depreciation figures of Canada's partner countries as benchmarks for its calculations. The PBO has also included a test of reasonableness of its assumptions for accelerated depreciation factor for capital assets in theatre of war, and has determined that they are well within a conservative estimate. For details please refer to "*6.5. Test of Reasonableness for the accelerated depreciation factor used by the PBO.*"

The total capital asset expense stemming from the above three categories are noted in Tables 3 and 4 below:

Table 3: Total DND Capital Asset expenditure assuming 4% of relevant Capital Assets deployed for Afghanistan

Total Capital Expenditure ($ million)	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	Total
Assuming 4% of CF capital assets are deployed	223	223	223	223	223	223	223	1,561
Premature Retirement[13]	0	0	0	0	0	47	0	47
UOR procurement[14]	0	0	58	0	0	0	0	58
Total	**223**	**223**	**281**	**223**	**223**	**270**	**223**	**1,666**

Table 4: Total DND Capital asset expenditure assuming 8% of relevant Capital Assets deployed for Afghanistan

Total Capital Expenditure ($ million)	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	Total
Assuming 8% of CF capital assets are deployed	446	446	446	446	446	446	446	3,122
Premature Retirement[13]	0	0	0	0	0	47	0	47
UOR procurement[14]	0	0	58	0	0	0	0	58
Total	**446**	**446**	**504**	**446**	**446**	**493**	**446**	**3,227**

In Tables 3 and 4, we have used an estimated factor of six times for depreciation which is the average rate of depreciation of capital assets that Canada's international partners in Afghanistan are being subjected to.

- The total depreciation charge on account of accelerated depreciation for capital assets works out to between $1,561 million and $3,122 million for the FY2001-02 to FY2007-08.
- The depreciation charge for premature retirement of capital assets works out to $47 million; and
- The UOR procurement amounts to $58 million.

Detailed explanations including sensitivity analysis can be found in *"Appendix 6: DND: Analysis of Capital Expenditures"* .

12 Attrition refers to a complete asset write-off due to damage suffered in theater (for example, complete destruction on account of an IED explosion).

13 Please refer to section *6.2. Premature Retirement of Capital Assets* in the Appendix for more details

14 Please refer to section *6.3. DND Unforecasted Operational Requirement (UOR)* in the Appendix for more details

2.3. DND: Total Incremental Cost Summation

Summarizing all costs flowing through the DND for Operating Expenditures, Accelerated Depreciation of Capital Assets, premature retirement of existing capital assets and UOR gives us Tables 5 and 6 below. Please note that the three capital asset related expenditures noted above have been summed up into a single capital expenditure line in Tables 5 and 6 below.

Table 5: Total Incremental Cost Summation for DND, assuming 4% of relevant Capital Assets deployed for Afghanistan

($ million)	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	Total
Operating Expenditures	0	234	601	645	425	817	1,466[15]	4,187
Capital Expenditure	223	223	281	223	223	270	223	1,666
Total	**223**	**457**	**882**	**868**	**648**	**1,087**	**1,689**	**5,853**

Table 6: Total Incremental Cost summation for DND, assuming 8% of relevant capital assets deployed for Afghanistan

($ million)	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	Total
Operating Expenditures	0	234	601	645	425	817	1,466[15]	4,187
Capital Expenditure	446	446	504	446	446	493	446	3,227
Total	**446**	**680**	**1,105**	**1,091**	**871**	**1,310**	**1,912**	**7,414**

The above two Tables (5 and 6) summarize the total incremental costs to DND on account of the Afghanistan mission, to-date. Based on the data provided in the DND DPR, operating expenditures total about $4.2 billion to-date, whereas the cost of the capital assets amounts to anywhere between $1.66 billion to $3.23 billion, depending on the underlying assumptions on the percentage of capital assets deployed as well as the depreciation factor. Thus, the total cost of combat operations flowing through DND is $5.85 billion (4.18 + 1.67) if 4% of the adjusted capital base is deployed, and the cost increases to $7.41 billion (4.18 + 3.23) if 8% of the adjusted capital base is deployed. In both cases, we have assumed an average depreciation factor of six.

[15] The figure for Operating Expenditures for FY2007-08 has been derived from the previous years' incremental cost by the historical overshoot trend between planned and actual spending.

2.4. DND: Average Annual Cost per Deployed Soldier

There are two main purposes for showing the average annual cost per deployed soldier.

- Firstly, it provides an approximate proxy for estimating the future costs.
- Secondly, it provides Parliamentarians with a high level benchmark of the potential fiscal impact of their decisions such as increase or decrease in troop levels, changes to the duration of the stay, rate of troop pull out and demobilization.

The average annual cost per deployed soldier is calculated by dividing the incremental Afghanistan related operating and capital expenditures by the annual troop deployment strength. From the various DND DPR and RPP documents, the PBO has obtained the following numbers about the total annual strength of the Canadian forces deployed for Afghanistan:

Table 7: CF average annual deployed strength for the Afghanistan Mission

2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
3000[16]	5600[17]	2000[18]	900[19]	2300[20]	2500[21]	2500[*]

Tables 8 and 9 below summarize the annual costs to the GC per deployed Canadian Forces member, split by operating and capital expenditures.

Table 8: DND Average Annual Cost per deployed member assuming 4% of Capital Assets are deployed

Fiscal Year (figures in $ CAD)	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Operating Expenditures	0	41,714	300,450	717,033	184,796	326,659	586,275
Capital Expenditure (assuming 4% deployed)	74,388	39,851	140,583	247,962	97,028	107,966	89,266
Total	**74,388**	**81,565**	**441,033**	**964,995**	**281,824**	**434,625**	**675,541**
% change over previous year		9.65%	440.71%	118.80%	-70.80%	54.22%	55.43%
Total Average Annual Cost per deployed member				421,996			

[16] *"DPR 2001-2002, National Defence: Minister's Message"*, http://www.tbs-sct.gc.ca/rma/dpr/01-02/ND/ND0102dpr02_e.asp
[17] *"National Defence Performance Report, For the period ending March 31, 2003, Minister's Message"*, http://www.tbs-sct.gc.ca/rma/dpr/02-03/ND-DN/ND-DN03D01_e.asp#Minister_Message
[18] *"DPR 2003-2004, National Defence: Minister's Message"*, http://www.tbs-sct.gc.ca/rma/dpr/03-04/ND-DN/ND-DNd3401_e.asp
[19] *"DPR 2004-2005, National Defence: Alliances, Coalitions and International Security, Persian (Arabian) Gulf and Southwest Asia"*, http://www.tbs-sct.gc.ca/rma/dpr1/04-05/ND-DN/ND-DNd4502_e.asp
[20] *"DPR 2005-2006, National Defence, Section 2: Summary of Performance"*, http://www.tbs-sct.gc.ca/dpr-rmr/0506/ND-DN/nd-dn02-eng.asp
[21] *"DPR 2006-2007, National Defence: Minister's Message"*, http://www.tbs-sct.gc.ca/dpr-rmr/2006-2007/inst/dnd/dnd01-eng.asp
[*] Figures for FY2007-08 are projected from FY2006-07 since the DND DPR for FY2007-08 is unavailable.

Table 9: DND Average Annual Cost per deployed member assuming 8% of Capital Assets are deployed

Fiscal Year (figures in $ CAD)	**2001-02**	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**2006-07**	**2007-08**
Operating Expenditures	0	41,714	300,450	717,033	184,796	326,659	586,275
Capital Expenditure (assuming 8% deployed)	148,777	79,702	252,165	495,923	194,057	197,232	178,532
Total	**148,777**	**121,416**	**552,615**	**1,212,956**	**378,853**	**523,891**	**764,807**
% change over previous year		-18.39%	355.14%	119.49%	-68.77%	38.28%	45.99%
Total Average Annual Cost per deployed member				529,045			

Thus, for FY2007-08, the cost to the GC on account of the military operations in the Afghanistan mission was in the range of $675,541 to $764,807 per Canadian Forces member deployed. The annual cost on account of military operations per deployed member is the highest for FY2004-05. This coincides with the reduction in the deployed strength, which was later upwardly revised in FY2005-06, and could be one of the reasons why the per-head costs for FY2004-05 are so high. Full explanation for the year-to-year changes would require access to bottom-up financial information from DND.

The average annual cost per deployed troop for the United States in Iraq and Afghanistan combined, as determined by the United States Congressional Research Service[22] are as given below:

Fiscal Year (figures in $ USD)	**2001-02**	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**2006-07**	**2007-08**
Operating Expenditures	N/A	N/A	300,000	300,000	270,000	325,000	N/A
Capital Expenditure	N/A	N/A	20,000	40,000	80,000	65,000	N/A
Total	N/A	N/A	320,000	340,000	350,000	390,000	N/A
% change over previous year				6.25%	2.94%	11.43%	
Total Average Annual Cost per deployed member				350,000			

When compared with the United States annual average cost per deployed troop, the Canadian annual average cost per deployed member is significantly higher. Part of this difference could be explained by the effect of accrual accounting related to accelerated depreciation.

[22] *"The Cost of Iraq, Afghanistan, and Other Global War on Terror Operations Since 9/11"*, Amy Belasco, United States Congressional Research Service Report for Congress, http://www.fas.org/sgp/crs/natsec/RL33110.pdf

2.5. DND: Future Cost Scenarios

Based on the average cost per deployed soldier for the fiscal year, the PBO has determined a range of potential future costs. The costs change with changes in the deployment levels. Based on the average annual cost per deployed soldier for FY2007-08, given below are total DND (including operating expenditures and capital assets) future cost projections for the FY2008-11. In Tables 10 and 11 below, we assume that the annual cost to DND per deployed Canadian Forces member on account of the Afghanistan mission stays constant throughout the three fiscal years. The PBO has continued to use a factor of six times for accelerated depreciation of the relevant capital assets. The PBO assumes that the change in average annual deployed strength is effected in the beginning of FY2008-09, for the two scenarios where the average annual deployed strength is changed to 1,000 and 3,500 soldiers respectively.

Table 10: DND Total Future Cost projections using 2007-08 annual numbers only, assuming 4% of capital assets deployed (numbers in $ millions)

(Capital assets depreciated at factor 6)	**2008-09**	**2009-10**	**2010-11**	**Total**
Deployment reduced to 1000	676	676	676	2,028
Deployment maintained at 2500	1,689	1,689	1,689	5,067
Deployment increased to 3500	2,364	2,364	2,364	7,092

Table 11: DND Total Future Cost projections using 2007-08 annual numbers only, assuming 8% of capital assets deployed (numbers in $ millions)

(Capital assets depreciated at factor 6)	**2008-09**	**2009-10**	**2010-11**	**Total**
Deployment reduced to 1000	765	765	765	2,295
Deployment maintained at 2500	1,912	1,912	1,912	5,736
Deployment increased to 3500	2,677	2,677	2,677	8,031

The data in the Tables above is obtained by multiplying the total annual number of deployed Canadian Forces members by the annual cost per deployed member for FY2007-08. Note must be made of the fact that although the annual projections as made by the PBO are constant, they may vary on a year-to-year basis on account of inflation, operational tempo, activity rate, etc.

It is important to note that future costs will depend on the number of troops deployed in Afghanistan, type of military personnel, duration of their stay, type of combat equipment and operational tempo and other factors. Projecting future costs depends on accurate financial information on current costs, cost drivers and assumptions with regard to troop strength, rotations, equipment used in theatre, future deaths, disabilities, medical costs and de-mobilization. When the Parliament lacks data on accurate deployed troop levels and capital assets, future cost projections become very difficult. Therefore, the PBO's ability to make future cost projections with a reasonable level of assurance would depend upon availability of detailed financial data from departments on the current cost structure.

3. Incremental Costs of Death, Disabilities and Medical Costs

3.1. Excerpts from the Mercer Canada Report

We have included the past and future costs to the GC for benefits payable on account of death or injury of Canadian Forces (CF) members serving in Afghanistan that we have determined to be material and relevant to this calculation. Only CF members (Regular and Reservists) are included in these estimates. Civilians, RCMP, CIDA, CSC or UN observers and members are excluded.

Only incremental costs have been included for the purpose of this study based on the plan provisions of existing programs and current adjudication practices. Potential incremental costs to the Canada Pension Plan (CPP) and Quebec Pension Plan (QPP), provincially funded health care programs, private health care plans and other plans have not been included in this study.

Note also that the purpose of this study is to estimate the cost of compensation benefits provided to CF members on account of death or disability. **It does not include the following:**

- Overall economic loss related to those deaths or disabilities; and
- Medical costs borne by DND prior to discharge, which could materially underestimate the overall disability related payments

Finally, it should be noted that the nature of the benefits provided is very complex and the emergence of disabilities and benefit payments spans over a very long time period. In addition, limited information and data were available to develop the methods and assumptions that are normally required to perform such estimates. Therefore, the results of this study should be seen as preliminary estimates intended to provide order of magnitudes only.

3.2. Costs to Date

Given below is the list of all known death, disability and health care related cases reported so far, or estimated, on account of the Canadian mission in Afghanistan. The total number of disability and health care cases includes Post Traumatic Stress Disorder (PTSD) and medical cases.

Table 12: Total Death and Disability cases (including healthcare and PTSD cases)

	Fiscal Year		2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	Total
Estimated number of incurred claims	Total Number of Deaths		0	4	3	0	4	34	37	**82**
	Total number of Disability & Health Care cases	Low estimate	900	1,120	400	180	805	875	875	**5,155**
		High estimate	1,350	1,680	600	270	1,208	1,313	1,313	**7,734**

Table 13 below provides the sum total of the net present value (NPV)[23] of all present and future liabilities incurred by the GC to date from all the deaths and disabilities, for all programs administered by various departments of the GC that have been included in the Mercer Canada report:

Table 13: Total Death and Disability (including healthcare and PTSD cases) related liabilities incurred to-date

(figures in $million)	Fiscal Year		2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	Total
Total Estimated costs incurred	NPV of all Death related liabilities		0	1	1	0	1	13	14	**31**
	NPV of all Disability & Health Care related liabilities	Low estimate	129	166	61	28	130	145	149	**808**
		High estimate	328	420	155	72	331	369	379	**2,054**

[23] The concept that money has a time value is one of the pre-eminent concepts in financial analysis. This concept acknowledges the cost of interest on a debt over a specific period of time, or the benefit of interest earned on funds invested. In the case of a current activity, where liabilities for expenses will be incurred for decades into the future, this concept becomes important in determining future costs.

3.3. Total Incremental Cost Summation of Death and Disability Related Costs

Table 14 below provides a summation of all the death related liabilities incurred to-date, and all the probable disability and health-care related liabilities incurred based on a low vs. high range sensitivity. Thus, the total liability incurred by the GC on account of the Canadian mission in Afghanistan due to deaths, disabilities, health-care and PTSD related cases ranges from $838 million to $2,085 million for the period FY2001-02 and FY2007-08.

Table 14: Grand Total of all Death and Disability (including healthcare and PTSD cases) related liabilities incurred to-date

(figures in $million)	Fiscal Year	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	Total
Grand Total of all death and disability related liabilities	Low estimate	129	167	62	28	131	158	163	**838**
	High estimate	328	421	156	72	332	381	394	**2,085**

3.4. Future Costs of Death and Disabilities

3.4.1. Scenario 1: Average Annual Deployment Strength Maintained at 2,500 Troops

Table 15 lists the future death, disability and stress/PTSD related cases of the Canadian mission in Afghanistan, if the average annual deployed strength is maintained at its current level of 2,500 troops, as provided by Mercer Canada.

Table 15: Total Death and Disability cases (including healthcare and PTSD cases), assuming average annual deployed strength is maintained at 2,500 troops

	Fiscal Year		2008-09	2009-10	2010-11	Total
Estimated number of incurred claims	Total Number of Deaths		36	36	36	108
	Total number of Disability & Health Care cases	Low estimate	875	875	875	2,625
		High estimate	1,313	1,313	1,313	3,939

Table 16 provides the sum total of the net present value of all probable future liabilities incurred by the GC stemming from the deaths and disabilities, for all programs administered by various departments of the GC[24], as given in the Mercer Canada report.

Table 16: Total probable Death and Disability (including healthcare and PTSD cases) related liabilities, assuming average annual deployed strength maintained at 2,500 troops

(figures in $million)	Fiscal Year		2008-09	2009-10	2010-11	Total
Total Estimated costs incurred	NPV of all Death related liabilities		14	15	15	44
	NPV of all Disability & Health Care related liabilities	Low estimate	154	158	164	476
		High estimate	391	404	416	1,211

Table 17 provides the total of all probable future death and disability related liabilities, assuming the average annual deployed strength is maintained at 2,500 troops.

Table 17: Grand Total of all future probable Death and Disability (including healthcare and PTSD cases) related liabilities, assuming average annual deployed strength maintained at 2,500 troops

(figures in $million)		2008-09	2009-10	2010-11	Total
Grand Total of all death and disability related liabilities	Low estimate	168	173	179	**520**
	High estimate	405	419	431	**1,255**

Thus, if the average annual deployed strength is maintained at 2,500 troops, the total future costs to the GC of the Canadian mission in Afghanistan range between $520 million and $1,255 million for the period FY2008-09 and FY2010-11.

[24] Please refer to *Appendix 12* for details

3.4.2. Scenario 2: Average Annual Deployment Strength Reduced to 1,000 Troops

Table 18 lists the probable future death, disability and stress/PTSD related cases of the Canadian mission in Afghanistan, if the average annual deployed strength is reduced to 1,000 troops, as estimated by Mercer Canada.

Table 18: Total Death and Disability cases (including healthcare and PTSD cases), assuming average annual deployed strength reduced to 1,000 troops

	Fiscal Year		2008-09	2009-10	2010-11	Total
Estimated number of incurred claims	Total Number of Deaths		14	14	14	42
	Total number of Disability & Health Care cases	Low estimate	350	350	350	1,050
		High estimate	525	525	525	1,575

Table 19 provides the sum total of the net present value of all probable future liabilities incurred by the GC stemming from the deaths and disabilities, for all programs administered by various departments of the GC[25], as given in the Mercer Canada report.

Table 19: Total probable Death and Disability (including healthcare and PTSD cases) related liabilities, assuming average annual deployed strength reduced to 1,000 troops

(figures in $million)	Fiscal Year		2008-09	2009-10	2010-11	Total
Total Estimated costs incurred	NPV of all Death related liabilities		5	6	6	17
	NPV of all Disability & Health Care related liabilities	Low estimate	62	63	65	190
		High estimate	156	162	166	484

Table 20 provides the total of all probable future death and disability related liabilities, assuming the average annual deployed strength is reduced to 1,000 troops.

Table 20: Grand Total of all future probable Death and Disability (including healthcare and PTSD cases) related liabilities, assuming average annual deployed strength is reduced to 1,000 troops

(figures in $million)		2008-09	2009-10	2010-11	Total
Grand Total of all death and disability related liabilities	Low estimate	67	69	71	**207**
	High estimate	162	167	172	**501**

Thus, if the average annual deployed strength is reduced to 1,000 troops, the total future costs to the GC of the Canadian mission in Afghanistan range between $207 million and $501 million for the period FY2008-09 and FY2010-11.

[25] Please refer to *Appendix 12* for details

3.4.3. Scenario 3: Average Annual Deployment Strength Increased to 3,500 Troops

Table 21 lists the probable future death, disability and stress/PTSD related cases of the Canadian mission in Afghanistan, if the average annual deployed strength is increased to 3,500 troops, as estimated by Mercer Canada.

Table 21: Total Death and Disability cases (including healthcare and PTSD cases), assuming average annual deployed strength is increased to 3,500 troops

	Fiscal Year		2008-09	2009-10	2010-11	Total
Estimated number of incurred claims	Total Number of Deaths		50	50	50	150
	Total number of Disability & Health Care cases	Low estimate	1,225	1,225	1,225	3,675
		High estimate	1,838	1,838	1,838	5,514

Table 22 provides the sum total of the net present value of all probable future liabilities incurred by the GC stemming from the deaths and disabilities, for all programs administered by various departments of the GC[26], as given in the Mercer Canada report.

Table 22: Total probable Death and Disability (including healthcare and PTSD cases) related liabilities, assuming average annual deployed strength is increased to 3,500 troops

(figures in $million)	Fiscal Year		2008-09	2009-10	2010-11	Total
Total Estimated costs incurred	NPV of all Death related liabilities		20	20	21	61
	NPV of all Disability & Health Care related liabilities	Low estimate	216	222	229	667
		High estimate	548	566	583	1,697

Table 23 below the total of all probable future death and disability related liabilities, assuming the average annual deployed strength is increased to 3,500 troops.

Table 23: Grand Total of all future probable Death and Disability (including healthcare and PTSD cases) related liabilities, assuming average annual deployed strength is increased to 3,500 troops

(figures in $million)		2008-09	2009-10	2010-11	Total
Grand Total of all death and disability related liabilities	Low estimate	235	242	250	**727**
	High estimate	567	586	603	**1,756**

Thus, if the average annual deployed strength is increased to 3,500 troops, the total future costs to the GC on account of the Canadian mission in Afghanistan range between $727 million and $1,756 million for the period FY2008-09 and FY2010-11.

[26] Please refer to Appendix 12 for details

3.4.4. International Comparisons

The Mercer Canada report provides international comparisons. A number of studies have been authored related to the cost of the war in Iraq and Afghanistan. According to the January 2007 report, authored by Linda Bilmes of Harvard University, entitled *"Soldiers Returning from Iraq and Afghanistan: The Long-term Costs of Providing Veterans Medical Care and Disability Benefits"*, the estimated costs of providing disability and medical care benefits to the veterans of the Iraq and Afghanistan war range from $349.8 billion to $662.8 billion. (These figures are in United States dollars).

The low scenario assumes that the US begins withdrawing troops in 2007 and that all US servicemen and women are home by 2010. It assumes that the US will not deploy any new troops beyond the 1.4 million already participating in the war and that 44% of troops will claim for disability payments over a period of years, with 87% of claims granted. The high scenario assumes total participation in the war will eventually reach 2 million unique servicemen by 2016 and that half of those will claim for disability payments.

While a direct comparison with the results of this US-based study is very difficult, these numbers, applied to the Canadian deployment, would indicate costs of a rough order of magnitude of $10 billion for death, disability, health-care and PTSD related costs alone. This suggests much higher costs than the cost estimate derived in this section. However, there are many reasons why the results of the US study are not necessarily indicative of the experience in the Canadian context, including:

- The US study indicates that 95% of casualties have been in Iraq. As a result, cost estimates related to Afghanistan war only could produce significantly different results.
- There are major differences between the Canadian and US health care systems; in the US, a portion of the medical care cost that may fall to the Veterans Health Administration system would likely be funded through the provincial health care system in Canada or by other private employer plans. The cost of medical care is also generally higher in the US.
- The benefits available to US veterans are different than those available to Canadian veterans and may also be administered in a different manner, which could account for part of the difference.
- Differences in methodology and the elements valued may also account for part of the difference; for example, the US study includes the economic losses associated with death and disability.

The claims incidence assumption is based on average annual exposure, not on total number of soldiers who visited Afghanistan. So, in any given year, the 53% incidence rate would translate into a 25%-30% incidence rate as a percentage of all soldiers who were on a tour of duty in that year (assuming 6-month duration per tour of duty).

Note that in total for the duration of the conflict, the 53% assumption translates into a 35%-45% incidence rate as a percentage of all soldiers who went to Afghanistan given that many soldiers will have more than one tour of duty. The US study was assuming incidence rates ranging from 38% (44% times 87% approval rate) to 44% (50% times 87% approval rate) as a percentage of total troops deployed.

Mercer Canada notes that its low cost estimate is consistent with the Canadian experience to date and that the incidence assumption for the high estimate is more consistent with the US experience which seems to suggest a higher level of claims. It is, therefore, useful to examine the US experience with claims incidence particularly as it relates to post traumatic stress disorder (PTSD) which, in recent years, has gained a significant profile among military personnel, medical researchers and the public.

In order to better understand the most recent research on PTSD and the rate of incidence among returning US soldiers, University of Michigan Medical School PTSD researchers referred the Office of the PBO to two widely cited studies by Dr. Charles W. Hoge, Chief of Psychiatry at the Walter Reed Army Institute of Research (US). In a study of 1,709 combat soldiers and Marines surveyed 3 to 4 months after returning from OIF (Operation Iraqi Freedom) deployment, published in the New England Journal of Medicine, Dr. Hoge's research found that 12% to 20% met screening criteria for PTSD, depending on what cut-off was used on the standardized instrument.

As well, the prevalence of PTSD (according to the strict definition) increased in a linear manner with the number of firefights during deployment: 4.5 percent for no firefights, 9.3 percent for one to two firefights, 12.7 percent for three to five firefights, and 19.3 percent for more than five firefights. The rates of PTSD were significantly associated with having been wounded or injured (odds ratio for those deployed to Iraq: 3.27; Odds ratio for those deployed to Afghanistan: 2.49)[27]

The research also found a significant risk of mental health problems in the subject group and that the subjects reported important barriers to receiving mental health services, particularly the perception of stigma among those most in need of such care[28].

In a subsequent article published in the Journal of the American Medical Association (JAMA), Dr. Hoge's research suggested that PTSD rates might be underestimated when done immediately after soldiers return home, compared to 3 to 4 months later.

Specifically, the article states that "a recent report indicated that service members are more than 2 times as likely to report mental health concerns 3 to 4 months after returning from deployment compared with reporting immediately on return and this has led to a decision to expand the scope of the current US military screening program to include a repeat measure at 90 to 180 days after deployment[29]." Indeed, Dr. Hoge explains lower incidence rates in his own later studies (JAMA was published in 2006) because of the timing of the diagnosis and screening.

The implication is that lower incidence rates in some studies may be the result of assessing PTSD too soon. In effect, with increased time between the end of deployment and assessment, especially if it's at least 3 to 4 months, the higher the reported incidence rates.

PTSD is but one type of affliction and potential incidence claim for Canadian personnel involved in the Afghanistan mission. The US experience and research suggests that the incidence rate and potential cost merit further examination in the Canadian context.

The detailed Mercer Report is annexed to this document.

[27] "Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care". New England Journal of Medicine; Jul 1, , 351(1): 13-22", Hoge CW, Castro CA, Messer SC, McGurk D, Cotting DI, Koffman RL. (2004).

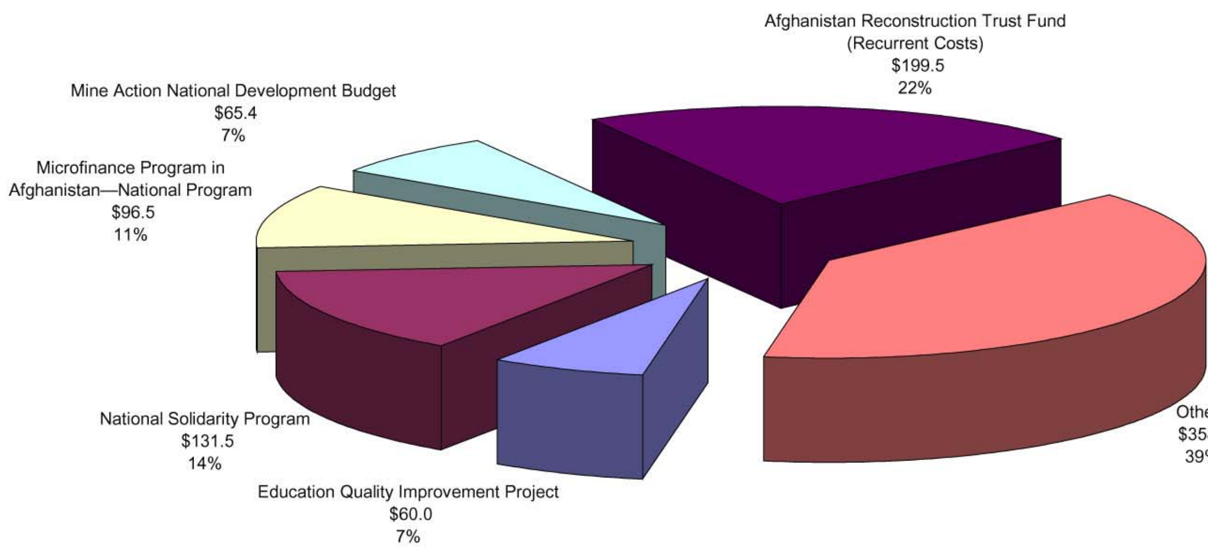
[28] ibid

[29] "Mental health problems, use of mental health services, and attrition from military service after returning from deployment to Iraq or Afghanistan". Journal of the American Medical Association (JAMA), Mar 1, 2006; 295(9):1023-32, Hoge CW, Auchterlonie JL, Milliken CS. (2006).

4. Incremental Costs to CIDA

CIDA's involvement in the Afghanistan mission is to create economic growth, security, and humanitarian aid and provide basic services such as education, roads, and repair of infrastructure for the Afghanistan people. CIDA executes the mandate by working together with international partners such as World Bank, UNICEF and other Non-Governmental Organizations (NGOs). Since FY2001-02, Afghanistan has been the single largest recipient of CIDA's bilateral aid[30]. The incremental costs for the Government of Canada in support of Afghanistan mission through CIDA, from FY2001-02 to FY2010-11 are expected to be $1.65 billion[31].

It is not possible to obtain accurate annual spending for the programs administered by CIDA for the Afghanistan mission from the DPRs and RPPs, which are parts of the estimates. The spending is not broken down on a country-by-country basis. Most of the data used in this section was obtained from the CIDA website on the Afghanistan mission[32]. As noted above, to date, the Government of Canada has committed to spending $1.65 billion worth of development and aid money towards the Afghanistan mission. However, based on the public information provided on the CIDA-Afghanistan website, a total of $912 million has been allocated so far to fund all projects in Afghanistan from FY2003 to FY2013.



CIDA Major Funding Programs in Afghanistan 2001-2013

Source: CIDA website on Afghanistan (http://www.acdi-cida.gc.ca/CIDAWEB/acdicida.nsf/En/JUD-12514940-QGL)
(Figures in millions)

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30 Beverley J. Oda, Minister of International Cooperation 2006-07, and Robert Greenhill, President, CIDA, September 2007, http://www.tbs-sct.gc.ca/dpr-rmr/2006-2007/inst/ida/ida01-eng.asp

31 Includes forecasted FY 2008-09 to FY2010-11 – Please refer to Table 24 for more detail.

32 http://www.acdi-cida.gc.ca

CIDA's Afghanistan aid program is divided into three main sectors: Basic Services, Humanitarian Assistance and National Institutions. CIDA channels most of its aid to Afghanistan[33] through international organizations such as the World Bank, UNICEF, United Nations agencies and international and non-governmental organizations (NGOs). Over the past few years, about 80% (or $730 million) of CIDA funding has gone through these channels, with up to 50% focused on the following [34]:

- Afghanistan Reconstruction Trust Fund (ARTF),
- National Solidarity Program (NSP),
- Microfinance Investment Support Facility for Afghanistan (MISFA), and
- Mine Action Program (UNMAS).

The first three programs are overseen by the World Bank and the last one is overseen by UNMAS[34]. Please refer to ***"****Appendix 11: CIDA programs related to Afghanistan" f*or details on CIDA's programs relating to the Afghanistan mission.

4.1. CIDA Total Incremental Cost Summation[35]

Table 24: CIDA Total annual incremental cost towards the Afghanistan mission

($ millions)	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	Total
Total	47	123	103	116	106	183	294	224	225	230	1,649
Data Source: CIDA											

Table 24 above gives the annual expenditure by CIDA towards the Afghanistan mission.

33 *"HOW CANADA SPENDS ITS MONEY"*, http://www.cbc.ca/doczone/afghanistan/money.html

34 *"CIDA's Approach to Accountability and Risk Management in Afghanistan"*, http://www.acdi-cida.gc.ca/CIDAWEB/acdicida.nsf/En/JUD-12514714-QF3

35 Data obtained from Operations for Afghanistan Task Force, CIDA, Gatineau, Canada.

Appendix 1: Historical Trends in Parliamentary Appropriations for Various Departments

Several Canadian government departments are incurring, and will continue to incur, costs and liabilities related to the Canadian mission in Afghanistan. These departments are:

- Department of National Defence (DND),
- Veterans Affairs Canada (VAC),
- Canadian International Development Agency (CIDA),
- Treasury Board of Canada (TBC),
- Foreign Affairs Canada (FAC),
- Royal Canadian Mounted Police (RCMP), and
- Correctional Service of Canada

There is a material difference in the extent to which the various departments are involved in the mission. Departments like Correctional Service of Canada and RCMP do not have significantly material impact either in terms of number of personnel or costs.

Given below are the historical Parliamentary appropriations for the various departments affected to the greatest extent by Canadian participation in the Afghanistan mission. Data has been split into Mains and Supplementary estimates on an annual basis, for the FY1997-98 till FY2008-09.

Table 25: Historical Parliamentary Appropriations

DND[36] ($ million)	**1997-98**	**1998-99**	**1999-00**	**2000-01**	**2001-02**	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**2006-07**	**2007-08**	**2008-09**
Mains	9,917	9,383	10,305	11,199	11,390	11,834	12,255	13,288	13,425	14,789	16,882	18,294
Supplementaries	435	873	1,283	624	890	739	1,434	829	1,321	1,069	1,556	541
Total	10,352	10,255	11,588	11,823	12,280	12,573	13,689	14,117	14,746	15,859	18,438	18,835
VAC[36] ($ million)												
Mains	1,922	1,964	1,970	2,005	2,104	2,273	2,498	2,788	2,853	3,203	3,376	3,398
Supplementaries	31	0	113	77	142	230	148	33	42	86	50	29
Total	1,953	1,964	2,082	2,082	2,245	2,504	2,646	2,821	2,895	3,289	3,425	3,427
CIDA[36] ($ million)												
Mains	1,697	1,671	1,848	1,876	1,793	1,896	2,093	2,662	2,776	2,975	3,049	3,070
Supplementaries	122	231	144	306	303	342	417	581	191	133	67	209
Total	1,820	1,902	1,992	2,181	2,096	2,238	2,510	3,242	2,967	3,108	3,116	3,279

Source: Mains and Supplementary Estimates documents[37]

Table 25 above gives a brief glimpse of historical appropriations for the concerned departments. Note that appropriations in the Parliament are tabled for the whole department, and not for projects or missions. Thus, it is not possible to glean any particular information from the tabled appropriations towards spending for any particular mission or project. The historical trends in Parliamentary appropriations are shown to provide a contextual background.

[36] Additional supplementary estimates for the fiscal year 2008-09 could be Tabled in the Parliament after this report has been published.

[37] http://www.tbs-sct.gc.ca/est-pre/estimE.asp

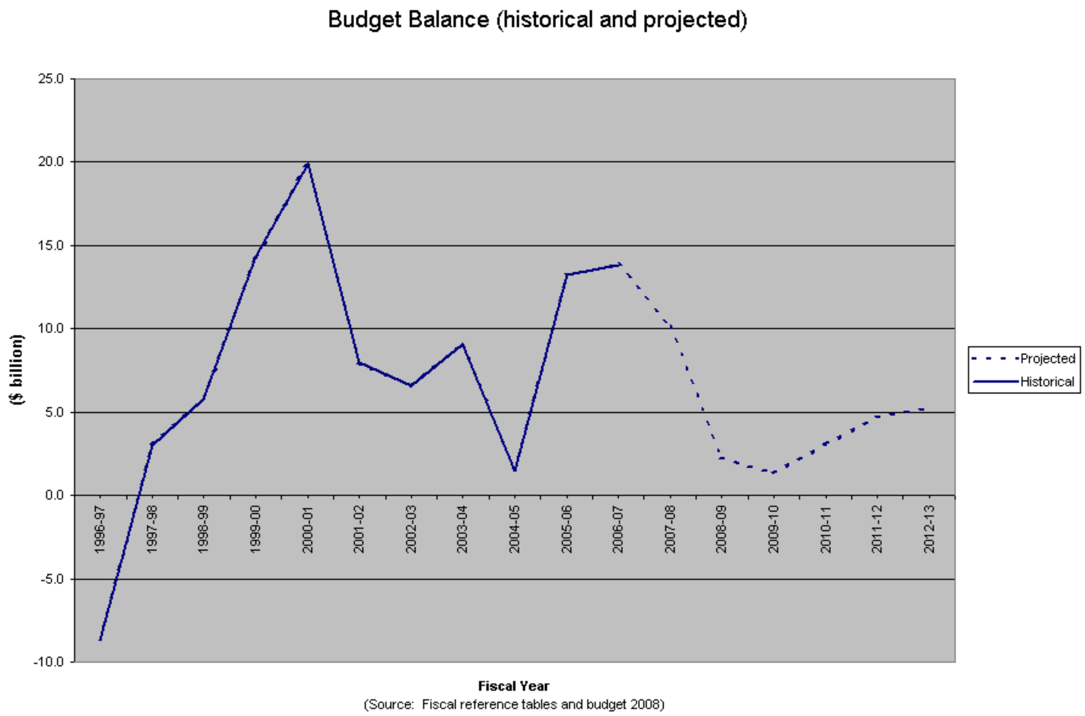
Total appropriations for various departments are covered under various votes[38], such as:

- Vote 1: operating expenditures, which covers most day-to-day expenses, such as salaries and utilities,
- Vote 5: capital expenditure, which involves the acquisition of assets, such as land, buildings, and machinery,
- Vote 10: grants and contributions, which authorizes payments to individuals or organizations in order to fulfill government policy objectives, and
- Vote S (statutory authorities)

[38] *"How to Read Parts I and II of the Estimates: The Government Expense Plan and the Main Estimates"*, Alex Smith Political and Social Affairs Division, Library of Parliament, http://www.parl.gc.ca/information/library/PRBpubs/prb0754-e.htm

Appendix 2: The Fiscal Context

The chart below presents a snapshot of the historical trend in the budgetary position. Of note, in Budget 2008, the Government indicated that it planned on continued but modest budgetary surpluses. With regard to the recent downward revisions of private sector forecasters for the Canadian economy and the stated fiscal objective of balanced budgets, the necessity of uncovering the incremental costs of Canada's involvement in Afghanistan is critical.



The following key points are worthy of note in this regard:

- Parliament has limited appropriations based view of the budgetary system because of the disconnects with the government's actual decision-making process and the Parliamentary reporting system. The Estimates, which are the Parliamentary reporting tools, that include the Departmental Performance Reports and the Reports on Plans and Priorities only provide high-level aggregated estimates. Financial information related to specific activities or projects and decision support information (e.g.: business cases) are generally not provided to support the oversight role of the Parliament.
- The Parliamentary appropriations (which provide departments with effective spending authority) and the costs are not one and the same. The cost can be higher or lower than the appropriations. Hence, a cursory review of the total Parliamentary appropriations or departmental spending will not reflect the actual fiscal impact.
- It is important to recognize that the total cost of the mission is not the same as the voted Parliamentary appropriations to date, because of (a) unfunded liabilities arising out of the payment obligations due to the deceased and disabled soldiers, (b) veterans, (c) accelerated depreciation and (d) replacement of capital assets. The actual cost to the GC could exceed the Parliamentary appropriations.
    - The present value of incurred liabilities on account of death and disabilities due to the Canadian mission in Afghanistan is booked in the Public Accounts of Canada; however, Parliamentary appropriations are made on a cash basis.

Excerpts from *"Veterans Affairs: Notes to Financial Statements (unaudited), 2). Summary of Significant Accounting Policies"*, VAC Departmental Performance Report for FY2006-07, from http://www.tbs-sct.gc.ca/dpr-rmr/2006-2007/inst/dva/dva03-eng.asp

> "(f) *Disability benefits*
> The majority of the programs administered by Veterans Affairs Canada are meant to provide future benefits for members and Veterans of the Canadian Forces. As such, an actuarially determined liability and related disclosure for these future benefits are presented in the financial statements of the Government of Canada, the ultimate sponsor of these benefits. **This differs from the accounting and disclosures of benefits presented in these financial statements as Veterans Affairs Canada expenses these benefits as they become due and records no accruals for future benefits.** Payments of benefits made directly to beneficiaries, such as pensions and allowances for disability, death and economic support, are recorded as grants or contributions, while benefits delivered through service providers, such as certain health care benefits are recorded as operating expenses. This accounting treatment corresponds to the funding provided to the Department through Parliamentary appropriations."

Fiscal transparency issues
What Parliament gets to see is the total actual incremental spending by DND on the Afghanistan mission as reported in the DPRs. This number amounts to a total of $2.7 billion over FY2002-03 to FY2006-07, as shown in the first row of Table 26 below. Furthermore, there is a significant time lag in the Parliamentary reporting process. As of today, the latest DPRs that the Parliament has access to is for the fiscal year ended March 31, 2007, which is dated by almost 1.5 years.

However, the second row also represents the total actual incremental spending by DND which totals $4.6 billion over the period FY2001-02 to FY2008-09. This data, as noted in Table 26 below was received by the PBO from DND's Finance and Corporate Services Division. **The purpose of showing the actual incremental spending from two different sources (DND DPR/RPP vs. data received from DND Finance and Corporate Services) is to show the significant data discrepancies and the consequent fiscal transparency problems it creates**. As noted above, the DPRs for FY2007-08 and FY2008-09 are unavailable. We assume that the reason for the difference in the total between $2.7 billion and $4.6 billion is on account of the following:

- Discrepancies between the yearly figures reported in the DND DPR/RPP and the financial data received from DND's Finance and Corporate Services; and
- Unavailability of DPR figures for FY2007-08 and FY2008-09

It should be noted that the figures in the DPRs as well as the departmental data on actual spending are not accompanied by a costing methodology or a breakdown of costs, making any reconciliation between the figures from two different data sources extremely difficult. The DPRs do not include data on Afghanistan mission specific expenditures for both CIDA and VAC. This again reduces effective Parliamentary oversight on mission specific expenditures.

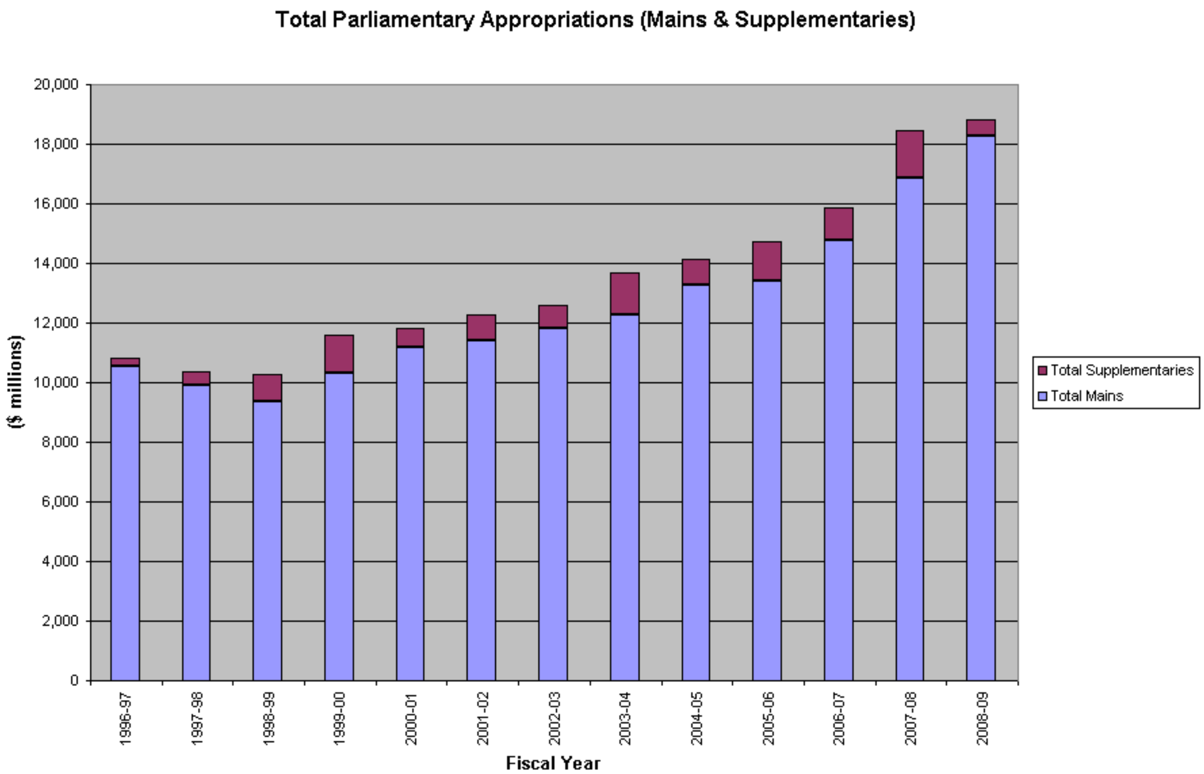
Table 26: Planned and Actual incremental spending for the mission in Afghanistan

($ million)	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	TOTAL
DND Total Actual Incremental Spending **(Source: DND DPR/RPP)**	N/A	234	601	645	425	817	N/A	N/A	2,722
DND Total Actual Incremental Spending **(Source: DND, Finance and Corporate Services)**	216	234	593	297	402	803	1,060	1,010	4,615
CIDA Total Actual Incremental Spending	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VAC Total Actual Incremental Spending	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Appendix 3: Historical Funding Profile for DND

Given below are the Parliamentary appropriations for DND reported in its annual mains and the supplementary estimates for each fiscal year beginning 1997-98, until 2008-09[39].

There has been a *steady growth* in the total Parliamentary appropriations over the last decade. There has been additional annual appropriation through supplementary estimates on a regular basis. *The percentage of appropriation via supplementary estimates can sometimes be as high as 11% of the total appropriations.*



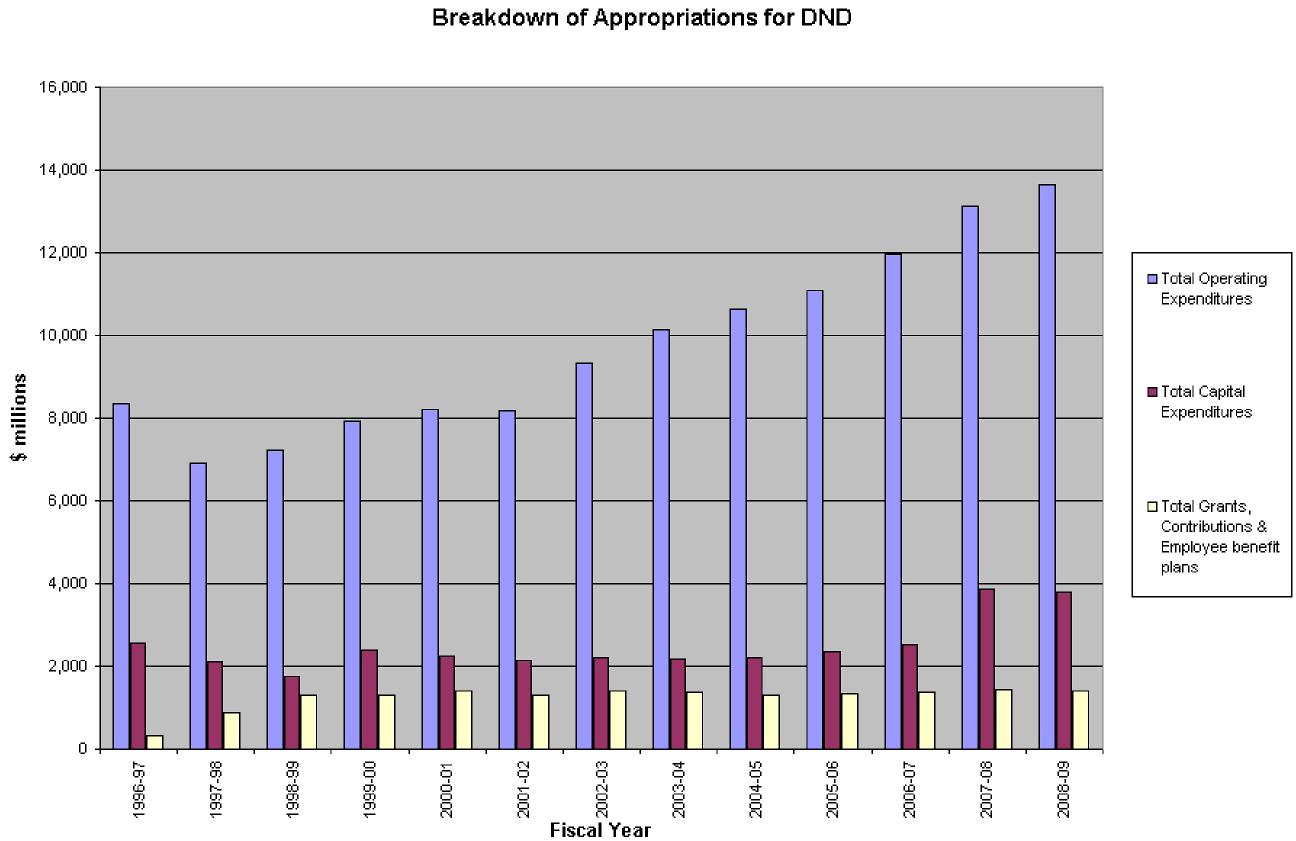
(Source: DND Mains and Supplementary estimates documents)

[39] The appropriations for the fiscal year 2008-09 may be revised through supplementaries Tabled after this report is published.

Appendix 4: Historical Funding Profile for DND by Vote

Parliamentary appropriations are tabled under various votes: Operating Expenditures under Vote (1), Capital Expenditure under Vote(5), Grants and Contributions under Vote(10), and most of the rest under a statutory vote. The Operating Expenditures vote includes salaries and allowances made by DND to its employees, but it does not provide an accurate breakdown into salaries and other operating expenditures (like maintenance and spares, etc.). The statutory vote contains contributions to employee benefit plans and such.

The chart highlights the annual appropriations under each vote for that fiscal year.



(Source: DND Mains and Supplementary estimates documents)

While appropriations for operating expenditures have been steadily increasing at an annual rate of 4.3% until FY2001-02, they have been increasing by an annual rate of about 6.6% since FY2001-02; this is when the Afghanistan mission started. There has also been an increase in capital expenditure during the FY2001-02 to FY2008-09 period; however the capital expenditure appropriations do not show specific trends.

While the exact reason for the increasing trend in operating expenditures is not clear, it can attributed to the Canadian involvement in the hostile Afghanistan mission, and also *possibly* due to co-mingling of certain capital asset related expenditures with the operating expenditures (viz. reset and betterment, etc.).

***Issue:** Parliament may wish to ask DND to submit an analysis in their upcoming DPR and RPP to highlight the nature and extent of reallocations that are being undertaken to meet the needs of the Afghanistan mission within the spending authorities provided by the Parliament.*

Appendix 5: DND: Planned and Actual Incremental Spending for the Mission in Afghanistan

Table 27 details the incremental planned and actual spending of operating costs by DND[40] for the Afghanistan mission, for the various operations. Certain operations, such as Operation Foundation[41], although not listed as specifically for the Afghanistan mission, are directly related (the Canadian contribution to the global offensive against terror). Other common costs are relatively low and have been included to point out the actual spread of costs.

Table 27: DND Annual Planned and Actual Incremental Spending for Afghanistan

Planned Spending	**2001-02**	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**2006-07**	**2007-08E**	**2008-09E**	**TOTAL**
OP ARGUS				0	0	0	2	2	4
OP ATHENA			TBD	390	88	427	1,077	1,008	2,989
OP ARCHER				0	0	167	1	1	169
OP APOLLO		181	238	0	0				419
OP ALTAIR			N/A	21	16	11	7	74	128
OP ACCIUS (UNAMA)			0	0					0
OP FOUNDATION			0		0				0
COMMON COSTS				0	0	0	1	1	1
TOTAL		**181**	**238**	**411**	**104**	**605**	**1,087**	**1,085**	**3,710**

Actual Spending	**2001-02**	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**TOTAL**
OP ARGUS				1	1	1			4
OP ATHENA		0	430	297	88	536			1,350
OP ARCHER				314	314	268			896
OP APOLLO		234	163	17	9				423
OP ALTAIR			8	7	11	11			36
OP ACCIUS (UNAMA)		0	0	0					0
OP FOUNDATION			0		1				1
COMMON COSTS				8	2	1			11
TOTAL		**234**	**601**	**645**	**425**	**817**			**2,722**
Source: DND DPR/RPP. Figures in $ million									

In Table 27 above, the actual spending numbers for FY2007-09 are unavailable from the DND DPR and RPP.

[40] Data sourced from DND DPR and RPPs

[41] http://www.cefcom.forces.gc.ca/site/ops/foundation/index_e.asp

A comparison of the figures in Table 27 above reported in the publicly available DPR/RPP with the financial data provided by DND's Finance and Corporate Services depicted in Table 28 below shows large differences in reported numbers. Visibly, the differences lie in total reporting for FY2001-02, and for operations ARCHER and APOLLO. Also, data relating to other operations such as ALTAIR, ACCIUS, and FOUNDATION are unavailable.

Table 28: DND Annual Planned and Actual Incremental Spending for Afghanistan

DND Actual Expenditure (Incremental)	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09E	2009-10E	2010-11E	TOTAL
OP ARGUS							3	1			4
OP ATHENA			430	297	88	536	1,040	1,009	261	150	3,811
OP ARCHER					314	267	17				598
OP APOLLO	216	234	163								613
OP ALTAIR											0
OP ACCIUS (UNAMA)											0
OP FOUNDATION											0
COMMON COSTS											0
TOTAL	**216**	**234**	**593**	**297**	**402**	**803**	**1,060**	**1,010**	**261**	**150**	**5,026**

Source: DND, Finance and Corporate Services. Figures in $ million

There has been a dip in the DND planned and actual spending for the FY2005-06, which coincides with the reduction in the deployed strength of the Canadian Forces in Afghanistan to 900 personnel. ***The actual spending, however, has consistently been higher than the planned spending for each fiscal year.***

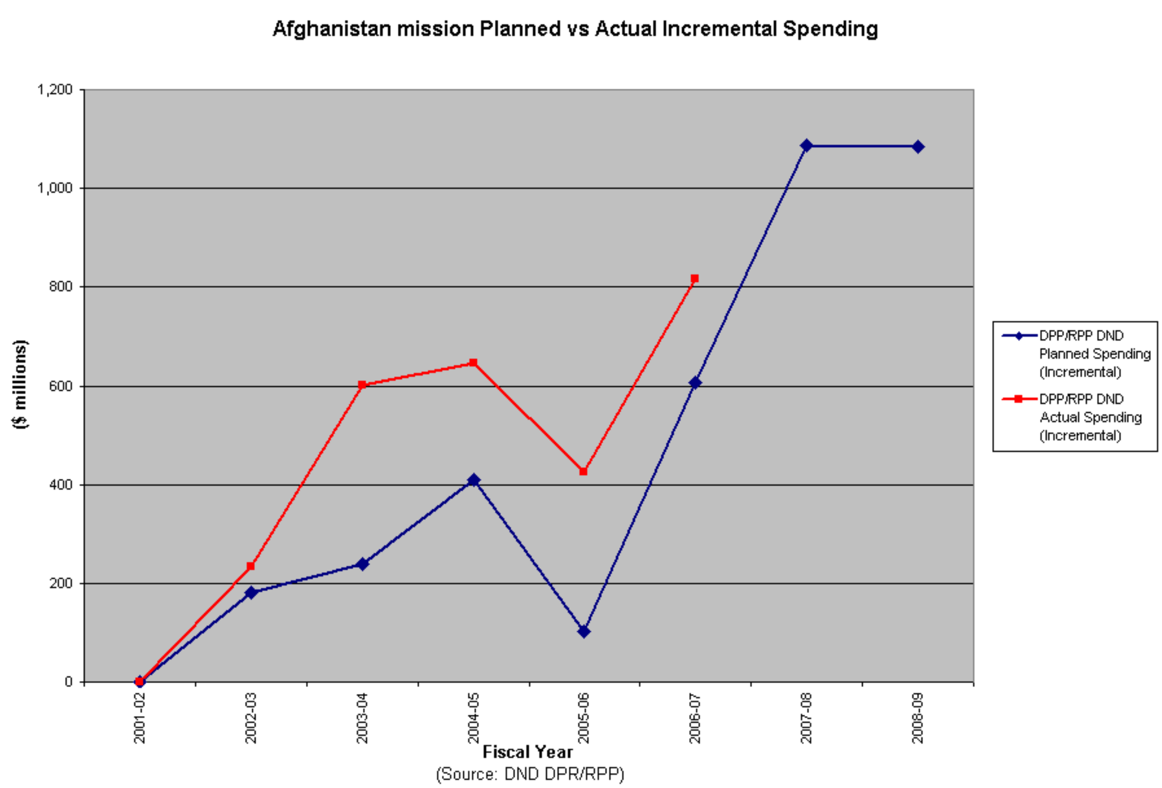


Table 29 gives the net annual difference between the planned and the actual spending for the "DND Incremental Costs", as reported in the DPRs:

Table 29: Difference between planned and actual incremental spending for the mission in Afghanistan

	2002-03	2003-04	2004-05	2005-06	2006-07
Planned Spending vs. Actual Spending overshoot	29.35%	152.37%	57.13%	310.26%	34.89%

(Source: Calculated from data given in the DND DPR/RPP)

Appendix 6: DND: Analysis of Capital Expenditures

Deployment of capital assets in theatre of war results in increased activity rates due to increased operational tempo, which causes increased wear and tear of capital assets at rates much higher than during peacetime. In addition, attrition of capital assets is a real issue. Thus, as discussed in the PBO methodology[42] document there are several adjustments required to the capital asset depreciation account in deployed conditions as opposed to peacetime conditions, to correctly determine the total incremental cost of the Canadian mission in Afghanistan.

The DND reports straight-line depreciation figures on an annual basis, under major capital asset classes, for FY2004-07 in the DPRs. Given below are the proportions of different types of large capital assets in the DND inventory, and the net annual depreciation expense, from the DND DPR 2006-07.

Table 30: Capital Assets and Annual Depreciation for DND

2006-07 ($ million)	Land, buildings & works	Machinery & Equipment	Ships & Boats	Aircraft	Work in progress equipment	Other	Total
Capital Asset Value	7,332	10,933	12,744	12,296	2,972	4,730	51,007
% of Total Capital Assets	14.37%	21.43%	24.98%	24.11%	5.83%	9.27%	100%
Annual Depreciation	240	547	432	396	N/A	168	1,784
% of Total Depreciation	13.47%	30.64%	24.24%	22.20%	N/A	9.45%	100%
Source: DND DPR 2006-07							

From the DND DPRs, the total straight-line depreciation[43] expense stands at $1.75 billion, $1.75 billion, and $1.78 billion for FY2004-05, FY2005-06, and FY2006-07, respectively. Data for the preceding or following years is unavailable. This historical annual depreciation charge is depicted in Table 31. Hence, the PBO has used an average of $1.76 billion as the annual Canadian Forces depreciation expense for the period FY2001-08 to further estimate the accelerated depreciation charge[44] for the mission in Afghanistan.

Table 31: Capital Assets and Annual Depreciation for DND (Source: DND DPR 2006-07)

Fiscal Year (figures in $ million)	2004-05	2005-06	2006-07
Total Annual DND Gross Tangible Capital Assets	N/A	49,431	51,007
Total Annual DND Depreciation Expense	1,747	1,748	1,783
Annual Depreciation Expense as a percentage of total gross tangible Capital Assets	N/A	3.54%	3.5%
Source: DND DPP for FY2004-07			

Table 31 provides the annual gross tangible capital assets for DND, and the annual depreciation expense. The annual depreciation expense is somewhat constant at about 3.5% of gross tangible capital assets for FY2005-07. In other words, the net accounting residual value of the gross tangible DND capital asset inventory is expensed at an approximate annual rate of 3.5%, which means that the residual life of the entire DND capital asset inventory is written off (or turned over) in 28.5 years (or 51,007 / 1,783 = 28.5).

[42] Mathilakath Ramnarayanan, Rajekar Ashutosh, Khan Sahir, and Fetterly Ross, "*Methodology for Estimating the Fiscal Impact of the Costs Incurred by the Government of Canada in Support of the Afghanistan Mission*", the Office of the Parliamentary Budget Officer, Ottawa, Canada

[43] DND calls *"depreciation"* as *"amortization"* instead.

[44] The shortcoming of this approach is that averaging depreciation will not account for changes to the depreciation account due to acquisition, sale or write-off of capital assets. The US CBO concurs with this approach to obtain a high level range in the absence of detailed bottom-up financial data.

Accelerated Procurement of New Capital Assets
In addition to the existing capital assets in the DND inventory, there has been an accelerated procurement of major capital assets, many specifically for the Canadian mission in Afghanistan[45], as detailed in Table 32. The majority of this procurement has been made in FY2005-07. This may explain the increase in the DND gross tangible capital assets value between FY2005-06 and FY2006-07, as given in Table 31 (from $49.4 billion to $51 billion).

Table 32: Afghanistan specific procurement of capital assets by DND

Equipment ($million)	Quantity	Description	Procurement Cost	Support Cost	Total	Purchase Date
Leopard-2A6M tanks[46]	100	Mine Resistant Main Battle Tanks with upgrade	650	650	1,300	FY2006-07
BAE Land Systems RG-31	50	Mine Resistant Armored Patrol Vehicles	60	60	120	FY2005-06
BAE Systems M777 Howitzers	6	Lightweight Towed Howitzers	70		70	FY2005-06
John Deere M-GATOR	48	6x4 Diesel ATV	2		2	FY2005-06
Oerlikon-Contraves Sperwer UAV	5	Tactical UAV	15		15	FY2005-06
Miniature UAV	10	Miniature UAV	10		10	FY2006-07
Harris Falcon Radios	100	Harris Falcon II AN/PRC-117F (C) multi-mission radios	6		6	FY2005-06
Irridium hand-held telephone	80	Hand-held satellite telephones	1		1	FY2005-06
Color Camera System	20	for LAV-based Coyote reconnaissance vehicle	4		4	FY2005-06
Multi-Purpose Container Systems	288	Transportation Containers	3		3	FY2006-07
Army Trucks[47]	2,300	New high-tech logistics trucks	1,200	N/A	1,200	FY2006-07
Medium Range Radar (Afghanistan)	8 to 10	Radar specifically for Afghanistan	N/A	N/A	N/A	N/A
Total			**2,021**	**710**	**2,731**	

Source: DND/CF, CASR, CBC, Defense Industry Daily.

[45] *"Canada Purchases $200M in Equipment for Operation ARCHER in Afghanistan"*, 2 December 2005, http://www.defenseindustrydaily.com/canada-purchases-200m-in-equipment-for-operation-archer-in-afghanistan-01564/

[46] According to the following article: *"Renewing the Canadian Forces' Tank Capability"* by DND/CF Backgrounder, BG–07.012 - April 12, 2007, http://www.forces.gc.ca/site/newsroom/view_news_e.asp?id=2252, the Leopard-2 tanks were purchased to replace the older Leopard-C1/C2 tanks which are at the end of their lives. However, recent MERX NPP notices from PWGSC such as the one for Leopard–1 Radiator Cores (from http://www.casr.ca/doc-npp-leopard-radiator.htm) indicate that the older Leopard-1 tanks are not being retired, but are actually being reset. This would make the **entire** new Leopard-2 tank purchase **fully** incremental to the Afghanistan mission.

[47] *"Ottawa announces $4.7B for new helicopters"*, June 28, 2006, http://www.cbc.ca/canada/story/2006/06/28/military-spending.html

In addition to Afghanistan specific procurement noted above, there has been an accelerated procurement of other large capital assets, such as the Hercules aircraft, C-17 transport planes, etc. These assets may be used for the Afghanistan mission and/or after the mission is over. Items like the Hercules aircraft may not be delivered until after the Afghanistan mission comes to an end. Table 33 summarizes these purchases.

Table 33: Large Capital asset procurement by DND

Equipment (figures in $million)	Quantity	Description	Procurement Cost	Support Cost	Total	Purchase Date
Boeing Chinook helicopter purchase[47]	15	Medium-lift helicopters	2,000	2,700	4,700	FY2006-07
Supply Ships	3	Currently shelved	2,900		2,900	N/A
Hercules Aircraft[48]	17	Tactical transport plane	1,440	1,700	3,140	FY2007-08
C-17 transport planes[49]	4	Strategic transport plane	1,800	1,600	3,400	FY2006-07
Total			**8,140**	**6,000**	**14,140**	

Source: DND/CF, CASR, CBC, Defense Industry Daily.

These new capital purchases have significantly increased the total capital assets base of the Canadian Forces, and have a materially significant fiscal impact.

6.1. PBO's Calculation of Accelerated Depreciation for Existing and New DND Capital Assets

Issue: As mentioned earlier, the exact deployment of capital assets in theatre by the Canadian Forces is unavailable in the publicly available estimates documents. The PBO has not yet obtained this information from DND. Given this limitation, the PBO has estimated the deployment of capital assets in Afghanistan by making two assumptions as discussed below.

Given that all of the DND capital assets are not used in the Afghanistan mission, the PBO used an adjusted capital base for calculating the depreciation attributable to the mission. From the publicly available documents[50], it is clear that the majority of assets deployed in Afghanistan are land-based machinery, equipment, military and non-military vehicles including tanks, armoured personnel carriers, trucks and transport aircrafts. Given that naval ships are not deployed for the Afghanistan mission (except for the very initial phase[51]), we have excluded depreciation of ships to the mission.

Therefore, the Afghanistan specific depreciation charge is calculated on an adjusted capital assets base pertaining to capital assets deployed in Afghanistan. The PBO has used the average total gross tangible DND capital assets inventory as of FY2004-07 for the calculation of the accelerated depreciation as described in Table 31, but has opted to exclude the new capital asset purchases amounting to $2.73 billion + $14.14 billion = $16.87 billion as referenced in Table 32 and Table 33. This is because, in the absence of a methodology in the publicly available estimates documents including DPRs and RPPs, the PBO is unable to isolate the net depreciation charge that may be included in the annual depreciation charge of $1.78 billion (for FY2006-07) for the new capital asset purchases amounting to $16.87 billion.

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48 *"Government of Canada Awards Tactical Airlift Contract "*, January 16, 2008, http://news.gc.ca/web/view/en/index.jsp?articleid=372519&categoryid=1&category=News+Releases

49 "Contract Award Notice for ACP-Strategic — Boeing C-17, Canada's New Government Delivers for Canadian Forces: Awards Contract for Strategic Airlift", February 2, 2007, http://www.casr.ca/doc-acp-s-c17contract.htm

50 *"Mechanics battle dust and heat in Afghanistan"*, Capt Mark Peebles, http://www.forces.gc.ca/site/community/MapleLeaf/article_e.asp?id=2514 http://www.forces.gc.ca/site/community/MapleLeaf/article_e.asp?id=3530

51 *"HMCS HALIFAX returns to port"*, February 11, 2002, http://www.navy.forces.gc.ca/halifax/news/ship_news_e.asp?category=146&id=209

The exclusion of the new capital asset purchases from the calculation of the accelerated depreciation of capital assets is likely to *underestimate* the actual depreciation expense of the Afghanistan mission. Thus the adjusted capital base of 53% is calculated as follows:

Table 34: DND Capital assets inventory and annual straight-line depreciation expense for FY2006-07

FY2006-07	Machinery & Equipment	Aircraft	Total
Capital Assets Value ($ million)	10,933	12,296	23,230
% of Total Capital Assets	21.43%	24.11%	45.54%
Annual Depreciation ($ million)	547	396	943
% of Total Depreciation	30.64%	22.20%	52.84%
Source: DND DPR for FY2006-07			

Since data relating to gross tangible capital assets inventory and the annual depreciation expense for FY2001-04 are unavailable, the PBO has used an average annual depreciation expense over FY2004-07 (amounting to an average $1.76 billion) for the calculations. Since it is known that approximately 2,500 Canadian Forces members are deployed in Afghanistan, the deployment ratio works out to 4% (2,500/64,000) of the Canadian Forces full-time strength. Based on this deployment ratio of 4%, the PBO ran a sensitivity analysis based on two different scenarios noted below[52].

Scenario #1: Assumes that 4% of all CF Machinery & Equipment and Aircraft (as given in Table 30) are deployed for the mission.

Scenario #2: Assumes that 8% of all CF Machinery & Equipment and Aircraft (as given in Table 30) are deployed for the mission.

If 4% of the capital assets from the pool that comprises about 53% of the total Canadian Forces assets is deployed in Afghanistan, the annual depreciation charge, based on a standard straight-line depreciation method, and also accelerated depreciation factors of 2, 6 and 10 times the straight-line method are as given below:

Table 35: Accelerated Depreciation sensitivity Table, assuming 4% of Canadian Forces capital assets deployed in Afghanistan

Method	Accelerated Depreciation factor	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	Total
Straight-line annual depreciation charge	1	37	37	37	37	37	37	37	259
Accelerated depreciation charge	2	74	74	74	74	74	74	74	518
	6	223	223	223	223	223	223	223	1,561
	10	372	372	372	372	372	372	372	2,604

If 8% of the capital assets from the pool that comprises about 53% of the total Canadian Forces assets is deployed, then we get the following depreciation calculation.

[52] Given the lack of detailed bottom-up financial data from DND, after informal discussions with the United States Congressional Budget Office Analyst, PBO decided to use a sensitivity of 4% and 8%. This approach is similar to US Army experience as noted in the CBO paper entitled "**Replacing and Repairing Equipment Used in Iraq and Afghanistan: The Army's Reset Program**", http://www.cbo.gov/doc.cfm?index=8629 -Overall, the proportion of the Army's equipment that is now in South Asia – about 20% of all types – corresponds roughly to the share of its forces deployed there.

Table 36: Accelerated Depreciation sensitivity Table, assuming 8% of Canadian Forces capital assets deployed in Afghanistan

Method	**Accelerated Depreciation factor**	**2001-02**	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**2006-07**	**2007-08**	**Total**
Straight-line annual depreciation charge	1	74	74	74	74	74	74	74	518
Accelerated depreciation charge	2	149	149	149	149	149	149	149	1,043
	6	446	446	446	446	446	446	446	3,122
	10	744	744	744	744	744	744	744	5,208

Thus, if 8% of the capital assets from the pool that comprise about 53% of the total Canadian Forces assets is deployed in Afghanistan, and is being depreciated at an accelerated factor of six times the peace-time rates, then the annual depreciation charge of the mission in Afghanistan amounts to $446 million. The total depreciation charge amounts to $3.13B for FY2001-08, as given in the Table 36 above.

Canada is deployed in Afghanistan alongside its partner countries, the United States, the UK, and Australia. A brief assessment of the impact of accelerated depreciation on their capital assets provides the following information.

Table 37: International benchmarks for depreciation for partner countries

	USA			**UK**	**Australia**
Accelerated Depreciation Factor	2-6	6-8-10	10	5	Not available
Source	Former Defense Secretary Donald Rumsfeld[53]	US Chief of Staff Gen. Peter Schoomaker[54]	US Senator Carl Levin, D-Michigan[55]	UK House of Commons Defence Committee, HC 400[56]	Undertook detailed bottom up analysis based on engineering estimates

Thus, the capital equipment of Canada's partner countries in Afghanistan is being depreciated at between 2 to 10 times the peacetime rates.

From the various sources quoted in the *"International Benchmarks for Depreciation Table"* (Table 37), it is clear that there is heavy wear and tear of capital assets in the theatre of war. Publicly available news items (footnote 57 & 58) also indicate that Canada has been subjected to the same heavy wear and tear and attrition of capital assets in Afghanistan, as its international partners. **Given that the PBO was unable to obtain information regarding wear and tear factor of capital assets from the Canadian DND, we have used an estimated factor of six times for depreciation which is the average rate of depreciation of capital assets that Canada's international partners in Afghanistan are being subjected to. Table 38 summarizes the depreciation expense based on this assumption.**

[53] *"U.S. Gaining World's Respect From Wars, Rumsfeld Asserts", Ann Scott Tyson,* March 11, 2005, http://www.washingtonpost.com/wp-dyn/articles/A25751-2005Mar10.html

[54] *"Military Equipment Takes a Beating in Iraq"* by Adam Hochberg, Morning Edition, March 1, 2007, http://www.npr.org/templates/story/story.php?storyId=7662481

[55] *"Levin and Stabenow Announce Michigan Projects Included in Senate-passed Defense Appropriations Bill*", October 7, 2005, http://levin.senate.gov/newsroom/release.cfm?id=247094

[56] *"Operational costs in Afghanistan and Iraq: Spring Supplementary Estimate 2007–08"*, Eighth Report of Session 2007–08, 10 March 2008, http://www.publications.Parliament.uk/pa/cm200708/cmselect/cmdfence/400/400.pdf

[57] *"National Defence and the Canadian Forces: Renewing the Canadian Forces' Heavy Truck Capability"*, BG-07.015, May 10, 2007, http://www.casr.ca/doc-dnd-ahsvs-actros.htm

[58] *"Canada to lease 20 modern tanks for Afghanistan mission"*, David Pugliese and Jonathan Fowlie, CanWest News Service, Wednesday, April 04, 2007, http://www.canada.com/globaltv/national/story.html?id=8c8b89d7-a8a1-4a33-a163-2f3b3be08be9&k=50189

Table 38: DND Accelerated Depreciation charge summation for capital assets deployed for Afghanistan

Accelerated Depreciation charge factor 6 ($ million)	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	Total
assuming 4% of CF capital assets are deployed	223	223	223	223	223	223	223	1,561
assuming 8% of CF capital assets are deployed	446	446	446	446	446	446	446	3,122

6.2. Premature Retirement of Capital Assets

Adjustments to the asset depreciation should also reflect premature retirement of capital assets due to the Afghanistan mission. Premature retirement is a full front-loading of the net residual life of the asset. Below is a brief discussion of the known cases.

- The Leopard C1/C2 tank fleet
  The Leopard-C1/C2 tanks were originally acquired in FY1979-80 for $187 million[59]. These tanks were then upgraded in beginning FY1996-97 for an unknown amount. The upgrades[59] are:
  - Replacement of the existing turret with the complete turret of the German Leopard 1A5
  - Rheinmetall Defence Electronics EMES-18 computerized fire-control system

  The Leopard-C1 tank was up for retirement in FY2014-15 due to obsolescence, and lack of spare parts and support. However, these tanks were withdrawn from the Afghanistan theatre in FY2006-07[58] due to unsuitability to the conditions in Afghanistan, and replaced with a newly acquired fleet of Leopard-2A6M tanks, for a capital procurement cost of $650 million and support cost of $650 million[60].

  Table 39 calculates the cost to the GC of premature retirement of capital assets. The PBO is unaware of any other case of premature retirement of capital assets for the Canadian Forces.

Table 39: DND Premature retirement of capital assets deployed for Afghanistan

Tank	Planned Useful life (yrs)	Actual used life (yrs)	Original cost ($ million)	Straight-line Annual Depreciation ($ million)	Accelerated depreciation factor	Accelerated depreciation charge ($ million)
Leopard C1/C2 tanks	36	27	187	5.2	9	46.8
Leopard C1/C2 upgrade	15	6	N/A	N/A	9	N/A
Total						46.8

Thus, the Leopard-C1/C2 tanks were technically front-ended[61] from FY2014-15 to FY2006-07, an accelerated depreciation of 9 times the normal straight-line depreciation. The annual straight-line depreciation expense amounts to $5.2 million, given a total planned useful life of 36 years. The annual straight-line depreciation expense on the FY1999-00 upgrade is unavailable. Thus, an accelerated depreciation factor of 9 times the annual straight-line depreciation amounts to 9 x 5.2 = $46.8 million.

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[59] *"Canadian Leopard 1 MBTs (Canada), MBTs AND MEDIUM TANKS"*, Jane's Armour and Artillery, Jane's Information Group, January 30, 2004, http://www.janes.com/extracts/extract/jaa/jaa_0004.html

[60] *"Renewing the Canadian Forces' Tank Capability, BG–07.012 - April 12, 2007"*, http://www.dnd.ca/site/newsroom/view_news_e.asp?id=2252

[61] It must be noted that it is currently unclear whether the DND has indeed retired the Leopard C1 tanks. As recently as March 2008, the DND was issuing tenders for procuring spare parts for the Leopard C1/C2 tanks (From *"Leopard Radiator Cores – NPP Notice [Leopard C2 Tank Spares Notice of Proposed Procurement]"*, Reference Number: PW-$$BL-278-16879, Solicitation Number: W8486-081286/A, http://www.casr.ca/doc-npp-leopard-radiator.htm

Table 40: DND Premature retirement of capital assets deployed for Afghanistan

Premature retirement Depreciation charge ($ million)	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	Total
Premature Retirement	0	0	0	0	0	47	0	47

6.3. DND Unforecasted Operational Requirement (UOR)

UOR or Unforecasted Operational Requirement is that component of DND capital asset purchases, which is procured on a priority basis, and is mission specific. This procurement is for assets that are not in the Canadian Forces inventory, and are likely to be consumed completely by the end of the mission. An example of this procurement is mine-clearing equipment. The total UOR procurement for the Afghanistan mission to-date is $58 million.

Table 41: DND UOR procurement for the Afghanistan mission

UOR charge ($ million)	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	Total
UOR	0	0	58[62]	0	0	0	0	58

The DND DPR for FY2003-04 includes a UOR of $58 million for Operation ATHENA[62].

[62] *"DPR 2003-2004, National Defence: Minister's Message"*, http://www.tbs-sct.gc.ca/rma/dpr/03-04/ND-DN/ND-DNd3401_e.asp

6.4. DND Total Capital Assets Expenditure Summation

Thus, the total capital assets related costs to DND pertaining to the Canadian mission in Afghanistan are a total of the costs due to accelerated depreciation of existing capital assets, premature retirement of capital assets, and UOR procurement specifically for the Afghanistan mission. These costs are summarized in Tables 42 and 43, based on whether 4% or 8% of the total adjusted capital base is deployed for the mission.

Table 42: Total capital assets expenditure summation for DND, assuming 4% of relevant capital assets are deployed for Afghanistan

Accelerated Depreciation charge factor 6 ($ million)	**2001-02**	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**2006-07**	**2007-08**	**Total**
assuming 4% of CF capital assets are deployed	223	223	223	223	223	223	223	1,561
Premature Retirement	0	0	0	0	0	47	0	47
UOR	0	0	58	0	0	0	0	58
Total	**223**	**223**	**281**	**223**	**223**	**270**	**223**	**1,666**

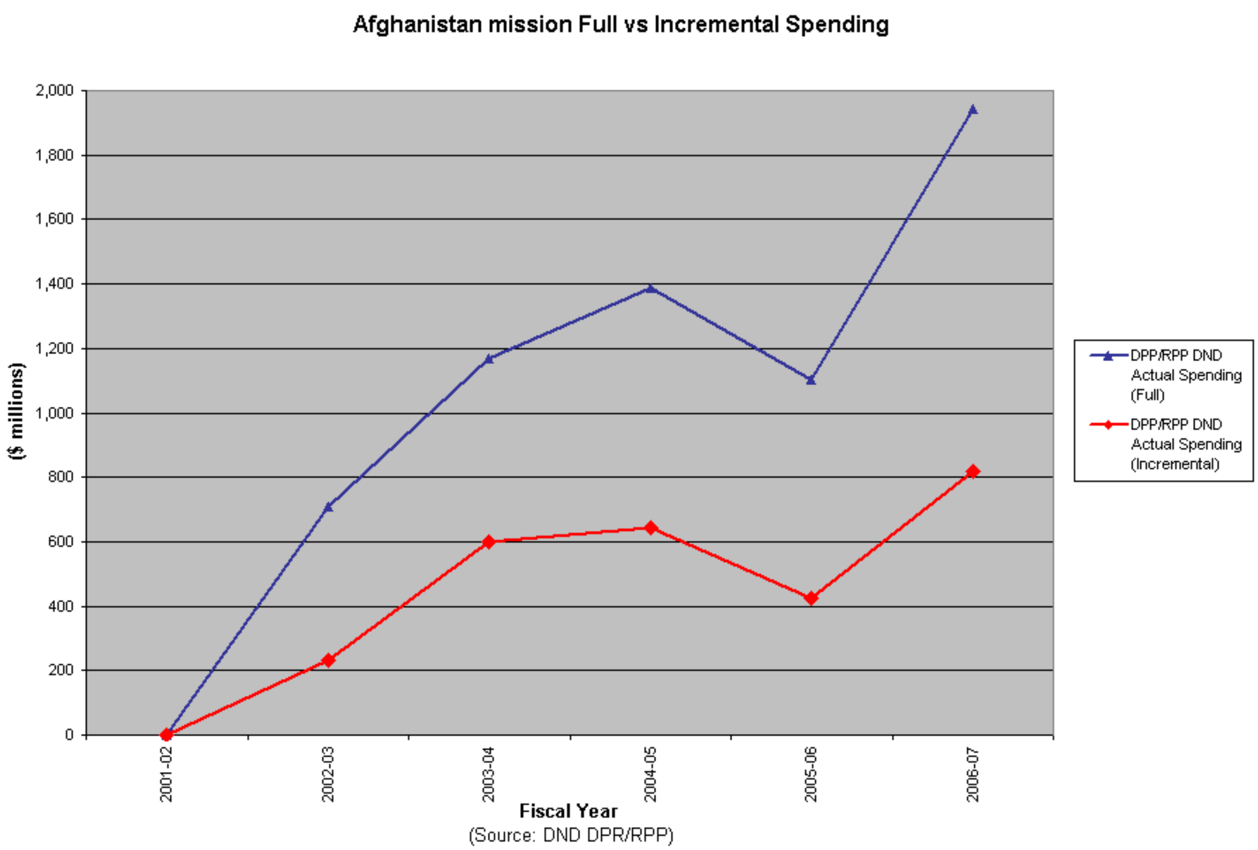
Table 43: Total capital assets expenditure summation for DND, assuming 8% of relevant capital assets are deployed for Afghanistan

Accelerated Depreciation charge factor 6 ($ million)	**2001-02**	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**2006-07**	**2007-08**	**Total**
assuming 8% of CF capital assets are deployed	446	446	446	446	446	446	446	3,122
Premature Retirement	0	0	0	0	0	47	0	47
UOR	0	0	58	0	0	0	0	58
Total	**446**	**446**	**504**	**446**	**446**	**493**	**446**	**3,227**

6.5. Test of Reasonableness for the Accelerated Depreciation Factor Used by the PBO

A member of our advisory panel noted an issue concerning the reliability of the accelerated depreciation factors noted in Table 37: International benchmarks for depreciation for partner countries. The Office of the PBO undertook a test of reasonableness for the accelerated depreciation factor of six times in the theatre of war vs. steady state rate.

To test the reasonableness and reliability of the accelerated depreciation charge of the Canadian mission in Afghanistan (i.e. theatre of war), we compare the calculation as shown in Tables 42 and 43 with the depreciation amount derived using the figures reported in the DND's DPRs and RPPs.



DND reports an annual "Full Cost" and an annual "Incremental Cost" figure in the DPRs. According to DND's definitions[63], as can be seen in the chart, the difference between the reported "Full Cost" and "Incremental Cost" is on account of depreciation, attrition and wages. Therefore removing the effect of wages would isolate the depreciation and attrition related charges.

To calculate the wage related costs, the PBO used the average annual wage per Canadian Forces member, based on statistical data as provided in *"A Profile of the Canadian Forces"* by Jungwee Park, Statistics Canada, Catalogue no. 75-001-X (http://www.statcan.ca/english/freepub/75-001-XIE/2008107/pdf/10657-en.pdf), released July 2008.

Table 44: Median annual salary for the average sample Canadian Forces member

Rank	**% of total CF members**	**Median Annual salary ($)**	**Proportion of Average Annual Salary by Rank**
Junior Rank	58.70%	48,000	28,176
Senior Rank	21.20%	48,000	10,176
Officer Rank	20.20%	73,000	14,746
Average Salary			53,098
Source: Statistics Canada			

Thus, the average median annual salary for a sample Canadian Forces member is approximately $53,098, based on the statistical data provided by Statistics Canada. Table 45 shows the annual average wages related to the Afghanistan mission, based on the average annual deployed strength in Afghanistan, as sourced from the various DND DPR/RPPs. Calculations for FY2001-02 and FY2007-08 are omitted since the DND Actual Full Cost and Actual Incremental Cost figures are unavailable from publicly available estimates documents such as the DPRs.

Table 45: Annual average wage related expense on account of the Afghanistan mission.

	2002-03	**2003-04**	**2004-05**	**2005-06**	**2006-07**
Average annual deployed strength	5,600	2,000	900	2,300	2,500
Average Annual Wages ($ million)	297	106	48	122	133
Source: Annual Wages are calculated by using the Average annual deployed strength and multiplying it with the average annual salary for Canadian Forces member as derived from the Statistics Canada report.					

[63] From "National Defence, Section III: Financial and Human Resources Reporting", DND DPR 2006-07, http://www.tbs-sct.gc.ca/dpr-rmr/2006-2007/inst/dnd/dnd03-eng.asp
"Full DND Cost" is the cost to DND for the operation. It includes civilian and military wages, overtime pay and allowances; the full costs of petroleum products, spares, and contracted repair and overhaul; and depreciation and attrition of all equipment involved.

"Incremental DND Cost" is the cost to DND that exceeds the costs of personnel and equipment involved if they had not been deployed on the operation. It is derived from the "Full DND Cost" by subtracting the costs (e.g. wages, equipment depreciation and attrition) that would otherwise have been spent on normal activities and exercises.

Table 46 shows the derivation of the average annual depreciation and attrition related expense.

Table 46: Calculation of depreciation and attrition related expense

Figures $ million[64]	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**2006-07**
DND Actual Full Cost	709	1,167	1,389	1,104	1,945
DND Actual Incremental Cost	234	601	645	425	817
Average Annual Wages	297	106	48	122	133
Depreciation and Attrition Expense (= Full Cost - Incremental cost - Wages)	178	460	696	557	995
Average Annual Depreciation and Attrition			**577**		

Source: DND Actual Full Cost and Actual Incremental cost, and Average annual deployed strength are sourced from various DND DPRs. Annual Wages are calculated by using the Average annual deployed strength and multiplying it with the average annual salary for Canadian Forces member as derived from Statistics Canada reports.

Thus, comparing the annual depreciation figures as calculated above with the PBO calculations shown in *6.1. PBO's Calculation of Accelerated Depreciation for Existing and New DND Capital Assets* previously in Tables 42 and 43 gives the following:

Table 47: Depreciation test of reasonableness

Annual Depreciation charge ($ million)	**2001-02**	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**2006-07**	**2007-08**	**Average annual depreciation charge**
PBO Calculation (assuming 4% CF capital assets deployed)	223	223	281	223	223	270	223	238
PBO Calculation (assuming 8% CF capital assets deployed)	446	446	504	446	446	493	446	461
As derived from DND Actual Full Cost and Incremental Cost data	N/A	178	460	696	557	995	N/A	577

Thus, a comparison of the average annual depreciation of $577 million derived from DND's own DPRs/RPPs with the PBO calculation based on an acceleration factor of six times in the theatre of war, shows that the PBO estimate for depreciation is **conservative and reasonable**.

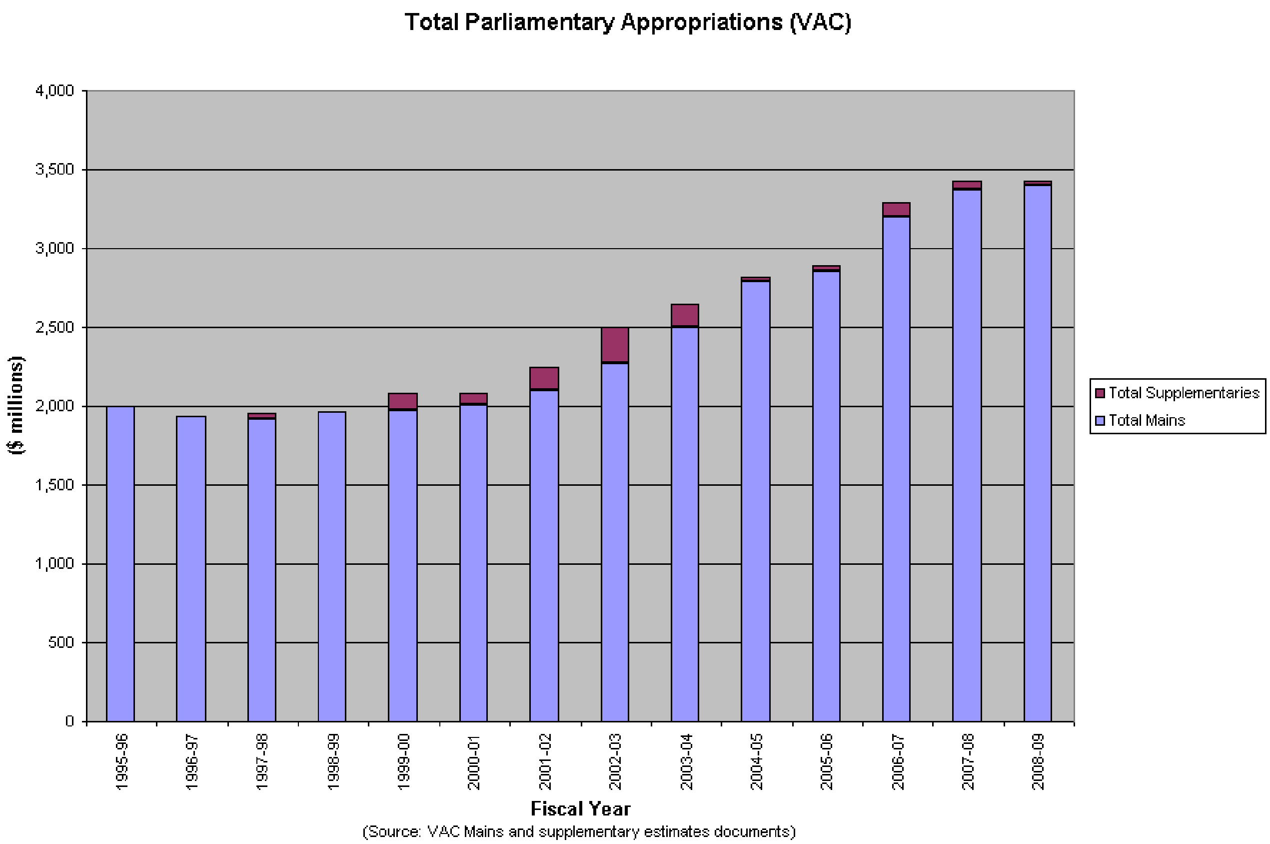
The PBO calculation of the accelerated depreciation, even assuming 8% of the relevant CF Capital Assets from the adjusted capital asset base are deployed in Afghanistan appears to be reasonable, conservative and underestimates the average annual depreciation ($577 million - $461 million) by $116 million.

[64] Calculations for FY2001-02 and FY2007-08 are omitted since the DND Actual Full Cost and Actual Incremental Cost figures are unavailable from publicly available estimates documents such as the DPRs.

Appendix 7: Historical Funding Profile for VAC

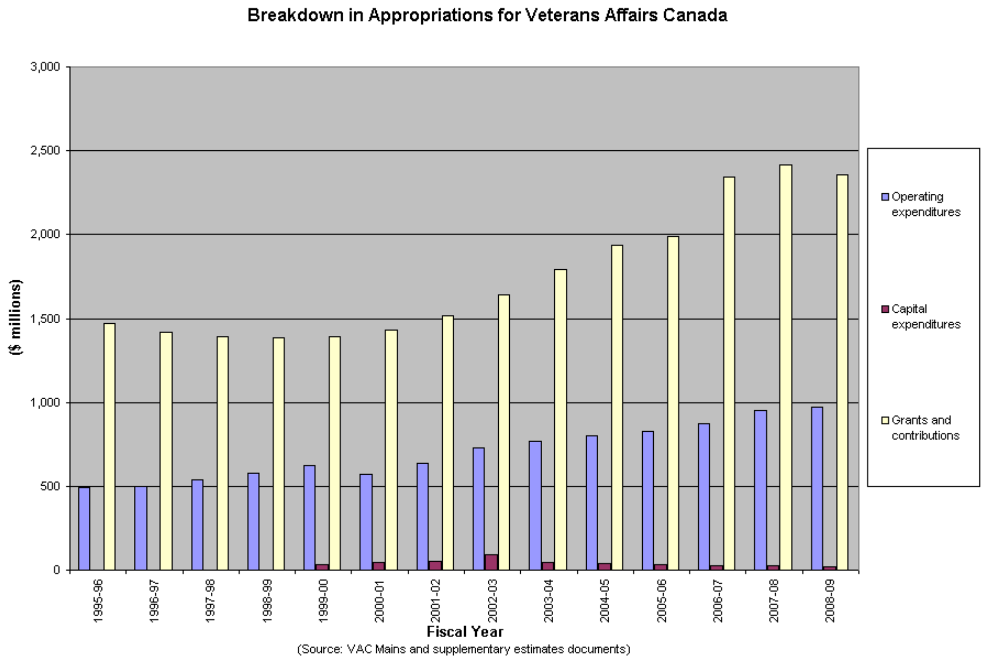
Below are the historical Mains and Supplementary Appropriations for VAC.

As can be seen from the following chart, there has been a steady growth in the annual appropriations for VAC since the fiscal year 2001-02, until 2006-07 when the appropriations were mostly constant.



Appendix 8: Historical Funding Profile for VAC by Vote

Given below are the various appropriations for VAC. Grants and Contributions are the primary vehicle for VAC to render service to its clients. There has been a steady growth in both operating expenditures and also grants and contributions made by VAC since the fiscal year 2001-02, until 2006-07 when the appropriations were relatively constant.



Overhead cost of VAC's program delivery

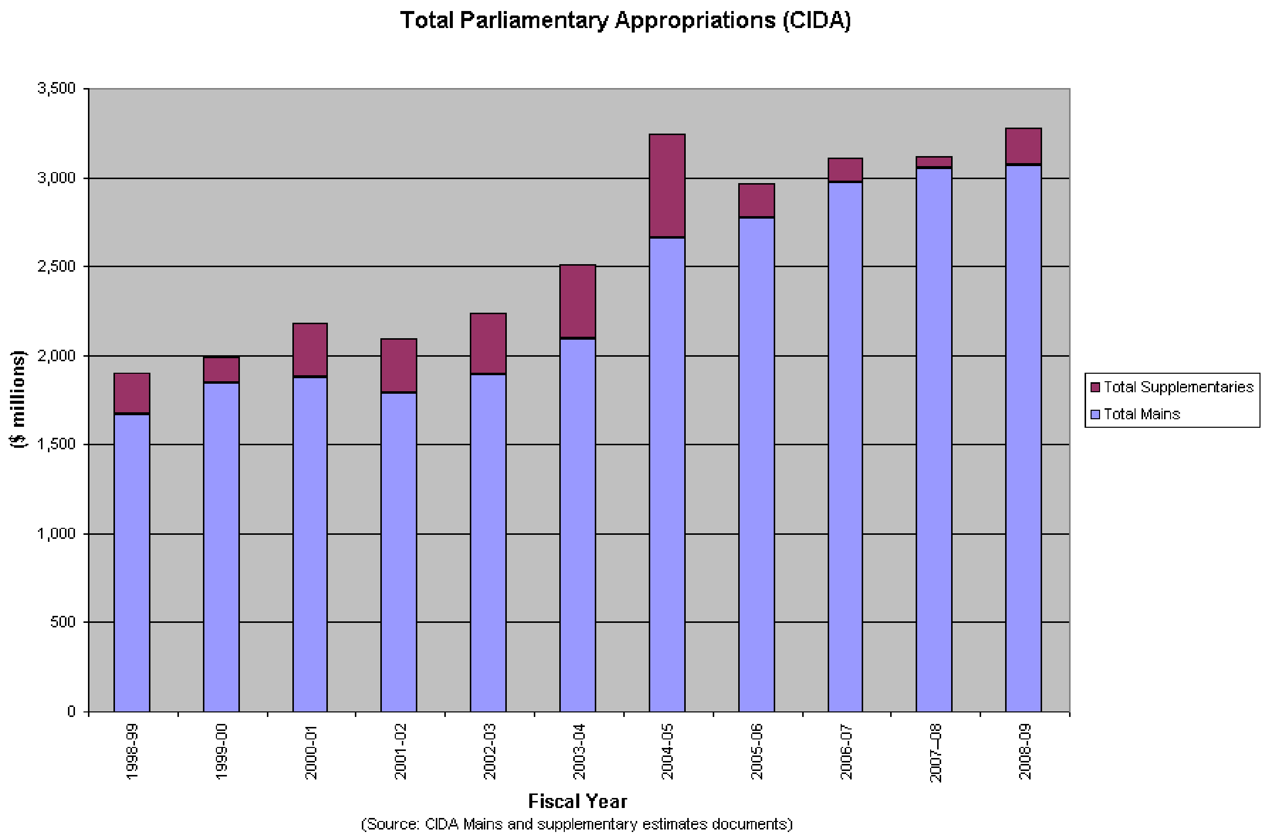
The following table gives us the ratio of operating expenditures to grants and contributions appropriations on an annual basis for FY2001-02 to FY2007-08.

Figures in $ million	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Total Operating Expenditures	637	728	768	798	827	872	951
Total Grants and Contributions	1,514	1,642	1,789	1,936	1,989	2,344	2,415
Operating Expenditures per dollar of Grants and Contributions	0.42	0.44	0.43	0.41	0.42	0.37	0.39

In fiscal year 2006-07, VAC was appropriated $872 million in operating expenditures to disburse an appropriation of $2,344 million in grants and contributions. Thus, VAC consumed approximately 37 cents in operating expenditures to deliver each dollar of program delivery to its clients. The historical trend is relatively constant.

Appendix 9: Historical Funding Profile for CIDA

The graph below shows the annual main and supplementary appropriations for each fiscal year. There has been a steady increase in total Parliamentary appropriations for CIDA. In the fiscal year 2004-05, there was a significant increase in total Parliamentary appropriations due to large supplementary appropriation[65].

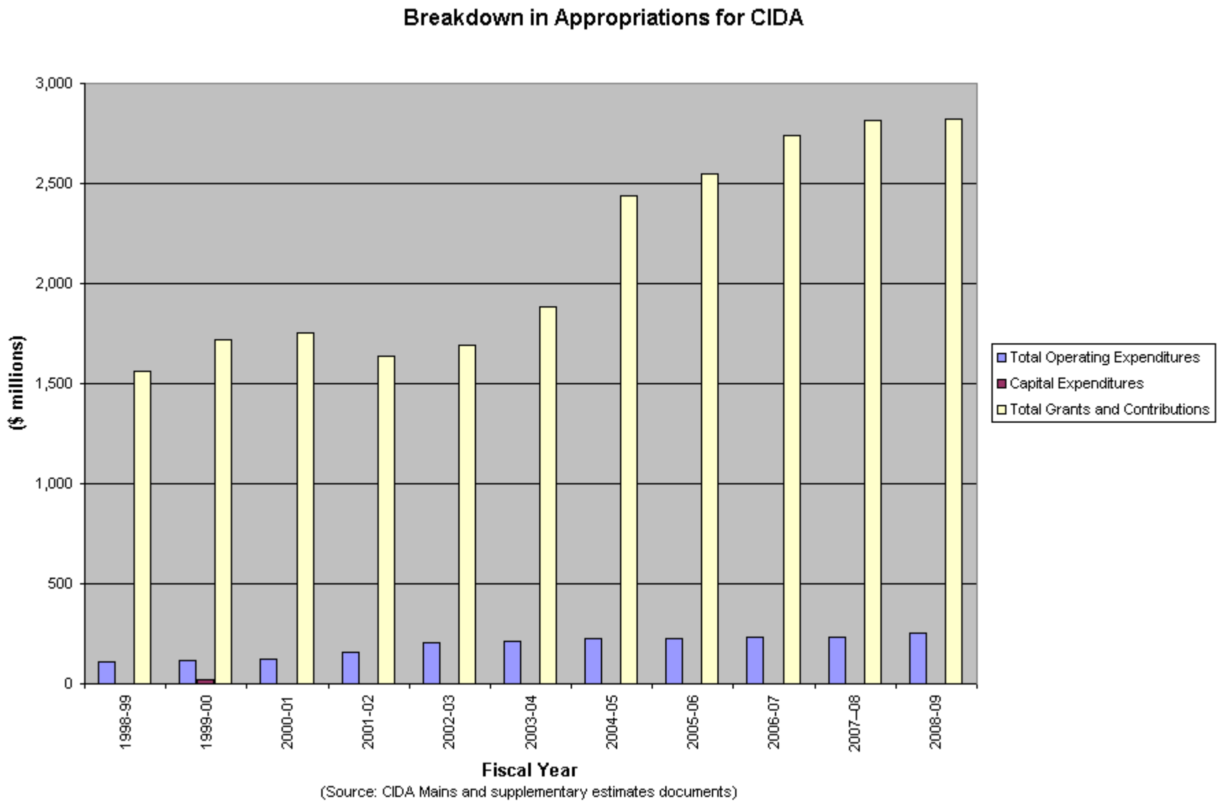


65 The large sum of the supplementary appropriation was attributed to spending under “Multilateral Programs”.

Appendix 10: Historical Funding Profile for CIDA by Vote

CIDA's financial framework, as depicted in the graph below, is largely divided into two categories: operating expenditures (Vote (1)), and Grants and Contributions (Official Development Assistance).

There has been increasing trend in the appropriations for grants and contributions beginning FY2002-03. Operating expenditures have also risen accordingly.



Overhead cost of CIDA's program delivery: The following table gives us the net operating expenditures for CIDA per dollar of program delivery, annually.

Figures in $ million	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Total Operating Expenditures	155	205	211	223	226	234	232
Total Grants and Contributions	1,634	1,681	1,873	2,432	2,543	2,701	2,794
Operating Expenditures per dollar of Grants and Contributions	0.09	0.12	0.11	0.09	0.09	0.09	0.08

In fiscal year 2006-07, CIDA spent $234 million to disburse $2,701 million in grants, contributions and loans. Thus, CIDA consumed approximately 9 cents in operating expenditures to deliver each dollar of aid to its clients. The trend is relatively constant in recent years.

Appendix 11: CIDA Programs Related to Afghanistan

Table 48 summarizes the various contributions from CIDA towards the projects of the mission in Afghanistan, their durations, and the spending (Figures in $ millions). This data is sourced from the CIDA website on Afghanistan, and not the Estimates documents.

Table 48: CIDA programs for the Afghanistan mission

Basic Services (Including education and economic growth)	**Duration**	**Total**
Education Quality Improvement Project	2007-2011	60
Girls' Education Support Program	2008-2013	8
Girls' Primary Education, including Kandahar Province	2006-2010	15
Literacy Program in Kandahar Province	2007-2008	1
Vocational Training for Afghanistan Women (WUSC-CARE)	2007-2011	5
National Solidarity Program	2005-2011	132
National Area Based Development Programme	2005-2009	29
Alternative Livelihoods Program in Northeastern Afghanistan	2005-2009	7
Western Basins Water Resources	2006-2009	15
Regeneration of Murad Khane	2008-2011	3
Horticulture and Livestock	2007-2009	4
Canada Fund for Local Initiatives	2006-2007	1
Kandahar Rapid Village Development Project	2007-2008	5
Spin Boldak Highway Construction	2007-2008	15
Integrated Alternative Livelihoods Program in Kandahar Province	2006-2010	19
Accelerated District Reconstruction Program in Kandahar Province	2007-2009	19
National Rural Access Program	2006-2010	5
Kabul Procurement Marketplace	2005-2008	1
Microfinance Program in Afghanistan—National Program	2003-2011	97
Integrating Women into Markets	2006-2010	5
Kandahar Local Initiatives Program (KLIP)	2007-2009	5
Provincial Reconstruction Team: Reconstruction and Development Program	2006-2008	2
Total: Basic Services (Including education and economic growth)		**451**

Humanitarian Assistance	**Duration**	**Total**
Food Aid to Vulnerable Families	2006-2008	39
CARE—Kabul Widows Humanitarian Assistance Project	2007-2008	2
Micronutrient Initiative	2006-2009	1
Global Polio Eradication Initiative and Tuberculosis Control Program	2007-2011	18
Joint Appeal for the Humanitarian Consequences of Rising Food Prices	2007-2008	10
Maternal Health Initiative in Kandahar Province	2007-2008	0
Assistance to Vulnerable Families in the South	2006-2007	5
Maternal and Child Healthcare: Supporting Hospitals and Health in Southern Afghanistan	2007-2010	10
ICRC Emergency Appeal for Afghanistan	2007-2008	7
UNHCR Global Appeal	2007-2008	5
Mine Action National Development Budget	2005-2009	65
Anti-Personnel Mine and Ammunition Stockpile Destruction	2006-2008	7
Disbandment of Illegal Armed Groups	2005-2009	7
Total: Humanitarian Assistance		**175**

National Institution	Duration	Total
Afghanistan Reconstruction Trust Fund (Recurrent Costs)	2003-2011	200
Strengthening the Rule of Law	2004-2008	6
Support to the National Program Support Office	2005-2009	9
Support to the Afghanistan Independent Human Rights Commission	2007-2009	7
Nationalizing Legal Aid in Afghanistan	2007-2010	3
Coaches and Advisors Program	2007-2009	5
Making Budget and Aid Work	2007-2010	4
Support to the Afghanistan National Development Strategy	2007-2009	4
Enhancing Legal and Local Capacity for Tomorrow	2007-2009	5
Afghanistan Sub-national Governance Program	2007-2010	5
Responsive Gender Fund for the Advancement of Women	2007-2011	5
Capacity Building for Promotion of Gender Equality	2007-2010	5
Rights in Practice—Women's Rights and Family Law Reform	2007-2011	5
Gender Advisor to the Afghanistan Ministry of Interior	2007-2009	1
Total: National Institution		**264**

Closed Projects	Duration	Total
Human Rights Treaty Reporting	2004-2007	0
Counter Narcotics Trust Fund	2006-2007	1
Support to the Establishment of the Afghanistan Legislature	2005-2007	1
Independent Electoral Commission	2006-2007	1
Women's Community Support Program	2004-2006	0
ICRC—Civilian Protection in Asia *(20% to Afghan)	2006-2007	0
Support to Parliamentary Elections	2005-2006	13
Women's Rights Fund	2003-2007	2
Making Budgets Work	2004-2007	3
Total: Closed Projects		**22**
Total (All programs)		**912**

Data Source: CIDA website on Afghanistan (http://www.acdi-cida.gc.ca/CIDAWEB/acdicida.nsf/En/JUD-12514940-QGL)
(Figures in $ million)

Appendix 12

October 2008

Cost Estimate of the Past and Future Benefit and Pension Liabilities Resulting from Deaths and Disabilities During the Mission in Afghanistan

Office of the Parliamentary Budget Officer

MERCER

MARSH MERCER KROLL
GUY CARPENTER OLIVER WYMAN

This report contains information prepared for use by the Office of Parliamentary Budget Officer and should not be disclosed without proper authorization.

Consulting. Outsourcing. Investments.

Contents

Executive summary

This report has been prepared at the request of the Office of the Parliamentary Budget Officer. The purpose of the Report is to provide order of magnitude estimates of the incremental costs of incurred and future liabilities to the GC from deaths and disabilities resulting from Canada's participation in the Mission in Afghanistan. Due to the limited availability of data and time constraints, this report presents high level, preliminary estimates only.

The report includes the incremental costs associated with benefits available to disabled Canadian Forces members, veterans and the survivors of deceased members under three major programs: The Canadian Forces Superannuation Act, The Pension Act, including the New Veterans Charter, and the Service Income and Security Insurance Plan Financial Services. Potential incremental costs to the Canada Pension Plan and Quebec Pension Plan, provincial health care plans and other benefit plans have not been included in this study. In addition, this report is not intended to measure the overall economic loss related to deaths and disabilities.

The total estimated costs for fiscal years 2001-2002 to 2007-2008 range from a low of $837 million to a high of $2,085 million. Three scenarios based on future deployed strengths of 1,000, 2,500 and 3,500 per year, each with a low and high cost estimate, have been presented for fiscal years 2008-2009 to 2010-2011. These costs range from a low of $207 million to a high of $1,759 million. These ranges represents the estimated present value of current and future benefits payable under the various programs listed above for claims expected to occur as a result of the Mission in Afghanistan including claims not yet reported and claims not yet incurred for future years up to and including 2010-2011. Details of the methodology and assumptions used to arrive at this range are outlined in Section 5 and Appendix C of this report. More details on the results can be found in Section 6 and Appendix D. These costs are order of magnitude and estimates only and could be further refined if more detailed data on the incidence and benefit costs associated with injury related to service in Afghanistan were available.

Respectfully submitted,

Caroline Warburton

Bernard Potvin FSA, FCIA Principal	Caroline Warburton FSA, FCIA Principal
October 2, 2008	October 2, 2008
Date	Date

1

Purpose and Use of the Report

This Report has been prepared at the request of the Office of the Parliamentary Budget Officer. The purpose of the Report is to provide order of magnitude estimates of the incremental costs of incurred and future liabilities to the GC from deaths and disabilities, including disabilities due to post-traumatic stress disorder, resulting from Canada's participation in the Mission in Afghanistan.

Due to the limited availability of data and time constraints, this report presents high level estimates only. If required, more refined cost estimates may be performed at a later date.

This report contains information prepared for use by the Office of Parliamentary Budget Officer and should not be disclosed without proper authorization.

2

Scope and Limitations of the Report

We have included the past and future incremental costs to the GC for benefits payable on account of death or injury of Canadian Forces (CF) members serving in Afghanistan that we have determined to be material and relevant to this calculation. Only CF members (Regular and Reservists) are included in these estimates. Civilians, RCMP, CIDA, CSC or UN observers and members are excluded.

Only incremental costs have been included for the purpose of this study, based on the plan provisions of existing programs and current adjudication practices. Potential incremental costs to the Canada Pension Plan (CPP) and Quebec Pension Plan (QPP), provincially funded health care programs, private health care plans and other plans have not been included in this study.

Note that the purpose of this study is to estimate the cost of compensation benefits provided to CF members on account of death or injury. It is not intended to measure the overall economic loss related to those deaths or injuries.

Finally, it should also be noted that the nature of the benefits provided is very complex and the emergence of disabilities and benefit payments spans over a very long time period. In addition, limited information and data was available to develop the methods and assumptions that are normally required to perform such estimates. Therefore, the results of this study should be seen as preliminary estimates intended to provide order of magnitude costs only.

3

Summary of Benefits Valued

This report includes the incremental costs associated with benefits available to disabled veterans and the survivors of deceased members under three major programs:

- The Canadian Forces Superannuation Act (CFSA),
- The Pension Act, including the New Veterans Charter (VAC benefits) and
- The Service Income Security Insurance Plan Financial Services (SISIP FS).

The CFSA provides pension benefits to disabled veterans and their families and to survivors of deceased members and also provides a Supplementary Death Benefit (SDB).

The VAC benefits include disability and survivor benefits, death benefits and access to numerous health, financial and rehabilitation benefits and awards.

The SISIP program provides life and disability benefits coverage to CF members and their dependents.

A list and description of the benefits included is provided in **Appendix A.** Some of the benefits provided under these programs have been excluded from our calculations as their inclusion would not have a material impact on results. Excluded benefits are listed in **Appendix B**.

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Data Sources

We have relied upon the following data sources:

Department of Justice

Website: http://laws.justice.gc.ca/

- The Pension Act
- The Canadian Forces Members and Veterans Re-establishment and Compensation Act

Department of National Defence (DND)

Website: http://www.forces.gc.ca/

- Fallen Canadians
- Health Services for Canadian Forces Members

Reports provided by DND to Mr. Kevin Page, Parliamentary Budget Officer on September 22, 2008, and supplementary notes and information subsequently provided by DND.

Government of Canada

Website: http://canadagazette.gc.ca/

- The Canadian Forces Members and Veterans Re-establishment and Compensation Regulations

Office of the Parliamentary Budget Officer

Historical and projected data on deployed strength.

Office of the Superintendent of Financial Institutions (OSFI)

Tables to form part of the Actuarial Report of the Future Benefits for Veterans as at 31 March, 2008.

Actuarial Report on the Pension Plan for the Canadian Forces as at 31 March, 2005.

Manulife Financial

Phone interviews with Manulife Financial (SISIP FS's insurance carrier)

SISIP FS

Claims information related to the Accidental Dismemberment Insurance Plan (ADIP).

Miscellaneous phone interviews.

Veterans Affairs Canada (VAC)

Website: http://www.vac-acc.gc.ca/

- Death and Disability Benefits, Programs and Services
- The New Veterans Charter; Questions and Answers
- The New Veterans Charter; Services and Benefits
- Veterans Affairs Disability Programs

Miscellaneous benefit costs and estimates prepared by VAC related to incidence of claims and benefit payments in relation to CF service in Afghanistan.

Other Sources

Soldiers Returning from Iraq and Afghanistan: The Long-term Costs of Providing Veterans Medical Care and Disability Benefits; Linda Bilmes; January 2007.

Analysis of Economic and Methodological Issues in the Bilmes and Stiglitz Study of the Cost of the War in Iraq; Jane G. Gravelle; March 2006.

5

Methodology and Assumptions

This section provides a summary of the methods and assumptions used to perform our cost estimates. More detail can be found in **Appendix C**.

Death benefits

The methods used to value the Death Benefits provided under the CFSA and the VAC programs were as follows:

CFSA

- Supplementary Death Benefit (SDB)

  The SDB under the CFSA provides for a lump sum death benefit equal to two times salary. For each death resulting from the conflict in Afghanistan, the death benefit was based on an assumed average salary of $52,000 (for fiscal year 2007-2008 and adjusted by 3% for other years) based on information provided by DND on death casualties. In addition, an administrative expense of 5% was assumed.

- Survivor pension

  The CFSA also provides for a survivor pension to an eligible spouse and/or dependent children. Using an average demographic profile derived from the CFSA actuarial valuation report, we estimated the net difference between the present value of a survivor pension and the accrued retirement pension. Our estimates indicated that the net difference between the two is not material. Therefore, the value of the CFSA survivor benefits has not been included for the purpose of our estimate.

VAC

- Lump sum award

  Under the New Veterans Charter, a lump sum amount of $250,000 is payable for service-related deaths on or after April 1, 2006. The amount payable is indexed each January 1. For the purpose of our cost estimate, we have used the number of actual and estimated future deaths each year and applied the lump sum amount, including indexation. While the value of VAC's benefits for deaths prior to April 1, 2006 was based on a survivor pension rather than a lump sum award, we have used the value of the lump sum award as being representative of the approximate value of the pre-April 1, 2006 benefits. This simplifying assumption does not have a material impact on our cost estimates.

- Earnings Loss Benefit

  The New Veterans Charter provides for an Earnings Loss Benefit that may be paid to eligible survivors and their dependents. The costs of this program cannot be separately identified from the Earnings Loss Benefit available to disabled veterans, so they have been implicitly included with the costs of the other VAC benefits described in the following section.

All CF deaths incurred in Afghanistan have been deemed to represent an incremental cost for the purpose of our estimate. A more refined estimate could exclude expected costs attributable to non-service-related deaths. However, this would not likely have a material impact on the results of this study.

Disability and Health Care Benefits

CFSA Disability pension

A CF member released for medical reasons may be entitled to a CFSA disability pension if the member's medical condition meets the definition of disability under the CFSA. However, the CFSA disability benefit is an offset to the SISIP LTD plan. Therefore, rather than valuing this benefit separately, the CFSA disability costs have been included with the costs of the SISIP LTD plan as described later in this report.

VAC benefits

The VAC benefits include disability benefits and access to numerous health, financial and rehabilitation benefits and awards. Substantial changes were made to the VAC program effective April 1, 2006. Given that it may take a long period of time following the occurrence of an event before a medical condition or disability related to this event manifests itself, the majority of claims for benefits related to the events from the war in Afghanistan will be filed under the provisions of the new VAC program. Therefore, for the purpose of our estimate, we have used the provisions of the New Veterans Charter for determining the cost of all claims related to the war in Afghanistan. This simplifying assumption does not have a material impact our cost estimates.

Two key elements need to be determined for the purpose of valuing the VAC benefits. The first one has to do with claims incidence; i.e. for any given year of military operations in Afghanistan, we must estimate the number of claims that will eventually occur. The second key element of the cost assessment is to determine the present value of the claims that will eventually be paid. These two key elements are discussed further below.

- **Claims incidence**

The claims incidence is particularly difficult to estimate. As previously mentioned, it may take a long period of time following the occurrence of an event before a medical condition or disability related to this event manifests itself. Therefore, the claims reported so far in relation to the Mission in Afghanistan only represent a small fraction of the total claims that can be expected to arise in future years.

A key component of our claims incidence assumption is based on the claims distribution assumption developed by the Office of the Superintendent of Financial Institutions (OSFI) for the purpose of their Actuarial Report on the Future Benefits for Veterans as at March 31st, 2008. The expected claim distribution pattern derived from OSFI's report related to the emergence of future disability awards is summarized in the table below. The table illustrates the expected proportion of claims (Disability awards, Veterans Independence Program (VIP) and Health Care Treatment Benefit (HCTB) claims) to be awarded in future years in relation to events occurred in fiscal year 2008-2009.

Fiscal Year of emergence	Proportion of claims reported in future years in relation to 2008-2009 events
2008-2009 to 2012-2013	35.0%
2013-2014 to 2022-2023	19.0%
2023-2024 and beyond	46.0%
All	100.0%

This claims distribution assumption was developed by OSFI based on their analysis of VAC claims submitted in relation to prior years' events, including both wartime and peacetime clients.

As can be seen from the above table, only about a third of claims related to 2008-2009 events are expected to be reported within the next five years. Nearly half the claims related to 2008-2009 events are expected to emerge more than 15 years from now.

Another main source of information used to derive our incidence assumption was the number of claims reported by VAC as of August 31, 2008. As of that date, VAC's reports indicated 841 clients with Afghanistan service only and 683 clients with Afghanistan and other CF service. Finally, we also used reports produced by DND which provided us with additional information on the number of injuries occurred in Afghanistan by year of occurrence.

Using OSFI's claims distribution outlined above, along with the number of Afghanistan service-related clients reported to VAC so far and DND's reported injuries, we derived an assumption with respect to the incidence of VAC claims related to service in Afghanistan.

Note that the claims incidence shown in **Appendix C** is related to disability awards. The incidence related to other VAC benefits is not shown separately, but is directly linked to the incidence assumed for the disability awards benefits.

Since the data available to derive this assumption was limited and there is a high degree of uncertainty with respect to the actual emergence of future claims related to current events, the methodology described above was used for our low estimate. For the purpose of the high estimate, it was assumed that the incidence of claims would be 50% higher than assumed under the low estimate.

Finally, all claims related to service in Afghanistan are assumed to represent an incremental cost.

- **Present Value of future VAC claims**

The second key element is assessing the present value of future benefits payable under VAC as a result of a service-related illness or injury. For this purpose, we have used as a starting point the results of OSFI's actuarial valuation of VAC benefits as of 2008. In their report, OSFI determines the net present value of all VAC benefits expected to be paid in the future as a result of service-related events occurring in the current year. This net present value is referred to as the Government Service Costs (GSC) in OSFI's valuation report.

The GSC is the sum of the actuarial present value (PV) of all VAC benefits arising from events in the year, regardless of when the claim is made. In order to calculate the PV, economic, demographic, and other assumptions are made. The economic assumptions include interest, inflation, and indexation of certain benefits. Demographic assumptions are made regarding the number of new disability claimants, VIP claimants and new claimants under each of the other programs. Of note is that the incidence of post-traumatic stress disorder is not an explicit assumption, but rather is implicit in the overall disability assumption. Other demographic assumptions are made such as mortality rate, marital status etc. The highlights of the main economic assumptions used by OSFI for their valuation are provided in **Appendix C** of this report.

From OSFI's report, we can derive that the average PV of future benefit payments per new VAC client is $131,000 in relation to events occurred in FY 2008-2009. This value is derived by using the GSC reported by OSFI for FY 2008-2009 events divided by the total number of new VAC clients expected to emerge from 2008-2009 events. Note that we have added 20% related to claims administration costs[66], resulting in an assumed PV of $157,000 per claim incurred as a result of 2008-2009 service. This amount was used for our low estimate.

For the high estimate, we have assumed that the cost of claims related to Afghanistan service would be 30% higher than the average for all VAC clients. In addition, we have adjusted the general and health care inflation to use a more conservative trend assumption by using the results of the sensitivity analysis found in Table 6 of the OSFI valuation report. The resulting assumed PV per new VAC client with Afghanistan service of $225,000 for 2008-2009 service was used for our high estimate.

These costs were used for FY 2008-2009. Costs for other years included in our study were derived from the 2008-2009 estimate, adjusted by 3% per year for previous and future years.

Service Income Security Insurance Plan (SISIP)

The main employer-paid benefit provided under SISIP that may be impacted by service-related disabilities is the long-term disability (LTD) program. Under this program, a member released from the CF may be entitled to a benefit equivalent to 75% of salary reduced by certain offsets, provided they meet the definition of disability under the SISIP LTD plan. Note that while members contribute to the cost of this program, it is assumed for the purpose of our estimate that any incremental cost related to service-related disabilities would be borne by the employer. As with the VAC benefits, the two key assumptions needed to derive the cost of this program are claims incidence and the PV of the costs of the program.

- **Claims Incidence**

There is little data available to estimate the actual number of incurred SISIP LTD claims that may be related to the conflict in Afghanistan. There can be a lag of several months to several years between the time an injury occurs and a CF member is released from the Force (notification to the insurer is only provided about 6 months prior to release). In addition, there are potential claims related to current events that may not manifest themselves until several years from now.

[66] While VAC's operation costs are higher than 20%, these operation costs would be comprised of fixed and variable costs. We have used 20% as an approximation of the variable costs related to the administration of these additional claims.

While some indication was provided as to the potential number of LTD claims attributable to service in Afghanistan, this information is not routinely tracked. There were also indications that medical releases and LTD claims are expected to increase substantially this year compared to previous years, but there was no clear indication as to what extent this increase may be linked to operations in Afghanistan.

Unfortunately, the lack of data, as well as potential claims lag, makes it difficult to establish a solid assumption with respect to the incidence of LTD claims that may be linked to service in Afghanistan. Nevertheless, based on the information available, and claim patterns that can generally be expected from the LTD program, we have established an LTD incidence assumption using a fairly wide range between our low and high estimate to account for the uncertainty in the claims level.

For the purpose of our low estimate, we have assumed that the incidence of SISIP LTD claims resulting from service in Afghanistan represents 10% of the incidence of VAC-related claims for the low estimate and 25% for the high estimate.

- **Present value of claims**

The present value of LTD claims (i.e. the value of future LTD benefit payments for incurred and future claims) has been estimated based on actuarial methods and assumptions appropriate for this plan. The present value amounts have been adjusted to remove the impact of any CFSA disability offset such that the resulting value represents the combined value of CFSA disability and SISIP LTD benefits. The present value amounts have also been adjusted to remove the impact of Pension Act offsets as they are no longer applicable to new claims.

Other employer-paid SISIP benefits (i.e. ADIP) have not been valued as they do not have a material impact on the results of this cost estimate.

Time Loss due to disability

In addition to the insured LTD payment provided under the SISIP LTD plan, there may be a cost associated with time loss prior to release. We understand that it takes about 2 years on average between the date an event occurs and the actual release date from the CF. Some of that time would represent paid time loss prior to being released from the CF. There was no information available related to potential paid time loss. We have assumed that on average, paid time loss represents 6 months of pay for our low estimate and 18 months of pay for our high estimate. We have increased these amounts by 25% to account for pension, benefits and other payroll costs.

There are other events that could result in paid time loss, but not necessarily in a medical release, for instance, an injured member who recovers and returns to active duty. However, there was not information available to allow us to take these potential time losses into account in our estimate. The impact is likely not material to the results of this study.

Public Service Health Care Plan

Released CF members may be entitled to benefits under the Public Service Health Care Plan (PSHCP). To the extent that medical costs of released members are higher than average as a result of service in Afghanistan, these added costs should also be factored in as additional costs to the GC. Due to time constraints and lack of data, these costs have not been assessed for the purpose of the present estimate.

Other costs not valued

In addition, the following costs were not valued:

- Any structural costs, such as repatriation costs or the costs of recruitment and training of new members of the Canadian Forces (not within the scope of the study)
- Incremental medical costs prior to release from the Canadian Forces (insufficient data)

6

Results

We summarize in the table below the results of our cost estimates. More detailed results can be found in Appendix D.

It should be noted that the total cost related to death benefits represents a relatively low portion of overall costs and is also easier to accurately assess. Therefore, just one cost estimate was done for the death benefits rather than performing a low and high estimate.

Order of Magnitude Cost Estimates for Fiscal Years 2001-2002 to 2007-2008					
	Estimated cost per incurred claim			Total estimated costs[67]	
		Disability and Health Care			
Fiscal Year	Death	Low estimate	High estimate	Low estimate	High estimate
2001-02	$0	$143,000	$243,000	$128,790,000	$328,170,000
2002-03	$357,000	$148,000	$250,000	$166,740,000	$421,008,000
2003-04	$360,000	$152,000	$258,000	$61,920,000	$155,580,000
2004-05	$0	$157,000	$266,000	$28,188,000	$71,816,000
2005-06	$366,000	$161,000	$274,000	$131,235,000	$331,852,000
2006-07	$369,000	$166,000	$281,000	$157,534,000	$382,086,000
2007-08	$380,000	$170,000	$289,000	$162,988,000	$394,102,000
Total				**$837,395,000**	**$2,084,614,000**

[67] The total estimated costs represent the estimated present value of current and future benefits payable under the various programs, including claims not yet reported, in relation to service in a given year. The present values are determined as of each respective fiscal year.

Order of Magnitude Cost Estimates for Fiscal Years 2008-2009 to 2010-2011						
		Estimated cost per incurred claim			Total estimated costs[68]	
			Disability and Health Care			
Fiscal Year	Exposure	Death	Low estimate	High estimate	Low estimate	High estimate
Baseline						
2008-09	2,500	$391,000	$176,000	$299,000	$167,685,000	$406,272,000
2009-10	2,500	$403,000	$181,000	$308,000	$172,480,000	$418,509,000
2010-11	2,500	$415,000	$187,000	$317,000	$178,150,000	$430,746,000
Total					**$518,315,000**	**$1,255,527,000**
Scenario 1						
2008-09	1,000	$391,000	$176,000	$299,000	$67,074,000	$162,449,000
2009-10	1,000	$403,000	$181,000	$308,000	$68,992,000	$167,342,000
2010-11	1,000	$415,000	$187,000	$317,000	$71,260,000	$172,235,000
Total					**$207,326,000**	**$502,026,000**
Scenario 2						
2008-09	3,500	$391,000	$176,000	$299,000	$235,150,000	$569,112,000
2009-10	3,500	$403,000	$181,000	$308,000	$241,875,000	$586,254,000
2010-11	3,500	$415,000	$187,000	$317,000	$249,825,000	$603,396,000
Total					**$726,850,000**	**$1,758,762,000**

[68] The total estimated costs represent the estimated present value of current and future benefits payable under the various programs in relation to service in a given year. The present values are determined as of each respective fiscal year.

7

Commentary on Methodology as outlined in the draft document provided by the Office of the Parliamentary Budget Officer

This document, entitled “Methodology for Estimating the Fiscal impact of the Costs Incurred by the Federal Government in Support of the Mission in Afghanistan”, includes a description of the Expected Value estimation approach. It is our recommendation that this description be deleted and replaced by a reference to, or extracts of, this report describing the methodology used for our estimates.

8

International Comparisons

A number of studies have been authored related to the cost of the war in Iraq and Afghanistan. We have reviewed in particular the January 2007 report, authored by Linda Bilmes of Harvard University, entitled "Soldiers Returning from Iraq and Afghanistan: The Long-term Costs of Providing Veterans Medical Care and Disability Benefits".
Table 5 of the report provides the total lifetime Veterans Disability and Medical Costs under low, moderate and high intensity scenarios. The estimated costs of providing disability and medical care benefits to the veterans of the Iraq and Afghanistan war range from $349.8 billion to $662.8 billion.

The low scenario assumes that the US begins withdrawing troops in 2007 and that all US servicemen and women are home by 2010. It assumes that the US will not deploy any new troops beyond the 1.4 million already participating in the war and that 44% of troops will claim for disability payments over a period of years, with 87% of claims granted. The high scenario assumes total participation in the war will eventually reach 2 million unique servicemen and women by 2016 and that half of those will claim for disability payments.

While a direct comparison with the results of this US-based study is very difficult, these numbers, applied to the Canadian deployment, would indicate costs of a rough order of magnitude of $10 billion. This suggests much higher costs than the cost estimate derived in this report. However, there are many reasons why the results of the US study are not necessarily indicative of the experience in the Canadian context, including:

- The US study indicates that 95% of casualties have been in Iraq. As a result, cost estimates related to Afghanistan war only could produce significantly different results.
- There major differences between the Canadian and US health care system; in the US, a portion of the medical care cost that may fall to the Veterans Health Administration system would likely be funded through the provincial health care

system in Canada or by other private employer plans. The cost of medical care is also generally higher in the US.

- The benefits available to US veterans are different than those available to Canadian veterans and may also be administered in a different manner, which could account for part of the difference.
- Differences in methodology and the elements valued may also account for part of the difference; for example, the US study includes the economic losses associated with death and disability.

Other studies have produced significantly lower estimates related to costs of injuries than the Bilmes study.

Appendix A

Benefits payable on death

This table provides a description and cost of the benefits payable on service-related deaths. Only those benefits deemed to be material have been included in this table. Descriptions of the other death benefits payable can be found in the table at the end of this Appendix.

Act	Benefit
Canadian Forces Superannuation Act	▪ Supplementary Death Benefit (SDB) – For service and non-service-related deaths for members and reservists ▫ 2 times salary rounded to the nearest $250
Pension Act Survivor Benefits; for deaths pre-April 1, 2006	▪ A fixed amount for the survivor and for children, payable until date deceased member would have attained age 65 ▪ Equal to 75% of the of the Class 1 Disability Pension ▪ Amount of survivor pension in 2007: – Survivor: $1,665/month – One child: $577/month – Two children: $999/month – Each Additional child: $333/month ▪ Indexed wage based/CPI based *Note: value of death benefit under the New Veterans Charter described below used as an approximation of value of pre-April 1, 2006 benefit*

Act	Benefit
Canadian Forces Members and Veterans Re-establishment and Compensation Act (New Veterans Charter); for deaths post-March 31, 2006	▪ Death Benefit – For sudden (within 30 days of injury) deaths of members and reservists incurred during service ▫ Amount is $250,000 as of April 1, 2006, indexed each January 1 ▪ Earnings Loss Benefit – May be paid to eligible survivor and children – Payment is equal to 75% of the deceased member's imputed income less the amount paid to the survivor from prescribed sources (Pension Act, CFSA, CPP etc.) – Payment is made until the date the deceased member would have reached age 65 – If no survivor, but orphans exist: ▫ 40% of ELB above *Note: the ELB was valued with the disability benefits*

Benefits payable on disability

This table provides a description and cost of the benefits payable on service-related disabilities. Only those benefits deemed to be material have been included in this table. Descriptions of the other disability benefits payable can be found in the table following this one.

Act	Benefit
Canadian Forces Superannuation Act	▪ Disability Pension – Prior to 1 April, 2007: ▫ Less than 10 years of service: return of contributions or cash termination allowance ▫ 10 years of service or more: immediate annuity – Post 31 March, 2007 ▫ Less than 2 years of service: return of contributions ▫ At least 2 years but less than 10 years of service: at option of member, 1) deferred annuity or 2) transfer value if under age 50 ▫ 10 years of service or more: immediate annuity - Immediate annuity is an unreduced pension payable immediately - Annual amount is 2% of highest average of annual pensionable earnings *Note: Implicitly valued with SISIP LTD (described below)*
New Veterans Charter *Note: for purposes of this report, benefits are assumed to be paid under the New Veterans Charter*	▪ For disabilities post-31 March, 2006: ▪ Disability Award – For service-related injury or non-service- related injury aggravated by service – A fraction of disability measured in fifths – Additional award for loss or loss of use of 1 of paired organs or limbs ▪ Equal to $250,000 x disability % less disability awards already paid

Act	Benefit
	▪ Health Care Benefits – Still serving disabled members must access health care benefits available through the Spectrum of Care until released – Released members are eligible to the extent benefits are not available through other programs 1) Other Health Purchased Services - 14 Programs of choice including prescription drugs 2) Long-term care - Intermediate care or chronic care at contract or community facilities or St. Anne's Hospital 3) Veterans Independence Program - Home care program - Funds for grounds maintenance, housekeeping, personal care etc. ▪ Financial Advice – Lump sum to maximum of $500 ▪ Temporary and Extended Earnings Loss Benefit – Can be paid to disabled veteran where a rehabilitation need is determined – Payment is equal to 75% of the disabled veteran's imputed income less income from prescribed sources (Pension Act, CFSA, CPP etc) – Payment is made until the earlier of the date the rehabilitation is complete or cancelled or the date the disabled veteran reaches age 65 ▪ Supplementary Retirement Benefit – 2% of extended earnings loss benefit ▪ Permanent Impairment Allowance – Payable for physical or mental health problems that are creating a permanent and severe impairment for which rehabilitation services have been approved and for which the Veteran has received a disability award – Award is based on 3 grades – Payment is made until death or no longer severely impaired ▪ Canadian Forces Income Support Benefit – Paid to low income veterans, survivors and orphans – Basic monthly amount in 2007 was $1,227
	▪ Health Care rehabilitation – Medical and psycho-social rehab – For clients with a condition resulting from service – All reasonable expenses reimbursed for up to one year

Act	Benefit
	▪ Vocational Rehabilitation – For clients with a condition resulting from service – Assists clients identify and achieve vocational goals – All reasonable expenses reimbursed for up to one year
SISIP LTD	▪ 75% of pre-disability earnings – Paid from date of medical release to age 65 as long as qualifies under the definition of disability of the plan (must be totally disabled to qualify for payments beyond 24 months) *Note: CFSA disability pensions are offsets from the SISIP LTD; they have been implicitly valued with SISIP LTD by ignoring the offset*

Appendix B

Exclusions from cost estimate

Act/Program	Benefit
Canadian Forces Members and Veterans Re-establishment and Compensation Act (New Veterans Charter)	▪ Clothing Allowance ▪ Detention Benefit ▪ Funeral and Burial Assistance
Canadian Forces Superannuation Act	▪ Survivor Benefits ▪ Severance Pay, Unused leave ▪ Moving Expenses ▪ Allowance in Lieu of Operational Allowance
Children of Deceased Veterans Education Assistance Act	▪ Education Assistance for surviving dependant children
SISIP FS	▪ Accidental Dismemberment Insurance Program ▪ General Officers' Insurance Plan (GOIP and Res GOIP) ▪ Military Post-Retirement Life Insurance Plan (MPRLIP) ▪ Health Care Benefits ▪ Any member-paid coverage

Appendix C

Main Assumptions

Historical and Projected Deployed Strength

Fiscal year	Exposure[1]
2001-02	3,000
2002-03	5,600
2003-04	2,000
2004-05	900
2005-06	2,300
2006-07	2,500
2007-08	2,500
2008-09	1,000 to 3,500
2009-10	1,000 to 3,500
2010-2011	1,000 to 3,500

1 Historical and projected exposure on deployed strength as provided by the Office of the Parliamentary Budget Officer

For benefits payable on death

Average salary in 2007/2008	$52,000 (derived from information provided by DND)
Annual salary increase	3% per annum
Deaths since beginning of conflict	As reported by DND
Expected mortality rate	1.4% per year (based on recent experience)
Annual increase to lump-sum death benefit payable under the New Veterans Charter	3% per annum
Administration expenses	5% added to cost of all death benefits

For benefits payable on disability

- **VAC benefits**

Some of the cost estimates performed in this report rely on the methods and assumptions used by OSFI for the purposes of their Actuarial Report on the Future Benefits for Veterans, as at March 31, 2008.

The following is a high-level description of the economic assumptions used by OSFI to determine the Government Service Cost (GSC) of the Veteran’s Affairs Benefits:

Economic assumptions		
Ultimate rates (i.e. fiscal year 2014 and onwards)	Interest*:	n.a.
	CPI:	2.00%
	Wages:	2.90%
	Health Care trend*:	n.a.

* Assumptions cannot be disclosed until the Public Accounts have been tabled.

- **SISIP LTD**

An average cost per claim in 2007-2008 of $143,000 (excluding C/QPP offset) was assumed for the purpose of our calculations. This amount was based on actuarial valuation methods and assumptions appropriate for this plan.

These costs were extrapolated to other years by using an adjustment of 3% per annum.

Variable Assumptions for purposes of low and high estimates

Claims incidence rate (as % of exposure)				
	Low estimate		**High estimate**	
	SISIP-LTD	**VAC Benefit**	**SISIP-LTD**	**VAC Benefit**
Fiscal Year				
2001-02	3.0%	30.0%	11.3%	45.0%
2002-03	2.0%	20.0%	7.5%	30.0%
2003-04	2.0%	20.0%	7.5%	30.0%
2004-05	2.0%	20.0%	7.5%	30.0%
2005-06	3.5%	35.0%	13.1%	53.0%
2006-07	3.5%	35.0%	13.1%	53.0%
2007-08	3.5%	35.0%	13.1%	53.0%
2008-09	3.5%	35.0%	13.1%	53.0%
2009-10	3.5%	35.0%	13.1%	53.0%
2010-11	3.5%	35.0%	13.1%	53.0%

Other assumptions				
	Low estimate		**High estimate**	
	SISIP-LTD	**VAC Benefit**	**SISIP-LTD**	**VAC Benefit**
Claims severity	No adjustment	No adjustment	+20%	+30%
Economic assumptions	No adjustment	No adjustment	Included in 20% above	CPI +1% HC trend +2%
Claims duration	Time loss: Low estimate - 6 months High estimate - 18 months			

Appendix D

Detailed results

War in Afghanistan - Cost Estimates (Order of Magnitude only)
Cost/Present Value of Death Benefits - CF members

			Cost per claim			
Fiscal Year	**Exposure [1]**	**Number of claims [2]**	**SDB [3]**	**VAC [4]**	**Total**	**Total Costs**
2001-02	3,000	0	N/A	N/A	N/A	N/A
2002-03	5,600	4	$94,000	$263,000	$357,000	$1,428,000
2003-04	2,000	3	$97,000	$263,000	$360,000	$1,080,000
2004-05	900	0	N/A	N/A	N/A	N/A
2005-06	2,300	4	$103,000	$263,000	$366,000	$1,464,000
2006-07	2,500	34	$106,000	$263,000	$369,000	$12,546,000
2007-08	2,500	37	$109,000	$271,000	$380,000	$14,060,000
Subtotal - FY01/02 - FY07/08						**$30,578,000**
2008-09	2,500	36	$112,000	$279,000	$391,000	$14,076,000
2009-10	2,500	36	$116,000	$287,000	$403,000	$14,508,000
2010-11	2,500	36	$119,000	$296,000	$415,000	$14,940,000
Subtotal - FY08/09 - FY10/11						**$43,524,000**
Total						**$74,102,000**

Note:

[1] Historical and projected exposure on deployed strength as provided by the Office of the Parliamentary Budget Officer.

[2] Historical number of deaths as provided by DND. Projected death casualties are based on recent experience.

[3] The death benefit calculation is based on an average 2007-08 salary of $52,000 as provided by DND. In addition, an administration fee of 5% is assumed and annual salary increase of 3% is used to extrapolate to the other years.

[4] Under the new VAC program, a lump sum amount of $250,000 is payable for service-related deaths occurred on or after April 1, 2006 and the amount payable is indexed each January 1. The annual indexation is assumed to be 3%. The value of VAC's death benefits for deaths occurred prior to April 1, 2006 was based on a survivor pension rather than a lump sum award; however, the value of the lump sum award is assumed to be representative of the approximate value of the pre-April 2006 benefits. An Earning Loss Benefit payable to eligible survivors is also available under the new VAC program. The value of this benefit is included with the value of disability benefits.

War in Afghanistan - Cost Estimates (Order of Magnitude only)
Cost/Present Value of Disability and Health Care Benefits - CF members
Low Estimate

		Estimated number of incurred claims			Estimated cost per incurred claim				Estimated cost			
Fiscal Year	Exposure [1]	SISIP LTD [2]	VAC benefits [2]	Time Loss prior to release [3]	SISIP LTD [4]	VAC benefits [5]	Time Loss prior to release [6]	Total Cost per incurred claim [7]	SISIP LTD	VAC benefits	Time Loss prior to release	Total
2001-02	3,000	90	900	90	$119,000	$128,000	$32,000	$143,000	$10,710,000	$115,200,000	$2,880,000	$128,790,000
2002-03	5,600	112	1,120	112	$123,000	$132,000	$33,000	$148,000	$13,776,000	$147,840,000	$3,696,000	$165,312,000
2003-04	2,000	40	400	40	$127,000	$136,000	$34,000	$152,000	$5,080,000	$54,400,000	$1,360,000	$60,840,000
2004-05	900	18	180	18	$131,000	$140,000	$35,000	$157,000	$2,358,000	$25,200,000	$630,000	$28,188,000
2005-06	2,300	81	805	81	$135,000	$144,000	$36,000	$161,000	$10,935,000	$115,920,000	$2,916,000	$129,771,000
2006-07	2,500	88	875	88	$139,000	$148,000	$37,000	$166,000	$12,232,000	$129,500,000	$3,256,000	$144,988,000
2007-08	2,500	88	875	88	$143,000	$152,000	$38,000	$170,000	$12,584,000	$133,000,000	$3,344,000	$148,928,000
Subtotal - FY01/02 - FY07/08									**$67,675,000**	**$721,060,000**	**$18,082,000**	**$806,817,000**
2008-09	2,500	88	875	88	$147,000	$157,000	$39,000	$176,000	$12,936,000	$137,375,000	$3,432,000	$153,743,000
2009-10	2,500	88	875	88	$151,000	$162,000	$40,000	$181,000	$13,288,000	$141,750,000	$3,520,000	$158,558,000
2010-11	2,500	88	875	88	$156,000	$167,000	$41,000	$187,000	$13,728,000	$146,125,000	$3,608,000	$163,461,000
Subtotal - FY08/09 - FY10/11									**$39,952,000**	**$425,250,000**	**$10,560,000**	**$475,762,000**
Total									**$107,627,000**	**$1,146,310,000**	**$28,642,000**	**$1,282,579,000**

Note:
[1] Historical and projected exposure on deployed strength as provided by the Office of the Parliamentary Budget Officer.
[2] Assumed LTD and VAC incurred claims rates include incurred but not reported claims.
[3] Assumed incurred claim rates for time loss exclude any time loss not resulting in an eventual medical release.
[4] The estimated cost represents the present value of LTD claims based on actuarial methods and assumptions appropriate for the SISIP Plan. Also, the cost includes the estimated value of CFSA disability benefits. The estimated cost for FY2007-08 is $143,000. An annual adjustment of 3% was used to extrapolate values for other years.
[5] The estimated cost represents the average actuarial present value of future VAC benefits (Based on VAC's new plan provisions) related to incidents incurred in a given year. The estimated cost for 2008-09 is derived from OSFI's Actuarial Report on the Future Benefits for Veterans as at March 31, 2008, adjusted to account for claims administration expenses. The estimated costs for other years is based on the 2008-09 costs, adjusted by an annual rate of 3%.
[6] The time loss is assumed to represent half a years salary under the low estimate scenario. The average annual salary is assumed to be $62,000 in FY2008-09 and adjusted by 3% for other years. This amount is increased by 25% to account for pension, benefits and other payroll related cost.
[7] The cost per claim is expressed as a function of the estimated number of VAC incurred claims

War in Afghanistan - Cost Estimates (Order of Magnitude only)
Cost/Present Value of Disability and Health Care Benefits - CF members
High Estimate

		Estimated number of incurred claims			Estimated cost per incurred claim				Estimated cost			
Fiscal Year	Exposure [1]	SISIP LTD [2]	VAC benefits [2]	Time Loss prior to release [3]	SISIP LTD [4]	VAC benefits [5]	Time Loss prior to release [6]	Total Cost per incurred claim [7]	SISIP LTD	VAC benefits	Time Loss prior to release	Total
2001-02	3,000	338	1,350	338	$144,000	$183,000	$96,000	$243,000	$48,672,000	$247,050,000	$32,448,000	$328,170,000
2002-03	5,600	420	1,680	420	$148,000	$188,000	$99,000	$250,000	$62,160,000	$315,840,000	$41,580,000	$419,580,000
2003-04	2,000	150	600	150	$152,000	$194,000	$102,000	$258,000	$22,800,000	$116,400,000	$15,300,000	$154,500,000
2004-05	900	68	270	68	$157,000	$200,000	$105,000	$266,000	$10,676,000	$54,000,000	$7,140,000	$71,816,000
2005-06	2,300	302	1,208	302	$162,000	$206,000	$108,000	$274,000	$48,924,000	$248,848,000	$32,616,000	$330,388,000
2006-07	2,500	328	1,313	328	$167,000	$212,000	$111,000	$281,000	$54,776,000	$278,356,000	$36,408,000	$369,540,000
2007-08	2,500	328	1,313	328	$172,000	$218,000	$114,000	$289,000	$56,416,000	$286,234,000	$37,392,000	$380,042,000
Subtotal - FY01/02 - FY07/08									**$304,424,000**	**$1,546,728,000**	**$202,884,000**	**$2,054,036,000**
2008-09	2,500	328	1,313	328	$177,000	$225,000	$117,000	$298,000	$58,056,000	$295,425,000	$38,376,000	$391,857,000
2009-10	2,500	328	1,313	328	$182,000	$232,000	$121,000	$308,000	$59,696,000	$304,616,000	$39,688,000	$404,000,000
2010-11	2,500	328	1,313	328	$187,000	$239,000	$125,000	$317,000	$61,336,000	$313,807,000	$41,000,000	$416,143,000
Subtotal - FY08/09 - FY10/11									**$179,088,000**	**$913,848,000**	**$119,064,000**	**$1,212,000,000**
Total									**$483,512,000**	**$2,460,576,000**	**$321,948,000**	**$3,266,036,000**

Note:

[1] Historical and projected exposure on deployed strength as provided by the Office of the Parliamentary Budget Officer.
[2] Assumed LTD and VAC incurred claims rates include incurred but not reported claims.
[3] Assumed incurred claim rates for time loss exclude any time loss not resulting in an eventual medical release.
[4] The estimated cost represents the present value of LTD claims based on actuarial methods and assumptions appropriate for the SISIP Plan. Also, the cost includes the estimated value of CFSA disability benefits. The estimated cost for FY2007-08 is $172,000 (including 20% margin under the high estimate scenario). An annual adjustment of 3% was used to extrapolate values for other years.
[5] The estimated cost represents the average actuarial present value of future VAC benefits (Based on VAC's new plan provisions) related to incidents incurred in a given year. The estimated cost for 2008-09 is derived from OSFI's Actuarial Report on the Future Benefits for Veterans as at March 31, 2008, adjusted to account for claims administration expenses. Further margins are added under the high estimate scenario. The estimated costs for other years is based on the 2008-09 costs, adjusted by an annual rate of 3%.
[6] The time loss is assumed to represent 18 months salary under the high estimate scenario. The average annual salary is assumed to be $62,000 in FY2008-09 and adjusted by 3% for other years. This amount is increased by 25% to account for pension, benefits and other payroll related cost.
[7] The cost per claim is expressed as a function of the estimated number of VAC incurred claims

War in Afghanistan - Cost Estimates (Order of Magnitude only)
Summary of Results - CF members

		Estimated number of incurred claims [2]			Estimated cost per incurred claim [3]			Total Estimated costs			Total Estimated costs	
			Disability & Health Care			Disability & Health Care			Disability & Health Care			
Fiscal Year	Exposure [1]	Death Benefits	Low estimate	High estimate	Death Benefits	Low estimate	High estimate	Death Benefits	Low estimate	High estimate	Low estimate	High estimate
2001-02	3,000	0	900	1,350	$0	$143,000	$243,000	N/A	$128,790,000	$328,170,000	$128,790,000	$328,170,000
2002-03	5,600	4	1,120	1,680	$357,000	$148,000	$250,000	$1,428,000	$165,312,000	$419,580,000	$166,740,000	$421,008,000
2003-04	2,000	3	400	600	$360,000	$152,000	$258,000	$1,080,000	$60,840,000	$154,500,000	$61,920,000	$155,580,000
2004-05	900	0	180	270	$0	$157,000	$266,000	N/A	$28,188,000	$71,816,000	$28,188,000	$71,816,000
2005-06	2,300	4	805	1,208	$366,000	$161,000	$274,000	$1,464,000	$129,771,000	$330,388,000	$131,235,000	$331,852,000
2006-07	2,500	34	875	1,313	$369,000	$166,000	$281,000	$12,546,000	$144,988,000	$369,540,000	$157,534,000	$382,086,000
2007-08	2,500	37	875	1,313	$380,000	$170,000	$289,000	$14,060,000	$148,928,000	$380,042,000	$162,988,000	$394,102,000
Subtotal - FY01/02 - FY07/08								**$30,578,000**	**$806,817,000**	**$2,054,036,000**	**$837,395,000**	**$2,084,614,000**
2008-09	2,500	36	875	1,313	$391,000	$176,000	$298,000	$14,076,000	$153,743,000	$391,857,000	$167,819,000	$405,933,000
2009-10	2,500	36	875	1,313	$403,000	$181,000	$308,000	$14,508,000	$158,558,000	$404,000,000	$173,066,000	$418,508,000
2010-11	2,500	36	875	1,313	$415,000	$187,000	$317,000	$14,940,000	$163,461,000	$416,143,000	$178,401,000	$431,083,000
Subtotal - FY08/09 - FY10/11								**$43,524,000**	**$475,762,000**	**$1,212,000,000**	**$519,286,000**	**$1,255,524,000**
Total								**$74,102,000**	**$1,282,579,000**	**$3,266,036,000**	**$1,356,681,000**	**$3,340,138,000**

Note:

[1] Historical and projected exposure on deployed strength as provided by the Office of the Parliamentary Budget Officer.
[2] Assumed incurred claims rates include incurred but not reported claims.
[3] The estimated cost represents the present value of benefits determined as of each respective fiscal year.

War in Afghanistan - Cost Estimates (Order of Magnitude only)
Sensitivity Analysis - CF members

		Estimated number of incurred claims [2]			Estimated cost per incurred claim [3]			Total Estimated costs			Total Estimated costs	
			Disability & Health Care			Disability & Health Care			Disability & Health Care			
Fiscal Year	Exposure	Death Benefits	Low estimate	High estimate	Death Benefits	Low estimate	High estimate	Death Benefits	Low estimate	High estimate	Low estimate	High estimate
Basline												
2008-09	2,500	36	875	1,313	$391,000	$176,000	$298,000	$14,076,000	$153,743,000	$391,857,000	$167,819,000	$405,933,000
2009-10	2,500	36	875	1,313	$403,000	$181,000	$308,000	$14,508,000	$158,558,000	$404,000,000	$173,066,000	$418,508,000
2010-11	2,500	36	875	1,313	$415,000	$187,000	$317,000	$14,940,000	$163,461,000	$416,143,000	$178,401,000	$431,083,000
Total								**$43,524,000**	**$475,762,000**	**$1,212,000,000**	**$519,286,000**	**$1,255,524,000**
Scenario 1												
2008-09	1,000	14	350	525	$391,000	$176,000	$298,000	$5,474,000	$61,600,000	$156,450,000	$67,074,000	$161,924,000
2009-10	1,000	14	350	525	$403,000	$181,000	$308,000	$5,642,000	$63,350,000	$161,700,000	$68,992,000	$167,342,000
2010-11	1,000	14	350	525	$415,000	$187,000	$317,000	$5,810,000	$65,450,000	$166,425,000	$71,260,000	$172,235,000
Total								**$16,926,000**	**$190,400,000**	**$484,575,000**	**$207,326,000**	**$501,501,000**
Scenario 2												
2008-09	3,500	50	1,225	1,838	$391,000	$176,000	$298,000	$19,550,000	$215,600,000	$547,724,000	$235,150,000	$567,274,000
2009-10	3,500	50	1,225	1,838	$403,000	$181,000	$308,000	$20,150,000	$221,725,000	$566,104,000	$241,875,000	$586,254,000
2010-11	3,500	50	1,225	1,838	$415,000	$187,000	$317,000	$20,750,000	$229,075,000	$582,646,000	$249,825,000	$603,396,000
Total								**$60,450,000**	**$666,400,000**	**$1,696,474,000**	**$726,850,000**	**$1,756,924,000**

Note:
[1] Projected exposure on deployed strength as provided by the Office of the Parliamentary Budget Officer.
[2] Assumed incurred claims rates include incurred but not reported claims.
[3] The estimated cost represents the present value of benefits determined as of each respective fiscal year.

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ISBN 978-1-100-11109-4

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