

Veterans Affairs Canada

Actuarial Analysis for the Office of the Veterans Ombudsman

Final Results Presentation

*October 20, 2009
(revised December 18, 2009)*



AGENDA

- ↳ Objectives
- ↳ Scope of Work
- ↳ Assessment of the Benefits Available
- ↳ Model Development and Parameters Selection
- ↳ Valuation Model Presentation
- ↳ Results Analysis
- ↳ Sensitivity Analysis
- ↳ Conclusion
- ↳ Next Steps

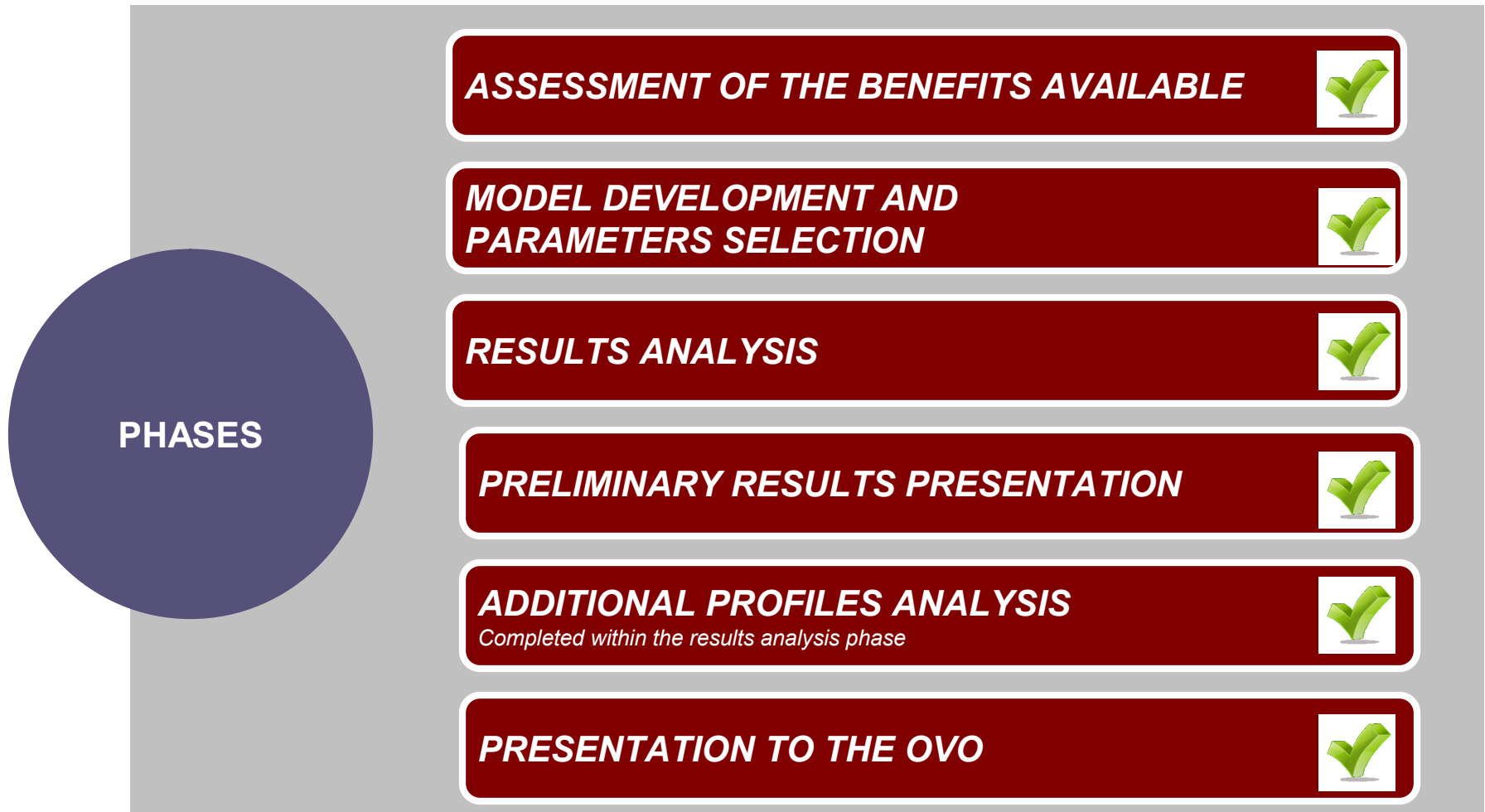
AGENDA

- Appendix A – Results Tables
- Appendix B – Actuarial Assumptions
- Appendix C – Other Assumptions and Model Limitations

OBJECTIVES

- This mandate required Aon to perform an analysis of the actuarial value of benefits offered to Veterans under the *Pension Act* (PA) and under the New Veterans Charter (NVC)
- Aon conducted a reliable and objective financial comparison of benefits offered under both legislations to assess the actuarial equivalence between the two programs
- **Aon did not assess or provide an opinion on the adequacy or sufficiency of the benefits provided to Veterans and their families**

SCOPE OF WORK



ASSESSMENT OF THE BENEFITS AVAILABLE

↳ Objective

- Review and identify the benefits offered to Veterans and their families under both the *Pension Act* and the New Veterans Charter to be included in the analysis

↳ Work Performed

- Aon reviewed the law texts (*Pension Act*, the New Veterans Charter and regulations), Actuarial Valuation Reports prepared by the Office of the Chief Actuary (OCA) and various Excel and Word documents provided by the OVO
- Initial meeting with the OVO representatives on May 27, 2009

↳ Conclusion

- Benefits included in Aon's analysis are mapped in the following chart
 - Benefits identified in green were analyzed within the valuation model
 - Benefits identified in burgundy were commented on separately
 - Benefits identified in blue were not analyzed as they were no longer awarded or they varied on a case by case basis



ASSESSMENT OF THE BENEFITS AVAILABLE

Pension Act	New Veterans Charter
<p style="text-align: center;">SISIP LTD Plan</p> <ul style="list-style-type: none"> - 75% of gross pre-release salary - Taxable monthly payment - Fully integrated with other sources of income (including disability pension from PA) - Termination: age 65 - Benefits guaranteed for 24 months upon medical release from the CF 	<p style="text-align: center;">Earning Loss Benefit (ELB)</p> <ul style="list-style-type: none"> - Equal to the SISIP LTD Plan - Reversible to the spouse and child(ren) until the member would have reached age 65 - Provides benefits when SISIP does not
<p style="text-align: center;">Disability Pension (DP)</p> <ul style="list-style-type: none"> - Non-taxable monthly pension payable for life - Reversible to the spouse and child(ren) 	<p style="text-align: center;">Disability & Death Award (DDA)</p> <ul style="list-style-type: none"> - Non-taxable lump sum - Death Award payable to the spouse and child(ren)
	<p style="text-align: center;">Supplementary Retirement Benefit (SRB)</p> <ul style="list-style-type: none"> - Taxable lump sum payment at age 65 equal to 2% of the ELB that would have been payable - Reversible to the spouse
<p style="text-align: center;">Prisoners of War (POW)</p>	<p style="text-align: center;">Detention Benefit (DB)</p>
<p style="text-align: center;">Exceptional Incapacity Allowance (EIA)</p>	<p style="text-align: center;">Permanent Impairment Allowance (PIA)</p>
<p style="text-align: center;">War Veterans Allowance (WVA)</p>	<p style="text-align: center;">Canadian Forces Income Support (CFIS)</p>
<p style="text-align: center;">Attendance Allowance (AA)</p>	



MODEL DEVELOPMENT AND PARAMETERS SELECTION

↳ Objectives

- Select an appropriate valuation model
- Select the parameters for valuation
- Quantify initial assumptions
- Develop a model to perform the valuation of the selected benefits
- Determine comparison profiles

↳ Work Performed

- Model selected: Deterministic approach
- Aon analyzed the impact and materiality of various parameters on the valuation model
- Aon determined actuarial assumptions based on best estimates considering past and current economic and demographic experience from various studies

MODEL DEVELOPMENT AND PARAMETERS SELECTION

↳ ...Work Performed

- Aon developed a program that
 - Evaluates the actuarial present values (APV) of selected benefits based on the actuarial assumptions that were previously defined
 - Allows the user to enter various parameters to generate an infinite number of scenarios
 - The model has been provided to the OVO

↳ Conclusion

- The model considers the following parameters in the calculations
 - Gender and age at first payment of benefits
 - Family status
 - Level of disability
 - Pre-disability salary
 - Return to work after 2 years (yes or no)
 - Death award eligibility
 - Valuation year

MODEL DEVELOPMENT AND PARAMETERS SELECTION

→ ...Conclusion

- The model includes the following actuarial assumptions
 - Interest rate
 - Mortality
 - Inflation rate (Consumer Price Index)
 - Indexation rate under the *Pension Act*
 - Tax rate applicable in each province and territory
- Actuarial assumptions are further described in Appendix B
- Other assumptions and model limitations are further described in Appendix C

VALUATION MODEL PRESENTATION

→ Tab 1 – Assumptions

- Only tab where the user can enter information
- Data input is done in yellow cells
- Grey cells are assumptions that cannot be modified by the user

→ Tab 2 – Results

- Results based on the selected profile are shown in this tab
- The actuarial present values of each benefit under the PA and the NVC are shown
- The anticipated annual cash flows with their associated actuarial present value are also illustrated

VALUATION MODEL PRESENTATION

→ Tab 1 – Assumptions

– Section 1

Initial Parameters	
Year of evaluation	2006
Does the Veteran currently have an eligible spouse?	No
Does the Veteran currently have an eligible child?	No

- The user must enter the year of evaluation and the family status of the Veteran
- Year of evaluation must be 2006 or later

VALUATION MODEL PRESENTATION

→ Tab 1 – Assumptions

– Section 2

Pension Act	
Indexation	2.50%
Investment Return Rate	4.00%
CPP Threshold	75%
Mortality Table Veteran	VAC Assumed Mortality for FY 2006
Mortality Table Spouse	2000-02 Canada Population
Mortality Table Children	2000-02 Canada Population

New Veterans Charter	
Indexation (CPI, max 2%)	2.00%
Investment Return Rate	4.00%
Consumer Price Index (CPI)	2.25%

- These entries represent Aon's best estimates for the actuarial assumptions
- These cells cannot be modified by the user

VALUATION MODEL PRESENTATION

↳ Tab 1 – Assumptions

– Section 3

Information - Veteran	
Age as of 2006-9-1 (Age when the veteran start receiving benefits)	40
Gender	M
Annual pre-release salary	\$45,000
Province of residence	ON
Is the Veteran eligible for the Death Award under the NVC?	No
Will the member return to work after 24 months?	No
CPP Benefits payable?	Yes
Service related factor	100.0%
Disability factor	80.0%
Disability factor (% of Disability x Service-related Factor)	80%

- The user must complete each line in this table by using the drop down menus
- For the model to be as accurate as possible, the user must enter a realistic combination of parameters
 - Examples of impossible or unlikely events
 - » 2% disability without return to work
 - » Very high or very low earnings
 - Garbage in...garbage out

VALUATION MODEL PRESENTATION

→ Tab 1 – Assumptions

– Sections 4 & 5

Information - Spouse	
Age as of 2006-9-1	37
Gender	F

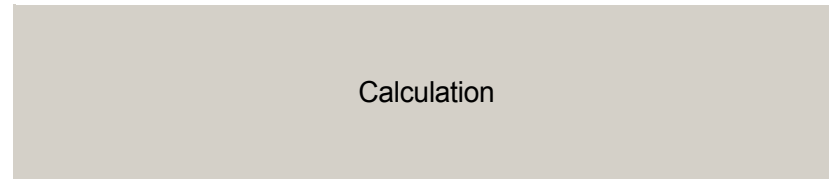
Information - Child	
Age as of 2006-9-1	10
Gender	F

- These cells may be modified by the user
- Again, for the model to be as accurate as possible, the user must enter a realistic combination of parameters

VALUATION MODEL PRESENTATION

→ Tab 1 – Assumptions

- And finally...hit the button



- You will automatically be re-directed to the results spreadsheet

RESULTS ANALYSIS

↳ Objectives

- Valuation of the selected benefits under both the *Pension Act* and New Veterans Charter using the defined profiles

↳ Work Performed

- More than 600 profiles were entered in the program and evaluated
- Sensitivity analysis was performed to determine the materiality of each assumption and the impact of certain parameters

↳ Important Notes

- This model should be used for comparison purposes only
- The model **may not** be used to determine the benefits entitlement or an aggregate dollar value to be received by Veterans
- Year 2006 was used as a starting point as the New Veterans Charter was implemented April 1, 2006
- It is always assumed that Veterans were medically released
- The model assumes every scenario has the same probability of occurrence
- If assumptions are changed or unrealistic parameters are entered, results may no longer be valid and Aon will not certify those results before they are verified
- Aon did not assess or provide an opinion on the adequacy or sufficiency of the benefits provided to Veterans and their families

RESULTS ANALYSIS

↳ Results Set 1: Disability with no return to work

- Actuarial assumptions: Best estimates
- Province of residence: Ontario
- The Veteran is not eligible for the Death Award under the NVC
 - He survives more than 30 days
- The Veteran is totally disabled until death
- The presented ratio corresponds to

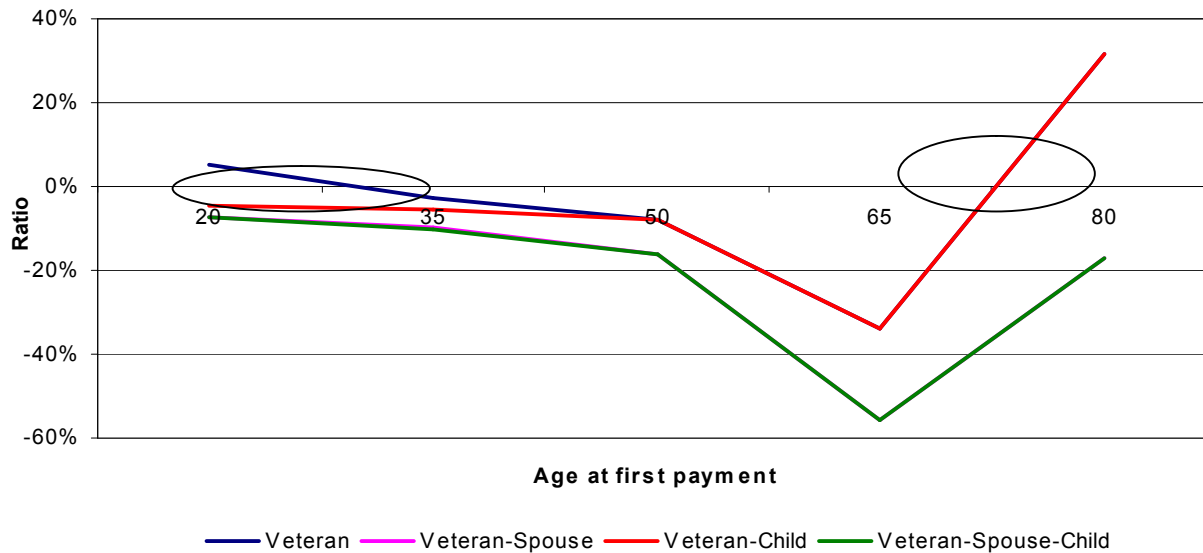
$$\left[\frac{\text{Actuarial Present Value NVC}}{\text{Actuarial Present Value PA}} \right] - 1 \times 100\%$$

- A ratio > 0 means that the Actuarial Present Value of benefits payable the NVC is higher than the Actuarial Present Value of benefits payable under the PA
- Benefits with a ratio of $\pm 5\%$ may be considered as equivalent
- Benefits with a ratio outside of the $\pm 5\%$ range are not considered equivalent

RESULTS ANALYSIS

A ratio above 0% means that the APV NVC > APV PA

- Chart 1: Ratio as a function of age at first payment
 - Male, 45% disabled, with pre-release salary of \$50,000



- NVC provides a smaller actuarial present value than the PA most of the time
- The benefit values for the "Single" and "with Child" status for pensioners aged between 20 and 40 (when they receive their first payment) are in the +/- 5% range
- No significant difference in benefits value between the family status "with Spouse" and "with Spouse and Child"

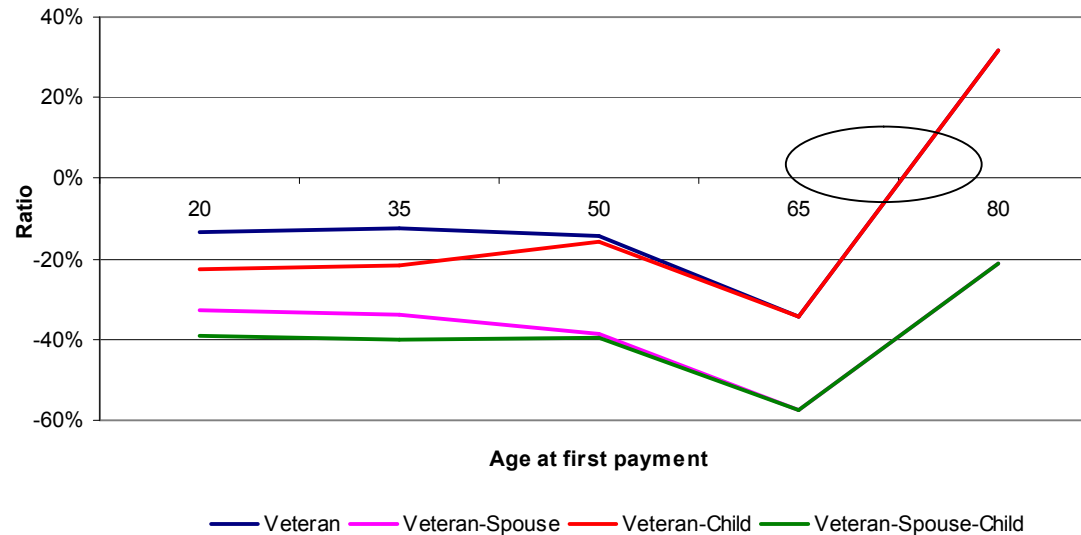


RESULTS ANALYSIS

A ratio above 0% means that the APV NVC > APV PA

– Chart 2: Ratio as a function of age at event

- Male, 100% disabled, with pre-release salary of \$50,000



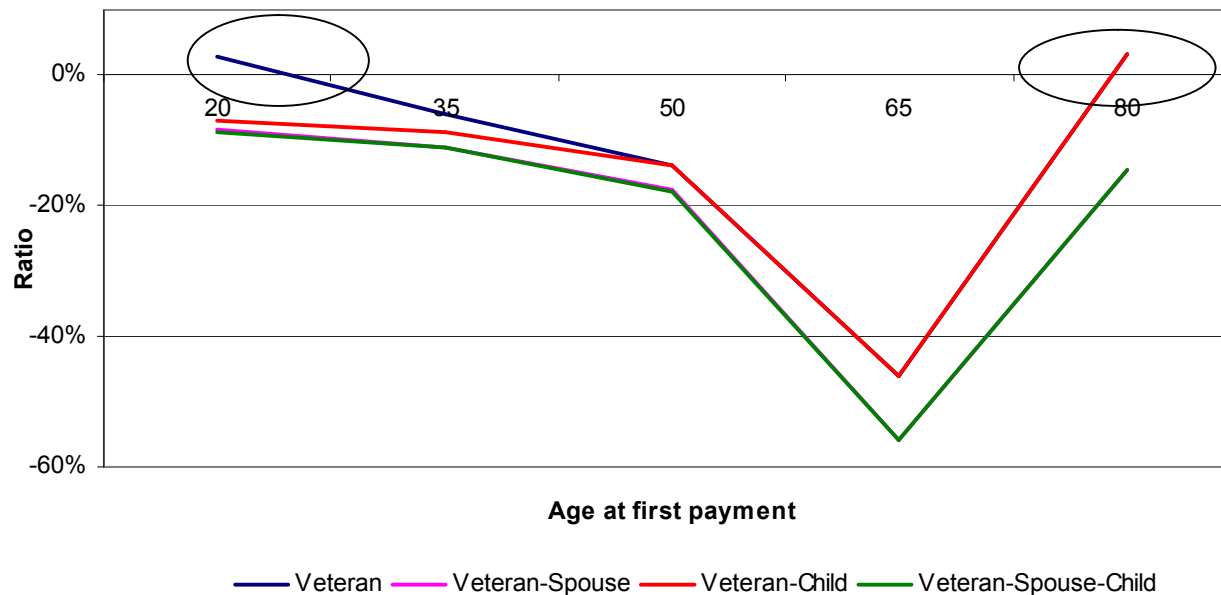
- Curves have a similar shape; however NVC is lower than the PA in every case (mainly due to the effect of Income Tax)
- Gap increases when adding a child and a spouse since the reversibility formula changes for Disabled in Classes 1 to 11 (48% to 100% disabled) vs. Classes 12 to 20 (less than 48% disabled)
 - Classes 1 to 11: Widows receive 100% of the Single-pensioner basic pension
 - Classes 12 to 20: Widows receive half of the pension



RESULTS ANALYSIS

A ratio above 0% means that the APV NVC > APV PA

- Chart 3: Ratio as a function of age at event
 - Female, 45% disabled, with pre-release salary of \$50,000

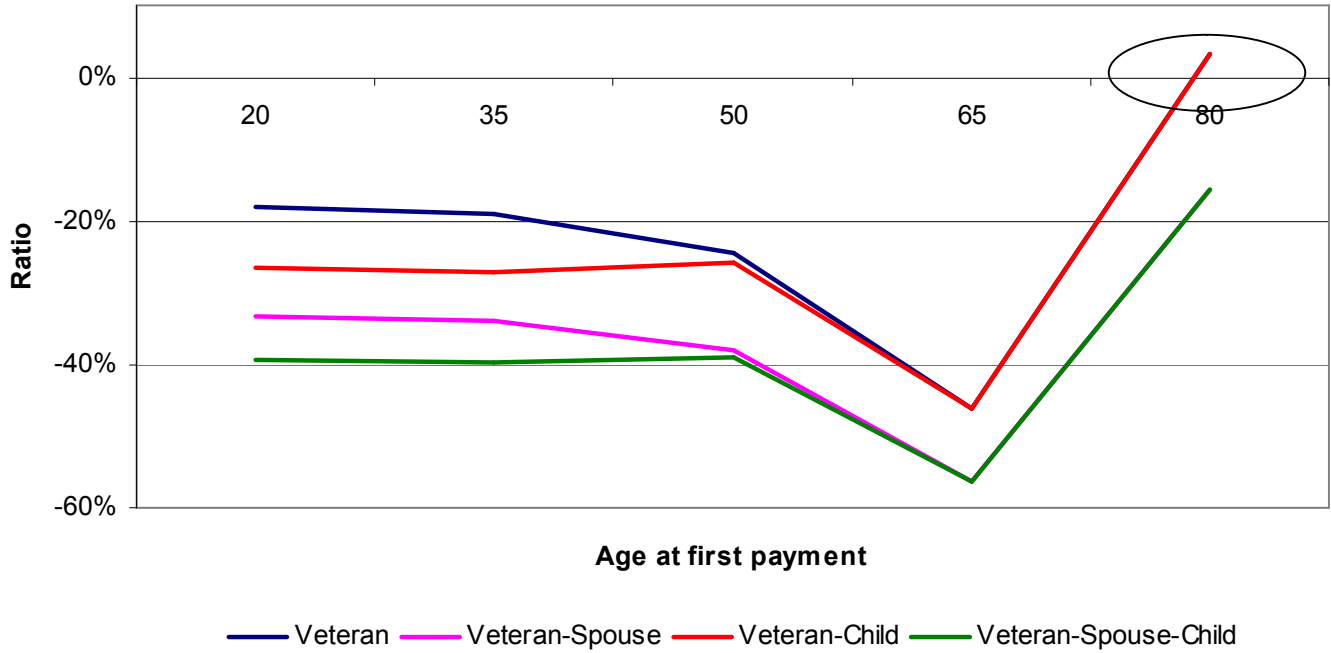


- Similar curve pattern as males
- Lower related values attributable to NVC given female's lower mortality

RESULTS ANALYSIS

A ratio above 0% means that the APV NVC > APV PA

- Chart 4: Ratio as a function of age at event
 - Female, 100% disabled, with pre-release salary of \$50,000



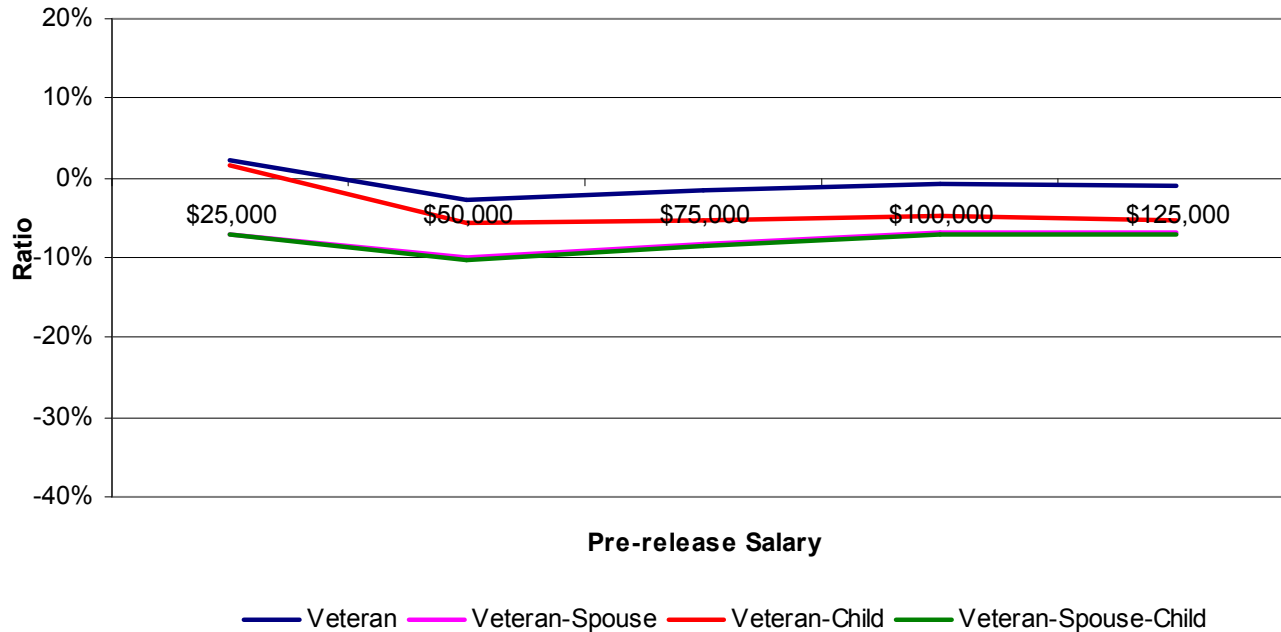
- Again, similar pattern as males with lower values for NVC
- Following slides will include results for male only since pattern is similar for female



RESULTS ANALYSIS

A ratio above 0% means that the APV NVC > APV PA

- Chart 5: Ratio as a function of pre-release salary
 - Male, aged 35, 45% disabled



- Disability Pension under PA is not linked to salary; therefore, for Veterans with lower income, the payout under PA may be higher than 75% of salary, especially with larger family

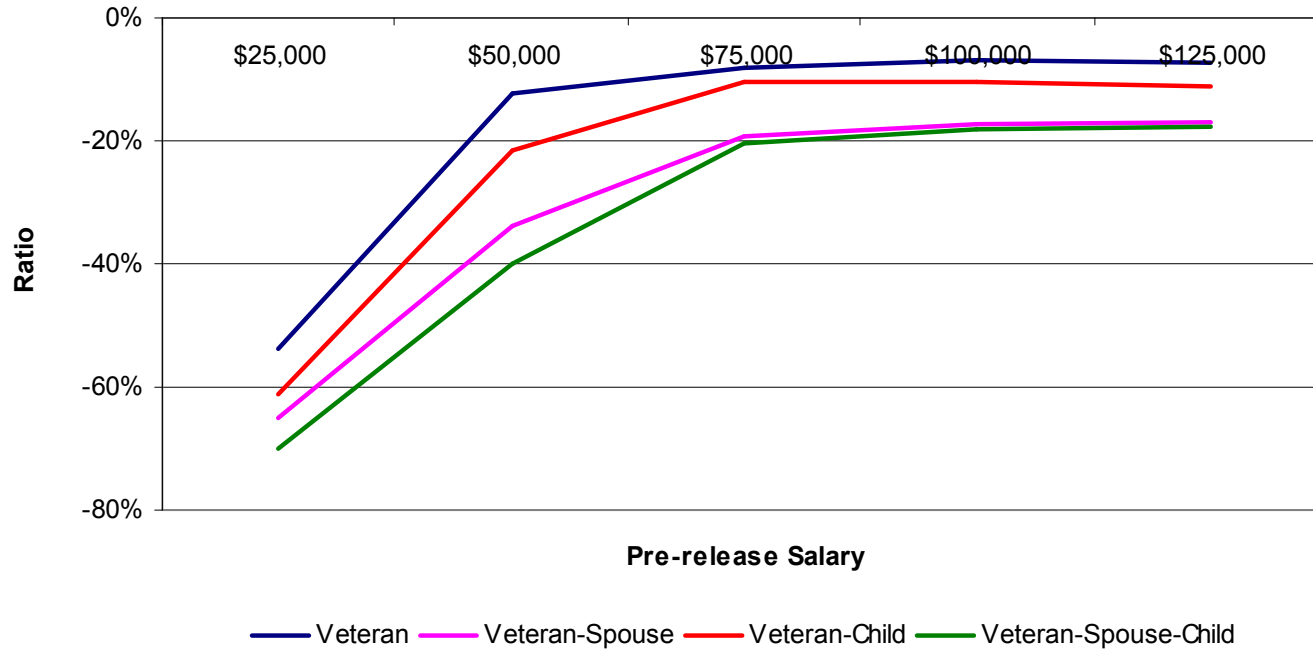


RESULTS ANALYSIS

A ratio above 0% means that the APV NVC > APV PA

– Chart 6: Ratio as a function of pre-release salary

- Male, aged 35, 100% disabled



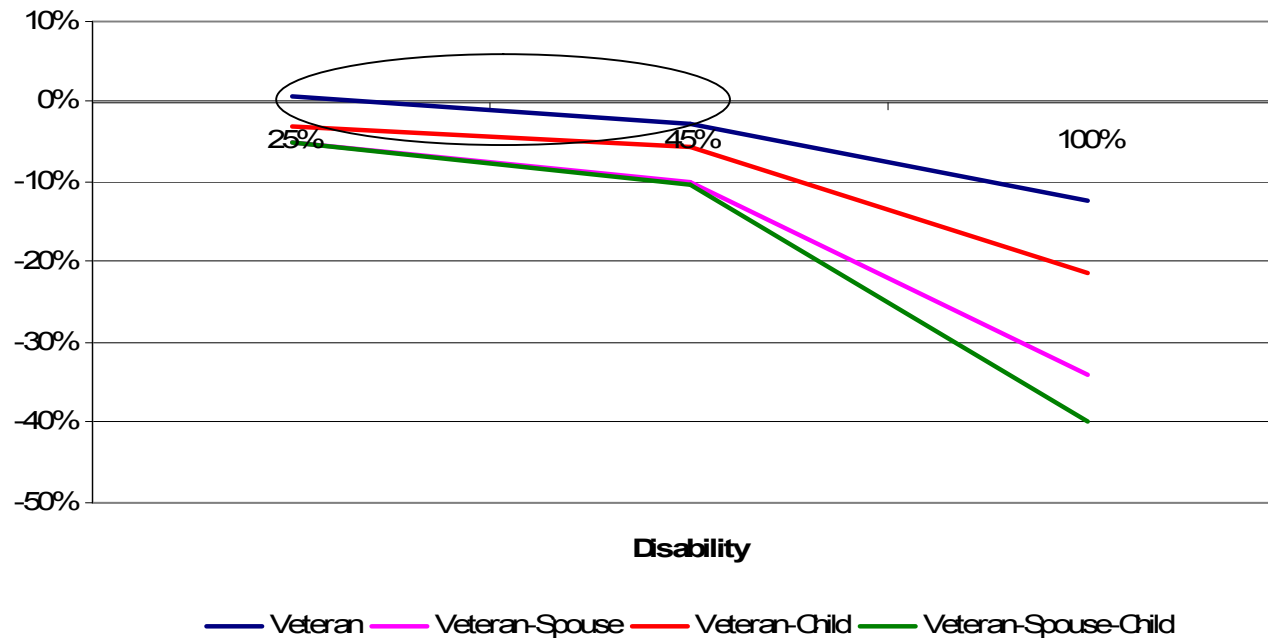
- Same curve pattern as preceding slide for income above \$50,000
- Tax effect: with a higher disability level, we have a higher proportion of income that is non taxable under PA. This effect reduces with higher salaries as the PA is lower than 75% of income and the SISIP and/or Earning Loss benefits are taxable under both programs.



RESULTS ANALYSIS

A ratio above 0% means that the APV NVC > APV PA

- Chart 7: Ratio as a function of level of disability
 - Male, age 35, with pre-release salary of \$50,000



- This graph shows that the actuarial present values under the NVC are increasingly smaller than under the PA with a higher disability factor (mainly due to the effect of Income Tax)



RESULTS ANALYSIS

↳ Results Set 2: Disability with return to work

- Actuarial assumptions: Best estimates
- Province of residence: Ontario
- The Veteran is not eligible to the Death Award under the NVC
 - He survives more than 30 days
- The Veteran will return to work after 24 months
- The presented ratio corresponds to

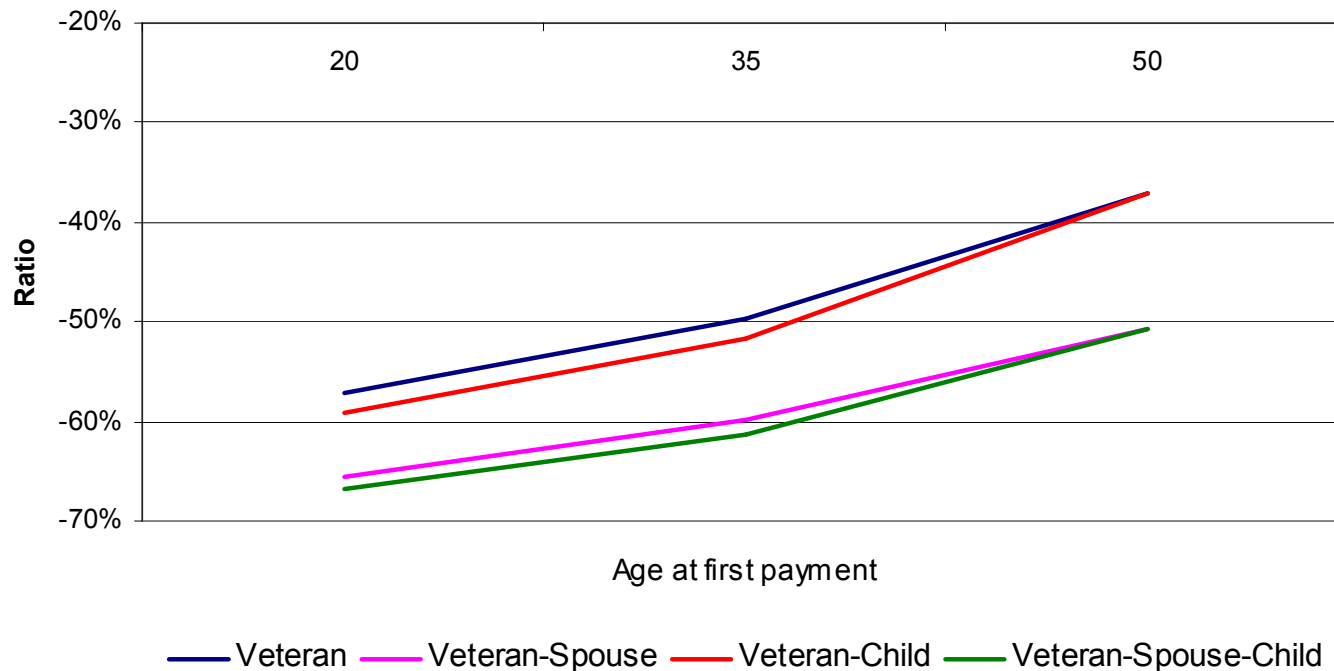
$$\left[\frac{\text{Actuarial Present Value NVC}}{\text{Actuarial Present Value PA}} \right] - 1 \times 100\%$$

- A ratio > 0 means that the Actuarial Present Value of benefits payable the NVC is higher than the Actuarial Present Value of benefits payable under the PA
- Benefits with a ratio of $\pm 5\%$ may be considered as equivalent
- Benefits with a ratio outside of the $\pm 5\%$ range are not considered equivalent

RESULTS ANALYSIS

A ratio above 0% means that the APV NVC > APV PA

- Chart 8: Ratio as a function of age at event
 - Male, 25% disabled, with pre-release salary of \$50,000



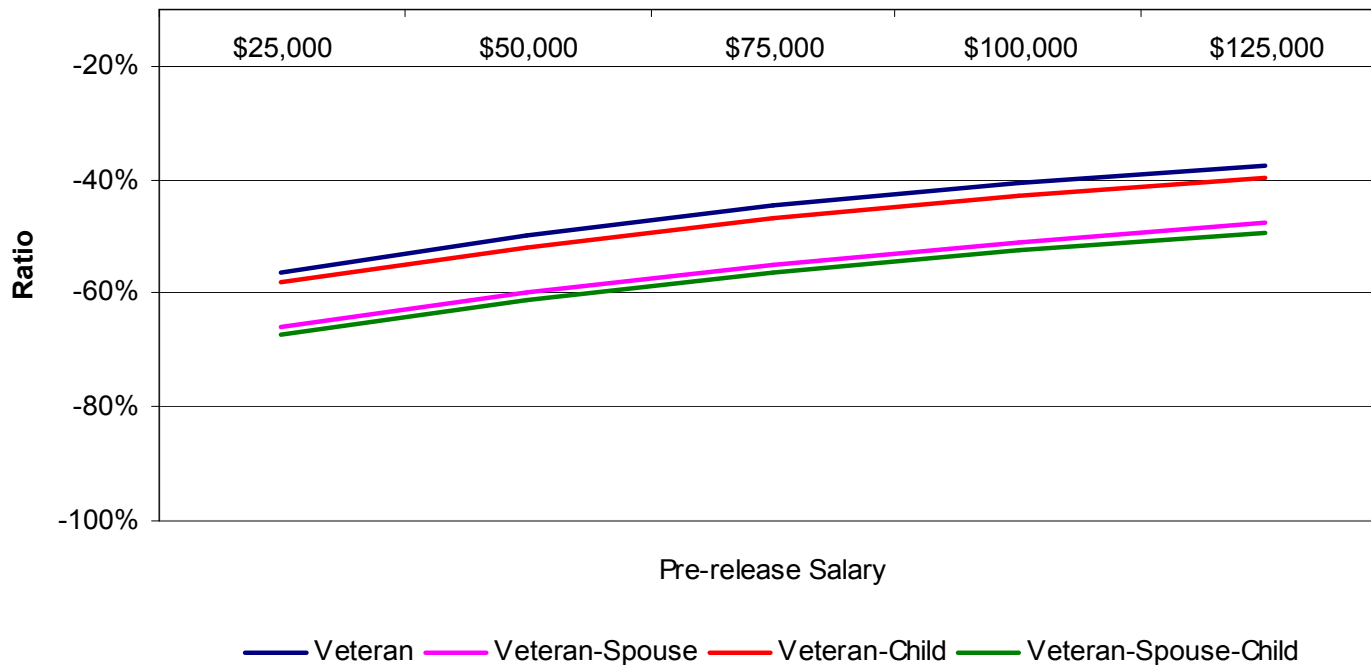
- The Disability Award (lump sum) is insufficient to cover the APV of the future benefits (lifetime) under the PA when there is a return to work since the PA continues to be paid while the SISIP would stop
- Note: additional programs such as rehabilitation services and CFIS are available under the NVC to facilitate return to work



RESULTS ANALYSIS

A ratio above 0% means that the APV NVC > APV PA

- Chart 9: Ratio as a function of pre-release salary
 - Male, age 35, 25% disabled



- Slight improvement of ratios with higher salaries

RESULTS ANALYSIS

↳ Results Set 3: Widows and Orphans

- Actuarial assumptions: Best estimates
- Province of residence: Ontario
- The Veteran is eligible for the Death Award under the NVC
 - He dies within 30 days of the event
- The Veteran was 35 years old upon death, with a salary of \$50,000
- The presented ratio corresponds to

$$\left[\frac{\text{Actuarial Present Value NVC}}{\text{Actuarial Present Value PA}} \right] - 1 \times 100\%$$

- A ratio > 0 means that the Actuarial Present Value of benefits payable the NVC is higher than the Actuarial Present Value of benefits payable under the PA
- Benefits with a ratio of $\pm 5\%$ may be considered as equivalent
- Benefits with a ratio outside of the $\pm 5\%$ range are not considered equivalent

RESULTS ANALYSIS

↳ Results Set 3: Widows and Orphans

- Single Veteran with one child
 - The ratio is 301%
- Married Veteran
 - When the widow is male, the ratio is 57%
 - When the widow is female, the ratio is 41%
- Married Veteran with one child
 - When the widow is a male, the ratio is 30%
 - When the widow is a female, the ratio is 19%
- The ratio could be negative if the Veteran had a lower pre-release salary
- Conclusion: $NVC > PA$ in most cases where death benefits are payable

RESULTS ANALYSIS

↳ Prisoners of War vs. Detention Benefit

- Prisoners of War (under the *Pension Act*)
 - Non-taxable lifetime monthly benefit
 - Benefits are a percentage of the basic amount; the percentage increases with the number of days in detention
 - There is an additional compensation for spouse and child
- Detention Benefit (under the New Veterans Charter)
 - Non-taxable lump sum
 - Benefits are a percentage of the Disability Award; the percentage increases with the number of days in detention
 - Percentages correspond to the ones from the PA
 - There is no additional compensation for spouse and child
- Given that these benefits follow the pattern of the disability benefits under the NVC vs. PA, these two benefits are not equivalent

RESULTS ANALYSIS

- ↳ Exceptional Incapacity Allowance (EIA) vs. Permanent Impairment Allowance (PIA)
 - Exceptional Incapacity Allowance (under the *Pension Act*): non-taxable monthly benefit to compensate for the suffering due to injury
 - Payment
 - Grade I – \$1,149.45
 - Grade II – \$957.84
 - Grade III – \$766.27
 - Grade IV – \$574.77
 - Grade V – \$383.17
 - The Veteran must be in receipt of a Class 1 pension to be eligible (i.e. disability benefits must be payable at 100%)
 - Criteria
 - Helplessness
 - Continuing Pain and Discomfort
 - Loss of Enjoyment of Life
 - Shortened of Life Expectancy
 - Psychological Complications

RESULTS ANALYSIS

↳ ...Exceptional Incapacity Allowance (EIA) vs. Permanent Impairment Allowance (PIA)

- Permanent Impairment Allowance (under the New Veterans Charter): a taxable monthly benefit to compensate for suffering due to injury
 - Payment
 - Grade I - \$1,500
 - Grade II - \$1,000
 - Grade III - \$500
- In 2007, no one was in receipt of this benefit
- Criteria
 - Amputation at or above the elbow or the knee
 - Amputation of more than one upper or lower limb at any level
 - Total and permanent loss of the use of a limb
 - Total and permanent loss of vision, hearing or speech
 - Severe and permanent psychiatric condition
 - Permanent requirement for the physical assistance of another person for most activities of daily living
 - Permanent requirement for supervision

RESULTS ANALYSIS

- ↳ ...Exceptional Incapacity Allowance (EIA) vs. Permanent Impairment Allowance (PIA)
 - Although the financial value is very similar (after income tax considerations), the extent to which the Exceptional Incapacity Allowance is payable appears to be broader
 - However, the PIA does not require the payment of the Disability Amount at 100%, which increases access to the PIA
 - Therefore, from a qualitative standpoint, the two benefits are equivalent may not be equivalent
 - A study of the causes of disability could provide interesting information regarding the most appropriate benefit for today's Veterans

RESULTS ANALYSIS

↳ Canadian Forces Income Support (CFIS) – payable under the NVC

- A non-taxable benefit available after an applicant has completed rehabilitation and is deemed employable
- Veteran must demonstrate that
 - he/she is no longer eligible for earning loss benefits
 - meets the Canadian residency requirement, meets the criteria related to employment and job placement
 - earns an income below a certain threshold (income level for eligibility to Guaranteed Income Support (GIS)) to be deemed eligible to receive CFIS benefits
- In 2007, no one was in receipt of this benefit
- Given the low income threshold and that the probability of payment is lower, this benefit has not a significant impact on the overall value of the NVC

↳ War Veterans Allowance payable under the *War Veterans Allowance Act*

- This benefit was excluded it since is now only available to a closed group of Veterans (WWI, WWII, Korea War)

SENSITIVITY ANALYSIS

↳ Definition & Purpose

- Sensitivity analysis (SA) is the study of how the variation (uncertainty) in the output of a mathematical model can be apportioned, qualitatively or quantitatively, to different sources of variation in the input of a model
- In more general terms, uncertainty and sensitivity analysis investigate the robustness of a study when the study includes some form of mathematical modeling. While uncertainty analysis studies the overall uncertainty in the conclusions of the study, sensitivity analysis tries to identify what source of uncertainty weights more on the study's conclusions
- Source: Saltelli, A., Ratto, M., Andres, T., Campolongo, F., Cariboni, J., Gatelli, D. Saisana, M., and Tarantola, S., 2008, *Global Sensitivity Analysis. The Primer*, John Wiley & Sons.

SENSITIVITY ANALYSIS

↳ Mortality of the Veterans

- We have tested the impact of the mortality rates on the results by using the Assumed Mortality Rates for Disability (3A) Pensioners - Other Ranks (from the Actuarial Report on the Pension Plan for the Canadian Forces as at March 31, 2005)
- Mortality rates are significantly higher in this table than in the VAC one
 - The PA values decrease with higher mortality, therefore increasing the ratio of the NVC values
 - The mortality risk is partially transferred to the Veteran under the NVC
- The model is sensitive to the change in mortality, improving the ratios by 0% to 19%
- However, this improvement is not sufficient to make the NVC equivalent to the PA on an actuarial basis in the majority of cases

SENSITIVITY ANALYSIS

↳ Investment Return Rate

- The model has been tested with an investment return rate of 3.5%
 - Results
 - Ratios decrease by 0% to 9%
- The model has been tested with an investment return rate of 4.5%
 - Results
 - Ratios increase by 0% to 10%
- Results are sensitive to interest rates; however, varying the rate of return by +/- 1% is not sufficient to make the NVC equivalent to the PA on an actuarial basis in the majority of cases
- The higher the investment return rate, the higher the values from the NVC

SENSITIVITY ANALYSIS

↳ Consumer Price Index (CPI)

- The model has been tested with the CPI at 1.75%
 - Results
 - Ratios increase by up to 23% given that the CPI is below the 2% indexation cap on the SISIP LTD plan
- The model has been tested with the CPI at 2.75%
 - Results
 - For Veterans below age 65
 - » Ratios decrease by 0% to 18% due to the 2% cap on the SISIP LTD plan
 - For Veterans over age 65
 - » Ratios increase by up to 5% since LTD payments stop at age 65

SENSITIVITY ANALYSIS

↳ Income Tax (Province of Residence)

- The model has been tested with the Quebec income tax level
 - Results
 - Income tax levels in Quebec are higher than in Ontario, on average
 - Ratios decrease by 0% to 4%
 - There may be slight changes in patterns given the differences between Canadian Pension Plan (CPP) and Quebec Pension Plan (QPP) benefits for children
- The model has been tested with Alberta's income tax level
 - Results
 - Income tax levels in Alberta are lower than in Ontario, on average
 - Ratios increase by 0% to 3%
- The higher the income tax rates, the lower the values from the NVC

SENSITIVITY ANALYSIS

↳ Income Tax

- The model has been tested in a tax-free environment
 - In a tax-free environment, ratios increase by 1% to 19%
 - In such an environment, APV under both legislations would be comparable for most of the scenarios, except above age 65 where APV under the PA are higher
 - Young Veterans with a family are the most impacted by the difference in tax status under both legislations

↳ Indexation Formula

- The model has been tested in an environment where all benefits were indexed at 2%
 - Results
 - Ratios increase by 1% to 19%
 - Young Veterans with a family are the most impacted by the indexation being capped at 2% in the SISIP LTD plan

CONCLUSION

- ↳ Based on our assumptions, we are of the opinion that the actuarial present values of benefits identified in our evaluation offered through the NVC are lower, in the majority of cases, than the actuarial present values of benefits offered under the PA
 - The NVC produces lower actuarial present values than the PA for the following groups in particular
 - Veterans with low pre-release salary
 - Veterans with a family
 - Older veterans, at the time of first payment (except for ages above 70 in some instances)
 - Veterans with higher disability level
 - The NVC produces higher or equivalent actuarial present values than the PA for the following groups in particular
 - For Widows and Orphans (i.e. when a Death Award is payable), the NVC is more generous
 - The benefit values for the "Single" and "with Child" status for pensioners aged between 20 and 40 (when they receive their first payment) and with partial disability (<50%) are in the +/- 5% range

CONCLUSION

- ↳ This can be explained by the following main differences between the two Acts
 - Disability Pension under the PA is not linked to salary and is based on family status which is not the case for the Earning Loss Benefit (or SISIP) under the NVC
 - Disability Pension under the PA is payable for life vs. to age 65 for the Earning Loss Benefit under the NVC
 - The Supplementary Retirement Benefit under the NVC does not compensate for this lifetime payment as it is equivalent to a one year payment (instead of a present value of a lifetime annuity)
 - Disability Pension under the PA is not taxable while the Earning Loss Benefit under the NVC is taxable as well as the investment return on the lump sum
 - The Disability Award payable under the NVC does not appear to be sufficient to compensate for these differences, in the majority of cases

CONCLUSION

↳ Difference in indexation formula

- Non-financial benefits (PA disability pension, Disability and Death Awards) are indexed in the same manner under both Acts
- Financial benefits (i.e. SISIP LTD) are indexed in the same manner under both Acts
- Salary Increase = Cost of Living + Increase in productivity + Merit
 - For disabled employees → Increase in productivity + Merit = 0
→ Salary Increase = Cost of Living = CPI
- Theoretically, indexation formula would be the same
- In practice, it is different given the integration of SISIP with PA disability pension

CONCLUSION

- ↳ PA had benefits based on a more traditional family model
 - Benefits based on the family status
 - Last sickness and burial expenses
 - Allowance for maintenance of parents
- ↳ The NVC offers new additional benefits that were not studied, such as
 - Job Placement, CF Income Support, Financial Advice
 - These benefits provide support to Veterans (i.e. more qualitative than quantitative values)
 - Although these benefits may be valued by Veterans, they would not have a significant impact on the total benefits value (in \$)

CONCLUSION

↳ Pros and cons of a lump sum payment

– Pros

- Immediate access to funds
- More flexibility in
 - Use of money
 - Investment choices
- Potential benefits from mortality and investment gains

– Cons

- Investment risk
 - Level of comfort in managing investments
 - Mortality risk (out-living the available funds)
 - Inappropriate use of lump sum money
- Appropriate method of payment depends on each individual case

NEXT STEPS

↳ Potential additional phase for this study

- Confirm the assumptions used by the legislator at the introduction of the NVC
- Clarify the legislator's intent behind the legislations changes
 - Offer equivalent benefits?
 - Offer support and optimal conditions for return to work?
 - Focus on income replacement vs. family support?
 - Offer benefits more suited to the new environment of the Veterans?
 - Families with two income earners
 - Working conditions while in the CF
- Evaluate the adequacy of benefits provided based on specific criteria for the new Veterans population (e.g. current standard of living, two income earners family, availability of other sources of income or gainful employment options)

NEXT STEPS

- ↳ ...Potential additional phase for this study
 - Evaluate the risk exposure of the NVC based on the new Veterans statistics
 - Would need to obtain new Veterans population distribution by age at first payment, gender, salary, level of disability, etc.
 - Evaluate under which conditions (investment return, mortality) and which lump sum amount would make the NVC benefits more equivalent to the PA benefits in the majority of cases
 - Communication strategy to present the results of this study to VAC, the Veterans and the general public

ANSWERS TO YOUR QUESTIONS

Thank you



Appendix A

A ratio above 0% means that the APV NVC > APV PA

→ Table 1
 – Age 20 – Single Pensioner

\$25,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	10%	6%	-58%	8%	2%	-61%	
\$50,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	11%	5%	-13%	10%	3%	-18%	
\$75,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	12%	8%	-4%	12%	6%	-7%	
\$100,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	13%	9%	0%	13%	8%	-4%	
\$125,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	14%	10%	0%	13%	9%	-2%	

Appendix A

A ratio above 0% means that the APV NVC > APV PA

Table 2

– Age 20 – Pensioner & 1 Child

\$25,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	1%	4%	-66%	-1%	0%	-68%	
\$50,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-3%	-5%	-23%	-4%	-7%	-27%	
\$75,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-3%	-5%	-9%	-4%	-6%	-13%	
\$100,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-3%	-4%	-10%	-3%	-6%	-12%	
\$125,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-3%	-5%	-11%	-3%	-6%	-13%	

Appendix A

A ratio above 0% means that the APV NVC > APV PA

Table 3

– Age 20 – Married Pensioner

\$25,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-1%	-2%	-68%	-2%	-3%	-68%	
\$50,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-4%	-7%	-33%	-5%	-8%	-33%	
\$75,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-3%	-7%	-15%	-4%	-8%	-16%	
\$100,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-2%	-6%	-14%	-3%	-7%	-15%	
\$125,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-2%	-6%	-14%	-3%	-7%	-15%	

Appendix A

A ratio above 0% means that the APV NVC > APV PA

→ Table 4

– Age 20 – Pensioner, Spouse & 1 Child

\$25,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-1%	-2%	-73%	-2%	-3%	-73%	
\$50,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-4%	-8%	-39%	-5%	-9%	-40%	
\$75,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-3%	-7%	-16%	-4%	-8%	-17%	
\$100,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-3%	-6%	-15%	-4%	-7%	-16%	
\$125,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-2%	-6%	-15%	-4%	-7%	-16%	

Appendix A

A ratio above 0% means that the APV NVC > APV PA

→ Table 5
 – Age 35 – Single Pensioner

\$25,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	3%	2%	-54%	-1%	-3%	-58%	
\$50,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	1%	-3%	-12%	-1%	-6%	-19%	
\$75,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	1%	-2%	-8%	0%	-4%	-13%	
\$100,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	2%	-1%	-7%	1%	-3%	-11%	
\$125,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	2%	-1%	-7%	1%	-3%	-11%	

Appendix A

A ratio above 0% means that the APV NVC > APV PA

Table 6

– Age 35 – Pensioner & 1 Child

\$25,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	0%	2%	-61%	-3%	-4%	-64%	
\$50,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-3%	-6%	-21%	-5%	-9%	-27%	
\$75,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-3%	-5%	-10%	-4%	-8%	-16%	
\$100,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-3%	-5%	-10%	-4%	-7%	-14%	
\$125,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-3%	-5%	-11%	-4%	-7%	-15%	

Appendix A

A ratio above 0% means that the APV NVC > APV PA

Table 7

– Age 35 – Married Pensioner

\$25,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-4%	-7%	-65%	-5%	-8%	-65%	
\$50,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-5%	-10%	-34%	-6%	-11%	-34%	
\$75,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-4%	-8%	-19%	-5%	-9%	-19%	
\$100,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-3%	-7%	-17%	-4%	-8%	-17%	
\$125,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-3%	-7%	-17%	-4%	-8%	-17%	

Appendix A

A ratio above 0% means that the APV NVC > APV PA

→ Table 8

– Age 35 – Pensioner, Spouse & 1 Child

\$25,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-4%	-7%	-70%	-5%	-8%	-70%	
\$50,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-5%	-10%	-40%	-6%	-11%	-40%	
\$75,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-4%	-9%	-20%	-5%	-10%	-20%	
\$100,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-3%	-7%	-18%	-4%	-8%	-19%	
\$125,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-3%	-7%	-18%	-4%	-8%	-18%	

Appendix A

A ratio above 0% means that the APV NVC > APV PA

Table 9

– Age 50 – Single Pensioner

\$25,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-3%	-4%	-46%	-9%	-13%	-53%	
\$50,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-5%	-8%	-14%	-8%	-14%	-25%	
\$75,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-4%	-7%	-13%	-7%	-11%	-21%	
\$100,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-3%	-6%	-12%	-6%	-10%	-19%	
\$125,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-3%	-6%	-12%	-5%	-9%	-18%	

Appendix A

A ratio above 0% means that the APV NVC > APV PA

Table 10

– Age 50 – Pensioner & 1 Child

\$25,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-3%	-4%	-47%	-9%	-13%	-54%	
\$50,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-5%	-8%	-16%	-9%	-14%	-26%	
\$75,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-4%	-7%	-13%	-7%	-11%	-21%	
\$100,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-3%	-6%	-12%	-6%	-10%	-19%	
\$125,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-3%	-6%	-13%	-5%	-10%	-18%	

Appendix A

A ratio above 0% means that the APV NVC > APV PA

Table 11

– Age 50 – Married Pensioner

\$25,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-12%	-18%	-62%	-13%	-19%	-62%	
\$50,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-9%	-16%	-39%	-11%	-18%	-38%	
\$75,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-7%	-13%	-28%	-9%	-15%	-28%	
\$100,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-5%	-11%	-25%	-7%	-12%	-25%	
\$125,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-4%	-10%	-23%	-6%	-12%	-23%	

Appendix A

A ratio above 0% means that the APV NVC > APV PA

Table 12

- Age 50 – Pensioner, Spouse & 1 Child

\$25,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-12%	-18%	-63%	-13%	-19%	-62%	
\$50,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-9%	-16%	-40%	-11%	-18%	-39%	
\$75,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-7%	-13%	-28%	-9%	-15%	-28%	
\$100,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-5%	-11%	-25%	-7%	-13%	-25%	
\$125,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-4%	-10%	-23%	-6%	-12%	-24%	

Appendix A

A ratio above 0% means that the APV NVC > APV PA

→ Table 13

– Age 65 – Single Pensioner

\$25,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-34%	-34%	-34%	-46%	-46%	-46%	
\$50,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-34%	-34%	-34%	-46%	-46%	-46%	
\$75,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-34%	-34%	-34%	-46%	-46%	-46%	
\$100,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-34%	-34%	-34%	-46%	-46%	-46%	
\$125,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-34%	-34%	-34%	-46%	-46%	-46%	

Appendix A

A ratio above 0% means that the APV NVC > APV PA

Table 14

– Age 65 – Pensioner & 1 Child

\$25,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-34%	-34%	-34%	-46%	-46%	-46%	
\$50,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-34%	-34%	-34%	-46%	-46%	-46%	
\$75,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-34%	-34%	-34%	-46%	-46%	-46%	
\$100,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-34%	-34%	-34%	-46%	-46%	-46%	
\$125,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-34%	-34%	-34%	-46%	-46%	-46%	

Appendix A

A ratio above 0% means that the APV NVC > APV PA

→ Table 15

– Age 65 – Married Pensioner

\$25,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-56%	-56%	-57%	-56%	-56%	-56%	
\$50,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-56%	-56%	-57%	-56%	-56%	-56%	
\$75,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-56%	-56%	-57%	-56%	-56%	-56%	
\$100,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-56%	-56%	-57%	-56%	-56%	-56%	
\$125,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-56%	-56%	-57%	-56%	-56%	-56%	

Appendix A

A ratio above 0% means that the APV NVC > APV PA

Table 16

- Age 65 – Pensioner, Spouse & 1 Child

\$25,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-56%	-56%	-57%	-56%	-56%	-56%	
\$50,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-56%	-56%	-57%	-56%	-56%	-56%	
\$75,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-56%	-56%	-57%	-56%	-56%	-56%	
\$100,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-56%	-56%	-57%	-56%	-56%	-56%	
\$125,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	-56%	-56%	-57%	-56%	-56%	-56%	

Appendix A

A ratio above 0% means that the APV NVC > APV PA

Table 17

– Age 80 – Single Pensioner

\$25,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	31%	32%	32%	3%	3%	3%	
\$50,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	31%	32%	32%	3%	3%	3%	
\$75,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	31%	32%	32%	3%	3%	3%	
\$100,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	31%	32%	32%	3%	3%	3%	
\$125,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	31%	32%	32%	3%	3%	3%	

Appendix A

A ratio above 0% means that the APV NVC > APV PA

Table 18

– Age 80 – Pensioner & 1 Child

\$25,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	31%	32%	32%	3%	3%	3%	
\$50,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	31%	32%	32%	3%	3%	3%	
\$75,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	31%	32%	32%	3%	3%	3%	
\$100,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	31%	32%	32%	3%	3%	3%	
\$125,000		Male			Female		
Level of Disability (%)	25	45	100	25	45	100	
NVC / Pension Act	31%	32%	32%	3%	3%	3%	

Appendix A

A ratio above 0% means that the APV NVC > APV PA

→ Table 19
 – Age 80 – Married Pensioner

\$25,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-17%	-17%	-21%	-14%	-14%	-16%	
\$50,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-17%	-17%	-21%	-14%	-14%	-16%	
\$75,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-17%	-17%	-21%	-14%	-14%	-16%	
\$100,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-17%	-17%	-21%	-14%	-14%	-16%	
\$125,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-17%	-17%	-21%	-14%	-14%	-16%	

Appendix A

A ratio above 0% means that the APV NVC > APV PA

Table 20

- Age 80 – Pensioner, Spouse & 1 Child

\$25,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-17%	-17%	-21%	-14%	-14%	-16%	
\$50,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-17%	-17%	-21%	-14%	-14%	-16%	
\$75,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-17%	-17%	-21%	-14%	-14%	-16%	
\$100,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-17%	-17%	-21%	-14%	-14%	-16%	
\$125,000		Male			Female		
<i>Level of Disability (%)</i>	25	45	100	25	45	100	
NVC / Pension Act	-17%	-17%	-21%	-14%	-14%	-16%	

Appendix B – Actuarial Assumptions

→ Mortality Rates

– Veterans

- We have used the mortality rates for the peacetime veterans, as determined by the Chief Actuary for the 2007 Actuarial Report on the Future Benefits for Veterans, since this study applies to the same population
 - This report showed that the Veterans' mortality was equivalent to 15% of the CF Officers' mortality plus 85% of the CF other ranks' mortality
 - The VAC mortality table only showed mortality rates for male veterans
 - » We have therefore assumed that the female veteran mortality matches the CF experience for female (which is not differentiated for officers vs. other ranks)
- No mortality improvement factors have been considered beyond Fiscal Year 2006

Appendix B – Actuarial Assumptions

→ ...Mortality Rates

– ...Veterans

- Mortality rates at selected ages are summarized in the table below

Age	Assumed Mortality Rates for Fiscal Year 2006	
	Male (‰)	Female (‰)
20	0.61	0.27
25	0.59	0.27
30	0.56	0.37
35	0.62	0.47
40	0.93	0.65
45	1.65	0.91
50	2.86	1.16
55	5.55	2.08
60	9.58	4.23
65	15.73	8.27
70	26.14	13.05
75	43.15	21.52
80	70.50	38.06
85	107.70	66.63
90	150.50	117.90

Appendix B – Actuarial Assumptions

→ ...Mortality Rates

– ...Veterans – Sensitivity Analysis

- We have used the CF mortality table for disabled members (3A) in order to test the sensitivity of the mortality assumption
- Mortality rates at selected ages from this table are summarized below

Age	Assumed Mortality Rates for Disability (3A) Pensioners - Other Ranks	
	Male (‰)	Female (‰)
20	1.02	0.44
25	1.04	0.45
30	2.48	0.56
35	4.40	0.75
40	6.14	1.12
45	7.16	1.81
50	8.18	2.93
55	11.41	4.81
60	19.60	7.74
65	28.79	12.02
70	44.69	19.32
75	66.52	32.10
80	88.36	50.69
85	119.16	82.04
90	154.68	131.00



Appendix B – Actuarial Assumptions

→ ...Mortality Rates

– Spouse & Child

- Spouse & Child mortality was assumed to be consistent with the sex-distinct 2000-02 Canada Population mortality table
- No mortality improvement factors have been considered
- Mortality rates at selected ages are summarized in the table below

Age	2000-02 Canada Population	
	Male (‰)	Female (‰)
25	0.82	0.34
30	0.83	0.33
35	0.88	0.39
40	1.10	0.61
45	1.52	0.92
50	2.33	1.45
55	3.60	2.29
60	5.90	3.72
65	9.82	5.87
70	15.93	9.33
75	25.55	14.93
80	41.65	24.67
85	68.46	42.40
90	111.35	77.55
95	182.64	130.88



Appendix B – Actuarial Assumptions

↳ Economic Assumptions

– Investment Return (or Discount Rate)

- Rate of return available to the Veteran, surviving spouse or dependent child to carry forward cash flows from one period to another
- We used a long term bond rate of return that could reproduce the guaranteed annuities paid by the Government of Canada under the PA
 - In line with the standards of practice from the Canadian Institute of Actuaries for the calculation of pension commuted values
- Investment returns on the lump sum payments are taxable
- Based on historical returns and current trends on Government of Canada long term bond returns, we used a rate net of all expenses and income taxes of 4.0% compounded annually

Appendix B – Actuarial Assumptions

↳ ...Economic Assumptions

– Inflation / Cost of Living (CPI)

- Benefits are indexed according to different formulas
- Future inflation is the estimate of future CPI increases
- Based on historical values and recent trends, we used a CPI rate of increase of 2.25% per year

– Wage Increase

- Under the *Pension Act*, in addition to the CPI, wage increases of unskilled public servants are taken into account to determine the annual indexation of benefits
- Based on past experience, this index is estimated at $\text{CPI} + 0.25\% = 2.50\%$ annually

– Income Tax

- Income tax brackets are assumed to increase every year in the same manner as wages
- Given that the SRB is payable in a one-time taxable lump sum that could increase the Veteran's annual income to a highest income tax bracket in the year of payment, we have assumed a 40% tax rate on this lump sum amount

Appendix C – Other Assumptions and Model Limitations

↳ Spouse and Child

- The user may enter the parameters (age and gender) applicable to the spouse and child(ren)
- However, for the results presented in this report, we have assumed
 - Veterans with a spouse are assumed to have a spouse of the opposite sex
 - Such spouses are assumed to be three years older than the Veteran if the member is female and three years younger if the Veteran is male. Minimum age for a spouse is 18 year old.
 - Spouses are not considered dependent spouses (from an *Income Tax* perspective)
 - Veterans with child(ren) are assumed to have one female child (minor impact due to termination age of children)
 - Such child is assumed to be 30 years younger than the Veteran. If Veterans are younger than 30, child is assumed to be a new born.
 - Child is considered dependent until attainment of age 22

↳ Change in Family Status

- The family status of a Veteran is assumed to remain unchanged until death

Appendix C – Other Assumptions and Model Limitations

↳ Change in Disability Level

- If the Veteran is assumed to return to work after 24 months, then the disability is assumed to cease completely upon return to work (i.e. SISIP or Earning Loss Benefit would stop; however, PA disability pension would continue being paid)
 - We have used a 24-month period to consider that the SISIP payments are guaranteed for the first 24 months upon medical release from the CF
- Otherwise, the Disability Level is assumed to remain unchanged until death

↳ CPP/QPP Disability Benefits

- The user decides when CPP/QPP disability benefits are payable. It is important to note that the disability must be total and permanent for the CPP/QPP disability pension to be payable.
- However, for the results presented in this report, we assumed the CPP/QPP disability pension is payable for a disability factor of 75% and more. Otherwise, we assumed no CPP/QPP disability pension is payable.
- The model assumes that the maximum CPP/QPP monthly benefits are paid
- The model assumes that CPP/QPP benefits are payable from the start of the disability

