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# Pre- and Post-Release Income: Life After Service Studies

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## Foreword

**Lieutenant-General Walter Semianiw, Assistant Deputy Minister,  
Policy, Communications and Commemoration, Veterans Affairs Canada**

*"When first introduced in 2010, the Life After Service Studies (LASS) program of research opened the door to a new focus of study – one that provided much-needed information about the physical, mental, and social well-being of Veterans of the Canadian Armed Forces. The results of LASS 2010, though already informing programs and policies, were just the beginning of this dedicated area of study. Veterans Affairs Canada is pleased to continue this important work with the Department of National Defence and Statistics Canada with LASS 2013. This latest study also included Reserve Force Veterans, providing new information about this group that represents approximately half of Canadians with military service. With each study we are learning more about the Canadian transition experience and working to provide more responsive support to the men and women who serve this nation."*

Signed:



LGen Walter Semianiw

*17 June 2014*  
Date

**Major-General David Millar, Chief Military Personnel,  
Department of National Defence**

*"The transition from military to civilian life is an important time for Canadian Armed Forces (CAF) members. The Life After Service Studies (LASS) program of research, initiated as part of a partnership with Veterans Affairs Canada (VAC) and Statistics Canada in 2010, has provided useful information about the health and well-being of our Veterans, and of the factors that might aid successful adjustment to civilian life. The 2013 LASS was the first study to include Veterans of the Primary Reserves. With the recent deployment to Afghanistan and other commitments, the CAF has been using more Reservists to fill multiple roles both in Canada and on deployments, and this study provides new and important information about the well-being of this population in addition to Veterans of the Regular Force. It is important that the policies, practices and programs of both DND and VAC are developed in a complementary fashion, with the common goal of assisting in the transition of these soldiers, sailors, airmen and airwomen to civilian life. This collaborative research will ensure better-informed, better-synchronized policy across both Departments, to the benefit of the men and women who have served our country."*

Signed:



MGen David Millar

*17 June 2014*  
Date

# **Income Study Governance Structure**

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# **Pre- and Post-Release Income: Life After Service Studies**

## **Executive Summary**

### **Objective**

This study of Veterans income is part of the Life After Service Studies program of research aimed at understanding the transition from military to civilian life. This report describes income trends pre- and post- release, for both Regular and Reserve Force Veterans.

### **Methods**

Statistics Canada produced aggregate tables from a linkage of records on military releases, Veterans Affairs Canada client status and tax files for three groups: 51,990 Regular Force Veterans (released 1998 to 2011) and 15,596 Class A/B Reserves and 3,185 Class C Reserves (both released 2003 to 2011).

### **Results**

#### *Regular Force Veterans*

Average income in the year prior to release was \$70,900 (in 2011 constant dollars), increasing in the release year then declining the year after to \$65,000. Post-release income reached pre-release income eight years post release.

The largest source of income was earnings, followed by pensions and government transfers. While government transfers (employment insurance, social assistance, guaranteed income supplement) increased post release, receipt of such was temporary. Thirty-eight (38%) received EI and 4% received SA or GIS at least one year post release, and only 2% received EI and none received SA or GIS in every year post release.

Average decline in income for the Regular Force cohort (compares, for the same Veterans, the pre-release year and all the first three years post release) was 2%. The majority of this cohort (64%) were not VAC clients. Clients experienced an 11% decline in income post release compared to an increase of 4% for non-clients. More than one-quarter (27%) of the cohort were aged 29 and under at release and clients were older than non-clients.

Declines in income, which can significantly impact the transition experience, differed considerably between sub-populations. For example, medical releases had one of the greatest declines in income (20%). Compared to the overall average of 36%, 80% of medical releases were clients, indicating that the Department is reaching many of those who medically released.

The rate of low income, which can also impact transition success, peaked in the first year post release at 7% before gradually leveling off at 4% by the six-year mark. Of the 16% that experienced low income at least one year post release, the majority were not VAC clients. Veterans who released involuntarily (38%), had served for less than two years (37%) or released as privates (35%) experienced low income the most.

### *Primary Reserve Force Veterans*

Average income did not decline post release for Reserve Force Veterans. Pre-release income for Class A/B Reserves was \$35,300, increased to \$39,400 in the release year and then continued to increase to \$60,300 eight years post-release. Class C Reserves experienced an initial increase in the release year, from \$66,300 to \$71,500, and then remained fairly stable.

Earnings were the biggest source of income post release, followed by government transfers and pensions. Government transfers were quite temporary, with few Veterans in receipt every year post release. While 39% of the combined Reserve groups received EI and 5% received SA or GIS at least one year post release, 4% received EI and 1% received SA or GIS every year post release.

When considering the Reserve Force cohort (compares, for the same Veterans, the pre-release year and all the first three years post release), Class A/B Reserves experienced a 43% increase in income, from \$32,700 to \$46,600, while Class C Reserves experienced a 14% increase, from \$60,500 to \$69,100. Class C Reserves were older than Class A/B Reserves. Only 5% of the Reserve Force cohort were clients, therefore the two classes were combined for client/non-client comparisons. Clients experienced a 9% decline in income post release while non-clients saw a 39% increase. Three-quarters (73%) of the Reserve cohort were aged 29 and under at release and clients were older than non-clients.

Although the Reserve Force cohort saw income increases post release, some small groups (< 5% of the cohort) experienced declines. Veterans aged 55 plus at release (18%), those who released at retirement age (17%) and those released from the Navy (11%) experienced the largest declines, compared to an overall increase of 35%. All three of these groups were more likely to be clients than the average of 5%.

The rate of low income for Reserve Force Veterans peaked at 14% in the release year then gradually declined to 8% by the eight-year mark. Overall, 23% of Reserves experienced low income at least one year post release, of which 5% were clients. The breakdown by class was 25% (Class A/B) and 13% (Class C). Veterans who had the highest rates of ever experiencing low income post release had served for less than two years (35%), involuntarily released (35%) or released as recruits (33%).

### *Regular Force and Primary Reserve Force Veterans Compared*

At release, Regular Force Veterans were the oldest and Class A/B Reserves were the youngest. The level of pre-release income followed this age difference: Regular Force (\$69,300), Reserve Class C (\$60,500) and Reserve Class A/B (\$32,700). The age trend

at least partially explains the differences in income changes: a 2% decline for Regular Force with increases of 14% and 43% respectively for Class C and Class A/B Reserves. For both the Regular and Reserve Force, younger Veterans experienced increases in income post-release while older Veterans experienced declines in income.

The younger age of Class A/B Reserves also explains their higher rate (25%) of experiencing low income at least one year post release, compared to the rates for Regular Force (16%) and Class C Reserves (13%) which were quite similar, considering the shorter post-release study period for Reserves. Rates of low income were higher among younger Regular and Reserve Force Veterans.

## **Conclusion**

Class A/B Reserves had much lower incomes than Regular Force and Class C Reserves. However, income increased for both Reserve Class A/B and Reserve Class C Veterans comparing the pre-release year and all three years post release but decreased for Regular Force Veterans. Low income rates were higher for Reserve Class A/B Veterans than for both Regular Force and Reserve Class C Veterans.

In general, younger Veterans experienced both the greatest increases in income and the highest rates of low income. VAC programs are reaching some segments of the cohort with the largest declines in income post release.



# Revenu avant et après la libération: Études sur la vie après le service

## Résumé

### Objectif

Cette étude sur le revenu des vétérans fait partie du programme de recherche Études sur la vie après le service militaire, qui vise à mieux comprendre la transition de la vie militaire à la vie civile. Le présent rapport décrit les tendances du revenu avant et après la libération, pour les membres de la Force régulière et de la Force de réserve.

### Méthodes

Statistique Canada a produit des tableaux agrégés à partir d'un couplage d'enregistrements sur les libérations militaires, sur la situation des clients d'Anciens Combattants Canada et sur les fichiers d'impôts pour trois groupes : 51 990 vétérans de la Force régulière (libérés entre 1998 et 2011), 15 596 vétérans de la Réserve de classe A et B et 3 185 vétérans de la Réserve de classe C (libérés entre 2003 et 2011).

### Résultats

#### *Vétérans de la Force régulière*

Le revenu moyen pour l'année précédant la libération était de 70 900 \$ (en dollars indexés de 2011); il augmentait durant l'année de la libération, puis diminuait l'année suivante, passant à 65 000 \$. Le revenu d'après la libération rejoignait le revenu d'avant la libération huit ans après celle-ci.

Les gains étaient la principale source de revenu, suivis des pensions et des transferts du gouvernement. Même si les transferts du gouvernement (assurance-emploi, aide sociale, supplément de revenu garanti) augmentaient après la libération, leur réception était temporaire. Trente-huit pour cent (38 %) touchaient de l'assurance-emploi et 4 % recevaient de l'aide sociale ou le SRG au moins un an après la libération, tandis que seulement 2 % touchaient de l'assurance-emploi et aucun ne recevait de l'aide sociale ou le SRG pendant toutes les années suivant la libération.

La diminution moyenne du revenu pour la cohorte de la Force régulière (ayant fait l'objet d'un suivi à partir de l'année précédant la libération et tous les trois ans après la libération) était de 2 %. La majorité de cette cohorte (64 %) n'étaient pas des clients d'ACC. Les clients avaient subi une baisse de 11 % de leur revenu après la libération, comparativement à une augmentation de 4 % pour les non-clients. Plus du quart (27 %) des membres de la cohorte étaient âgés de 29 ans ou moins lors de la libération, et les clients étaient plus âgés que les non-clients.

Les diminutions du revenu, qui peuvent avoir une incidence importante sur l'expérience de transition, variaient considérablement entre les sous-populations. Par exemple, les libérations pour raisons médicales correspondaient une des plus importantes diminutions du revenu (20 %). Comparativement à la moyenne globale de 36 %, 80 %

des vétérans ayant été libérés pour raisons médicales étaient des clients, ce qui montre que le Ministère réussit à joindre un bon nombre de ceux qui sont libérés pour raisons médicales.

Le taux de faible revenu, qui peut également avoir une incidence sur la réussite de la transition, atteignait un point culminant (7 %) durant la première année suivant la libération, avant de se stabiliser graduellement à 4 % par la marque de six ans. Parmi les vétérans (16 %) ayant connu une situation de faible revenu au moins un an après la libération, la majorité n'étaient pas des clients d'ACC. Les vétérans ayant été libérés pour des raisons involontaires (38 %), ayant servi pendant moins de deux ans (37 %) ou libérés au grade de soldat (35 %) sont ceux qui ont le plus connu une situation de faible revenu.

### *Vétérans de la Première réserve*

Le revenu moyen des vétérans de la Force de réserve n'a pas diminué à la suite de leur libération. Le revenu des vétérans de la Réserve de classe A et B, qui était de 35 300 \$ avant la libération, est passé à 39 400 \$ l'année de la libération, et a continué à augmenter pour atteindre 60 300 \$ huit ans après la libération. Les vétérans de la Réserve de classe C ont aussi bénéficié d'une hausse de revenu durant la première année suivant la libération, passant de 66 300 \$ à 71 500 \$, et demeurant par la suite plutôt stable.

La plus importante source de revenu des vétérans après leur libération était les gains, suivis des transferts gouvernementaux et des pensions. Les transferts gouvernementaux étaient plutôt temporaires, peu de vétérans les recevant chaque année après la libération. Alors que 39 % des membres des groupes de la Réserve combinés ont reçu de l'assurance-emploi et que 5 % ont reçu de l'aide sociale ou le SRG au moins une année après la libération, 4 % ont reçu de l'assurance-emploi et 1 % ont reçu de l'aide sociale ou le SRG chaque année après la libération.

Lorsque l'on examine la cohorte de la Force de réserve (ayant fait l'objet d'un suivi de l'année précédant la libération et tous les trois ans après la libération), les vétérans de la Réserve de classe A et B ont bénéficié d'une augmentation du revenu de 43 %, celui-ci passant de 32 700 \$ à 46 600 \$, tandis que les vétérans de la Réserve de classe C ont bénéficié d'une augmentation du revenu de 14 %, soit de 60 500 \$ à 69 100 \$. Les vétérans de la Réserve de classe C étaient plus âgés que ceux de la Réserve de classe A et B. Comme à peine 5 % des vétérans de la cohorte de la Force de réserve étaient des clients, les deux classes ont été combinées à des fins de comparaison client/non-client. Les clients ont subi une diminution de 9 % de leur revenu après la libération, tandis que les non-clients ont vu leur revenu augmenter de 39 %. Les trois-quarts (73 %) des vétérans de la cohorte de la Force de réserve étaient âgés de 29 ans ou moins lors de leur libération, et les clients étaient plus âgés que les non-clients.

Même si les vétérans de la cohorte de la Force de réserve ont vu leur revenu augmenter après leur libération, certains petits groupes (< 5 % de la cohorte) ont subi des diminutions. Les vétérans âgés de 55 ans et plus lors de la libération (18 %), ceux ayant été libérés à l'âge de la retraite (17 %) et ceux libérés de la Marine (11 %) ont

connu les baisses les plus importantes, comparativement à une augmentation globale de 35 %. Les membres de ces trois groupes étaient plus probables d'être des clients que la moyenne de 5 %.

Le taux de faible revenu des vétérans de la Force de réserve a atteint un point culminant de 14 % durant l'année de la libération, avant de redescendre à 8 % au terme de la huitième année. Dans l'ensemble, 23 % des réservistes ont connu une situation de faible revenu au moins une année après leur libération, parmi lesquels 5 % étaient des clients. La répartition par classe est la suivante : 25 % (classe A et B) et 13 % (classe C). Les vétérans ayant les taux les plus élevés de situation de faible revenu après la libération avaient servi pendant moins de deux ans (35 %), avaient été libérés pour des raisons involontaires (35 %) ou avaient été libérés comme recrues (33 %).

### *Comparaison des vétérans de la Force régulière et de la Première réserve*

Lors de leur libération, les vétérans de la Force régulière étaient les plus âgés, et les vétérans de la Réserve de classe A et B étaient les plus jeunes. Le niveau de revenu avant la libération était conforme à cette différence d'âge : Force régulière (69 300 \$), Réserve de classe C (60 500 \$) et Réserve de classe A et B (32 700 \$). La tendance associée à l'âge explique au moins en partie les différences de variation du revenu : une diminution de 2 % pour la Force régulière, avec des augmentations de 14 % et de 43 % respectivement pour les vétérans de la Réserve de classe C et de classe A et B. Autant dans la Force régulière que dans la Réserve, les jeunes vétérans ont connu une augmentation de leur revenu après leur libération, tandis que les vétérans plus âgés connaissaient des diminutions du revenu.

Le jeune âge des vétérans de la Réserve de classe A et B explique également leur taux plus élevé (25 %) de situation de faible revenu au moins une année après leur libération, comparativement aux taux des vétérans de la Force régulière (16 %) et de ceux de la Réserve de classe C (13 %) qui étaient assez semblables, en tenant compte de la période d'étude plus courte après la libération pour les vétérans de la Réserve. Les taux de faible revenu étaient plus élevés parmi les jeunes vétérans de la Force régulière et de la Réserve.

## **Conclusion**

Les vétérans de la Réserve de classe A et B avaient des revenus beaucoup plus faibles que les vétérans de la Force régulière et que les vétérans de la Réserve de classe C. Cependant, le revenu des vétérans de la Réserve de classe A et B et de la classe C a augmenté entre l'année précédant la libération et tous les trois ans après celle-ci, tandis qu'il a diminué pour les vétérans de la Force régulière. Les taux de faible revenu étaient plus élevés pour les vétérans de la Réserve de classe A et B que pour ceux de la Force régulière et ceux de la Réserve de classe C.

En général, les jeunes vétérans ont connu à la fois les plus importantes augmentations de revenu et les taux les plus élevés de faible revenu. Les programmes d'ACC réussissent à joindre certains segments de la cohorte ayant connu les plus grandes diminutions du revenu à la suite de la libération.

# 1. Introduction

Income can be an important determinant of health and satisfaction with life after release from the military. As part of its 2010 Life After Service Studies (LASS) program of research, Veterans Affairs Canada (VAC) and its partners conducted an income study, examining income pre- and post-release for a large population of Veterans. LASS is a partnership between VAC, the Department of National Defence and Statistics Canada. The overall goal of LASS is to understand the transition from military to civilian life and ultimately improve the health of Veterans in Canada.

The 2010 Income Study found that Regular Force Veterans experience a decline in income in the year after release, followed by a gradual return to pre-release levels. It was also found that VAC programs reach those with the largest declines in income and small numbers experienced low income; most low income Veterans were not VAC clients (MacLean *et al* 2010)<sup>1</sup>.

Another round of LASS research was launched in 2013, with the following objectives:

- Measure the well-being of released Regular and Primary Reserve Force personnel after transition to civilian life (in terms of health, disability and determinants of health, [including income]);
- Compare released Reserve and Regular Force personnel;
- Understand changes over time; and
- Examine program reach, potential needs not addressed by current programs, and program effectiveness.

The primary objective of this study is to describe income trends pre and post release, for both Regular and Primary Reserve Force Veterans, including:

- change in total income, sources of income, rates of receipt of Employment Insurance or Social Assistance/Guaranteed Income Supplement, and rates of low income; and
- differences in income trends according to demographic and service characteristics and VAC client status.

---

<sup>1</sup> MacLean MB, Van Til, L, Thompson JM, Poirier A, Sweet J, Pedlar D, Adams J, Sudom K, Campbell C, Murphy B and Dionne C. Income Study: Regular Force Veteran Report. Veterans Affairs Canada, Research Directorate and Department of National Defence, Director General Military Personnel Research and Analysis. January 4, 2011: 70p.

## 2. Method

### 2.1 Study Population

As of March 2013, there were an estimated 594,300 Canadian Armed Forces (CAF) Veterans living in Canada and about 11% were in receipt of benefits from VAC. The vast majority of VAC's CAF clients were disability benefit clients (those in receipt of a disability award under the New Veterans Charter [CFMVRCA] and/or a disability pension paid under the *Pension Act*).

Persons move between the Regular and the classes of Reserves. However, for the purposes of this study, mutually exclusive groups were defined as:

- Regular Force Veterans had full-time service in the Canadian Armed Forces. They may also have served in the Primary Reserve Force.
- Primary Reserve Class C Veterans had full-time service in support of deployed operations, domestically or internationally. They may also have served in Class A or B but they had no Regular Force service during the study period.
- Primary Reserve Class A/B Veterans had Class A part-time and/or B temporary full-time service. They had no Regular Force or Class C service during the study period.

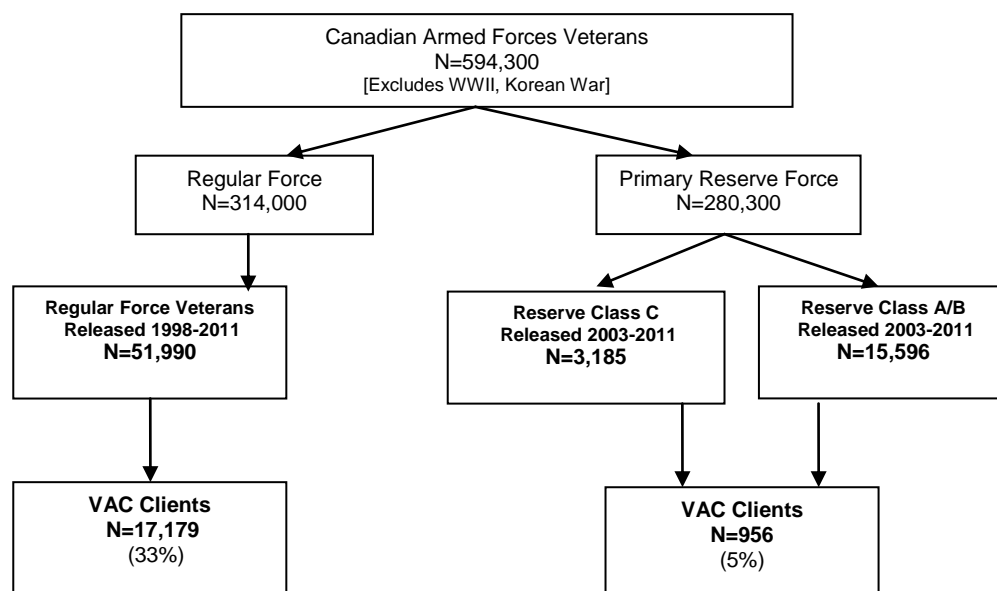
Data on releases were extracted from the DND Human Resources Management System to create the study population. DND implemented a national system in 1998 for the Regular Force and by 2003 the system was consistently capturing data on Primary Reserve personnel. DND's release data was linked by Statistics Canada with income data from tax files available up to 2011. Statistics Canada derived aggregate tables from this data for three groups of Veterans:

- Regular Force released from January 1, 1998 to December 31, 2011 using income data for the 1997 to 2011 tax years;
- Primary Reserve Class C released from January 1, 2003 to December 31, 2011 using income data for the 2002 to 2011 tax years;
- Primary Reserve Class A/B released from January 1, 2003 to December 31, 2011 using income data for the 2002 to 2011 tax years.

Excluded were those serving at the time of the study in 2013 (re-enlisted), and those who had only Class A Reserve service during the period 2003 to 2011.

Client status was studied by linking VAC administrative data to the tax data. Clients include those in receipt of Disability Pensions and/or any programs under the New Veterans Charter as of March 2013. The New Veterans Charter programs include Disability Awards, Rehabilitation, Earnings Loss, Career Transition Services and Canadian Forces Income Support. The numbers of VAC clients linked are shown in Figure 1.

**Figure 1: LASS 2013 Income Study Population, March 2013**



## 2.2 Time Frame and Linkage

The Income Study required the links to be done longitudinally, so as to have Veteran income information for the year prior to their release (t-1), the year of release (t0), and all available post-release years for Regular Force (t1 to t13) and Primary Reserve Force (t1 to t8), as per Tables 1 and 2 below. The overall linkage rates for the Regular Force and Reserve Force study populations were 92.2% and 90.1% respectively and 91.7% overall. Details can be found in Appendix A.

Total income, sources of income, the percentage who received EI, SA/GIS and the percentage with incomes below the before-tax LIM were calculated for the year prior to release, the release year and the up to 13 years post-release for Regular Force and eight years post-release for Reserve Force.

Receipt of EI, SA/GIS or low income at least one year or every year post-release was also calculated. This included those who linked to tax files in the release year and had at least three years of post-release income i.e., released prior to 2009 (n=36,890 for the Regular Force and n=10,505 for Primary Reserve Force).

For the analysis of pre- and post-release income by demographic and service characteristics, a cohort who linked to the tax file in the pre-release year and all of the first three years post-release was followed (n= 32,540 for the Regular Force and n=8,995 for the Primary Reserve Force). This was done as counts become smaller with each year post-release limiting analysis by demographic and service characteristics. For example, with respect to Regular Force Veterans, the 13 years post-release category (t13) includes only those who were released in 1998. Similarly, for the Primary



Reserve Force Veteran population, the eight years post-release category (t8) includes only those who were released in 2003.

**Table 1: Regular Force Veterans Study Time Frame**

Prior to Release (t-1)	Release Year (t0)	Cohort	Post Release								
			1 yr (t1)	2 yrs (t2)	3 yrs (t3)	4 yrs (t4)	5 yrs (t5)	6 yrs (t6)	7 yrs (t7)	8yrs (t8)	...13yrs (t13)
1997	1998	Pre release & first 3 yrs post release	1999	2000	2001	2002	2003	2004	2005	2006	...2011
1998	1999		2000	2001	2002	2003	2004	2005	2006	2007	
1999	2000		2001	2002	2003	2004	2005	2006	2007	2008	
2000	2001		2002	2003	2004	2005	2006	2007	2008	2009	
2001	2002		2003	2004	2005	2006	2007	2008	2009	2010	
2002	2003		2004	2005	2006	2007	2008	2009	2010	2011	
2003	2004		2005	2006	2007	2008	2009	2010	2011		
2004	2005		2006	2007	2008	2009	2010	2011			
2005	2006		2007	2008	2009	2010	2011				
2006	2007		2008	2009	2010	2011					
2007	2008		2009	2010	2011						
2008	2009		2010	2011							
2009	2010		2011								
2010	2011										

**Table 2: Primary Reserve Force Veterans Study Time Frame**

Prior to Release (t-1)	Release Year (t0)	Cohort	Post Release							
			1 yr (t1)	2 yrs (t2)	3 yrs (t3)	4 yrs (t4)	5 yrs (t5)	6 yrs (t6)	7 yrs (t7)	8yrs (t8)
2002	2003	Pre release & first 3 yrs post release	2004	2005	2006	2007	2008	2009	2010	2011
2003	2004		2005	2006	2007	2008	2009	2010	2011	
2004	2005		2006	2007	2008	2009	2010	2011		
2005	2006		2007	2008	2009	2010	2011			
2006	2007		2008	2009	2010	2011				
2007	2008		2009	2010	2011					
2008	2009		2010	2011						
2009	2010		2011							
2010	2011									

## 2.3 Demographic and Service Variables

The following variables were derived from the DND Human Resources Management System data:

- Age at release, derived from date of birth;
- Gender;
- Length of service, derived from enrollment year and release dates;
- Release type (involuntary, medical, voluntary, retirement age and service complete);
- Release year;
- Rank at release (senior officer, junior officer, subordinate officer, senior NCM, junior NCM, private and recruit); and
- Environment of Service (Army, Navy, Air Force).

Release types and ranks were grouped for ease of analysis and to avoid cells with small numbers of observations. See Appendix B for more detail.

The tax data provided province of residence at release and as of December 31, 2011.

## 2.4 Income Variables

The study population data were record linked to the general family file (T1FF) tax records data from 1997 to 2011 using the social insurance numbers (SIN) contained on both datasets. The T1FF data cover all persons who completed a T1 tax return for the year of reference or who received Canada Child Tax Benefits (CCTB), their non-filing spouses (including wage and salary information from the T4 file), their non-filing children identified from three sources (the CCTB file, the births files, and an historical file) and filing children who reported the same address as their parent. Development of the small area family data is based on the census family concept. The census family includes parent(s) and children living at the same address and persons not in census families (Statistics Canada, 2010). Details of the record linkage are included in Appendix B.

The following income indicators were included in this report (see Appendix C for detailed definitions):

- Veteran total income and earnings expressed in 2011 constant dollars;
- Veteran income from following sources: earnings, wages and salaries, self-employment, investment and government transfers (excluding VAC Disability Benefits) expressed in 2011 constant dollars;
- Veteran rates of receipt of Employment Insurance (EI) and Social Assistance (SA) or Guaranteed Income Supplement (GIS);
- Rates of family low income using the Statistics Canada before-tax LIM that establishes a threshold income each year by family size; and
- Share of Veteran income to family income.

Low-Income Measures (LIMs) are relative measures of low income. LIMs are a fixed percentage (50%) of adjusted median family income where *adjusted* indicates that economies of scales have been taken into account. A census family is considered to be low-income when their income is below the Low-Income Measure (LIM) for their family type and size. As the thresholds are adjusted each year no inflation adjustment is required (see Appendix D for threshold amounts).

Transfers received from the VAC Disability Benefits Program were not included in the T1FF data as both disability pensions and awards including related special awards such as attendance allowance are non-taxable and need not be reported to the Canada Revenue Agency. However, Earnings Loss benefits and Permanent Impairment Allowances paid by VAC are taxable and were included as earnings.

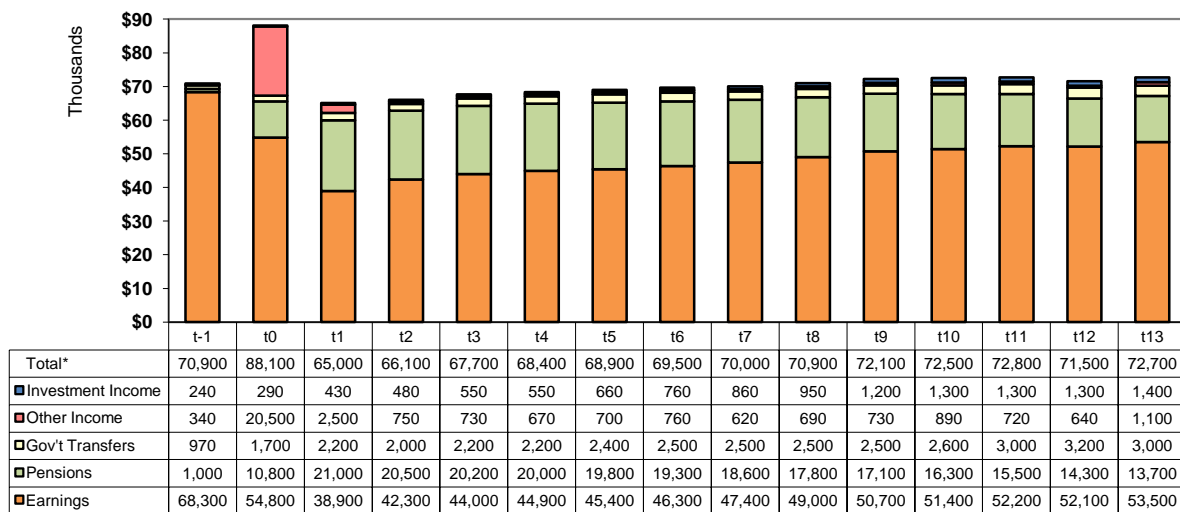


### 3. Regular Force Veterans

#### 3.1 Income Trends and Sources

Total income in the year prior to release was \$70,900 in 2011 constant dollars (Figure 2). In the release year, total income increased to \$88,100, and then declined to \$65,000 in the first year post release. Total income then steadily increased until 11 years after release, with slightly lower averages in post-release years 12 and 13. Post-release income eventually reached pre-release income, but not until eight years post release. The spike in income in the release year is largely due to other income and likely related to severance pay. The largest source of income in each year post release was earnings, followed by pensions and government transfers. Earnings reached the lowest point (\$38,900) in the first year after release and although they increased after that, they never returned to the pre-release level. Government transfers, including Employment Insurance and social assistance, increased from \$970 in the pre-release year to \$3,200 in the 12<sup>th</sup> year post release.

**Figure 2: Regular Force Total Income by Source**

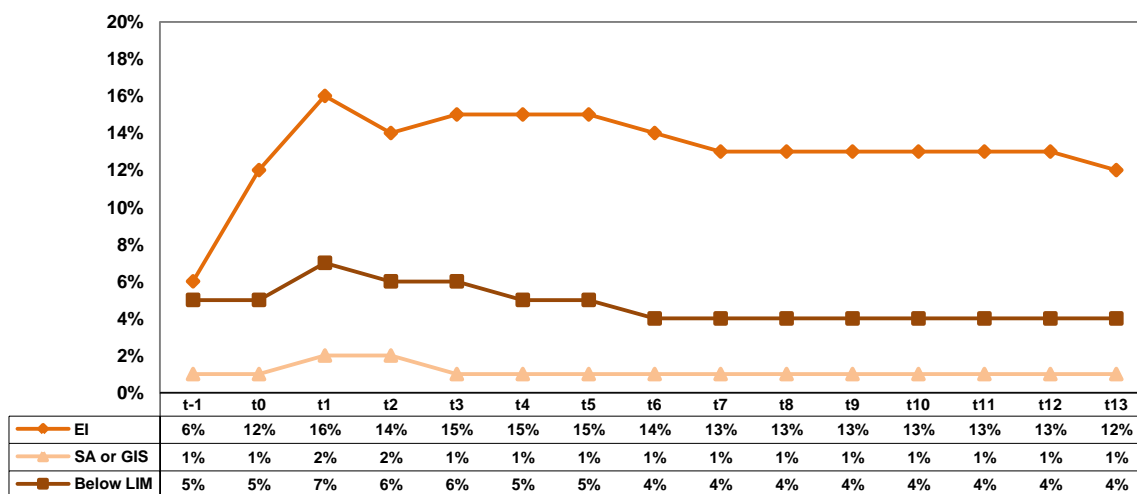


Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars. Includes income from taxable income (including VAC Earnings Loss Benefits) and government transfers but does not include non-taxable VAC Disability Benefits.

\*May not add exactly due to rounding.

The highest rate of receipt of Employment Insurance (EI), Social Assistance (SA) or Guaranteed Income Supplement (GIS) and low income were all recorded in the first year after release (Figure 3). Rates for receipt of EI were 6% in the pre-release year rose to 12% in the release year, and peaked at 16% in the first year post-release. Starting at 1% in the pre-release year and rising to 2% in year one post release, the rate of receipt of SA or GIS declined back to 1% by the third year after release and remained at that level. The rate of low income increased from 5% in the pre-release and release years to a peak of 7% in the first post-release year, gradually declining to level off at 4% starting in year six post release.

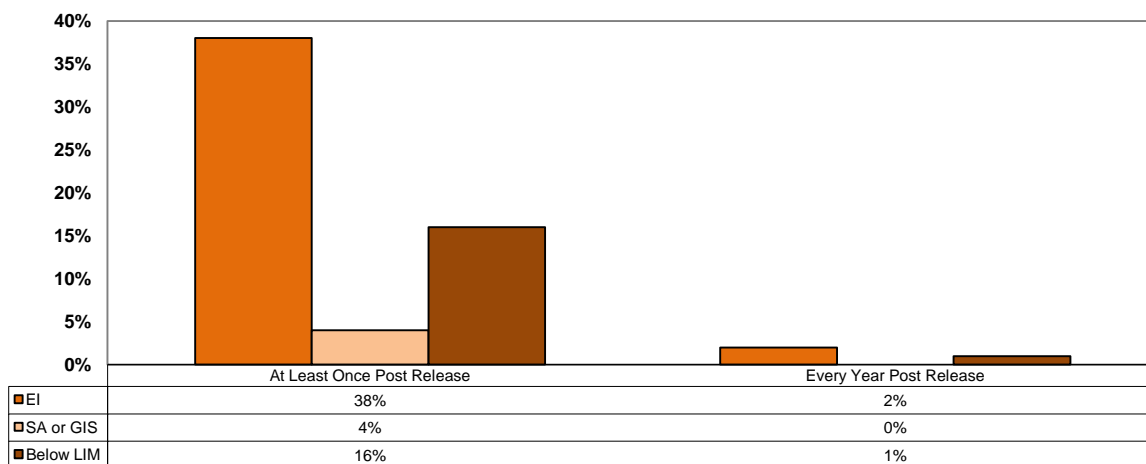
**Figure 3: Regular Force Receipt of EI or SA/GIS and Rate of Low Income**



Note: Low income measure is before tax. EI in the year prior to release would include mainly those in receipt of maternity or paternity benefits.

Receipt of EI or social assistance and the rate of low income post release were fairly temporary. While 38% received EI at least one year post release, 2% received EI in every year post release. The rate of receiving SA or GIS at least one year post release was 4%, and none received it in every year post release. Sixteen percent (16%) were in a low income situation at least one year since they released, while 1% experienced low income every year post release (Figure 4).

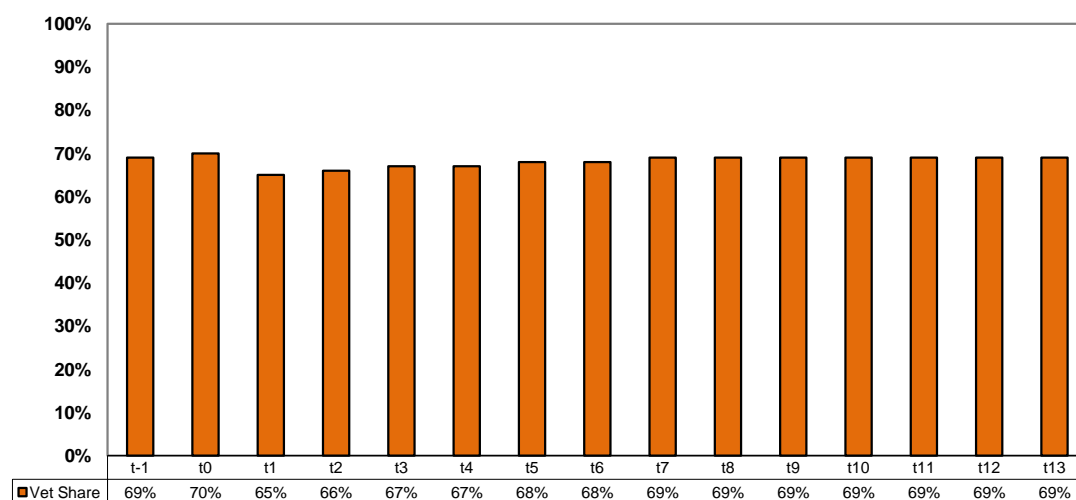
**Figure 4: Regular Force Receipt of EI or SA/GIS and Low Income Post Release**



Note: Includes population linked to tax file in the release year and includes those released prior to 2009 (n= 36,890).

Families of Regular Force Veterans rely quite heavily on the Veteran's income both pre and post release. In the year prior to release, Veterans' incomes accounted for 69% of the total family income. This percentage increased to 70% in the release year before dropping. In the years since release, the percentage increased gradually from 65% in the first year post release to 69% by year seven (Figure 5).

**Figure 5: Regular Force Veteran Share of Total Family Income**



### 3.2 Cohort Characteristics

Of the 51,990 in the total study population, 32,540 records were linked to tax files for Regular Force Veterans in the pre-release year and in all of the first three years post release. This group is called the Regular Force cohort. The majority (64%) of this cohort were not clients of VAC and 36% were clients.

Among this cohort over one-quarter (27%) were aged 29 and under. There were almost seven times more males than females. More than half of the cohort released with 20 or more years of service and almost half released voluntarily. With respect to rank, junior and senior NCMs account for 59% of the cohort. Half of the cohort released from the Army, followed by the Air Force (33%) and Navy (17%). As of 2011, half of recently released Regular Force members were living in either Quebec or Ontario. Taken together, less than 20% lived in the Atlantic Provinces.

This study also compared clients and non-clients by a number of service and demographic characteristics. Table 12, in Appendix A, details the total, client and non-client numbers for the pre-release year and up to 13 years post release. Clients were more likely than non-clients to be older, to have served for longer periods of time, to have medically released, or to have released from the Army. There are three times more non-clients than clients at the younger ages (under 35). On the other hand, more than 80% of clients were age 35 and older, compared to just more than half of non-clients. With respect to gender, there was little difference between clients and non-clients. Seventy percent (70%) of clients had 20 years of service or more; that percentage drops to 46% for non-clients. Almost half of clients were medically-released, compared to only 7% of non-clients. Similar to the overall comparison, the majority of clients released as either junior or senior NCMs. The officer categories made up less than 15% of clients. The client and non-client percentages for Air Force Veterans were similar. Naval Veterans were more likely to be non-clients than clients. Geographically, almost half of both clients and non-clients live in Quebec or Ontario (similar to the breakdown for the overall Regular Force cohort).

**Table 3: Regular Force Cohort\* by Client Status**

		Clients 36%		Non-Clients 64%		Total 100%	
		n	%	n	%	n	%
Total		11,555	100%	20,985	100%	32,540	100%
Age at release	29 & under	840	7.3%	7,990	38.1%	8,825	27.1%
	30-34	860	7.4%	1,960	9.3%	2,820	8.7%
	35-39	2,075	18.0%	2,450	11.7%	4,525	13.9%
	40-44	3,430	29.7%	3,625	17.3%	7,060	21.7%
	45-49	2,100	18.2%	2,135	10.2%	4,235	13.0%
	50-54	1,465	12.7%	1,690	8.1%	3,160	9.7%
	55 plus	785	6.8%	1,130	5.4%	1,915	5.9%
Gender	Males	10,195	88.2%	18,160	86.5%	28,355	87.1%
	Females	1,365	11.8%	2,820	13.4%	4,185	12.9%
Yrs of service	Less than 2	140	1.2%	5,560	26.5%	5,705	17.5%
	2 to 9	1,100	9.5%	3,895	18.6%	4,995	15.4%
	10 to 19	2,175	18.8%	1,965	9.4%	4,135	12.7%
	20 plus	8,145	70.5%	9,555	45.5%	17,700	54.4%
Release type	Involuntary	210	1.8%	1,330	6.3%	1,535	4.7%
	Medical	5,585	48.3%	1,430	6.8%	7,020	21.6%
	Voluntary	3,185	27.6%	12,295	58.6%	15,485	47.6%
	Retirement Age	655	5.7%	1,035	4.9%	1,685	5.2%
	Service Complete	1,895	16.4%	4,840	23.1%	6,735	20.7%
	Unknown	30	0.3%	55	0.3%	80	0.2%
Rank at release	Senior Officers	915	7.9%	1,905	9.1%	2,815	8.7%
	Junior Officers	665	5.8%	1,930	9.2%	2,595	8.0%
	Subordinate Officers	65	0.6%	1,185	5.6%	1,245	3.8%
	Senior NCM	4,505	39.0%	4,850	23.1%	9,360	28.8%
	Junior NCM	4,915	42.5%	4,875	23.2%	9,795	30.1%
	Private	200	1.7%	1,700	8.1%	1,905	5.9%
	Recruit	300	2.6%	4,530	21.6%	4,825	14.8%
Environment at release	Army	6,150	53.2%	10,165	48.4%	16,305	50.1%
	Navy	1,605	13.9%	3,845	18.3%	5,445	16.7%
	Air Force	3,810	33.0%	6,970	33.2%	10,785	33.1%
Province in 2011	Newfoundland	335	2.9%	515	2.5%	850	2.6%
	Prince Edward Island	95	0.8%	125	0.6%	225	0.7%
	Nova Scotia	1,385	12.0%	1,995	9.5%	3,385	10.4%
	New Brunswick	700	6.1%	915	4.4%	1,615	5.0%
	Quebec	2,385	20.6%	4,635	22.1%	7,015	21.6%
	Ontario	3,090	26.7%	6,180	29.4%	9,270	28.5%
	Manitoba	365	3.2%	595	2.8%	960	3.0%
	Saskatchewan	155	1.3%	420	2.0%	570	1.8%
	Alberta	1,550	13.4%	2,540	12.1%	4,095	12.6%
	British Columbia	1,060	9.2%	1,975	9.4%	3,035	9.3%
	Territories	20	0.2%	75	0.4%	100	0.3%
	Other	425	3.7%	1,000	4.8%	1,430	4.4%

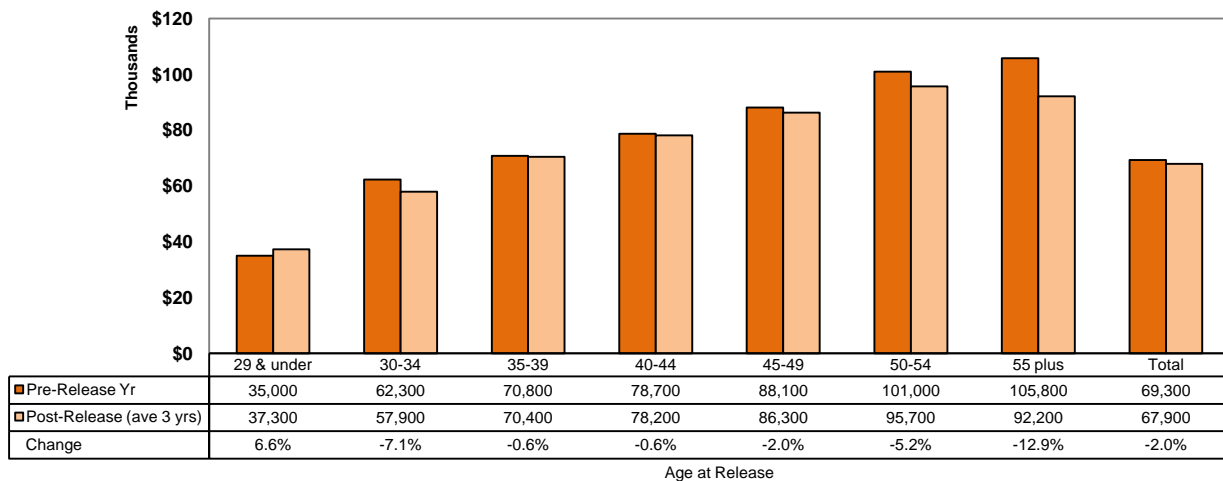
\* Population linked to tax records in the pre-release year and the first three years post-release.  
May not add due to rounding to nearest 5 or 10.

### 3.3 Total Income by Cohort Characteristics

The decline in income from the pre-release year to the average of the first three years post release was 2% for the Regular Force cohort. This section examines this change in income by a variety of service and demographic characteristics.

**Age:** Income increased with age in the pre-release year, from \$35,000 for those 29 years of age and under to \$105,800 for those 55 years of age or older. Income declined post release for each age group, except for those 29 and under. Those aged 55 or older, while having the highest post-release income, experienced the largest decline in income of 13%, followed by those aged 30-34 with a 7% decline (Figure 6).

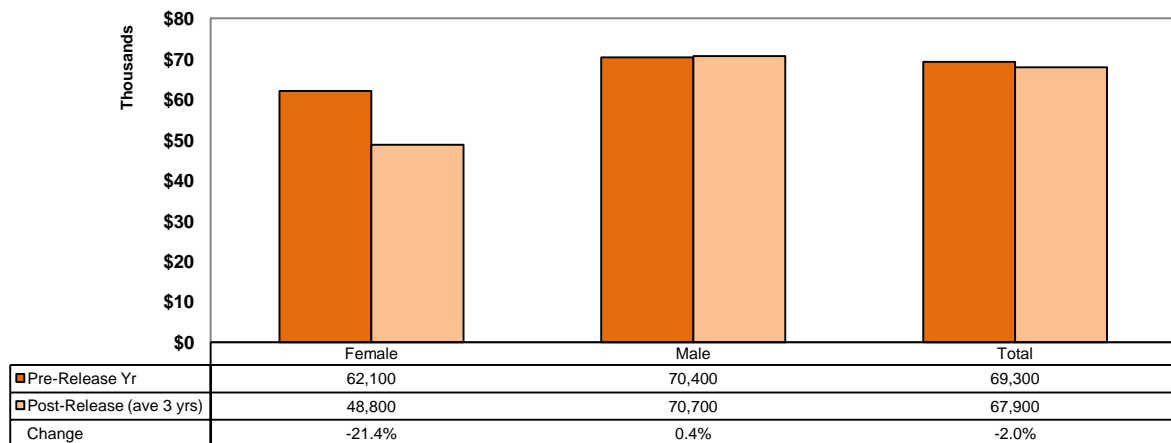
**Figure 6: Regular Force Total Income Change by Age at Release**



Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars.

**Gender:** Female Regular Force Veterans had lower incomes than males both pre and post release. On average, the pre-release income of females was \$62,100, compared to \$70,400 for males; this difference is explained at least in part by the shorter average lengths of service for females. Post release, the total income of females declined by 21% (\$48,800) compared to a negligible (\$70,700) increase for males (Figure 7).

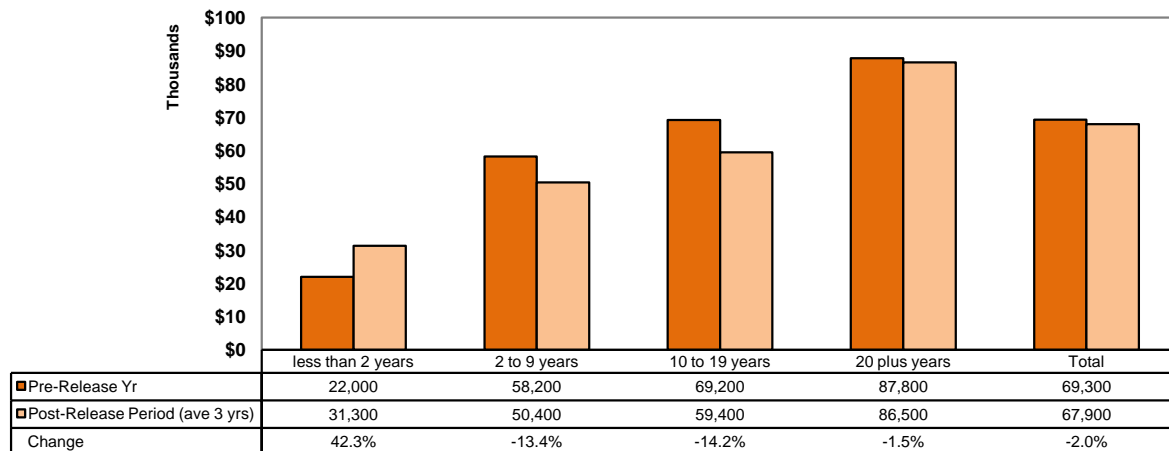
**Figure 7: Regular Force Total Income Change by Gender**



Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars.

**Length of service:** Both pre- and post-release total income increased substantially with length of service. Regular Force Veterans who served for 20 years or more had a total pre-release income of \$87,800, compared to \$22,000 for those with less than two years of service. Similarly, post-release income varied greatly between those two groups, at \$86,500 and \$31,300 respectively. Those who experienced the greatest declines in income post release had served either 2 to 9 years (13%) or 10 to 19 years (14%) (Figure 8).

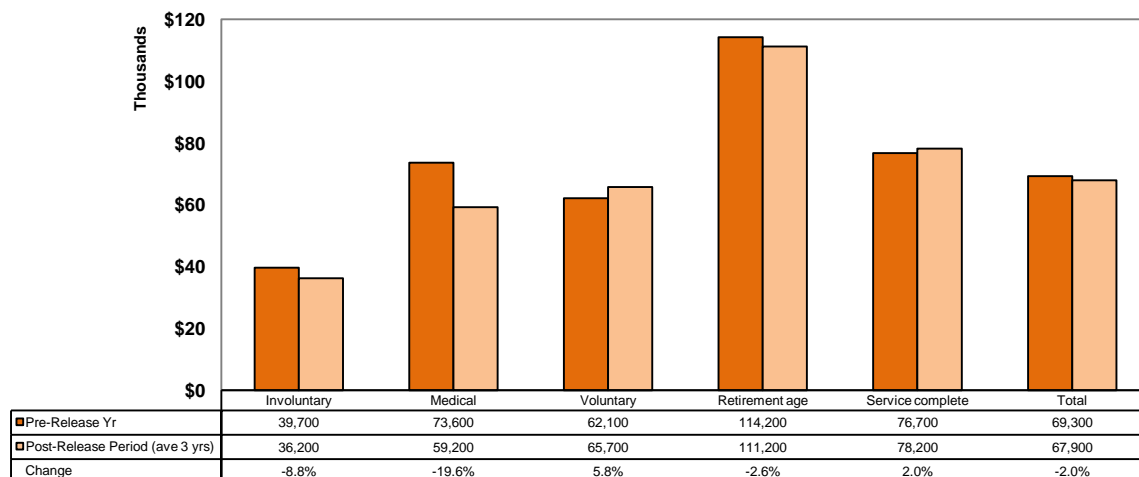
**Figure 8: Regular Force Total Income Change by Length of Service**



Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars.

*Type of release:* Total income varied considerably by type of release (release types described in Appendix B). Those releasing due to retirement had a pre-release income of \$114,200. At the other end of the spectrum, the pre-release income for involuntary releases was \$39,700. There was a similar pattern with respect to post-release income, with the highest at \$111,200 for those at retirement age and the lowest at \$36,200 for involuntary releases. Medical releases saw the greatest declines in income at 20%, from \$73,600 to \$59,200 (Figure 9).

**Figure 9: Regular Force Total Income Change by Release Type**

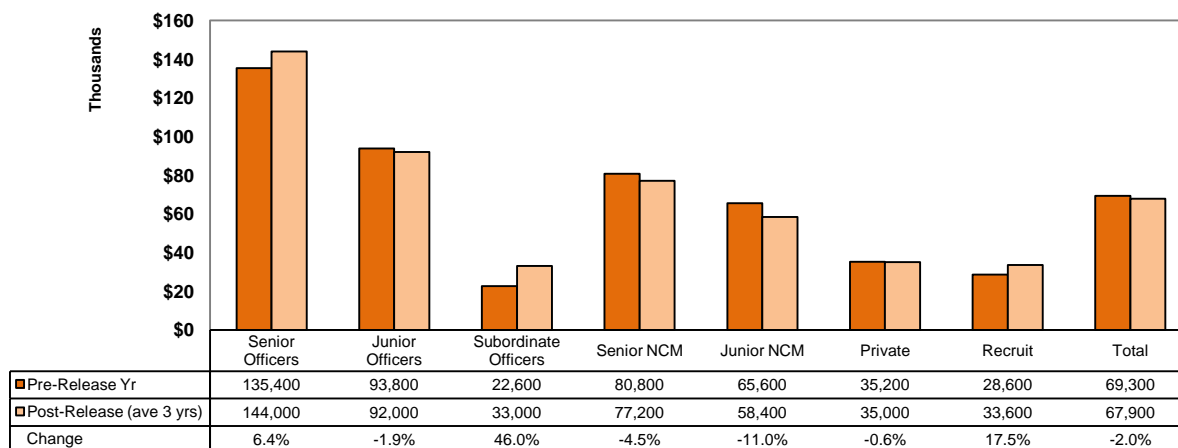


Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars.

*Rank:* Not surprisingly, senior officers had the highest income both pre and post release, while subordinate officers had the lowest income in both timeframes. Post-release incomes were higher than pre-release incomes for the senior officer, subordinate officer and recruit ranks and lower for all other ranks. Subordinate officers

had the greatest increase in income post release (46%) while junior NCMs had the greatest decrease (11%) (Figure 10).

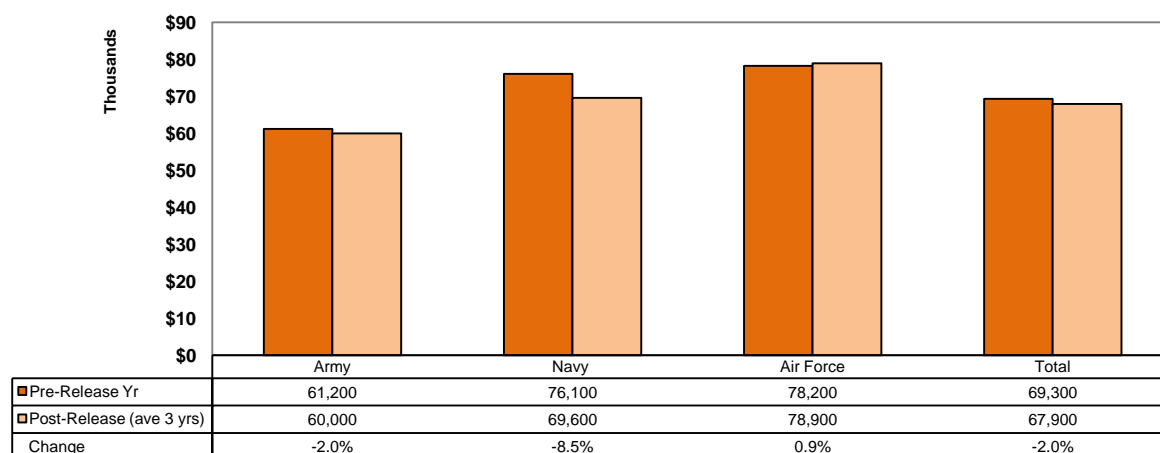
**Figure 10: Regular Force Total Income Change by Rank**



Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars.

*Service environment:* Post-release income for the Regular Force cohort ranged from \$60,000 for Army Veterans to \$78,900 for Air Force Veterans. Air Force Veterans also had the highest pre-release income. The greatest decline in income (9%) was for those who released from the Navy (Figure 11).

**Figure 11: Regular Force Total Income Change by Service Environment**

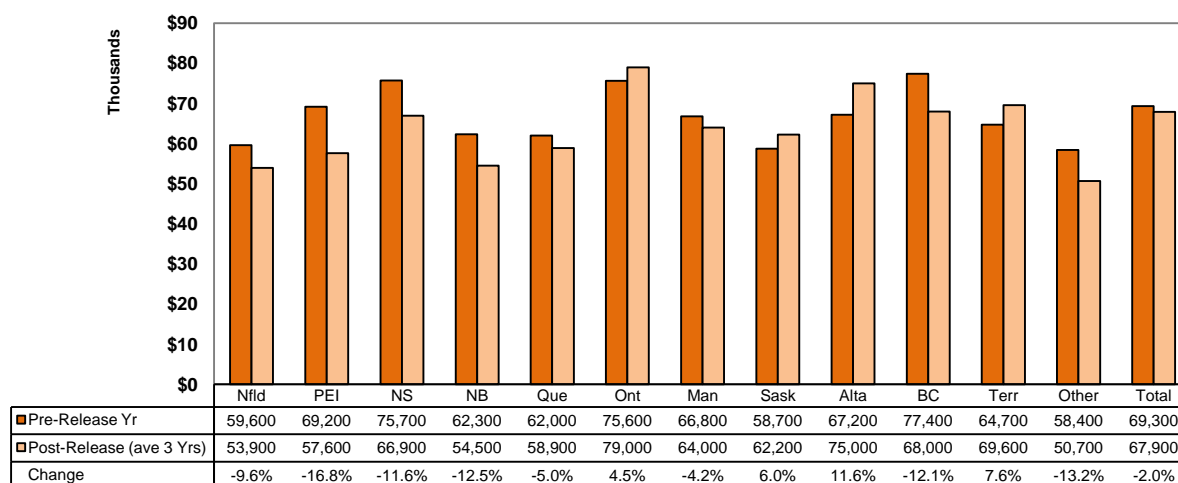


Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars.

*Province of residence as of 2011:* Those who live in areas outside of Canada had the lowest post-release incomes at \$50,700, followed by Newfoundland (\$53,900) and New Brunswick (\$54,500). Veterans who lived in Ontario had the highest post-release income at \$79,000. Veterans who lived Ontario (5%), Saskatchewan (6%), Alberta (12%) and the Territories (8%) all experienced an increase in income after release. The largest decline was among those who lived in Prince Edward Island (17%), compared to the average decline of 2%. Large declines in income were also experienced among

those who lived in the remaining three Atlantic provinces as well as British Columbia and other areas (Figure 12).

**Figure 12: Regular Force Total Income Change by Province of Residence in 2011**



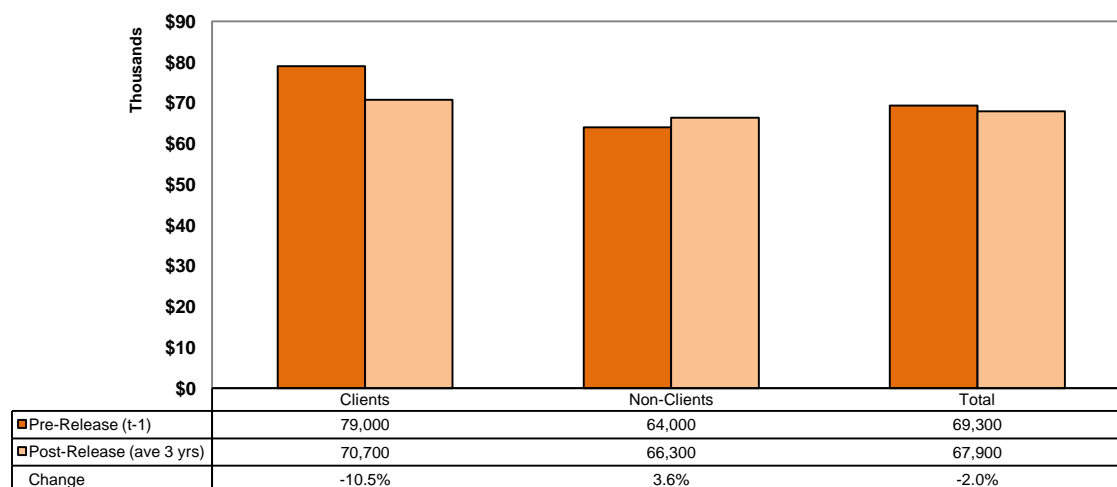
Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars.

### 3.4 VAC Clients and Non-Clients

Thirty-five percent (36%) of the Regular Force cohort were clients while 64% were non-clients. This section compares total income, earnings, pension income and low income between clients and non-clients.

*Total income:* Total pre-release income for clients was \$79,000 compared to post-release income of \$70,700, a decline of 11%. There was an increase (4%) in income for non-clients, from \$64,000 to \$66,300 (Figure 13).

**Figure 13: Regular Force Total Income Change by Client Status**

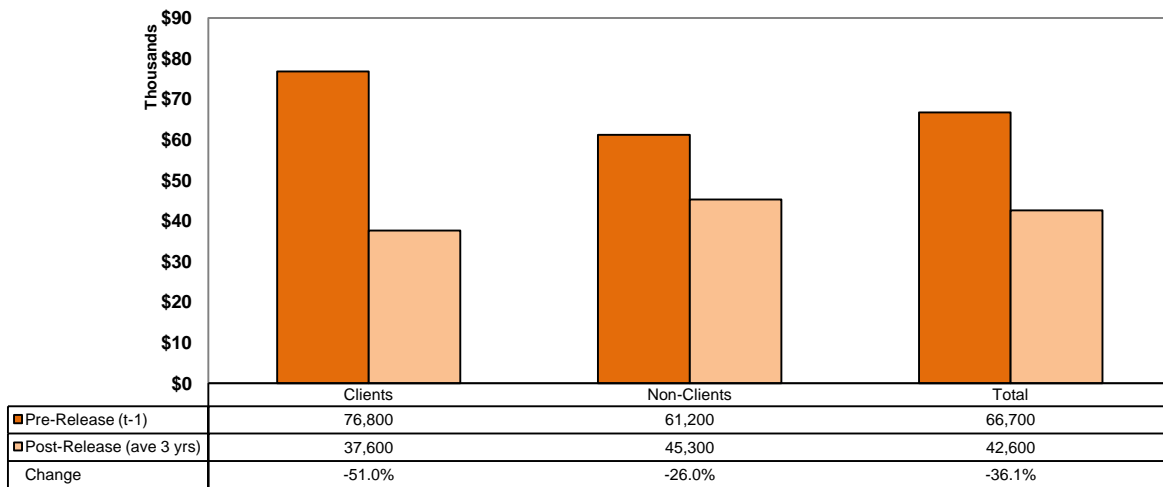


Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars. Client status is as of March 2013.



**Earnings:** Pre-release earnings were greater for clients (\$76,800) than non-clients (\$61,200) while post-release earnings were lesser for clients (\$37,600) than non-clients (\$45,300). Client earnings decreased by 51% while non-client earnings decreased by 26% (Figure 14).

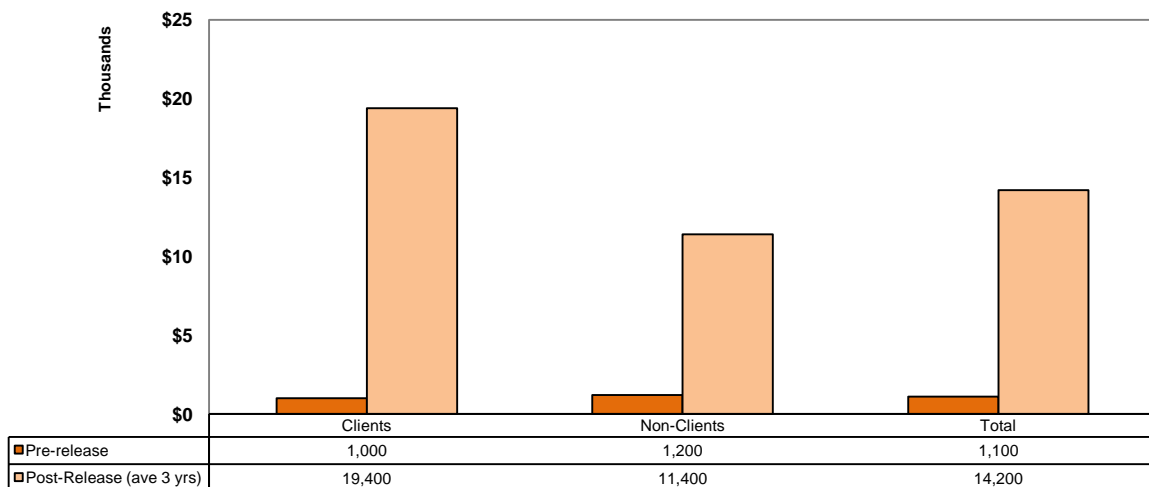
**Figure 14: Regular Force Earnings Change by Client Status**



Note: Earnings are before tax income of the Veteran expressed in 2011 constant dollars. Client status is as of March 2013.

**Pensions:** Pre-release pension income is understandably low: \$1,000 for clients and \$1,200 for non-clients. Post-release pension income increased to \$19,400 for clients and \$11,400 for non-clients. Overall, the post-release pension income was \$14,200 (Figure 15).

**Figure 15: Regular Force Pension Income Change by Client Status**



Note: Pensions are before tax income of the Veteran expressed in 2011 constant dollars. Client status is as of March 2013.

### 3.5 Changes in Income, Low Income and VAC Clients

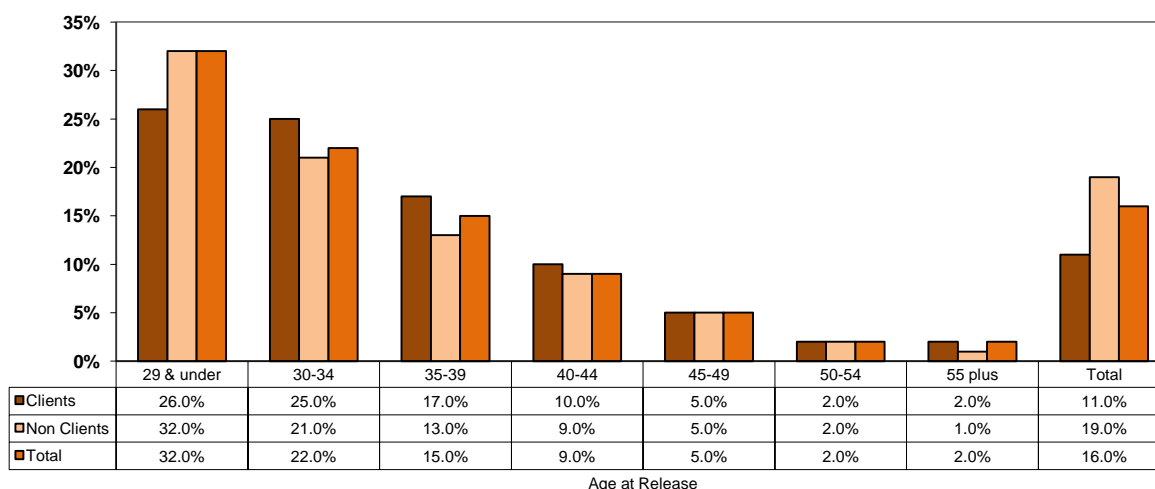
*Changes in income:* Subordinate officers (46%), those who served less than two years (42%) and those living in Alberta (12%) had the largest increases in income after release (see Appendix E for more detail). With respect to decreases in income, females (21%), medical releases (20%) and those living in Prince Edward Island (17%) saw the largest declines, compared to an overall decline of 2%. Females were less likely to be clients (33%) than the average of 36% and accounted for 13% of the cohort. However, the majority (80%) of Veterans who were medically released were VAC clients, and accounted for 22% of the cohort. Prince Edward Island residents (42%) were more likely to be clients than the average, but accounted for only 1% of the cohort (Table 4).

**Table 4: Regular Force Total Income Change by Characteristic**

	Change Pre-Release Yr to Ave First 3 Yrs Post-Release	% Clients (n=11,555)	% of Cohort (n= 32,540)
Total	-2%	36%	100%
Largest Increases			
Subordinate officers	+46%	5%	4%
Served less than 2 years	+42%	2%	18%
Alberta resident	+12%	38%	13%
Largest Decreases			
Females	-21%	33%	13%
Medical releases	-20%	80%	22%
Prince Edward Island	-17%	42%	1%

*Low income:* Non-clients were more likely than clients to have experienced low income in at least one year post release, at 19% and 11% respectively (see Appendix E for more detail). The majority (77%) of those who experienced low income were non-clients. The higher rate of low income among non-clients was mainly due to their younger age. Younger Veterans had higher rates of low income (Figure 16).

**Figure 16: Regular Force Low Income at Least One Year Post Release by Age and Client Status**



Notes: Low income measure is before tax.

Those who released at retirement age (1%), Veterans aged 50 and older at release (2%) and senior officers (4%) had the lowest rates of experiencing low income. Veterans who released involuntarily (38%), served for less than two years (37%) or privates (35%) had the highest rates of experiencing low income at least one year post release. In all three of these sub-populations, less than 15% were clients of VAC, compared to 34% of the population. Both involuntary releases and privates accounted for less than 10% of the population each. However those who served less than 2 years accounted for 18% of the population (Table 5).

**Table 5: Regular Force Low Income at Least One Year Post Release by Characteristic**

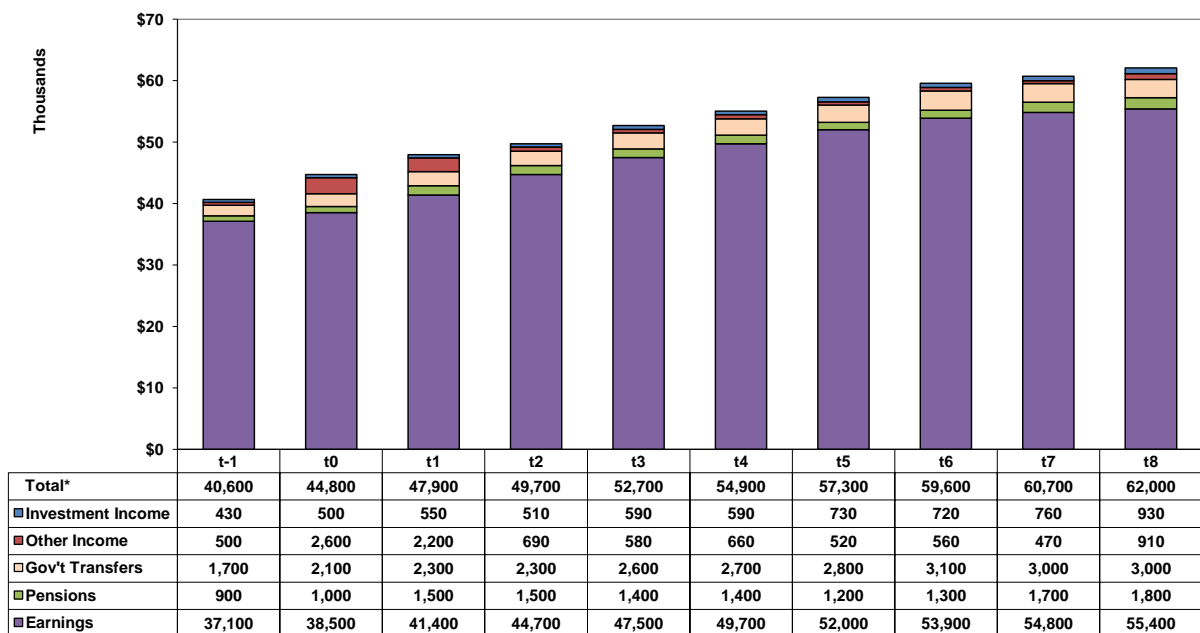
	<b>Low Income Rate</b>	<b>% Clients (n=12,555)</b>	<b>% of Population (n=36,890)</b>
Total	16%	34%	100%
Lowest Rates			
Retirement age	1%	39%	5%
Age 50 plus	2%	44%	16%
Senior officers	4%	33%	9%
Highest Rates			
Involuntary releases	38%	14%	5%
Less than 2 years service	37%	3%	18%
Privates	35%	11%	6%

## 4.0 Reserve Force Veterans

### 4.1 Income Trends and Sources

Total income in the year prior to release was \$40,600 in 2011 constant dollars (Figure 17). In the release year, total income increased to \$44,800, increasing each year following, topping out at \$62,000 in the eighth year post release. In other words, this cohort saw no decrease in income at any point post release. Earnings were the biggest source of income post release, followed by pensions and government transfers. Government transfers, which included Employment Insurance and Social Assistance, increased from a low of \$1,700 in the pre-release year to \$3,000 in year eight.

**Figure 17: Reserve Force Total Income by Source**

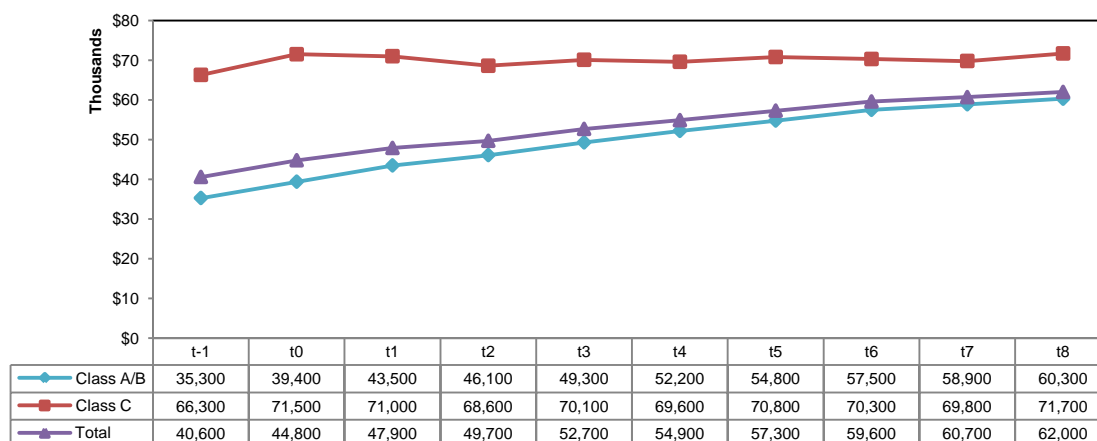


Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars. Includes income from taxable income (including VAC Earnings Loss Benefits) and government transfers but does not include non-taxable VAC Disability Benefits.

\*May not add exactly due to rounding.

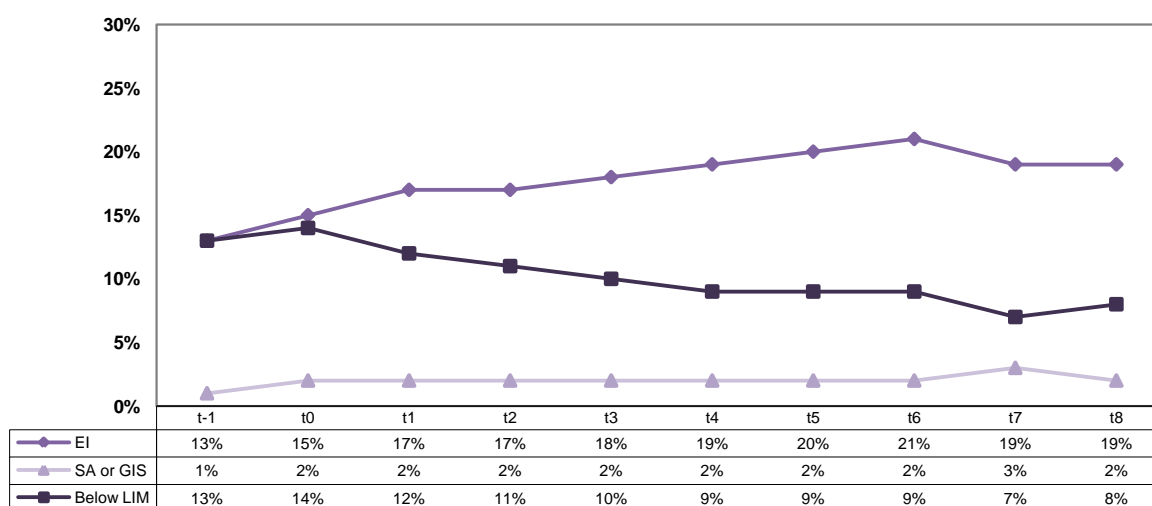
Overall, income increased for Reserve Force Veterans post release, from \$44,800 in the release year to \$62,000 in Year 8. Class A/B Reserve income also increased, from \$39,400 in the release year to \$60,300 in Year 8. Class C Reserves, had higher incomes both pre- and post-release, \$66,300 and \$71,000 in the year following release and remained at around this amount over the eight years post-release (Figure 18).

**Figure 18: Reserve Force Total Income by Class**



The rate of receipt of EI was 13% in the pre-release year, and increased in both the release year (15%) and first year post release (17%). The rate continued to increase gradually to a peak of 21% in year six, then decline to 19% in the final two years. Starting at 1% in the pre-release year, the rate of receipt of SA or GIS increased to 2% in release year and stayed fairly steadily at that rate. With respect to low income, the rate increased from 13% in the pre-release year to a peak of 14% in the release year, ending up at 8% in the final year (Figure 19).

**Figure 19: Reserve Force Receipt of EI or SA/GIS and Rates of Low Income**

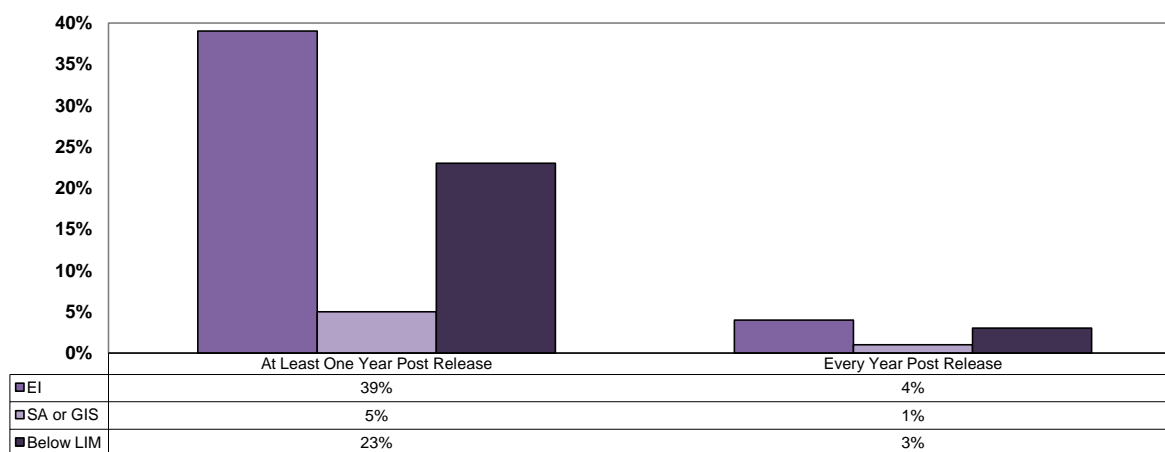


Note: Low income measure is before tax. EI in the year prior to release would include mainly those in receipt of maternity or paternity benefits.

Receipt of EI or Social Assistance and the rates of low income post release were fairly temporary. While 39% of the Reserve Force received EI at least one year post release, 4% received EI in every year post release. The rate of receiving SA or GIS at least one year post release was 5%, declining to 1% for receipt in every post-release year.

Almost a quarter (23%) were in a low income situation at least one year after release, while 3% experienced low income every year post release (Figure 20).

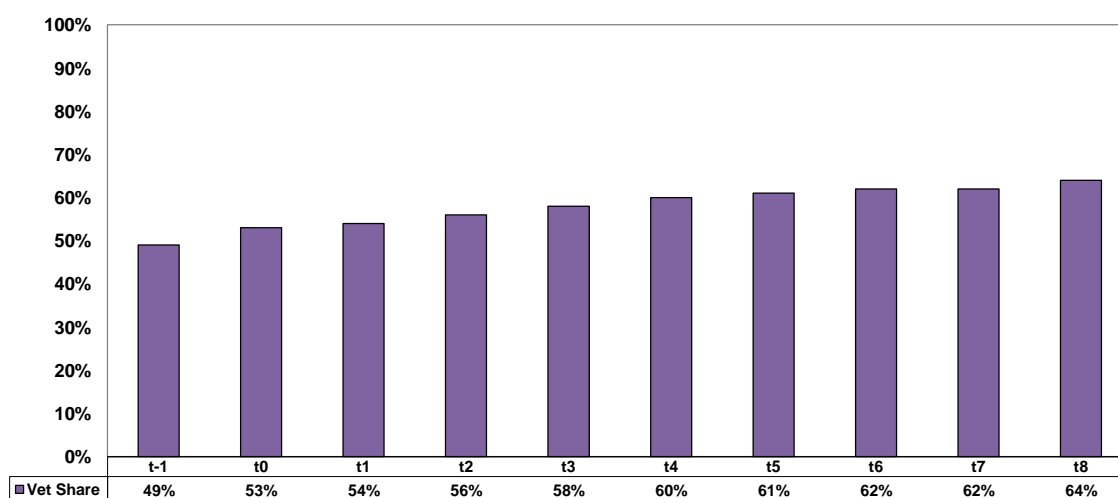
**Figure 20: Reserve Force in Receipt of EI or SA/GIS and Low Income Post Release**



Note: Includes population linked to tax file in the release year and includes those released prior to 2009 (n= 10,505).

In the pre-release year, Veterans' incomes accounted for 49% of the total family income. This percentage increased gradually to 64% in the eighth year post release, with percentages for the release year and first year post release being 53% and 54% respectively (Figure 21).

**Figure 21: Reserve Force Veteran Share of Total Family Income**



## 4.2 Cohort Characteristics

Of the 18,781 in the total Reserve Force study population, records were linked for 8,995 Veterans to the tax files in the pre-release year and in all of the first three years post release. Comparisons of pre- and post-release income in this report are based on this latter number, referred to as the Reserve Force cohort. This section looks at the various characteristics of the cohort, first by Reserve class and then by client status. As Tables 6 and 7 demonstrate, this relatively small cohort features varying demographic and service characteristics.

In the overall Reserve Force cohort, the majority (73%) were aged 29 and under. Eighty-one percent (81%) of the cohort were male. More than half of the cohort released with between two and nine years of service and nearly three-quarters released voluntarily. With respect to rank, junior NCMs and recruits accounted for 69% of the cohort. Four out of five Veterans released from the Army. As of 2011, over half of the cohort were living in either Quebec or Ontario while few were living in the Territories or Atlantic provinces.

For Class A/B, the majority (79%) were aged 29 and under, with the second highest proportion (8%) in the 30-34 age group. A lower proportion of Class C Reserve Veterans were aged 29 and under (43%) while 20% were aged 30-34. A higher proportion of Class A/B reserves were males (81%) compared to Class C (77%). With respect to length of service, Class C reserves served for longer periods of time with 42% serving from 10 to 19 years compared to 11% of Class A/B Reserves. For both Reserve class groups, the majority of releases were voluntary (Class A/B, 74%; Class C, 67%). However, a higher proportion of Class C Reserves (9%) were medically released than Class A/B Reserves (3%). More than 70% of Class A/B Reserves released as either recruits or junior NCMs. Among Class C Reserves, almost 80% released as either junior or senior NCMs. More than 80% released from the Army for both Classes. The majority of Class A/B and Class C Reserve Force Veterans lived in either Ontario or Quebec as of 2011.

**Table 6: Reserve Force Cohort\* by Reserve Class**

		Class A/B 84%		Class C 16%		Total 100%	
		n	%	n	%	n	%
Total		7,520	100.0%	1,465	100.0%	8,995	100%
Age at release	29 & under	5,900	78.5%	630	43.0%	6,530	72.6%
	30-34	595	7.9%	295	20.1%	895	9.9%
	35-39	320	4.3%	155	10.6%	475	5.3%
	40-44	220	2.9%	120	8.2%	335	3.7%
	45-49	155	2.1%	75	5.1%	235	2.6%
	50-54	105	1.4%	65	4.4%	175	1.9%
	55 plus	220	2.9%	130	8.9%	350	3.9%
Gender	Males	6,115	81.3%	1,125	76.8%	7,240	80.5%
	Females	1,405	18.7%	340	23.2%	1,755	19.5%
Yrs of service	Less than 2	2,040	27.1%	x	x	2,045	22.7%
	2 to 9	4,365	58.0%	630	43.0%	4,995	55.5%
	10 to 19	825	11.0%	615	42.0%	1,445	16.1%
	20 plus	290	3.9%	x	x	505	5.6%
Release type	Involuntary	1,200	16.0%	x	x	1,340	14.9%
	Medical	190	2.5%	130	8.9%	315	3.5%
	Voluntary	5,525	73.5%	975	66.6%	6,495	72.2%
	Retirement Age	150	2.0%	85	5.8%	235	2.6%
	Service Complete	455	6.1%	145	9.9%	600	6.7%
	Unknown	10	0.1%	x	x	10	0.1%
Rank at release	Senior Officers	115	1.5%	95	6.5%	210	2.3%
	Junior Officers	595	7.9%	140	9.6%	735	8.2%
	Subordinate Officers	190	2.5%	x	x	190	2.1%
	Senior NCM	335	4.5%	300	20.5%	625	6.9%
	Junior NCM	2,385	31.7%	850	58.0%	3,235	36.0%
	Private	970	12.9%	x	x	990	11.0%
	Recruit	2,940	39.1%	60	4.1%	2,995	33.3%
Environment at release	Army	6,120	81.4%	1,230	84.0%	7,345	81.7%
	Navy	1,165	15.5%	130	8.9%	1,295	14.4%
	Air Force	245	3.3%	115	7.8%	355	3.9%
Province in 2011	Newfoundland	225	3.0%	30	2.0%	250	2.8%
	Prince Edward Island	65	0.9%	15	1.0%	80	0.9%
	Nova Scotia	455	6.1%	105	7.2%	560	6.2%
	New Brunswick	290	3.9%	40	2.7%	330	3.7%
	Quebec	2,060	27.4%	420	28.7%	2,480	27.6%
	Ontario	2,190	29.1%	350	23.9%	2,540	28.2%
	Manitoba	250	3.3%	50	3.4%	300	3.3%
	Saskatchewan	180	2.4%	55	3.8%	235	2.6%
	Alberta	795	10.6%	205	14.0%	1,000	11.1%
	British Columbia	670	8.9%	140	9.6%	805	8.9%
	Territories	40	0.5%	10	0.7%	45	0.5%
	Other	315	4.2%	60	4.1%	365	4.1%

\* Population linked to tax records in the pre-release year and the first three years post-release.

May not add due to rounding to nearest 5 or 10.

x indicates population of less than 5 in one cell.

This study also compared clients and non-clients by a number of service and demographic characteristics. Table 13, in Appendix A, details the total, client and non-client numbers for the pre-release year and up to eight years post release. Clients were more likely than non-clients to be older at release, to have medically released or released at retirement age, and to have released from the Navy. There were almost four times more non-clients than clients in the youngest age category. On the other hand, almost 80% of clients were age 30 and above, compared to just one-quarter of non-clients. With respect to gender, fewer males were clients than non-clients, with the opposite being true for females. Forty percent (40%) of clients and only 2% of non-clients were medically released. More clients and non-clients released at the junior NCM level than any other rank. Officers make up less than 20% of clients. The client and non-client percentages for Army Veterans were both high. Geographically,



about half of clients and non-clients live in Quebec or Ontario (similar to the breakdown for the overall cohort).

**Table 7: Reserve Force Cohort\* by Client Status**

		Clients 5%		Non-Clients 95%		Total 100%	
		n	%	n	%	n	%
Total		445	100%	8,550	100%	8,995	100%
Age at release	29 & under	90	20.2%	6,435	75.3%	6,530	72.6%
	30-34	60	13.5%	835	9.8%	895	9.9%
	35-39	55	12.4%	415	4.9%	475	5.3%
	40-44	40	9.0%	300	3.5%	335	3.7%
	45-49	45	10.1%	185	2.2%	235	2.6%
	50-54	40	9.0%	130	1.5%	175	1.9%
	55 plus	110	24.7%	240	2.8%	350	3.9%
Gender	Males	315	70.8%	6,925	81.0%	7,240	80.5%
	Females	135	30.3%	1,620	18.9%	1,755	19.5%
Yrs of service	Less than 2	x	x	x	x	2,045	22.7%
	2 to 9	165	37.1%	4,830	56.5%	4,995	55.5%
	10 to 19	190	42.7%	1,255	14.7%	1,445	16.1%
	20 plus	x	x	x	x	505	5.6%
Release type	Involuntary	x	x	x	x	1,340	14.9%
	Medical	180	40.4%	135	1.6%	315	3.5%
	Voluntary	145	32.6%	6,350	74.3%	6,495	72.2%
	Retirement Age	75	16.9%	160	1.9%	235	2.6%
	Service Complete	20	4.5%	575	6.7%	600	6.7%
	Unknown	x	x	x	x	10	0.1%
Rank at release	Senior Officers	35	7.9%	175	2.0%	210	2.3%
	Junior Officers	40	9.0%	700	8.2%	735	8.2%
	Subordinate Officers	x	x	x	x	190	2.1%
	Senior NCM	140	31.5%	485	5.7%	625	6.9%
	Junior NCM	185	41.6%	3,050	35.7%	3,235	36.0%
	Private	x	x	x	x	990	11.0%
	Recruit	20	4.5%	2,975	34.8%	2,995	33.3%
Environment at release	Army	310	69.7%	7,030	82.2%	7,345	81.7%
	Navy	45	10.1%	1,250	14.6%	1,295	14.4%
	Air Force	90	20.2%	265	3.1%	355	3.9%
Province in 2011	Newfoundland	5	1.1%	245	2.9%	250	2.8%
	Prince Edward Island	x	x	x	x	80	0.9%
	Nova Scotia	60	13.5%	495	5.8%	560	6.2%
	New Brunswick	20	4.5%	310	3.6%	330	3.7%
	Quebec	70	15.7%	2,410	28.2%	2,480	27.6%
	Ontario	125	28.1%	2,420	28.3%	2,540	28.2%
	Manitoba	25	5.6%	275	3.2%	300	3.3%
	Saskatchewan	10	2.2%	225	2.6%	235	2.6%
	Alberta	45	10.1%	955	11.2%	1,000	11.1%
	British Columbia	50	11.2%	755	8.8%	805	8.9%
	Territories	x	x	x	x	45	0.5%
	Other	15	3.4%	350	4.1%	365	4.1%

\* Population linked to tax records in the pre-release year and the first three years post-release.

May not add due to rounding to nearest 5 or 10.

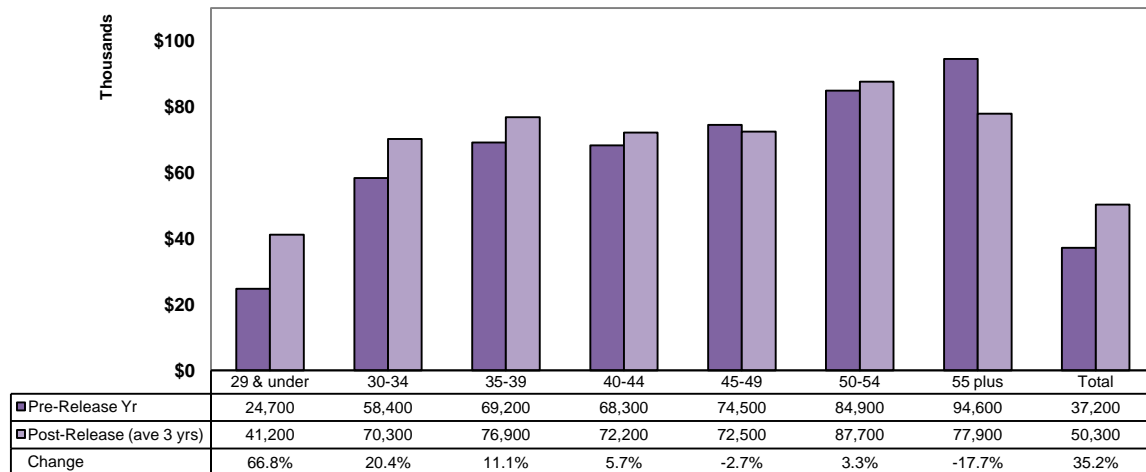
x indicates population of less than 5 in one cell.

### 4.3 Total Income by Cohort Characteristics

The average income post release for the Reserve Force cohort – the 8,995 who linked in the pre-release year and all of the first three years post release – increased by 35%. The figures on the next few pages describe total income, both before release and post release, by a variety of service and demographic characteristics. The post-release amounts are an average of the first three years.

**Age:** Pre-release income varied among age groups, from a low of \$24,700 for those 29 years of age and under to a high of \$94,600 for those 55 years of age or older. Most age groups in the Reserve Force cohort saw an increase in income post release, with the youngest age group showing the biggest increase (67%) (Figure 22).

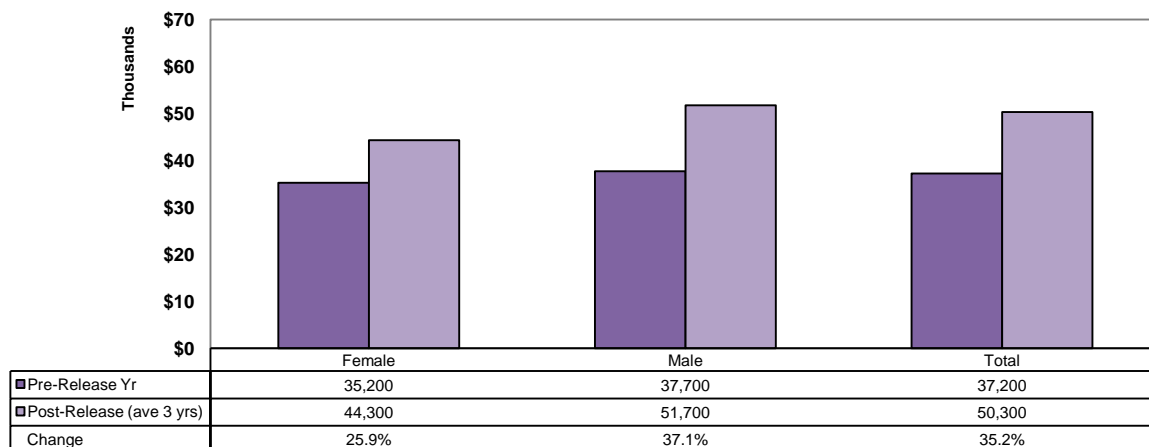
**Figure 22: Reserve Force Total Income Change by Age at Release**



Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars.

**Gender:** In the Reserve Force cohort, females had lower incomes than males both pre- and post-release. On average, the pre-release income of females was \$35,200, compared to \$37,700 for males. The total income of both females and males increased post release, by 26% (\$44,300) and 37% (\$51,700) respectively, compared to an overall increase of 35% (Figure 23).

**Figure 23: Reserve Force Total Income Change by Gender**

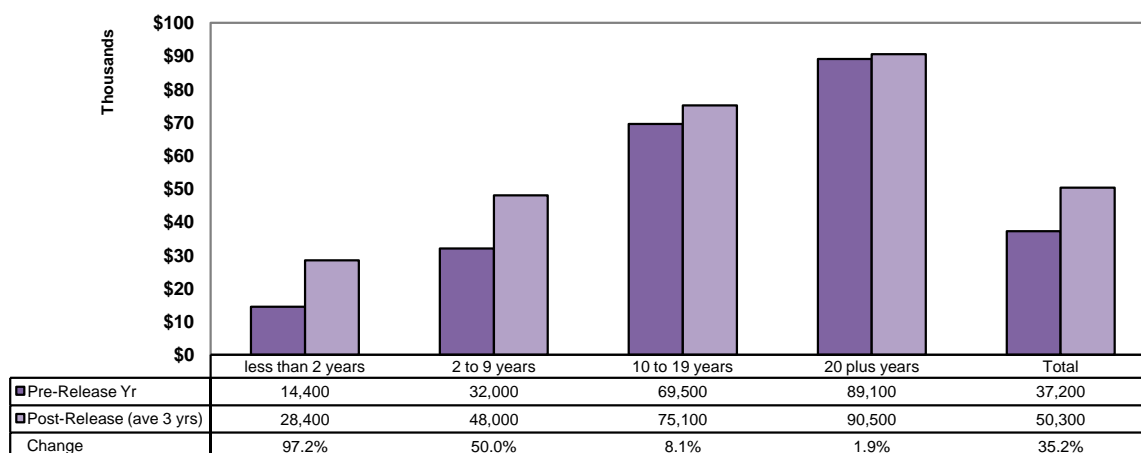


Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars.

**Length of service:** Total income increased with length of service, both pre and post release. Reserve Force cohort members who served for 20 years or more had a total pre-release income of \$89,100, compared to \$14,400 for those with less than two years

of service. Similarly, post-release income varied greatly between those two groups, at \$90,500 and \$28,400 respectively. However, those who served less than 2 years (97%) and from 2 to 9 years (50%) experienced the greatest increases in income post release (Figure 24).

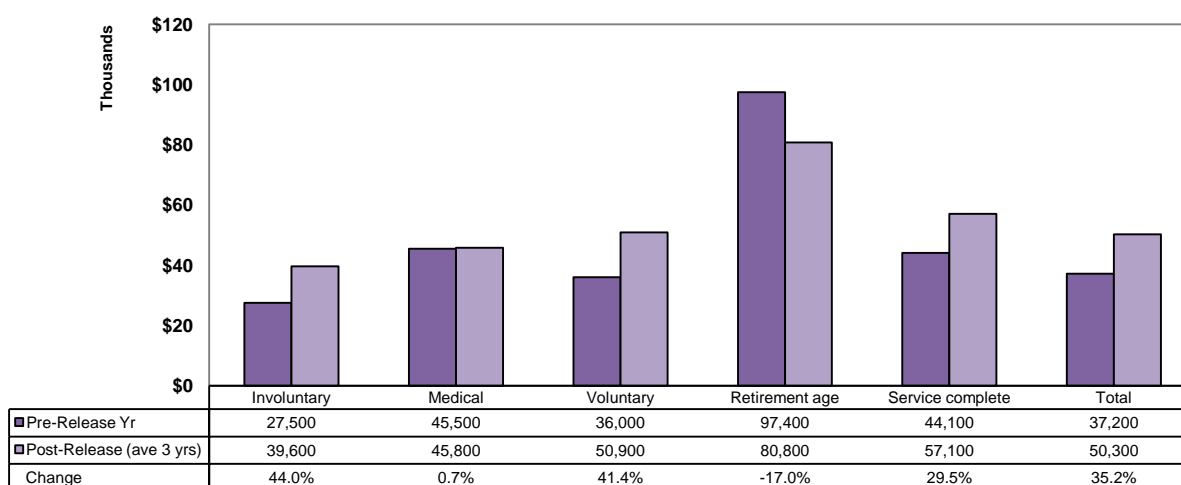
**Figure 24: Reserve Force Total Income Change by Length of Service**



Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars.

*Type of release:* Total income varied considerably by type of release (release types described in Appendix B). Those in the Reserve Force cohort releasing at retirement age had the highest pre-release income, at \$97,400. At the other end of the spectrum, the pre-release income for involuntary releases was \$27,500. There was a similar pattern with respect to post-release income, with the highest at \$80,800 for those at retirement age and the lowest at \$39,600 for involuntary releases. Only Veterans releasing at retirement age experienced a decline in income of 17% (Figure 25).

**Figure 25: Reserve Force Total Income Change by Release Type**

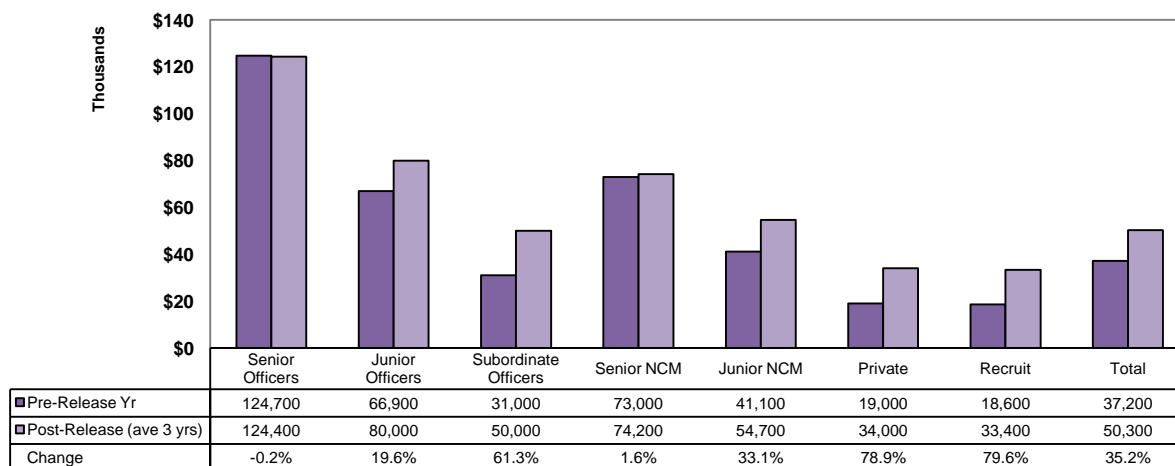


Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars.

*Rank:* Not surprisingly, senior officers had the highest income both pre and post release, while recruits had the lowest income in both timeframes. Post-release incomes

were higher than pre-release incomes for all ranks except for the senior officer group which experienced a negligible decline. Recruits had the greatest increase in income post release at 80% (Figure 26).

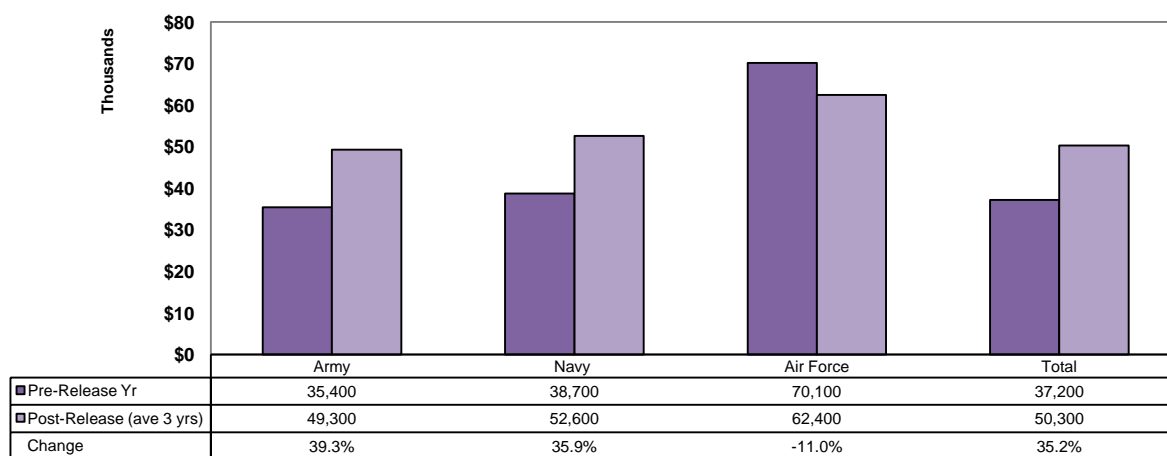
**Figure 26: Reserve Force Total Income Change by Rank**



Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars.

*Service environment:* The Reserve Force cohort post-release income ranged from \$35,400 for Army Veterans to \$70,100 for Air Force. Air Force also had the highest post-release income. Only those who released from the Air Force had a decline in income post release (11%), while there were sizeable increases for Army (39%) and Navy (36%) (Figure 27).

**Figure 27: Reserve Force Total Income Change by Service Environment**

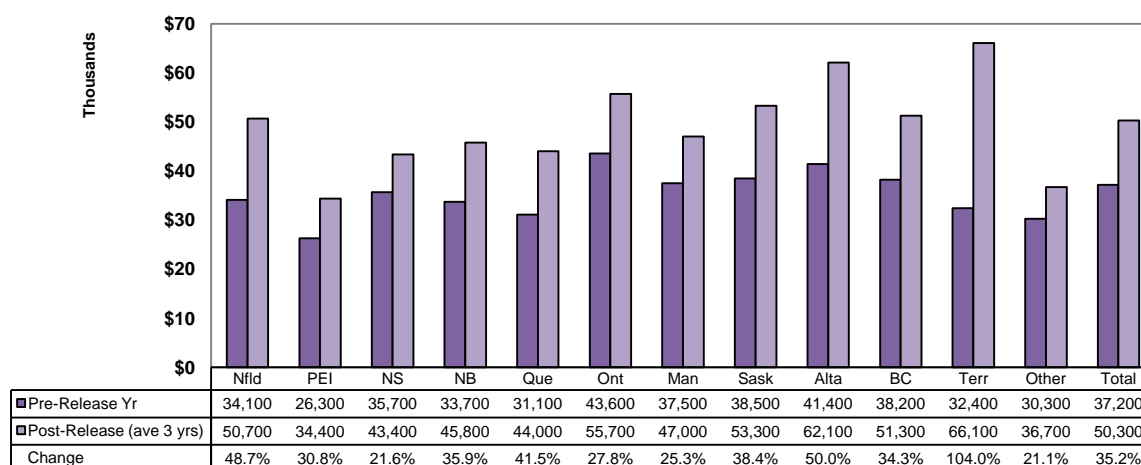


Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars.

*Province of residence as of 2011:* Those who lived in PEI experienced the lowest post-release income at \$34,400, and those who lived in the Territories had the highest post-release income at \$66,100. Veterans in every area experienced an increase in income

post release, with the largest increases being in Newfoundland (49%), Alberta (50%) and the Territories (104%) (Figure 28).

**Figure 28: Reserve Force Total Income Change by Province of Residence**



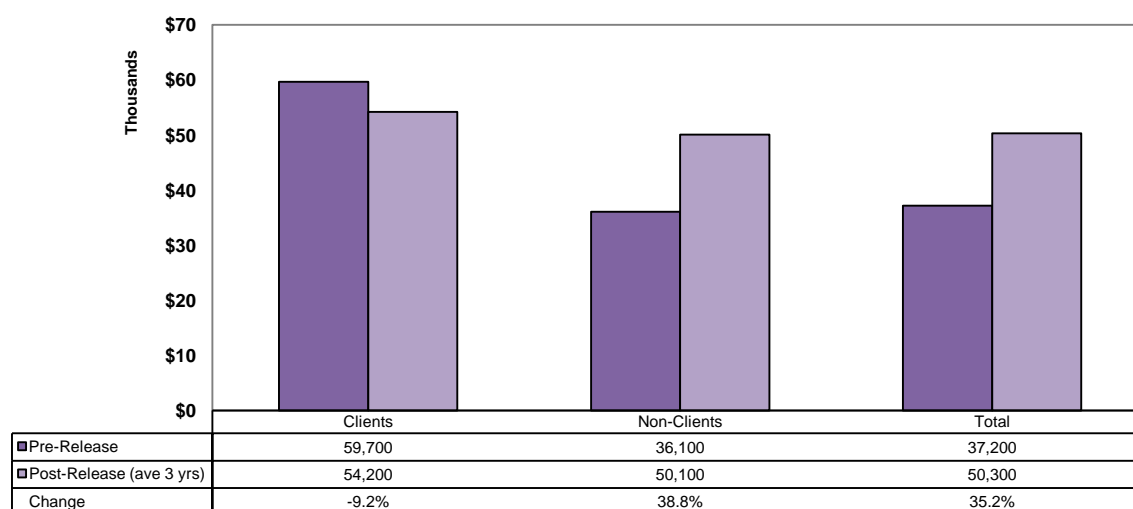
Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars. Province of Residence is as of 2011.

#### 4.4 VAC Clients and Non-Clients

The vast majority (95%) of the Reserve Force cohort were not clients of VAC. This section compares income changes and low income between clients and non-clients.

*Total income:* Total pre-release income for clients was \$59,700 compared to post-release income of \$54,200, a decline of 9%. There was an increase (39%) in income for non-clients, from \$36,100 pre release to \$50,100 post release (Figure 29).

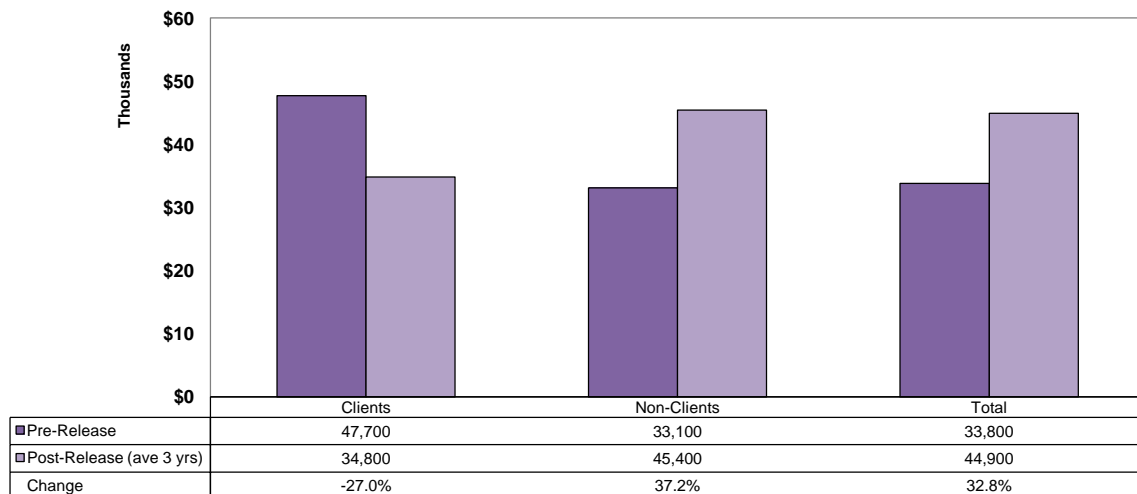
**Figure 29: Reserve Force Total Income Change by Client Status**



Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars. Client status is of March 2013.

**Earnings:** Pre-release earnings were greater for clients (\$47,700) than non-clients (\$33,100) while post-release earnings were lesser for clients (\$34,800) than non-clients (\$45,400). Client earnings decreased by 27% while non-client earnings increased by 37% (Figure 31).

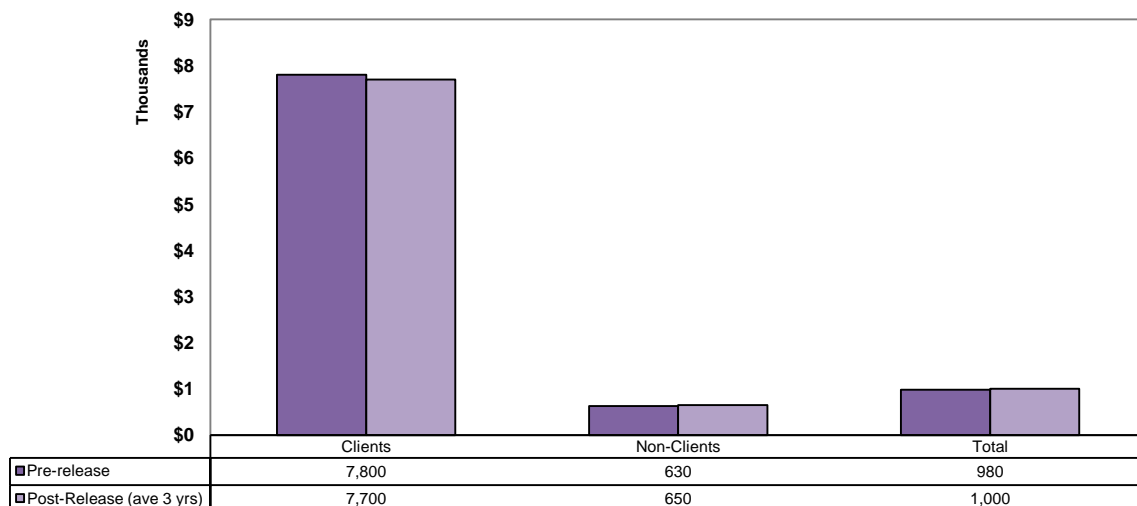
**Figure 31: Reserve Force Earnings Change by Client Status**



Note: Earnings are before tax income of the Veteran expressed in 2011 constant dollars. Client status as of March 2013

**Pensions:** The total pre-release pension income in 2011 dollars was \$980. Pension income for clients was \$7,800 compared to \$630 for non-clients. Changes were minimal after release for the total cohort (\$1,000), clients (\$7,700) and non-clients (\$650) (Figure 30).

**Figure 30: Reserve Force Pensions Income Change by Client Status**



Note: Pensions are before tax income of the Veteran expressed in 2011 constant dollars. Client status as of March 2013

## 4.5 Changes in Income, Low Income and VAC Clients

*Changes in income:* Residents of the Territories (104%), Veterans who served less than two years (97%) and recruits (80%) had the largest increases in income after release (see Appendix E for more detail). With respect to declines in income, Veterans aged 55 plus at release (18%), those who released at retirement age (17%) and those released from the Navy (11%) experienced the largest declines, compared to an overall increase of 35%. All three of these groups were much more likely to be clients than the average of 5%. However, each group accounted for less than 5% of the cohort (Table 8).

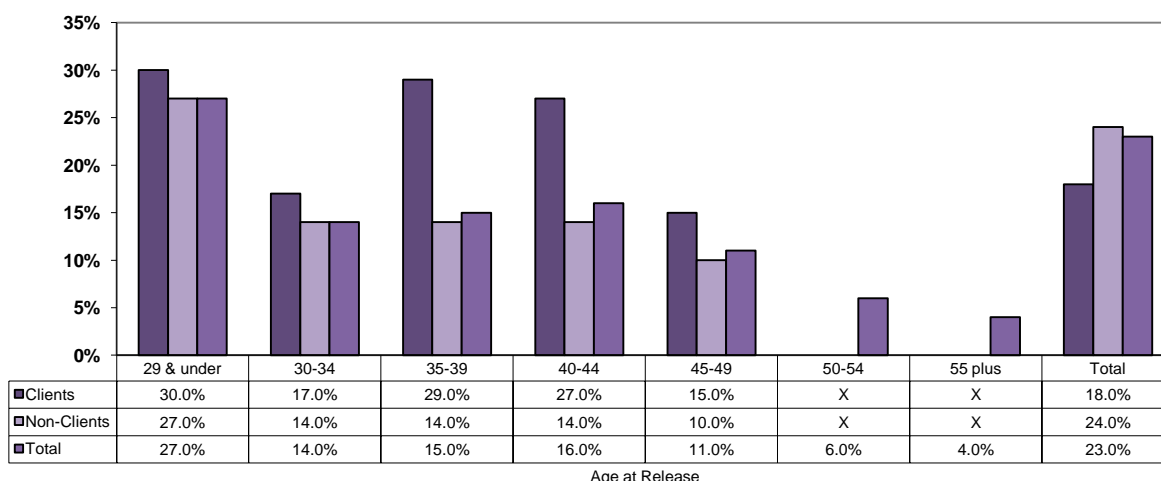
**Table 8: Reserve Force Total Income Change by Characteristic**

Population	Change Pre-Release Yr to Ave First 3 Yrs Post-Release	% Clients (n=445)	% of Cohort (n= 8,995)
Total	+35%	5%	100%
Largest Increases			
Territories resident	+104%	x	1%
Served < 2 years	+97%	x	23%
Recruits	+80%	1%	33%
Largest Declines			
Age 55 plus	-18%	31%	4%
Retirement age	-17%	32%	3%
Navy	-11%	25%	4%

X indicates population of less than 5 in one cell.

*Low income:* Non-clients were more likely than clients to ever have household incomes below the LIM, at 24% and 18% respectively. The majority (95%) of those who experienced low income were non-clients. The higher rate of low income among non-clients was mainly due to their younger age. Younger Veterans had higher rates of experiencing low income (Figure 32).

**Figure 32: Reserve Force Low Income at Least One Year Post Release by Age and Client Status**



Notes: Low income measure is before tax.

Those who released at age 55 plus (4%), senior officers at release (4%) and those age 50 to 54 at release (6%) had the lowest rates of experiencing low income (see Appendix E for more detail). Veterans who had served for less than two years (35%), involuntarily released (35%) and recruits (33%) had the highest rates of ever experiencing low income post-release. In all three of these sub-populations, less than 5% were clients of VAC, compared to 15% or more of the entire Reserve Force cohort (Table 9).

**Table 9: Reserve Force Low Income at Least One Year Post Release by Characteristic**

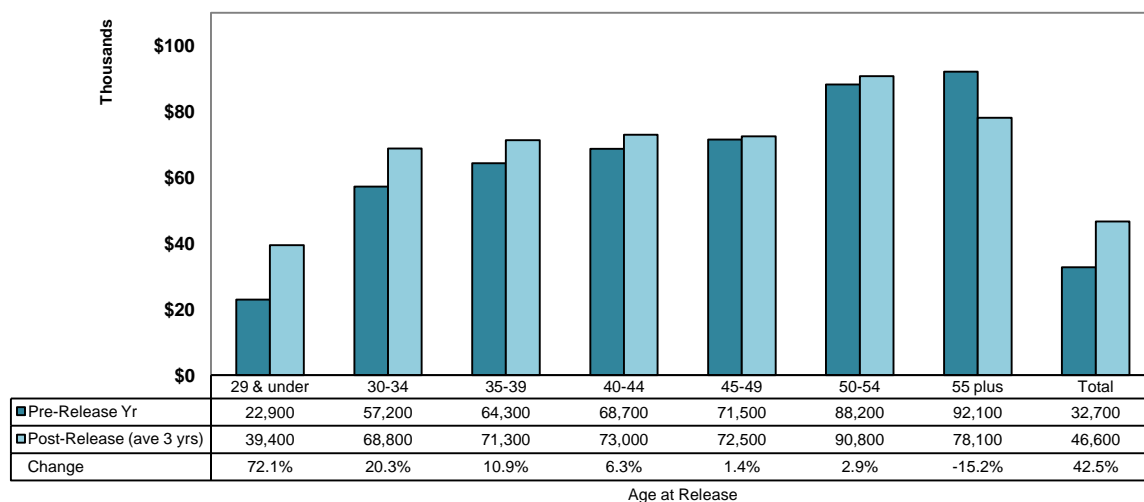
Population	Low Income Rate	% Clients (n=480)	% of Cohort (n=10,505)
Total	23%	5%	100%
Lowest Rates			
Age 55 plus	4%	31%	4%
Senior officers	4%	17%	2%
Age 50-54	6%	23%	2%
Highest Rates			
Less than 2 years service	35%	x	23%
Involuntary releases	35%	x	15%
Recruits	33%	1%	33%

X indicates population of less than 5 in one cell.

#### 4.6 Changes in Income, Low Income and Reserve Class

*Changes in income, Class A/B:* Similar to the findings for the overall Reserve Force Veteran population, on average Class A/B Reserves had a 43% increase in income post release, from \$32,700 to \$46,600. The largest increase was among those aged 29 and under age group (72%). These increases in income generally declined with age. Those aged 55 and older experienced a 15% decline in income post release (Figure 33).

**Figure 33: Reserve Class A/B Total Income Change by Age**

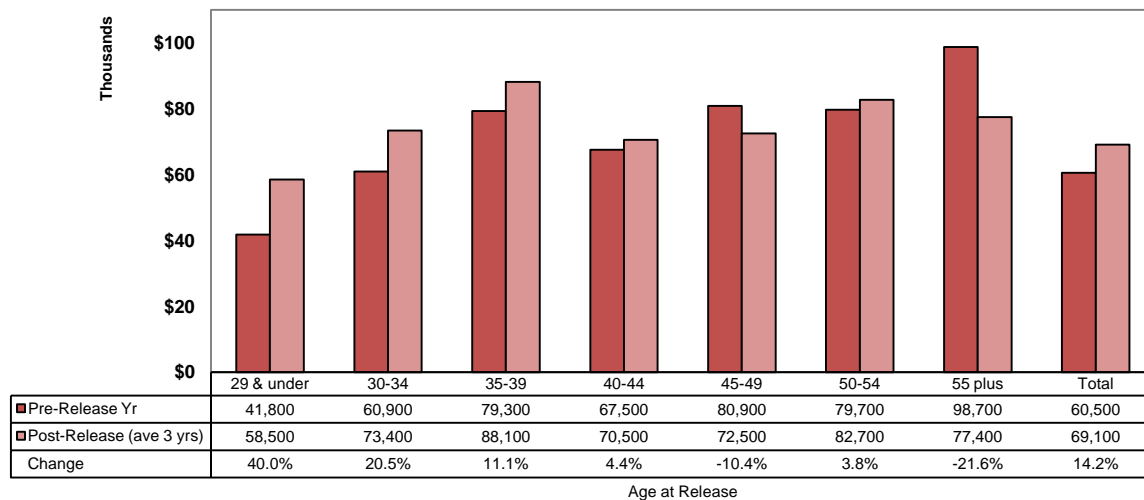


Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars.



*Changes in income, Class C:* Reserve Force Veterans with Class C service also experienced an increase in income post release, from \$60,500 to \$69,100 or 14%. Similar to overall and Class A/B Reserves, the youngest age group had the largest increase (40%). Both those aged 45 to 49 and those aged 55 and older experienced declines in income of 10% and 22% respectively (Figure 34).

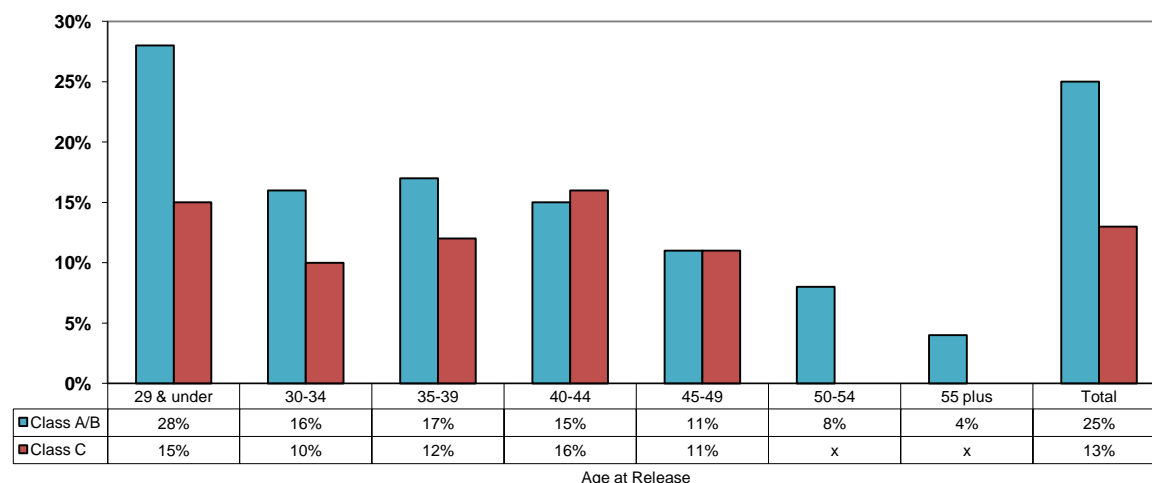
**Figure 34: Reserve Class C Total Income Change by Age**



Note: Total income is the before tax income of the Veteran expressed in 2011 constant dollars.

*Low income:* Class A/B Reserves had a higher rate (25%) of experiencing low income at least one year post release compared to Class C Reserves (13%). For Class A/B Reserves, low income rates generally declined with age from 28% among those aged 29 and under to 4% among those aged 55. For Class C Reserves, the highest rates of low income was among those aged 40 to 44 (16%) and those aged 29 and under (15%) (Figure 35).

**Figure 35: Reserve Force Low Income at Least One Year Post Release by Age and Class**



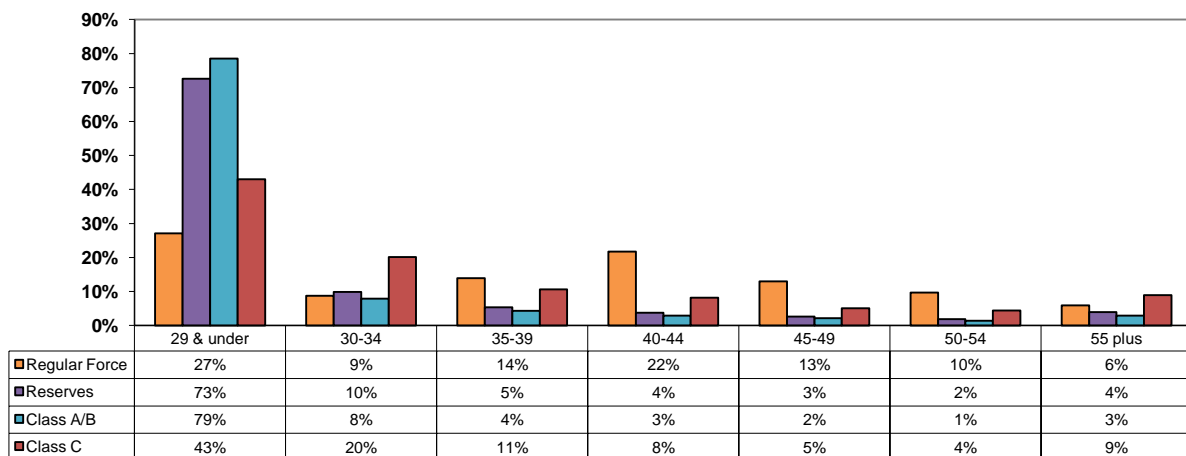
Notes: Low income measure is before tax.

## 5. Regular and Reserve Force Veterans Compared

### 5.1 Age Distribution

Primary Reserve Force Veterans were much younger at release than Regular Force Veterans. Almost three-quarters (73%) of Reserve Force Veterans were aged 29 and under at release, compared to 27% of Regular Force Veterans. Class A/B Reserves were younger than Class C Reserves. The majority (79%) of Class A/B Reserves were aged 29 and under compared to 43% of Class C Reserves (Figure 36).

**Figure 36: Age Distribution of Regular and Reserve Force Veterans**



### 5.2 Income Changes and Low income

When considering those who could be followed from the pre-release year through to three years post release – the Reserve Force cohort – Class A/B Reserves experienced a 43% increase in income, from \$32,700 to \$46,600, while Class C Reserves experienced a 14% increase, from \$60,500 to \$69,100. Regular Force Veterans experienced a 2% decline in income post-release from \$69,300 to \$67,900. The younger age of Reserves and particularly Class A/B Reserves partially explains some of this difference. Younger Reserve Force Veterans generally experienced increases in income while older Veterans experienced declines. Younger Regular Force Veterans also experienced increases in income post-release, however, they accounted for a minority of the cohort.

The low income rate for Class A/B Reserves was higher (25%) than that of the Regular Force (16%) and Class C Reserves (13%) which were quite similar, considering the shorter post-release study period for Reserves. Class A/B Reserves had the highest proportion of Veterans aged 29 and under and younger Veterans generally experienced higher rates of low income than older Veterans.

**Table 10: Summary Comparison of Regular and Reserve Force Veterans**

<b>Population</b>	<b>Regular Force</b>	<b>Primary Reserves</b>	<b>Class A/B Reserves</b>	<b>Class C Reserves</b>
Cohort Pre-Release Total Income	\$69,300	\$37,200	\$32,700	\$60,500
Cohort Post-Release Total Income (ave. 3 yrs)	\$67,900	\$50,300	\$46,600	\$69,100
Change in Income	-2%	+35%	+43%	+14%
Low Income at Least One Year Post-Release	16%	23%	25%	13%

## 6. Discussion

This study includes important information on the trends in income pre and post release, the sources of income, and low income for a large population of Canadian Armed Forces Veterans, including clients and non-clients. It covers four more years of income data for Regular Force Veterans than the 2010 Income Study and also includes Primary Reserves. The overall linkage rate was quite high (92%) ensuring a representative population for studying income.

For the Regular Force Veterans, findings from this study are similar to those in 2010. Using the same method the income decline was 10% in 2010 compared to 9% in this study. In this study the method for examining income change was modified to provide a more accurate picture of change in income by following a longitudinal cohort (record linkage of the pre-release year and all of the first three years post-release). This method resulted in a 2% decline in income post-release. Trends in income were similar with post-release income initially declining and then reaching pre-release levels in the sixth year post-release in the 2010 study and in the eighth year post-release in this study. Rates of receipt of EI or SA/GIS or experiencing low income at least one year post-release were slightly higher in this study, 38%, 4% and 16% respectively compared to 35%, 3%, and 15% in 2010. However, at least part of this increase can be explained by a longer follow-up period in the current study. The length of time post-release increased by four years; from nine to thirteen years.

This study had some limitations. Because VAC disability benefits (both Disability Pensions and Disability Awards) are not taxable, the income reflected in this report does not include these benefits. However, VAC has provided Statistics Canada with some disability benefit expenditure data and therefore the impact of including these benefits can be studied. Analysis was sometimes limited due to a small number of observations in some sub-populations, particularly in relation to the Reserve Force.

There are a few areas for further study. Data is available which has yet to be examined. Statistics Canada produced tables with further client details including the type of disability benefit received (disability award, disability pension or both), assessed disability percentage (<5%, 5-17%, 18-27%, 28-47% and 50% plus), disability benefit conditions (psychiatric, musculoskeletal, hearing, other), and clients in receipt of programs or benefits such as Financial Benefits, Rehabilitation including Vocational

Rehabilitation and those deemed Totally and Permanently Incapacitated and Permanent Impairment Allowance.

Another possible area of further study involves examining the incomes of Veterans after age 65. As earnings loss benefits paid to incurred Veterans under the New Veterans Charter end at age 65, the Office of the Veterans Ombudsman has expressed concerns that this group may be financially at risk. While few of these clients have reached the age of 65, the incomes of all Veterans age 65 and older could be examined.

The final area involves examining the effectiveness of the New Veterans Charter. As the linkage performed for this report includes five years of income data post implementation of the New Veterans Charter in April 2006, income and employment outcomes can be examined. Two goals of the New Veterans Charter (NVC) are: to have an adequate income and to participate in the civilian workforce. Currently VAC measures low income among clients. However, adequate compensation for economic loss resulting from injury is typically measured in terms of what is known as earnings replacement rate. More recent studies have compared the earnings of injured workers or Veterans to uninjured control groups, thereby more accurately reflecting actual earnings losses over time (Buddin and Han, 2012, Heaton et al, 2012, Tompa et al, 2010 and 2013). Further study could measure the earnings replacement rate (employment earnings plus benefits) of injured Veterans compared to their uninjured counterparts. This approach would help establish benchmarks for income adequacy and employment outcomes.

## **7. Conclusion**

Class A/B Reserves had much lower incomes than Regular Force and Class C Reserves. However, income increased for both Reserve Class A/B and Reserve Class C Veterans from the pre-release year to three years post release but decreased for Regular Force Veterans. Low income rates were higher for Reserve Class A/B Veterans than for both Regular Force and Reserve Class C Veterans.

In general, younger Veterans experienced both the greatest increases in income and the highest rates of low income. VAC programs are reaching some segments of the cohort with the largest declines in income post release but not reaching most of those with low income.

## **References**

Heaton P, Loughran DS and Miller AR. (2012). Compensating Wounded Warriors: An Analysis of Injury, Labor Market Earnings, and Disability Compensation Among Veterans of the Iraq and Afghanistan Wars. RAND National Defense Research Institute.

Buddin R, Han B. (2012) Is Military Disability Compensation Adequate to Offset Civilian Earnings Losses from Service-Connected Disabilities? RAND National Defense Research Institute.

Tompa E, Scott-Marshall H, Fang M. and Mustard C. (2010). Comparative Benefits Adequacy and Equity of Three Canadian Workers' Compensation Programs for Long-term Disability. Working Paper # 350. Toronto, ON: Institute for Work and Health.

Tompa E, Hogg-Johnson S, and Amick B. (2013). Work Disability Trajectories and Claim Duration in Ontario under Three Workers' Compensation Legislations. WSIB#09012, Institute for Work and Health.

## Appendix A: Record Linkage

This study required the links to be done longitudinally, to organize Veteran income information over the years from pre-release to post-release years. The first step to construct the longitudinal file was to build the target population of Veterans for the study. The target population is made up of all records from the linked DND-VAC-T1FF for the year of their release. Then the longitudinal file is created by adding one-by-one the T1FF files containing the income information for the pre-release year, and all available post-release years.

The DND-VAC file contained 51,990 records of Veterans released from the Regular Force from 1998 to 2011, and 18,781 records of Veterans released from the Primary Reserves from 2003 to 2011 (Table 9). At Statistics Canada, out-of-scope records were removed due to death during the length of the panel being observed. The overall linkage rate to the year of release was 91.7% (92.2% for the Regular Force and 90.1% for the Primary Reserve Force).

**Table 10: Total Linkage Rates DND-VAC and the T1FF Files**

	Number of Veterans		Linkage rate
	DND-VAC File	DND-VAC-T1FF File (Linked to Release Year t0)	
<b>Regular Force</b>	51,990	47,950	92.2%
<b>Primary Reserve Force</b>	18,781	16,925	90.1%
<b>Total</b>	70,771	64,875	91.7%

Linkage rates were consistent for the study period from 1998 to 2011 (Table 10).

**Table 11: Linkage rates by year of release (panel)**

Panel	Regular Force	Primary Reserve Force
<b>1998</b>	91.6	n.a.
<b>1999</b>	92.7	n.a.
<b>2000</b>	91.8	n.a.
<b>2001</b>	94.4	n.a.
<b>2002</b>	92.4	n.a.
<b>2003</b>	91.8	89.6
<b>2004</b>	92.3	89.0
<b>2005</b>	93.2	90.1
<b>2006</b>	93.0	89.9
<b>2007</b>	92.5	90.2
<b>2008</b>	91.9	90.2
<b>2009</b>	91.8	90.8
<b>2010</b>	90.6	90.0
<b>2011</b>	91.8	90.8

The total study population included 51,990 Regular Force Veterans and 18,781 Primary Reserve Force Veterans (Class A/B, 15,596; Class C, 3,185). By Reserve Force class, Tables 11 and 12, show the linked populations for the pre-release (t-1) year, the release year (t0) and up to 13 years post-release. The analysis comparing pre-release and post-release income used a cohort of Veterans who were linked to tax files in the pre-release year and in all of the first three years post-release. This cohort included 32,540 Regular Force Veterans and 8,995 Primary Reserve Force Veterans. Receipt of EI, SA/GIS or low income at least one year or every year post-release was also calculated. This population included those who linked to tax files in the release year and had at least three years of post-release income, i.e., released prior to 2009 (n=36,890 for Regular Force and n=10,505 for Primary Reserve Force).

**Table 12: Regular Force Veteran Population Linked to Income Tax Data**

Time Period	Total Population	Clients	Non Clients
Total Population	51,990	17,179	34,811
Pre-release Year (t-1)	45,735	16,000	29,735
Release Year (t0)	47,950	16,425	31,525
Year after Release (t1)	42,215	14,525	27,690
2 years post-release (t2)	38,590	13,305	25,275
3 years post-release (t3)	34,555	12,015	22,545
4 years post-release (t4)	29,880	10,525	19,360
5 years post-release (t5)	25,910	9,215	16,700
6 years post-release (t6)	22,180	7,705	14,475
7 years post-release (t7)	19,040	6,405	12,635
8 years post-release (t8)	15,965	5,105	10,865
9 years post-release (t9)	13,250	3,970	9,285
10 years post-release (t10)	10,845	3,080	7,765
11 years post-release (t11)	8,335	2,260	6,080
12 years post-release (t12)	5,530	1,445	4,085
13 years post-release (t13)	2,805	740	2,065
Post-Release Average (3 yrs)*	36,255	12,435	23,825
Release year and panel < 2009**	<b>36,890</b>	12,555	24,330
Cohort+	<b>32,540</b>	11,560	20,980

\* Linked to tax file in the release year and each of the first three years post release. This group experienced an 8.5% decline in Total Income.

\*\* Linked to tax file in the release year and includes those released prior to 2009.

+ Linked to tax file in the pre-release year and all of the first three years post-release. This group experienced a 2.0% decline in Total Income.

**Table 13: Primary Reserve Force Veteran Population Linked to Income Tax Data**

Time Period	Total Population	Clients	Non Clients
Total Population	18,781	956	17,825
Pre-release Year (t-1)	16,020	880	15,140
Release Year (t0)	16,925	910	16,015
Year after Release (t1)	13,905	745	13,160
2 years post-release (t2)	11,790	580	11,215
3 years post-release (t3)	9,660	460	9,205
4 years post-release (t4)	7,520	360	7,150
5 years post-release (t5)	5,960	280	5,680
6 years post-release (t6)	4,185	195	3,995
7 years post-release (t7)	2,540	120	2,415
8 years post-release (t8)	1,140	45	1,085
Post-Release Average (3 yrs)*	10,280	470	9,805
Release year and panel < 2009**	<b>10,505</b>	480	10,020
Cohort+	<b>8,995</b>	445	8,550

\* Linked to tax file in the release year and each of the first three years post release. This group experienced a 35.2% increase in Total Income.

\*\* Linked to tax file in the release year and includes those released prior to 2009.

+ Linked to tax file in the pre-release year and all of the first three years post-release. This group experienced a 15.4% increase in Total Income.

## Appendix B: Service Variable Definitions

### Release types<sup>2</sup>:

- Voluntary
  - 4a voluntary immediate annuity,
  - 4b voluntary fixed service;
  - 4c voluntary other causes;
  - 5a *Retirement Age* (completed service)
  - 5c *Service Complete*
- Medical
  - 3a medical
  - 3b medical military occupation
- Involuntary
  - 1a sentenced to dismissal
  - 1b service misconduct
  - 1c illegally absent
  - 1d fraudulent statement on enrolment
  - 2a unsatisfactory service
  - 2b unsatisfactory performance
  - 5b service complete - reduction in strength
  - 5d not advantageously employed
  - 5e irregular enrolment
  - 5f unsuitable for further service

### Ranks<sup>3</sup>:

- Senior Officer
  - Navy: Lieutenant-Commander to Admiral
  - Army/Air Force: Major to General
- Junior Officer
  - Navy: Acting Sub-Lieutenant to Lieutenant
  - Army/Air Force: Second-Lieutenant to Captain
  - Subordinate Officer*: Navy Cadet or Officer Cadet
- Senior Non-Commissioned Member (NCM)
  - Navy: Petty Officer 2<sup>nd</sup> Class to Chief Petty Officer 1st Class
  - Army/Air Force: Sergeant to Chief Warrant Officer
- Junior Non-Commissioned Member (NCM)
  - Navy: Leading Seaman to Master Seaman
  - Army/Air Force: Corporal to Master Corporal
  - Private*: Able Seaman or Private
  - Recruit*: Ordinary Seaman, Ordinary Seaman-Recruit or Private-Recruit, Private-Training

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<sup>2</sup> Definitions available at: [www.admfincs.forces.gc.ca/qro-orf/vol-01/doc/chapter-chapitre-015.pdf](http://www.admfincs.forces.gc.ca/qro-orf/vol-01/doc/chapter-chapitre-015.pdf)

<sup>3</sup> Source: [www.forces.gc.ca/en/honours-history-badges-insignia/rank.page](http://www.forces.gc.ca/en/honours-history-badges-insignia/rank.page)



## Appendix C: Income Data Definitions

1. **Total income** is the sum of all sources of taxable income filed with the Canada Revenue Agency, as described on this page.

**After tax income** = total income less income tax

**Market income** = total income less government transfers

### 2. Earnings

- Wages and salaries
  - Earnings from T4 slips
  - Other employment income (gratuities, training, wage loss replacement (e.g. VAC's Earnings Loss and Permanent Impairment Allowance), employee benefit plans (e.g. SISIP Long-term Disability Insurance for medically released Veterans)
- Self-employment income (business, professional, commissions, farming, fishing)

### 3. Pensions

- Pension and superannuation income
- Foreign pensions converted into Canadian funds
- RRSP income of individuals aged 65 and over (RRSPO); annuity payments from an RRSP in 1986 and 1987
- **Excludes** Old Age Security pension, Canada/Quebec Pension Plan (government transfers)
- **Nontaxable and not on tax file** War Veterans' Allowance, Veterans' and dependents' Disability Pension/Disability Award

### 4. Government transfers

- Old Age Security pension
- Canada/Quebec Pension Plan
- Employment insurance
- Social assistance
- Net federal supplements
- **Tax Credits** Goods and Services tax credit, Provincial refundable tax credits
- **Nontaxable but measured and on tax file** Social assistance, Workers' compensation, Child Tax Benefits, Family benefits

### 5. Investment

- Interest and other investment income (not capital gains)
- Dividends
- Limited partnership income
- Rental income

### 6. Other income (or private income)

- Alimony or separation allowances
- Gratuities, director fees, foreign employment
- Scholarships, research grants, artist grants, project grants, amateur athlete trust
- Retiring allowances
- Registered education savings plan income
- Training allowances
- Annuity payments (eg. Guaranteed Annual Income Plan)

Source: Statistics Canada, Longitudinal Administrative Data Dictionary: 2004, Catalogue no. 12-585-XIE

## Appendix D: Low-Income Measure (LIM)

LIM is a relative measure of low income comparing the income of families to a threshold set by the distribution of the same size. LIM thresholds are half the median adjusted family income and are adjusted to for a particular family size and composition. In 2011, the before-tax LIM for a family of four (2 adults and 2 children) was \$35,976 (Table 14). This means that a family household of four whose before-tax income was less than \$35,976 would be considered low income.

**Table 14: Low income measures (LIM) by household size (before tax), 2011**

Adults	Children (age 16 and under)					
	0	1	2	3	...	10
1	\$17,988	\$25,183	\$30,580	\$35,976	...	\$73,751
2	\$25,183	\$30,580	\$35,976	\$41,372	...	\$79,147
3	\$32,378	\$37,775	\$43,171	\$48,568	...	\$86,342
4	\$39,574	\$44,970	\$50,366	\$55,763	...	\$93,538

Source: Statistics Canada, Special Tabulation of T1FF data.

## Appendix E: Changes in Income and Low Income by Population Characteristics

**Table 15: Changes in Income and Low income**

		Regular Force		Reserve Force	
		Change Pre-Release Yr to Ave First 3 Yrs Post-Release	Low income at Least one Year Post-release	Change Pre-Release Yr to Ave First 3 Yrs Post-Release	Low income at Least one Year Post-release
Total		-2.0%	16%	+35.2%	23%
Age at release	29 & under	+6.6%	32%	+66.8%	27%
	30-34	-7.1%	22%	+20.4%	14%
	35-39	-0.6%	15%	+11.1%	15%
	40-44	-0.6%	9%	+5.7%	16%
	45-49	-2.0%	5%	-2.7%	11%
	50-54	-5.2%	2%	+3.3%	6%
	55 plus	-12.9%	2%	-17.7%	4%
Gender	Males	+0.4%	16%	+37.1%	23%
	Females	-21.4%	20%	+25.9%	24%
Yrs of service	Less than 2	+42.3%	37%	+97.2%	35%
	2 to 9	-13.4%	24%	+50.0%	23%
	10 to 19	-14.2%	19%	+8.1%	10%
	20 plus	-1.5%	6%	+1.6%	7%
Release type	Involuntary	-8.8%	38%	+44.0%	35%
	Medical	-19.6%	15%	+0.7%	26%
	Voluntary	+5.8%	18%	+41.4%	22%
	Retirement Age	-2.6%	1%	-17.0%	x
	Service Complete	+2.0%	11%	+29.5%	20%
	Unknown	-4.1%	10%	+40.1%	x
	Rank at release				
	Senior Officers	+6.4%	4%	-0.2%	4%
	Junior Officers	-1.9%	11%	+19.6%	12%
	Subordinate Officers	+46.0%	31%	+61.3%	24%
	Senior NCM	-4.5%	5%	+1.6%	7%
	Junior NCM	-11.0%	16%	+33.1%	18%
	Private	-0.6%	35%	+78.9%	31%
	Recruit	+17.5%	34%	+79.6%	33%
Environment at release	Army	-2.0%	21%	+39.3%	24%
	Navy	-8.5%	16%	+35.9%	22%
	Air Force	+0.9%	10%	-11.0%	11%
Province in 2011	Newfoundland	-9.6%	21%	+48.7%	21%
	Prince Edward Island	-16.8%	12%	+30.8%	33%
	Nova Scotia	-11.6%	13%	+21.6%	27%
	New Brunswick	-12.5%	18%	+35.9%	27%
	Quebec	-5.0%	18%	+41.5%	23%
	Ontario	+4.5%	14%	+27.8%	21%
	Manitoba	-4.2%	15%	+25.3%	24%
	Saskatchewan	+6.0%	17%	+38.4%	19%
	Alberta	+11.6%	13%	+50.0%	18%
	British Columbia	-12.1%	14%	+34.3%	25%
	Territories	+7.6%	22%	+104.0%	14%
	Other	-13.2%	31%	+21.1%	32%

\* Population linked to tax records in the pre-release year and all of the first three years post-release.  
May not add due to rounding to nearest 5 or 10.