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Pre- and Post-Release Income of Regular Force Veterans: Life After Service Studies 2016

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Pre- and Post-Release Income: Life After Service Studies 2016

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 Regular Force Veterans and their families.

Methods

Statistics Canada produced aggregate tables from a linkage of records on military releases, Veterans Affairs Canada client status and tax files for 42,645 Regular Force Veterans released from 1998 to 2014. Veteran income (before tax) was examined for the pre-release year, the average 3 year period after release and up to 16 years post-release. Taxable income was captured which excludes any disability benefits awarded by VAC.

Results

The Regular Force cohort of this study population were predominantly male (87%) and the majority were 30 years of age or older (73%), had served 20 years or more (54%), were junior and senior NCMs at release (57%), and not clients of VAC (63%).

Average income in the year prior to release was \$65,470 (in 2014 constant dollars), increased in the release year, largely due to severance pay, and then declined the year after to \$62,040. Post-release income reached pre-release income after three years post release and continued to increase. 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 generally temporary.

The average decline in income from the pre-release year to the first three years post release for the Regular Force cohort was 3%. Female Veterans had a 21% decline in income compared to less than 1% decrease among males. Female Veterans earned about 60% of what male Veterans earned regardless of their industry of employment (except for mining). Medically released Veterans (19%) and those who served 2 to 9 years (16%) also experienced greater declines in income.

The rate of low income peaked in the first year post release at 6% before gradually leveling off at 3% a few years after release. Of the 15% that experienced low income at least one year post release, the majority were not VAC clients. Veterans who released as recruits (38%), involuntary releases (37%) or those with less than 2 years of service (37%) had the highest rates of experiencing low income at least one year post-release.

However, low income rates were quite low among Veterans who released at retirement age (1%), those aged 50 and older at release (2%) and senior officers (2%).

The vast majority (93%) of the Veterans had labour-market earnings post release. Among those who were participating in the labour-market, the highest average earnings were among those whose service prior to release was in medical occupations and the lowest were among those who were in the combat arms prior to release. The largest employer of Veterans was the public service, accounting for over one-third of Veterans who were working in the year after release. There were large variations in labour-market earnings across industries. Earnings were highest for those who were working in mining, utilities and professional services and lowest in accommodations/food services, retail trade and agriculture. Changing employers was common as less than half of Veterans had the same employer during the first three years post-release.

Families of Regular Force Veterans rely quite heavily on the Veteran's income both pre- and post-release, with the Veteran income accounting for about 70% of total family income. Spousal income rose 11% from \$33,000 in the year prior to the Veterans' release to on average almost \$37,000 during the first three years after release. Many families had a change in status during the first 3 years post-release; almost one in ten divorced, one in five married, and one in five Veterans started to have children.

Veterans who completed the VAC Rehabilitation program recovered almost all of their pre-release income in the first two years after the program and eventually their total income exceeded their pre-release income. However, labour-market earnings only reached 50% replacement rates.

Younger Veterans with disability who had much lower labour-market earnings replacement than their non-injured counterparts. The labour-market earnings replacement rate among Veterans aged less than 40 without disability benefits was 135% while Veterans with disability benefits replaced 41% to 91%. However, earnings recovery was quite polarized. Many with low disability assessments had poor earnings recovery (less than 50%) and many with high disability assessments had high earnings recovery (greater than 100%).

Conclusion

In general, Veterans experience little decline in income post-release and few experienced low income post-release. Some groups, such as older Veterans and senior officers, were unlikely to experience low income. However, there were several groups that warrant further research and policy consideration including females, younger, and medically released Veterans and Veterans who participated in the Rehabilitation program.

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

Résumé

Objectif

Cette étude sur le revenu des vétérans est une composante du programme de recherche Études sur la vie après le service militaire, qui vise à 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 vétérans de la Force régulière et leur famille.

Méthodes

Statistique Canada a produit des tableaux agrégés à partir d'un couplage de dossiers sur les libérations militaires, sur la situation des clients d'Anciens Combattants Canada et sur les fichiers d'impôts pour 42 645 vétérans de la Force régulière libérés entre 1998 et 2014. Le revenu des vétérans (avant impôt) a été examiné pour l'année précédant la libération, la période moyenne de trois ans après la libération, et jusqu'à 16 ans après la libération. Des données sur le revenu imposable ont été recueillies, à l'exclusion des prestations d'invalidité versées par Anciens Combattants Canada (ACC).

Résultats

La cohorte de la Force régulière de la population à l'étude était principalement constituée d'hommes (87 %) et la majorité d'entre eux étaient âgés de 30 ans et plus (73 %), comptaient 20 ans de service ou plus (54 %), étaient des militaires du rang (MR) subalternes ou supérieurs à la libération (57 %), et n'étaient pas des clients d'ACC (63 %).

Le revenu moyen pour l'année précédant la libération était de 65 470 \$ (en dollars constants de 2014), augmentait durant l'année de la libération, ce qui était en grande partie attribuable à l'indemnité de départ, puis diminuait l'année suivante, passant à 62 040 \$. Le revenu d'après la libération rejoignait le revenu d'avant la libération trois ans après celle-ci et continuait d'augmenter. Les gains d'après la libération étaient la principale source de revenus, 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 généralement temporaire.

La diminution moyenne du revenu pour les membres de la Force régulière, à partir de l'année précédant la libération jusqu'à trois ans après la libération, était de 3 %. Les vétérans de sexe féminin avaient subi une baisse de 21 % de leur revenu, comparativement à une diminution de 1 % chez les vétérans de sexe masculin. Les vétérans de sexe féminin ne gagnaient qu'environ 60 % de ce que gagnaient leurs homologues masculins, quel que soit leur secteur d'emploi (sauf l'exploitation minière). Les vétérans libérés pour des raisons médicales (19 %) et ceux qui ont servi de 2 à 9 ans (16 %) ont également connu des baisses de revenu plus marquées.

Le taux de faible revenu atteignait un point culminant (6 %) durant la première année suivant la libération, avant de redescendre graduellement à 3 % quelques années après la libération. La majorité des vétérans (15 %) ayant connu une situation de faible revenu au moins un an après la libération n'étaient pas des clients d'ACC. Les vétérans ayant été libérés à titre de recrues (38 %), pour des raisons involontaires (37 %) ou ayant servi pendant moins de deux ans (37 %) sont ceux qui ont connu les taux les plus élevés de faible revenu au moins une année après leur libération. Toutefois, les taux de faible revenu se sont avérés passablement faibles chez les vétérans ayant été libérés à l'âge de la retraite (1 %), ceux qui étaient âgés de 50 ans et plus à la libération (2 %) et les officiers supérieurs (2 %).

La grande majorité (93 %) des vétérans gagnaient des revenus d'emploi après la libération. Chez les vétérans qui participaient au marché du travail, ceux qui avaient les revenus moyens les plus élevés exerçaient des professions médicales avant la libération, et ceux qui avaient les revenus les plus faibles faisaient partie du groupe professionnel des armes de combat. Le premier employeur des vétérans était la fonction publique, comptant pour plus du tiers des emplois occupés par des vétérans qui travaillaient au cours de l'année suivant la libération. On a constaté de grandes variations au chapitre des revenus d'emploi dans l'ensemble des industries. Ceux qui travaillaient dans les secteurs de l'exploitation minière, des services publics et des services professionnels ont affiché les gains les plus élevés, tandis que ceux qui travaillaient dans les secteurs des services d'hébergement et de restauration, du commerce de détail et de l'agriculture affichaient les gains les plus faibles. Il n'était pas rare que les vétérans changent d'employeurs – moins de la moitié des vétérans ont travaillé pour le même employeur au cours des trois premières années suivant la libération.

Les familles des vétérans de la Force régulière misent en grande partie sur le revenu à titre de vétéran tant avant qu'après la libération, le revenu de vétéran comptant pour 70 % du revenu familial total. Le revenu du conjoint a augmenté de 11 % pour passer de 33 000 \$ au cours de l'année précédant la libération du vétéran à près de 37 000 \$ en moyenne, au cours des trois premières années suivant la libération. De nombreuses familles avaient vécu un changement de situation pendant les trois premières années après la libération, près d'un répondant sur dix ayant divorcé et un sur cinq s'étant marié ou ayant commencé à avoir des enfants.

Les vétérans qui ont terminé le Programme de réadaptation d'ACC avaient récupéré l'équivalent de presque tout leur revenu d'avant la libération au cours des deux premières années après avoir suivi le programme et, à la longue, leur revenu total excédait celui d'avant la libération. Cependant, les revenus d'emploi n'ont atteint que 50 % des taux de remplacement du revenu.

Les taux de remplacement des revenus d'emploi chez les jeunes vétérans handicapés étaient beaucoup moins élevés que ceux de leurs homologues non blessés. Le taux de remplacement des revenus d'emploi chez les vétérans âgés de moins de 40 ans qui ne recevaient pas de prestations d'invalidité était de 135 %, tandis que le taux de remplacement chez les vétérans qui recevaient des prestations d'invalidité était de

41 % à 91 %. Cependant, la récupération des revenus était plutôt polarisée. Bon nombre de ceux dont les évaluations indiquaient une invalidité légère connaissaient un faible taux de récupération des revenus d'emploi (moins de 50 %) et bon nombre de ceux dont l'évaluation de l'invalidité était très élevée connaissaient des taux élevés de récupération des revenus (supérieurs à 100 %).

Conclusion

En général, le revenu des vétérans après la libération n'avait presque pas diminué, et bien peu d'entre eux ont connu une baisse de revenus après la libération. Certains groupes, comme les vétérans plus âgés et les officiers supérieurs, étaient peu susceptibles d'avoir un faible revenu. Toutefois, la situation de plusieurs groupes justifie des recherches plus poussées et un examen plus approfondi, notamment celle des femmes, des jeunes vétérans, des vétérans libérés pour des raisons médicales et des vétérans qui ont participé au Programme de réadaptation.

1. Introduction

Income is an important determinant of health (PHAC, 2011) and Veterans' experiencing low income were more likely to report difficulty in adjusting to civilian life (MacLean et al, 2014). The Life After Service Studies (LASS) is a program of research which includes an income study. 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. This is the third cycles of LASS. This report focuses on Regular Force Veterans and includes new content not examined in previous cycles including the main industries in which Veterans are working, continuity of employer, families and differences between male and female Veterans.

The primary objective of this study is to describe income trends pre and post release, for Regular Force Veterans released since 1998, 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;
- income trends according to demographic and service characteristics and VAC client status;
- distribution of Veterans and labour-market earnings by industry;
- employer continuity by demographic and service characteristics and industry;
- income pre and post participation in VAC's Rehabilitation Program;
- earnings recovery by disability rating and age;
- family income and family status changes; and
- comparison of female and male Veterans by sources of income, low income, and industry.

2. Method

2.1 Study Population

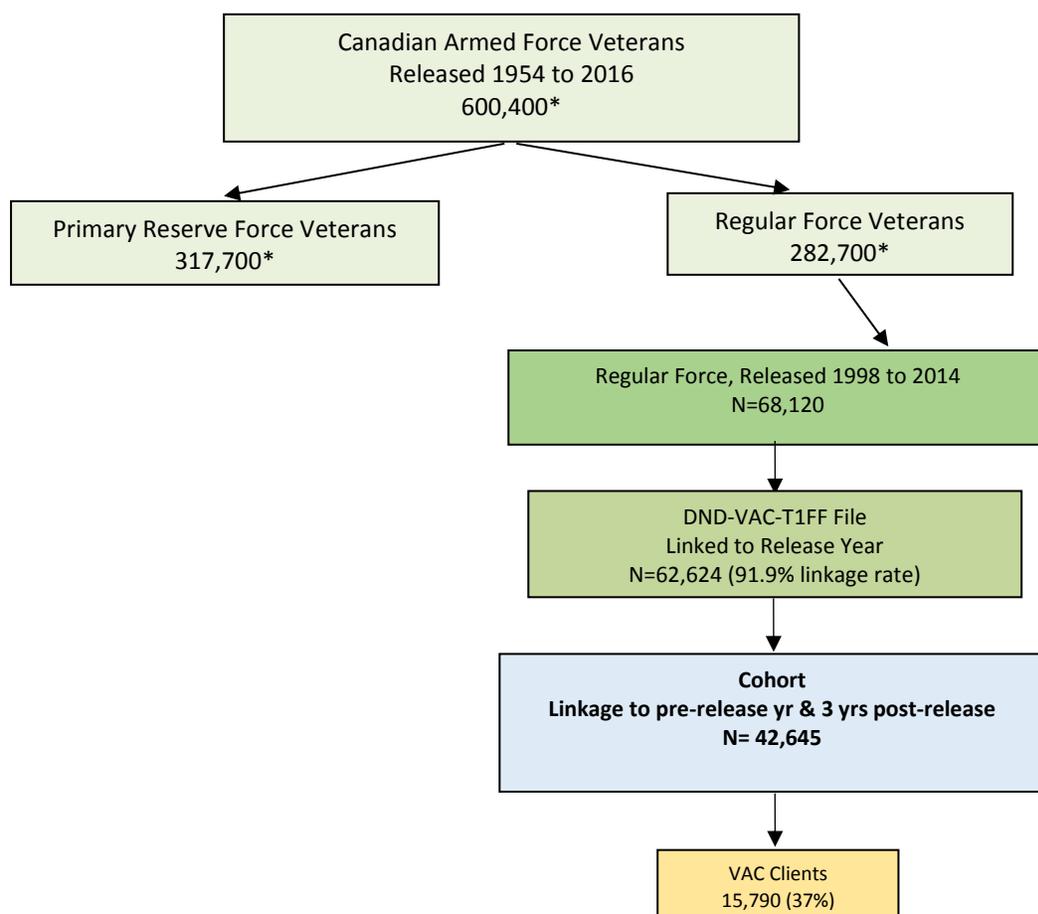
As of March 2016, there were an estimated 600,400 Canadian Armed Forces (CAF) Veterans (released since 1953) living in Canada and about 12% were in receipt of benefits from VAC. The vast majority of VAC's CAF clients were disability benefit clients (those in receipt of a disability award under the New Veterans Charter [CFMVRCA] and/or a disability pension paid under the *Pension Act*). The population covered in this report includes Regular Force Veterans released from 1998 to 2014.

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. DND's release data was linked by Statistics Canada with income data from tax files available up to 2014. Statistics Canada derived aggregate tables from this data for Regular Force released from January 1, 1998 to December 31, 2014 (N=68,120) using income data for the 1997 to 2014 tax years (See Appendix A). Other tables were produced for Reserve Force Veterans, however, these were not included in this report.

The analysis 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 includes 42,645 records, and allows comparison of pre-release and post-release income.

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 2016 (15,790 or 37% of the cohort). 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 2016 Income Study Population, March 2016



*Source: VAC Facts & Figures, March 2016

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 t16), as per Table 1 below. The overall linkage rate was 91.9%. Details can be found in Appendix A.

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= 42,645). Detailed analysis was generally restricted to a comparison of the pre-release year and the average of the first three years post release. This was done as counts become smaller with each year post-release limiting analysis by demographic and service characteristics. For example, the 16 years post-release category (t16) includes only those who were released in 1998.

For this cohort, 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 16 years post-release for

Regular Force Veterans. Receipt of EI, SA/GIS or low income at least one year or every year post-release was also calculated for the cohort.

Table 1: 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)	...16yrs (t16)
1997	1998	Pre release & first 3 yrs post release	1999	2000	2001	2002	2003	2004	2005	2006	...2014
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	2012	
2004	2005		2006	2007	2008	2009	2010	2011	2012	2013	
2005	2006		2007	2008	2009	2010	2011	2012	2013	2014	
2006	2007		2008	2009	2010	2011	2012	2013	2014		
2007	2008		2009	2010	2011	2012	2013	2014			
2008	2009		2010	2011	2012	2013	2014				
2009	2010		2011	2012	2013	2014					
2010	2011	2012	2013	2014							
2011	2012		2013	2014							
2012	2013		2014								
2013	2014										

Another time frame for this study included the time frame around participation in VAC’s Rehabilitation Program. Veterans are eligible to enter the Rehabilitation Program at any time after release; therefore, not all started the program in the year of release. An analysis of earnings recovery and low income before, during and after the Rehabilitation program followed Veteran clients who completed the program which includes those who successfully completed the program, those who became eligible for the program but were later found to not require rehabilitation, as well as those deemed totally and permanently incapacitated¹ (TPI). The time-frame for following these rehabilitation clients included the year prior to release (pre-release); the year prior to entry into the rehabilitation program (pre-program) (this may be the same as the pre-release year if they entered in the year after release); the average over the year or years while in program (during program) (includes year of entry and year in which they left the program) and each year post program (one to seven years). The 2016 Income Study captured 3,845 Regular and Reserve Force Veterans released from 1998 to 2014 who completed the Rehabilitation Program. A similar analysis of the 2013 Income Study was conducted after the release of the technical report (MacLean, Van Til and Poirier, 2016).

¹ TPI means that the Veteran is incapacitated by a permanent physical and/or mental health problem that prevents them from performing any occupation that would be considered “suitable gainful employment.” “Suitable gainful employment” is defined as employment for which the Veteran is reasonably qualified by reason of education, training or experience and that provides a rate of pay equal to at least 66 2/3% of the gross pre-release military salary.

2.3 Demographic and Service Variables

The following variables were derived from the DND Human Resources Management System data (See Appendix B for more detail):

- Age at release, derived from date of birth;
- Sex;
- 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 (officer cadets), senior NCM, junior NCM, private and recruit);
- Environment of service (Army, Navy, Air Force); and
- Occupation at release (transferable and non-transferable and 8 occupation groupings).

Release types and ranks were grouped for ease of analysis and to avoid cells with small numbers of observations. The tax data provided province of residence at release and as of December 31, 2014 as well as industry codes².

2.4 Income, Family and Labour-Market Variables

The study population data were record linked to the general family file (T1FF) tax records data from 1997 to 2014 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 a married couple (with or without children), a common-law couple (with or without children) or a lone parent family. Details of the service variables used in the record linkage are included in Appendix B.

The following income, family and labour-market indicators were included in this report (see Appendix C, D and E for details):

- Veteran total income and earnings expressed in 2014 constant dollars before tax;
- Veteran sources of income include: earnings, pensions, investment and government transfers (excluding VAC Disability Benefits)³ expressed in 2014 constant dollars;

² <http://www23.statcan.gc.ca/imdb/p3VD.pl?Function=getVD&TVD=118464>

³ 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.

- Veteran rates of receipt of Employment Insurance (EI) and Social Assistance (SA) or Guaranteed Income Supplement (GIS);
- Veteran income replacement rates prior to VAC Rehabilitation program participation and after;
- Veteran income replacement rates by VAC disability rating and age;
- Distribution of Veterans by industry;
- Veteran labour-market earnings of Veterans by industry;
- Employer continuity defined as the proportion of the population with labour-market earnings who remained with the same employer during the first three years post-release.
- Rates of family low income using the Statistics Canada before-tax LIM that establishes a threshold income each year by family size;
- Veteran share of total family income;
- Spousal income and sources of income and;
- Changes in family structure (divorces, marriages and children) during the first three years post-release.

Low Income

Low-Income Measures (LIMs) are relative measures of low family 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 E for threshold amounts).

Income Replacement Rates of Rehabilitation Program Clients

Income replacement rates were previously examined for Veterans who participated in the Rehabilitation program using data from LASS 2013 (MacLean, Van Til and Poirier, 2016a). This analysis was updated. As Veterans are eligible to enter the Rehabilitation Program at any time after release, this study follows Veteran clients who completed the program including those who successfully completed the program, those who became eligible for the program but were later found to not require rehabilitation, as well as those deemed to have diminished earnings capacity and continued to receive earnings loss payment but were no longer participating in the program. The time-frame for following these rehabilitation clients included the year prior to release (pre-release); the year prior to entry into the rehabilitation program (pre-program) (this may be the same as the pre-release year if they entered in the year after release); the average over the year or years while in program (during program) (includes year of entry and year in which they left the program) and each year post program (one to four years).

Income Replacement Rates by Disability Rating and Age

The income replacement rates of clients in receipt of disability benefits and Veterans not in receipt of disability benefits were compared in a previous study using LASS 2013 data (MacLean, Van Til and Poirier, 2016b). Clients in receipt of benefits includes those receiving monthly pensions under the *Pension Act* and/or lump-sum awards under the New Veterans Charter. Income was examined for six groups, including five categories of disability benefit clients grouped by disability level (less than 5%, 5 to 17%, 18 to

27%, 28 to 47% and 48% plus) and one group not in receipt of disability benefits. Income replacement rates were calculated by comparing incomes (total and labour-market earnings) at each year post release to that in the pre-release year. Labour-market earnings are a portion of total earnings that includes wage earnings and self-employed income, but excludes wage loss replacement. Income replacement rates measure the degree to which on average each group was able to replace their pre-release income. The income replacement rates by age group at release (less than 40, 40 to 54 and 55 plus) at the sixth year post-release were examined. To examine the extent of reliance on labour-market earnings, the share of labour-market earnings to total income was also examined by disability rating and age. In order to determine the distribution of replacement rates across the disability rating groups, the proportion of the population with less than a 50% replacement rate and more than 100% replacement of their pre-release income was calculated for the sixth year post-release.

3. Results

3.1 Cohort Characteristics

The study cohort includes 42,645 records that 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 (63%) of this cohort were not clients of VAC and 37% were clients.

Among this cohort the majority (64%) were aged 35 or older and the majority (87%) were males. 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 accounted for 57% of the cohort. Half of the cohort released from the Army, followed by the Air Force (32%) and Navy (17%). As of 2014, 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. Appendix A, Table 3 details the total, client and non-client numbers for the pre-release year and up to 16 years post release. Clients were more likely than non-clients to be older, to have served for longer periods of time and to have medically released. The vast majority (85%) of clients were age 35 and older, compared to about half of non-clients. Seventy percent (71%) of clients had 20 years of service or more compared to 43% for non-clients. Almost half of clients were medically-released, compared to only 7% of non-clients. There were some areas where clients and non-clients were similar, including the proportion of females, branch, and province of residences.

Table 2: Regular Force Cohort* Characteristics by Client Status

		Clients 37%		Non-Clients 63%		Total 100%	
		n	%	n	%	n	%
Total		15,790	100%	26,855	100%	42,645	100%
Age at release	29 & under	1,180	7.5%	10,395	38.7%	11,575	27.1%
	30-34	1,120	7.1%	2,595	9.7%	3,710	8.7%
	35-39	2,285	14.5%	2,570	9.6%	4,855	11.4%
	40-44	4,460	28.2%	4,330	16.1%	8,790	20.6%
	45-49	3,190	20.2%	2,980	11.1%	6,165	14.5%
	50-54	2,120	13.4%	2,220	8.3%	4,340	10.2%
	55 plus	1,440	9.1%	1,765	6.6%	3,200	7.5%
Sex	Males	13,825	87.6%	23,050	85.8%	36,875	86.5%
	Females	1,960	12.4%	3,805	14.2%	5,770	13.5%
Yrs of service	Less than 2	220	1.4%	7,770	28.9%	7,985	18.7%
	2 to 9	1,755	11.1%	5,235	19.5%	6,990	16.4%
	10 to 19	2,595	16.4%	2,195	8.2%	4,785	11.2%
	20 plus	11,225	71.1%	11,660	43.4%	22,880	53.7%
Release type	Involuntary	315	2.0%	2,100	7.8%	2,415	5.7%
	Medical	7,325	46.4%	1,820	6.8%	9,145	21.4%
	Voluntary	4,870	30.8%	16,200	60.3%	21,070	49.4%
	Retirement Age	970	6.1%	1,440	5.4%	2,405	5.6%
	Service Complete	2,255	14.3%	5,210	19.4%	7,460	17.5%
	Unknown	55	0.3%	90	0.3%	140	0.3%
Rank at release	Senior Officers	1,310	8.3%	2,445	9.1%	3,755	8.8%
	Junior Officers	970	6.1%	2,520	9.4%	3,490	8.2%
	Subordinate Officers	85	0.5%	1,530	5.7%	1,615	3.8%
	Senior NCM	6,200	39.3%	5,840	21.7%	12,040	28.2%
	Junior NCM	6,440	40.8%	5,935	22.1%	12,375	29.0%
	Private	625	4.0%	3,845	14.3%	4,470	10.5%
Environment at release	Recruit	155	1.0%	4,745	17.7%	4,900	11.5%
	Army	8,410	53.3%	13,285	49.5%	21,695	50.9%
	Navy	2,195	13.9%	4,980	18.5%	7,175	16.8%
	Air Force	5,185	32.8%	8,590	32.0%	13,775	32.3%
Province in 2014	Newfoundland	450	2.8%	655	2.4%	1,105	2.6%
	Prince Edward Island	145	0.9%	170	0.6%	315	0.7%
	Nova Scotia	1,885	11.9%	2,430	9.0%	4,315	10.1%
	New Brunswick	965	6.1%	1,150	4.3%	2,115	5.0%
	Quebec	3,255	20.6%	5,965	22.2%	9,220	21.6%
	Ontario	4,345	27.5%	7,770	28.9%	12,115	28.4%
	Manitoba	475	3.0%	730	2.7%	1,205	2.8%
	Saskatchewan	220	1.4%	520	1.9%	740	1.7%
	Alberta	2,020	12.8%	3,155	11.7%	5,175	12.1%
	British Columbia	1,465	9.3%	2,495	9.3%	3,955	9.3%
Yukon	10	0.1%	30	0.1%	40	0.1%	
Northwest Territories	20	0.1%	45	0.2%	65	0.2%	
Nunavut	X	X	x	x	20	0.0%	
Other	530	3.4%	1,730	6.4%	2,260	5.3%	

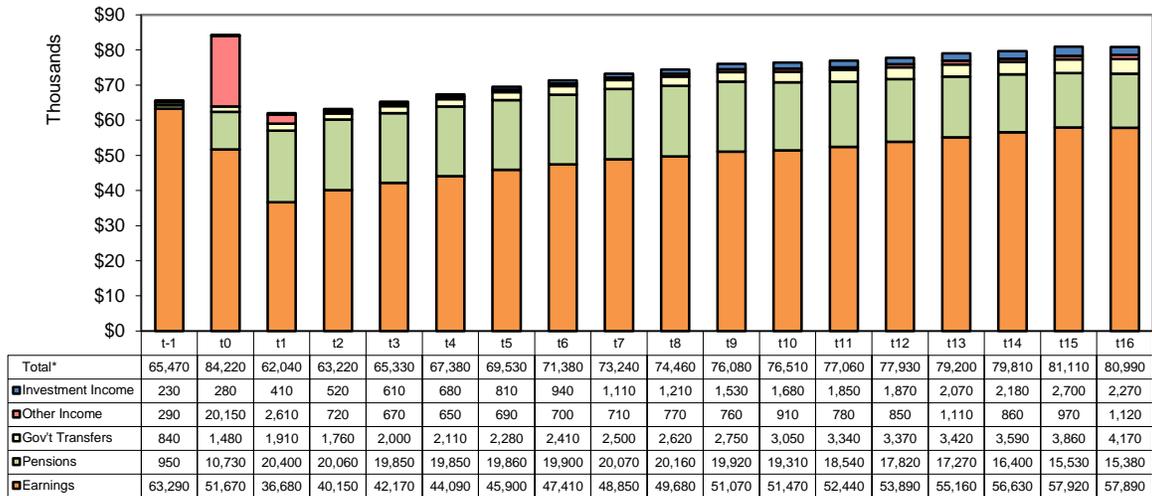
* Population linked to tax records in the pre-release year and the first three years post-release.
May not add due to rounding to nearest 5 or 10.

3.2 Income Trends and Sources

Total income in the year prior to release was \$65,470 in 2014 constant dollars (Figure 2). In the release year, total income rose to \$84,220, and then declined to \$62,040 in the first year post release. Total income then steadily increased for 15 years after release. Post-release income eventually reached pre-release income after three years post release. The spike in income in the release year is largely due to other income and related to severance pay. The largest source of income in each year post release was earnings, followed by pensions and government transfers. Earnings was lowest (\$36,680) in the first year after release and while earnings rose after that, Veterans did

not recover their pre-release level of earnings. Government transfers, including employment insurance and social assistance, rose steadily from \$950 in the pre-release year to \$4,170 in the 16th year post release.

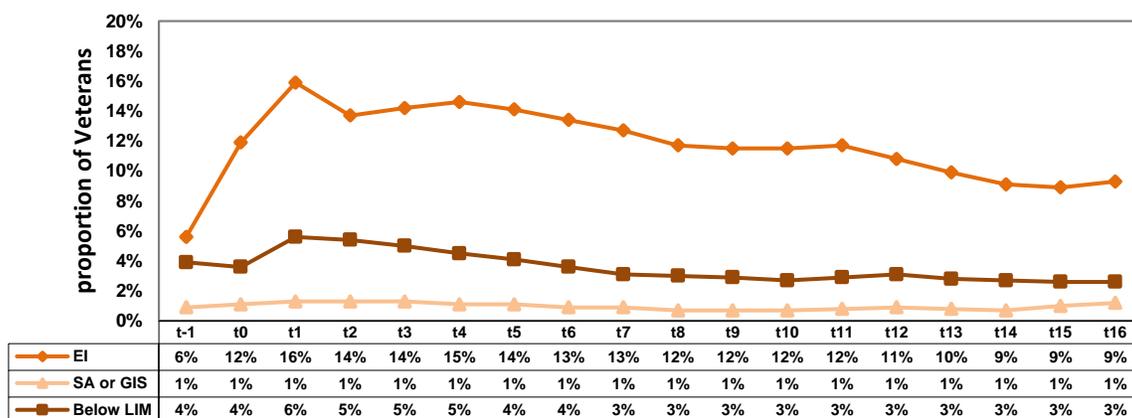
Figure 2: Total Income by Source



Note: Total income is the before tax income of the Veteran expressed in 2014 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) and low income were 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. The rate of receipt of SA or GIS remained at 1% throughout the entire pre- and post-release period. The rate of low income was 4% in the pre-release year and the release year and rose to 6% in the first year post-release and then gradually declining to level off at 3% starting in year seven post release.

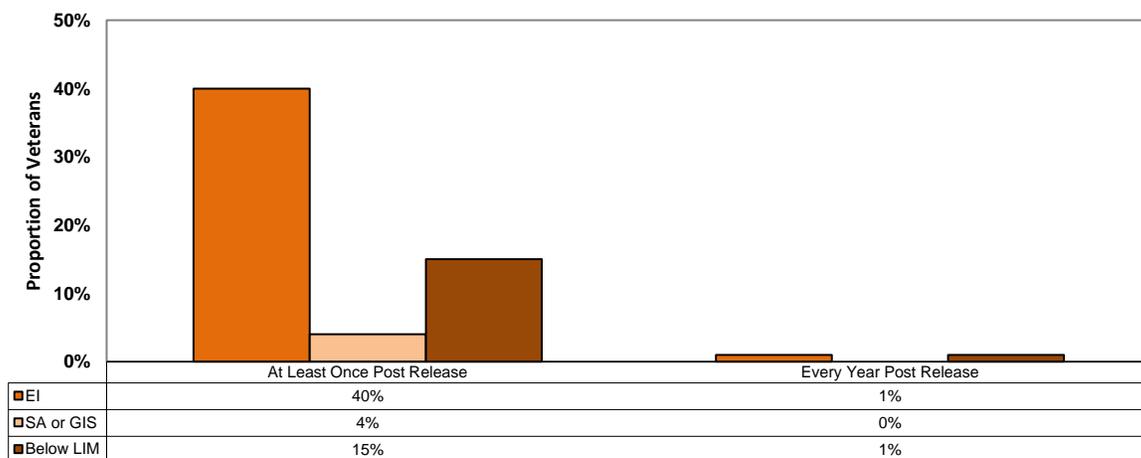
Figure 3: Receipt of EI or SA/GIS and Rate of Low Income



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 40% received EI at least one year post release, 1% 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. Fifteen percent (15%) 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: Receipt of EI, SA/GIS, Low Income Post Release



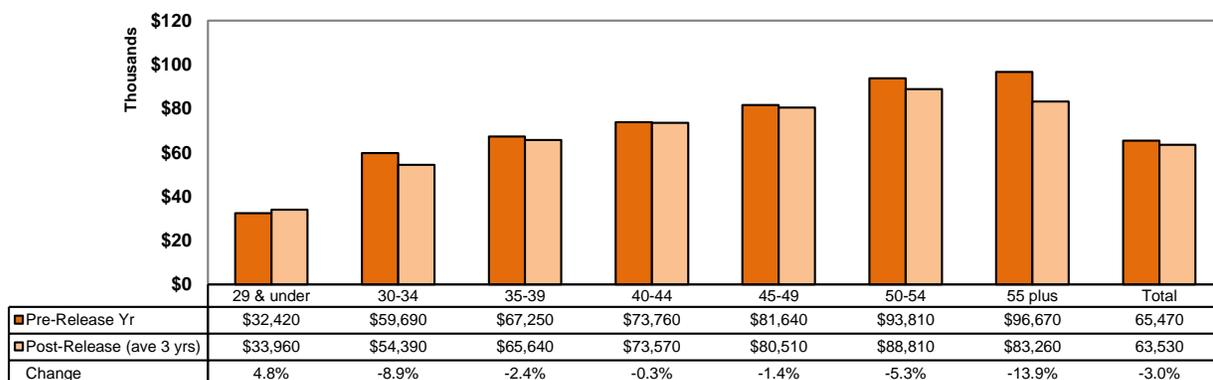
3.3 Total Income by Cohort Characteristics

The decline in income from the pre-release year to the average of the first three years post release was 3% for the Regular Force cohort. This section examines this change in income by a variety of service and demographic characteristics.

Income increased with age in the pre-release year, from \$32,420 for those 29 years of age and under to \$96,670,800 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,

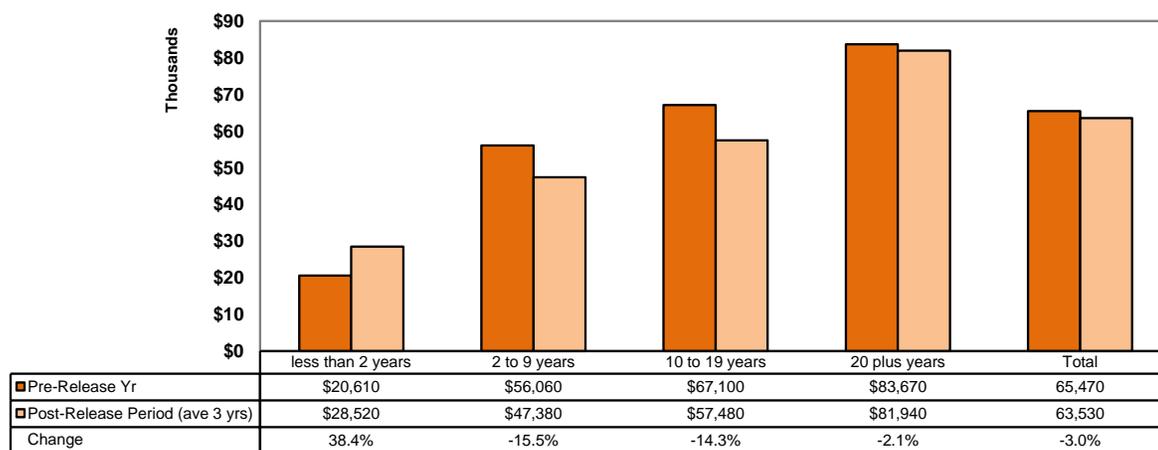
while having the highest post-release income, experienced the largest decline in income of 14%, followed by those aged 30-34 with a 9% decline (Figure 5).

Figure 5: Total Income Change by Age at Release



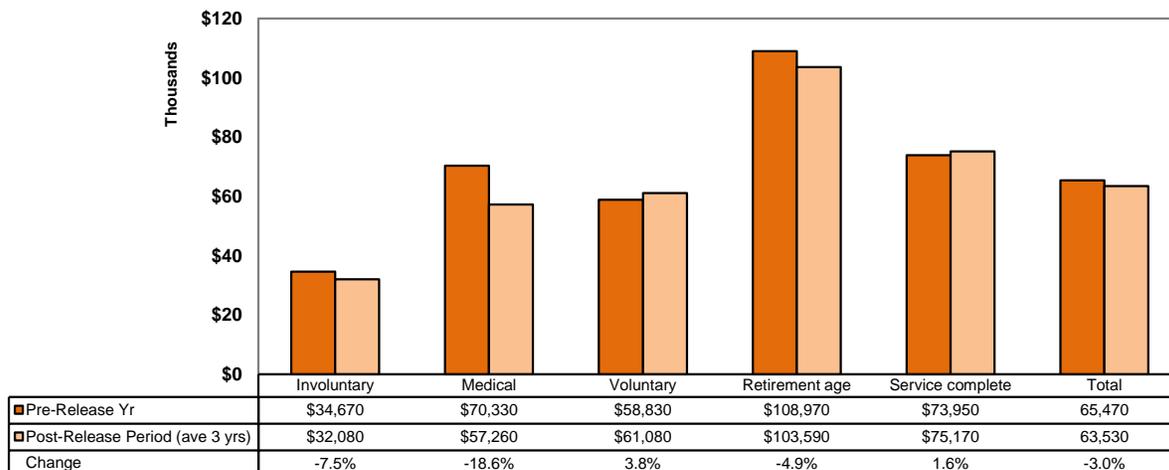
Both pre- and post-release total income increased substantially with length of service. Regular Force Veterans who served for 20 years or more had a total pre-release income of \$83,670, compared to \$20,610 for those with less than two years of service. Similarly, post-release income varied greatly between those two groups, at \$81,940 and \$28,520 respectively. Those who experienced the greatest declines in income post release had served either 2 to 9 years (16%) or 10 to 19 years (14%) (Figure 6).

Figure 6: Total Income Change by Length of Service



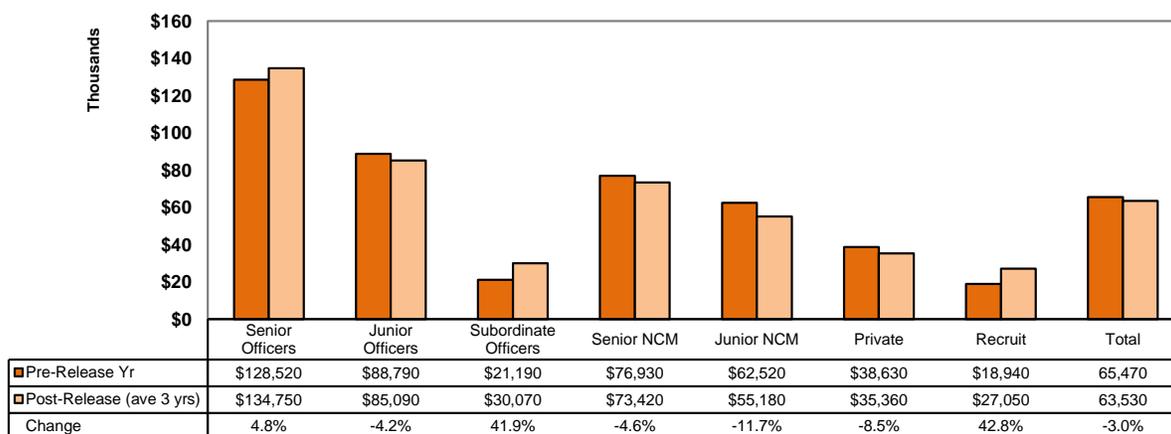
Total income varied considerably by type of release (release types described in Appendix B). Those releasing due to retirement had a pre-release income of \$108,970. At the other end of the spectrum, the pre-release income for involuntary releases was \$34,670. There was a similar pattern with respect to post-release income, with the highest at \$103,590 for those at retirement age and the lowest at \$32,080 for involuntary releases. Medical releases saw the greatest declines in income at 19%, from \$70,330 to \$57,250 (Figure 7).

Figure 7: Total Income Change by Release Type



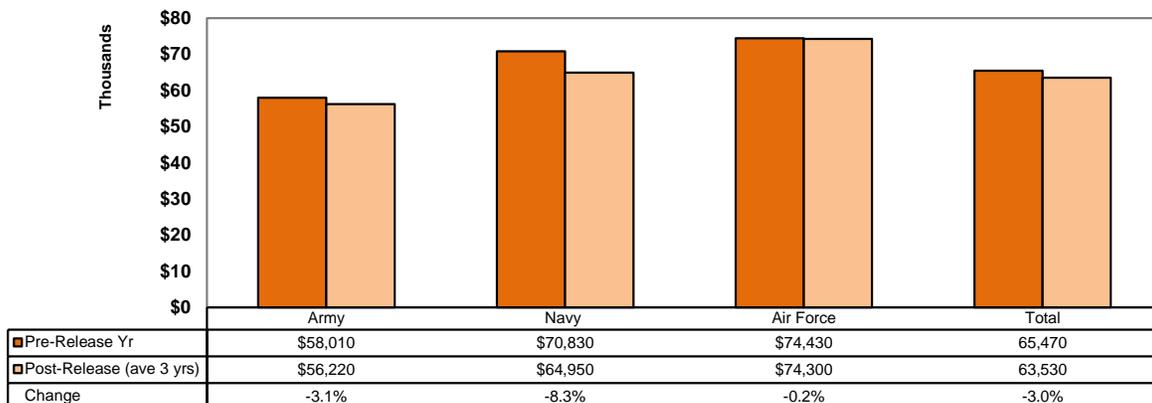
Not surprisingly, senior officers had the highest income both pre and post release, while Recruits had the lowest income in both timeframes. Post-release incomes were higher than pre-release incomes for the senior officer, subordinate officer and recruit ranks and lower for all other ranks. Recruits had the greatest increase in income post release (43%) while junior NCMs had the greatest decrease (12%) (Figure 8).

Figure 8: Total Income Change by Rank



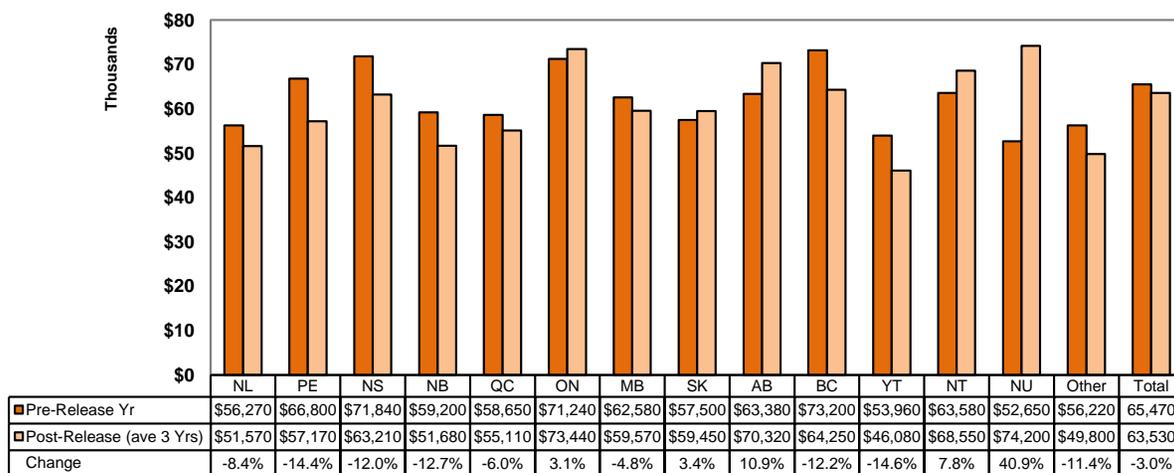
Post-release income for the Regular Force cohort ranged from \$56,220 for Army Veterans to \$74,300 for Air Force Veterans. Air Force Veterans also had the highest pre-release income. The greatest decline in income (8%) was for those who released from the Navy (Figure 9).

Figure 9: Total Income Change by Service Environment



Those who lived in the Yukon had the lowest post-release incomes at \$46,080, followed by areas outside of Canada (\$49,800) and Newfoundland (\$51,570). Veterans who lived in Nunavut had the highest post-release income at \$74,200. Veterans who lived Ontario (3%), Saskatchewan (3%), Alberta (11%), Northwest Territories (8%) and Nunavut (41%) all experienced an increase in income after release. The largest decline was among those who lived in Yukon (15%), compared to the average decline of 3%. Large declines in income were also experienced among those who lived in the Atlantic provinces as well as British Columbia and areas outside of Canada (Figure 10).

Figure 10: Total Income Change by Province of Residence in 2014

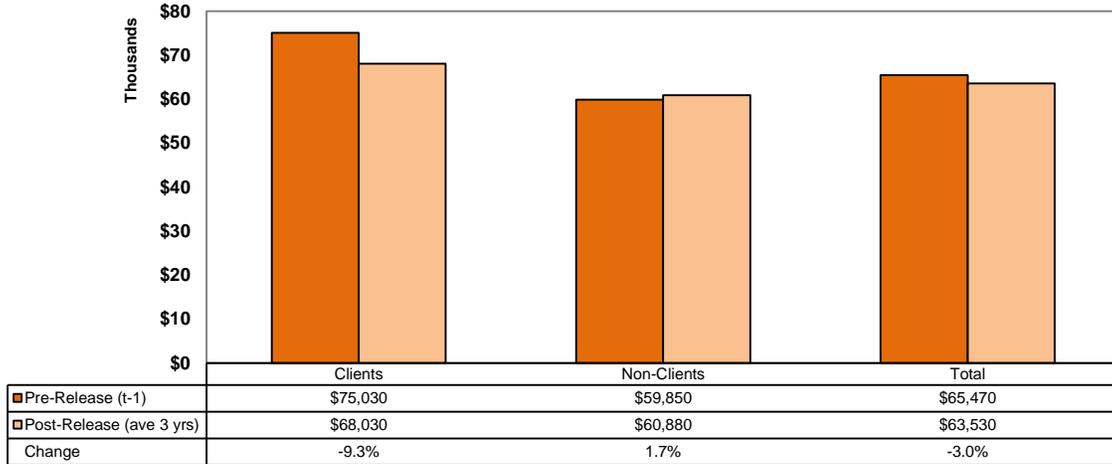


3.4 VAC Clients and Non-Clients

Thirty-seven percent (37%) of the Regular Force cohort were clients while 63% were non-clients. This section compares total income, earnings, pension income and low income between clients and non-clients.

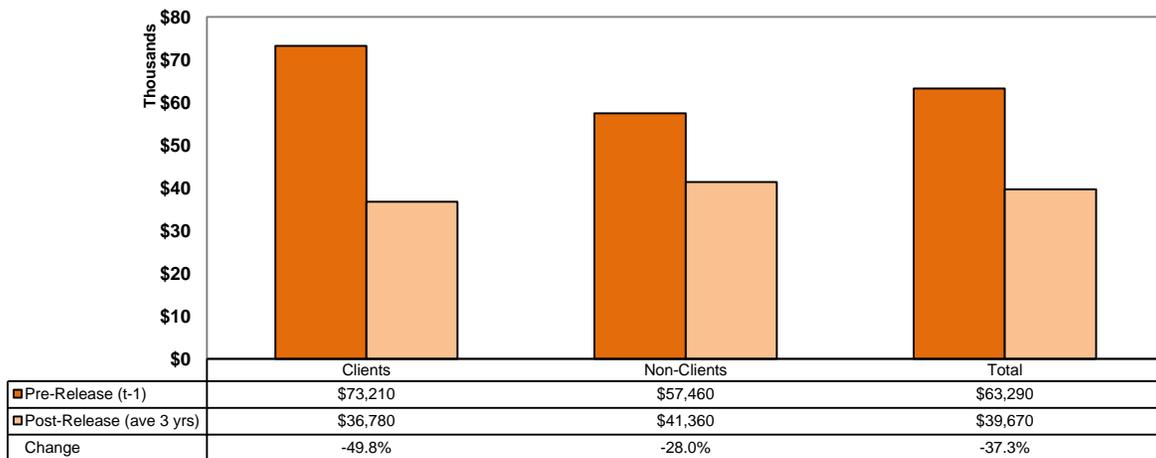
Total pre-release income for clients was \$75,030 compared to post-release income of \$68,030, a decline of 9%. There was an increase (2%) in income for non-clients, from \$59,850 to \$60,880 (Figure 11).

Figure 11: Total Income Change by Client Status



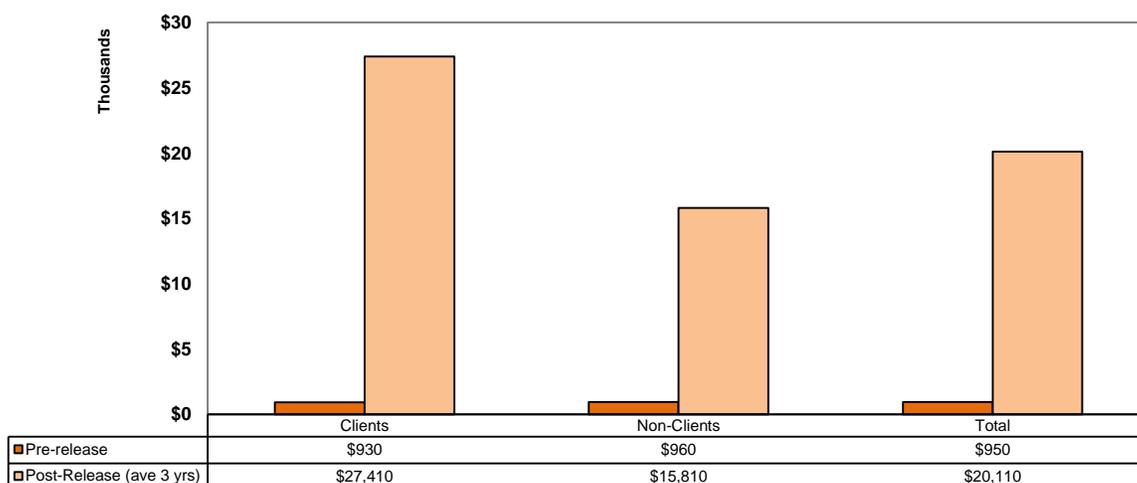
Pre-release earnings were greater for clients (\$73,210) than non-clients (\$57,460) while post-release earnings were lesser for clients (\$36,780) than non-clients (\$41,360). Client earnings decreased by 50% while non-client earnings decreased by 28% (Figure 12).

Figure 12: Earnings Change by Client Status



Pre-release pension income is understandably low; \$930 for clients and \$9,60 for non-clients. Post-release pension income increased to \$27,410 for clients and \$15,810 for non-clients. Overall, the post-release pension income was \$20,110 (Figure 13).

Figure 13: Pension Income Change by Client Status



3.5 Changes in Income, Low Income and VAC Clients

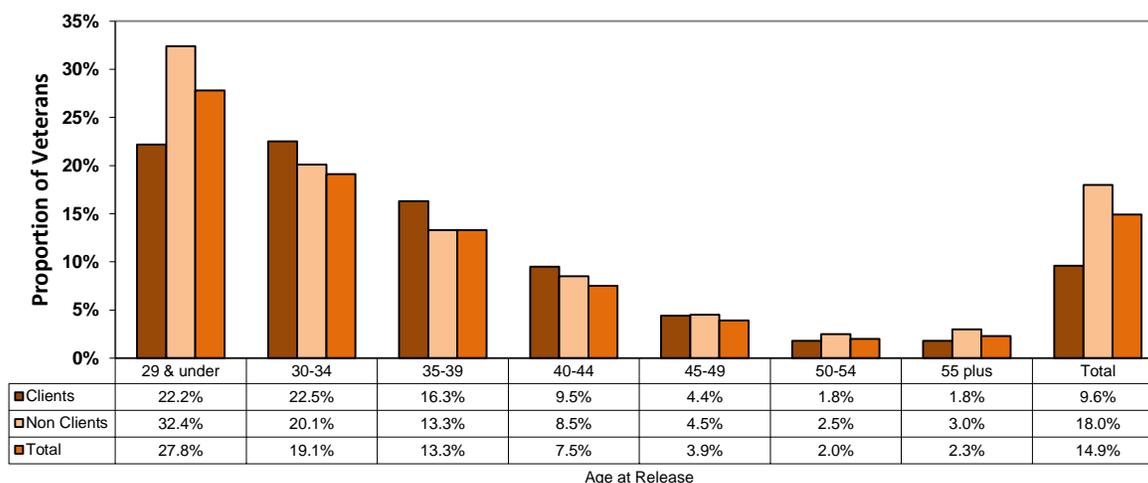
Recruits (42%), Nunavut residents (41%) and those who served less than two years (38%) the largest increases in income after release (Table 3). With respect to decreases in income, females (21%), medical releases (19%) and those severing for 2 to 9 years (16%) saw the largest declines, compared to an overall decline of 3%. Females were less likely to be clients (34%) than the average of 37% and accounted for 14% of the cohort. However, the majority (80%) of Veterans who were medically released were VAC clients, and accounted for 21% of the cohort. Veterans who served 2 to 9 years (25%) were less likely to be clients than the average, and accounted for 16% of the cohort (Table 3).

Table 3: Total Income Change by Characteristic

	Change Pre-Release Yr to Ave First 3 Yrs Post-Release	% Clients (n=15,790)	% of Cohort (n= 42,645)
Total	-3%	37%	100%
Largest Increases			
Recruit	+42%	3%	12%
Nunavut resident	+41%	x	x
Served less than 2 years	+38%	3%	19%
Largest Decreases			
Females	-21%	34%	14%
Medical releases	-19%	80%	21%
Served 2 to 9 years	-16%	25%	16%

Overall, 15% of Veteran families experienced low income at least one year post-release. Non-clients were more likely than clients to have experienced low income in at least one year post release, at 18% and 10% respectively. The majority (76%) 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 14).

Figure 14: Low Income at Least One Year Post Release by Age and Client Status



Notes: Low income measure is before tax.

Veterans who released at retirement age (1%), were aged 50 and older at release (2%) and senior officers (2%) had the lowest rates of experiencing low income at least one year post release. Veterans who released as recruits (38%), involuntary releases (37%) or those with less than 2 years of service (37%) had the highest rates of experiencing low income. In all three of these sub-populations, less than 15% were clients of VAC, compared to 37% of the population. Both recruits and involuntary release accounted for 10% or less of the population each. However those who served less than 2 years accounted for 19% of the population (Table 4).

Table 4: Regular Force Low Income at Least One Year Post Release by Characteristic

	Low Income Rate	% Clients (n=15,790)	% of Population (n=42,645)
Total	15%	37%	100%
Lowest Rates			
Retirement age	1%	40%	6%
Age 50 plus	2%	47%	18%
Senior officers	2%	35%	9%
Highest Rates			
Recruits	38%	3%	10%
Involuntary releases	37%	13%	6%
Less than 2 years of service	37%	3%	19%

3.6 Labour-Market Earnings by Occupation, Industry and Employer Continuity

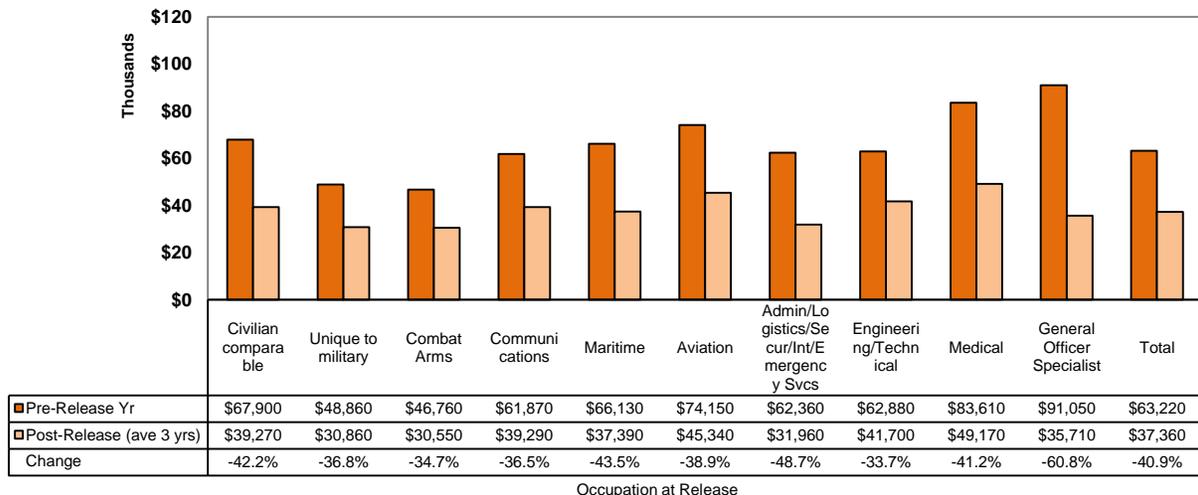
The vast majority (93%) of the cohort had labour-market earnings post release. The lowest rates were among Veterans who were older at release (aged 50 plus), those released at retirement age, medical released Veterans, those aged 50 to 54 at release Veterans living in Nova Scotia and female Veterans.

Table 5: Labour-Market Participation by Characteristic

	First 3 Yrs Post-Release
Total	93%
Lowest Rates of Participation	
Age 50 plus at release	83%
Retirement age release	84%
Medical releases	84%
Nova Scotia at release	89%
Females	90%

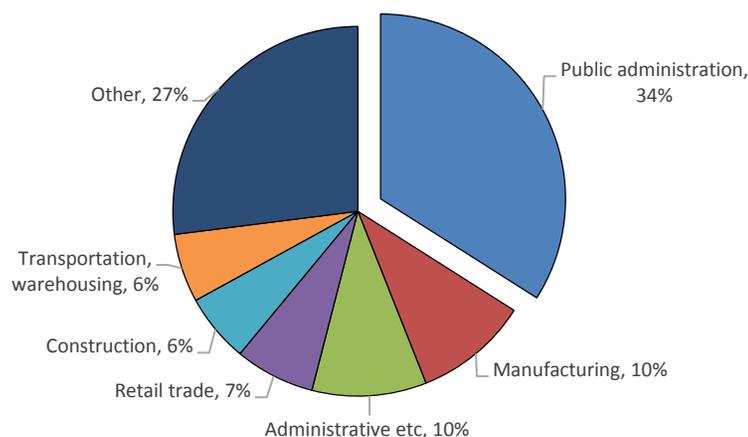
While labour-market participation rates were quite high, labour market earnings declined by 41% (Figure 15). Veterans in all occupation groups experienced declines in income but those who had been general officer specialists had experienced the greatest decline in income (-61%). The highest average earnings post-release were among those in medical occupations prior to release at \$49,000 and the lowest were among those in the combat arms prior to release at \$30,000. Veterans in occupations for which there is a comparable civilian occupation earned more both pre- and post-release than Veterans who had been in occupations unique to the military. They also experienced greater declines in income than those in occupations unique to the military.

Figure 15: Labour-market Earnings by Occupation at Release



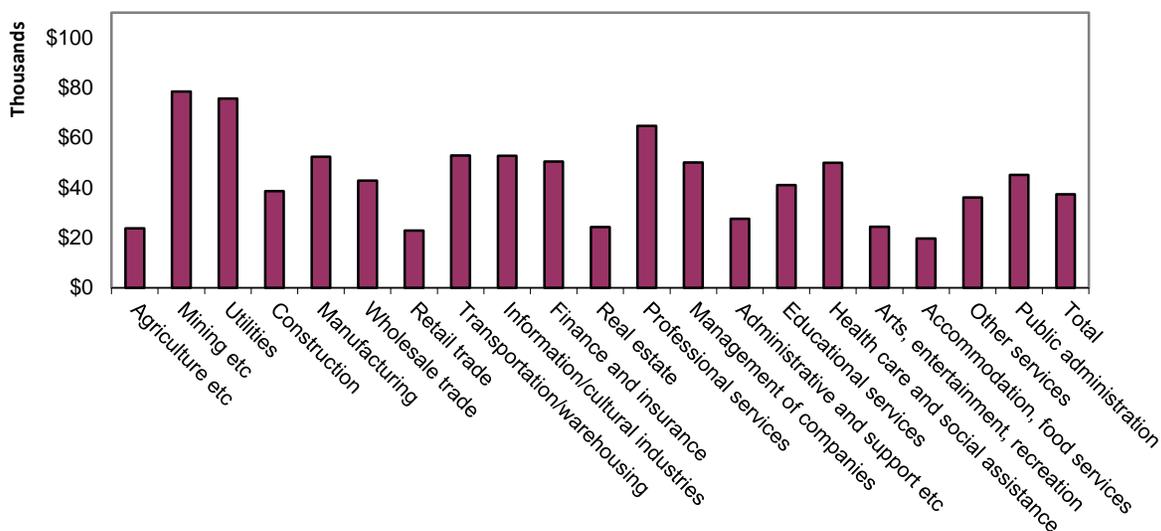
The single largest employer of Veterans was public administration (federal, provincial, municipal and regional), accounting for over one-third of Veterans who were working in the year after release (Figure 16). This was followed by administrative services (10%), manufacturing (10%), retail trade (7%), construction (6%) and transportation/warehousing (6%). The top six industries accounted for almost three-quarters of all employed Veterans. For details see Appendix D.

Figure 16: Veterans by Main Industry in the Year After Release



There were large variations in labour-market earnings across industries in which Veterans were employed. The earnings of public administration employees, at \$45,000 was slightly above the average earnings of \$37,000 (Figure 17). Earnings were highest for those who were working in mining etc. (includes oil and gas), utilities and professional services industries in which Veterans earned over \$60,000 per year. Earnings were lowest in accommodations/food services, retail trade and agriculture with earnings of less than \$24,000 per year.

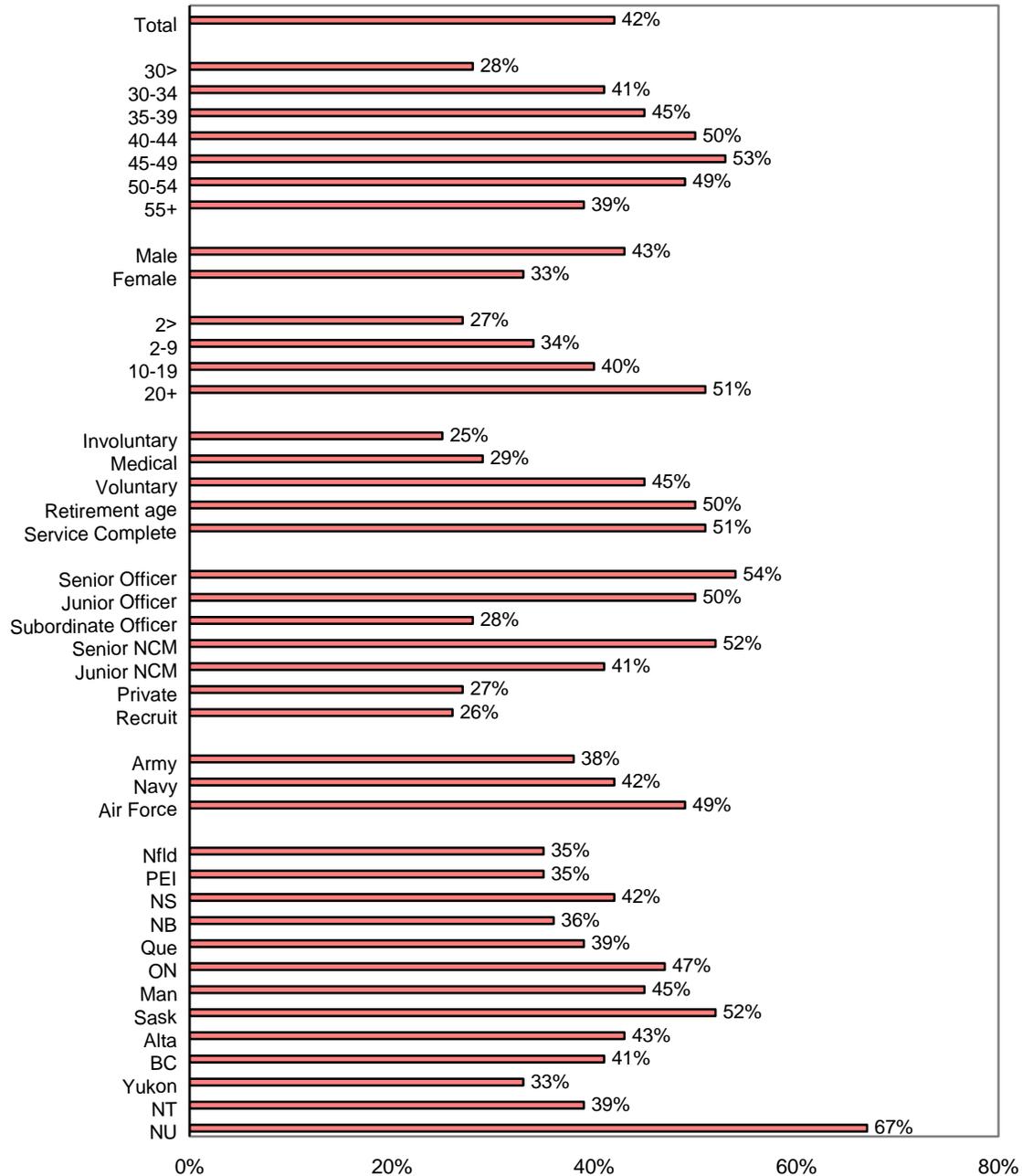
Figure 17: Labour-Market Earnings by Main Industry in the Year After Release



Many Veterans who had labour-market earnings post-release remained with the same employer after release from the military (Figure 18). More than half (58%) of Veterans changed employers and 42% stayed with the same employer during the first three years post-release (employment continuity). Veterans who were living in Nunavut in the year

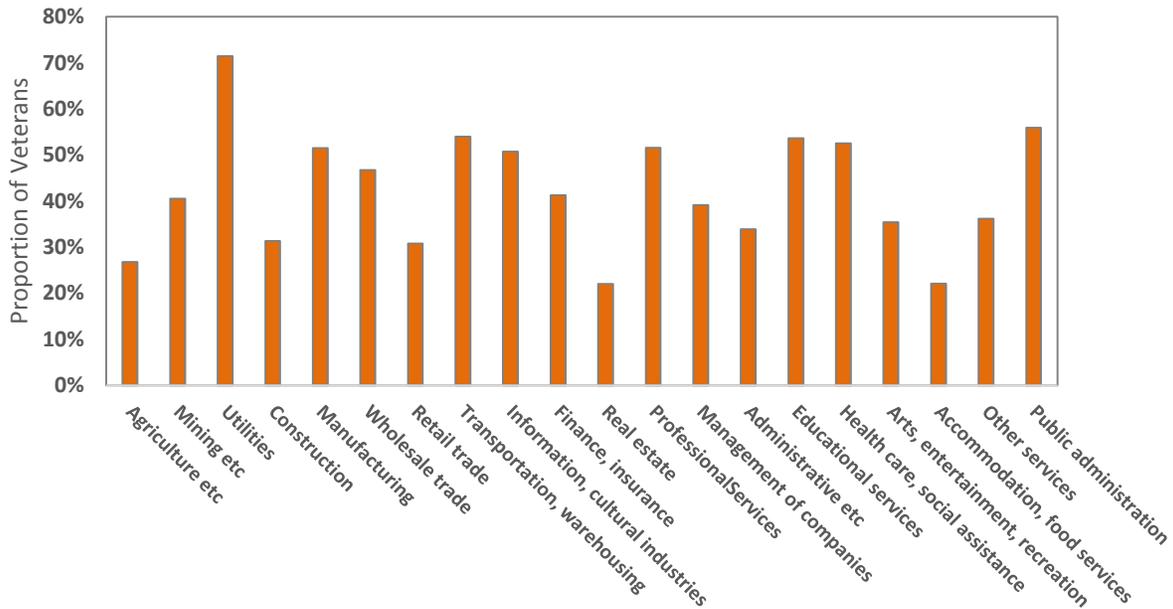
following release were the most likely to employment continuity (67%), followed by senior officers (54%) and age at release between 45 and 49 (52%). Those with the lowest employment continuity were involuntarily released Veterans (25%) and recruits (27%), and less than 2 years of service (27%).

Figure 18: Veterans with Employment Continuity by Demographic and Service Characteristics



Continuity of employment (Figure 19) was highest among those working in the utilities (71%), followed by the public service 56%, educational services (54%) and transportation and warehousing (54%). Continuity was lowest in the real estate and accommodations, food services industries (22%), followed by agriculture (27%).

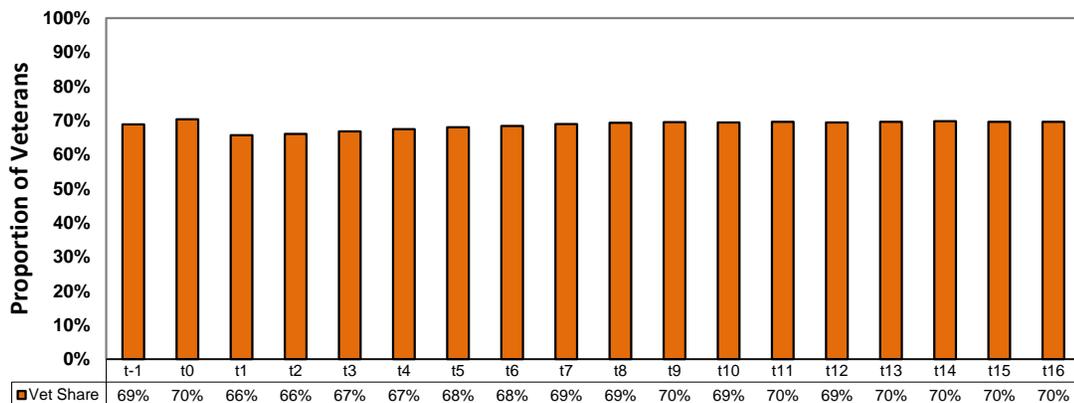
Figure 19: Veterans with the Employment continuity by Industry in Year After Release



3.7 Families

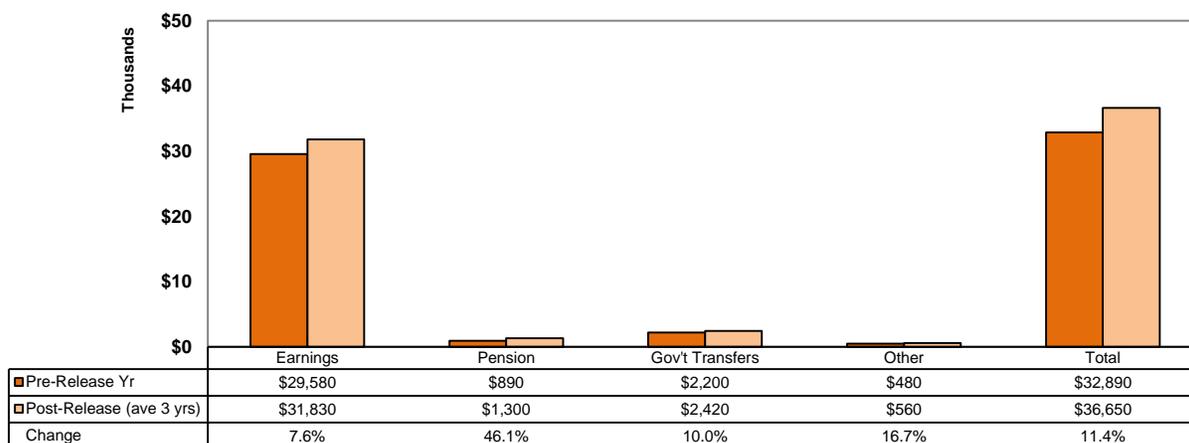
Families of Regular Force Veterans rely quite heavily on the Veteran’s income both pre- and post-release. In the year prior to release, Veterans’ incomes accounted for 69% of the total family income. This percentage increased to 70% in the release year before dropping to 66% in the year after release and then gradually rose to 70% by the ninth year post-release (Figure 20).

Figure 20: Veteran Share of Total Family Income



Spouses had on average a total income of almost \$33,000 in the year prior to the Veterans' release (Figure 21). This rose 11% to almost \$37,000 during the first three years after release. Earnings accounted for the vast majority of total spousal income both pre- and post-release and rose by 8% post-release. Other sources of income were quite small but also increased post-release.

Figure 21: Spousal Income by Source



Many Veterans had a change in family status after transitioning to civilian life. 8% divorced during the first three years post-release and one in five married (Table 6). The highest rates of divorce were among Veterans aged 30 to 34 at release and Veterans who had 10 to 19 years of service both at 13%. This was followed by Veterans who were involuntarily released and junior NCM who both had a divorce rate of 11%. 22% of Veterans had no children prior to release and had at least one child during the first three years post-release.

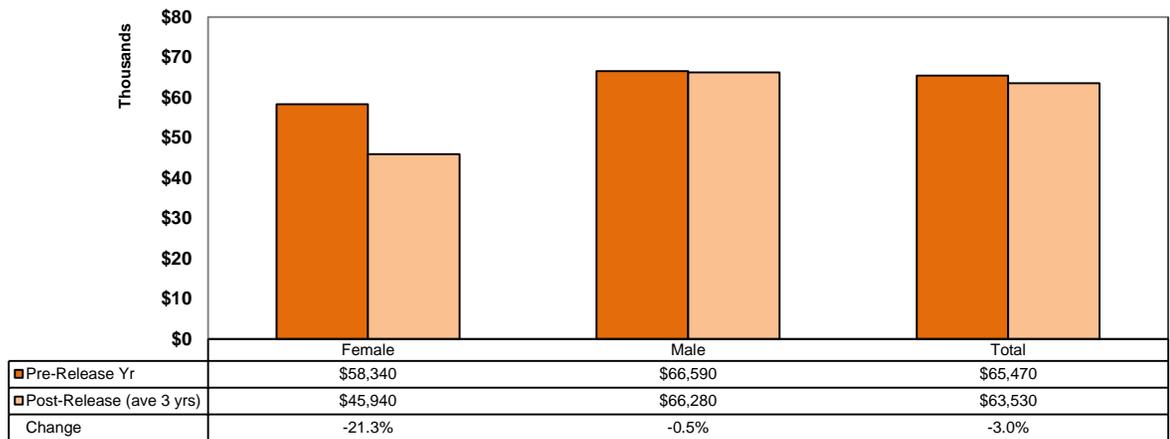
Table 6: Change in Family Status Pre- and Post-Release

	Population	% of Cohort (n= 42,645)
Divorced (married to single)	3,395	8%
Highest Divorced rates		
Aged 30-34 at release	490	13%
10-19 years of service	620	13%
Involuntary release	260	11%
Junior NCM	1,340	11%
Married (single to married)	8,845	21%
Had Children (none to at least one)	9,580	22%

3.8 Female and Male Veterans

Female Veterans had lower incomes than males both pre- and post-release. On average, the pre-release income of females was \$58,340, compared to \$66,590 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% compared to a small decrease for males of 0.5% (Figure 22).

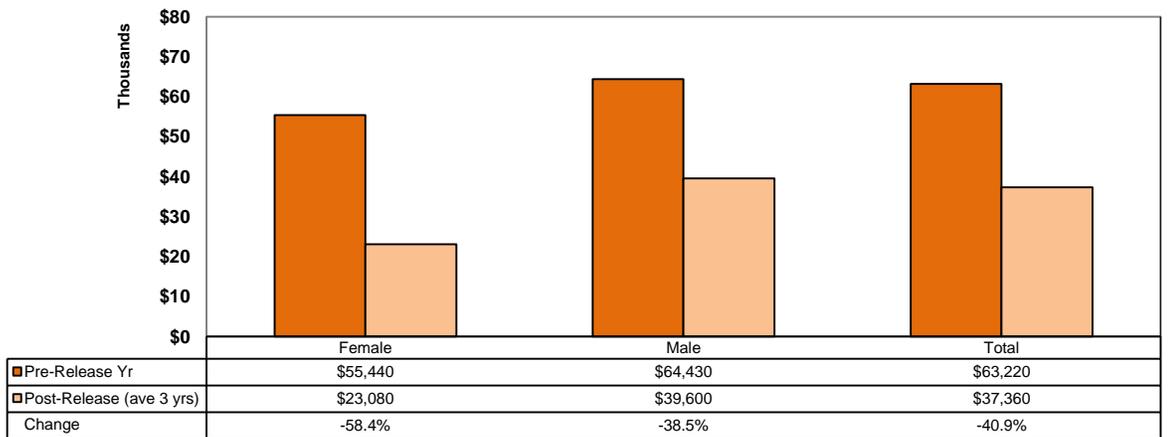
Figure 22: Total Income by Sex



Note: Total income is the before tax income of the Veteran expressed in 2014 constant dollars.

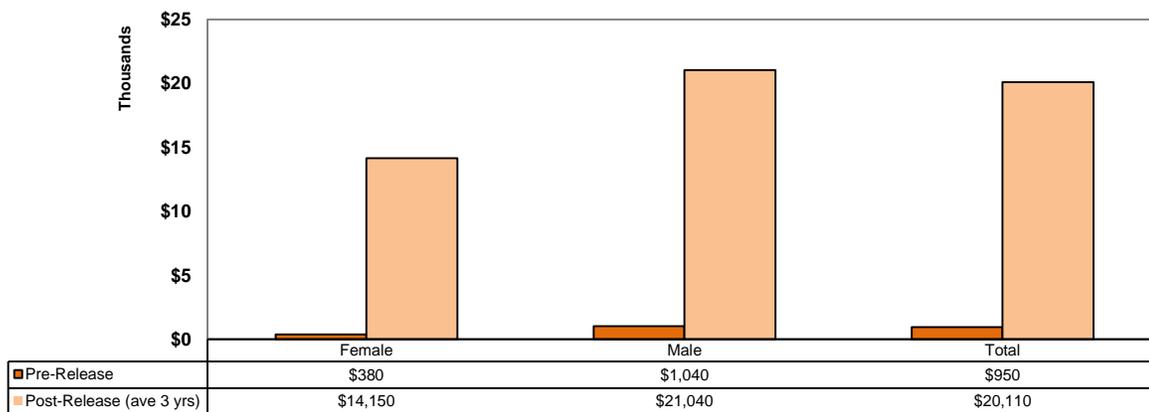
Female Veterans had lower labour-market earnings than males both pre- and post-release. On average, the pre-release labour-market earning of females was \$55,440, compared to \$64,430 for males. Post release, the labour-market earnings of females declined by 58% compared to a 39% increase for males (Figure 23).

Figure 23: Labour Market Earnings by Sex



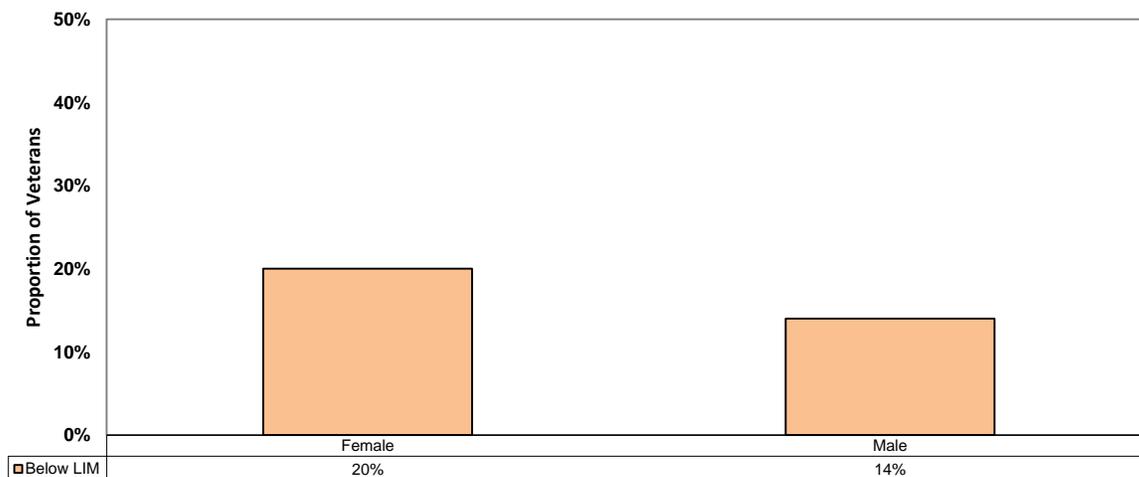
Pre-release pension income was low, \$380 for females and \$1,040 for males. Post-release pension income increased to \$14,150 for females and \$21,040 for males. Overall, the post-release pension income was \$20,110 (Figure 24).

Figure 24: Pension Income by Sex



Female Veterans had higher rates of low income at least one year post-release than male Veterans, 20% compared to 14% (Figure 25).

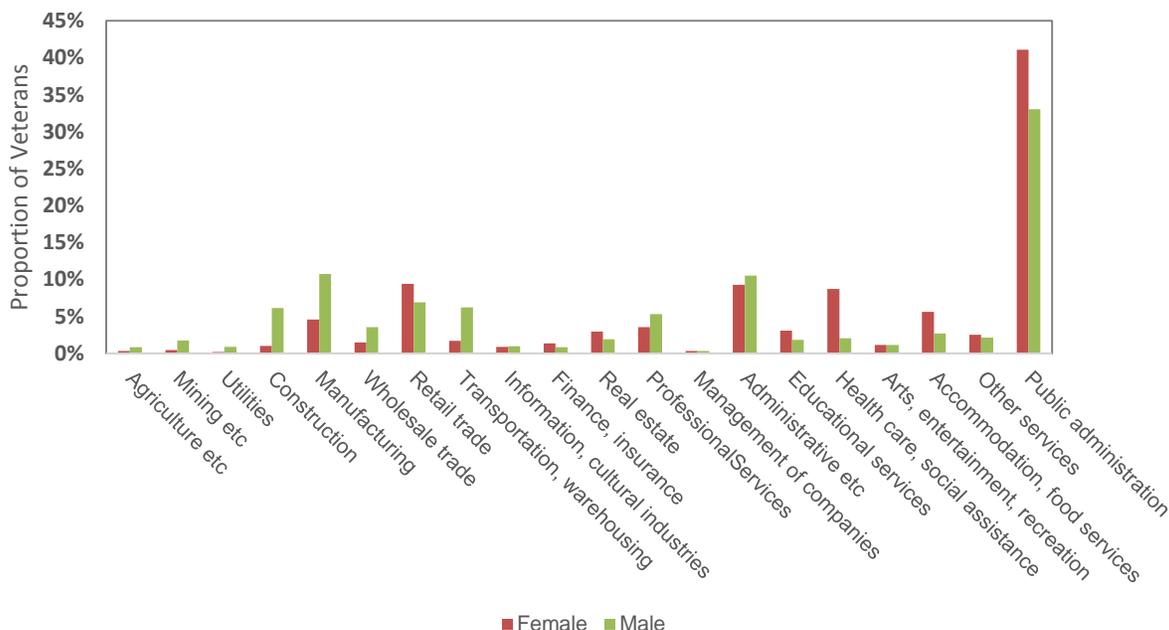
Figure 25: Low Income by Sex



Note: Low income measure is before tax.

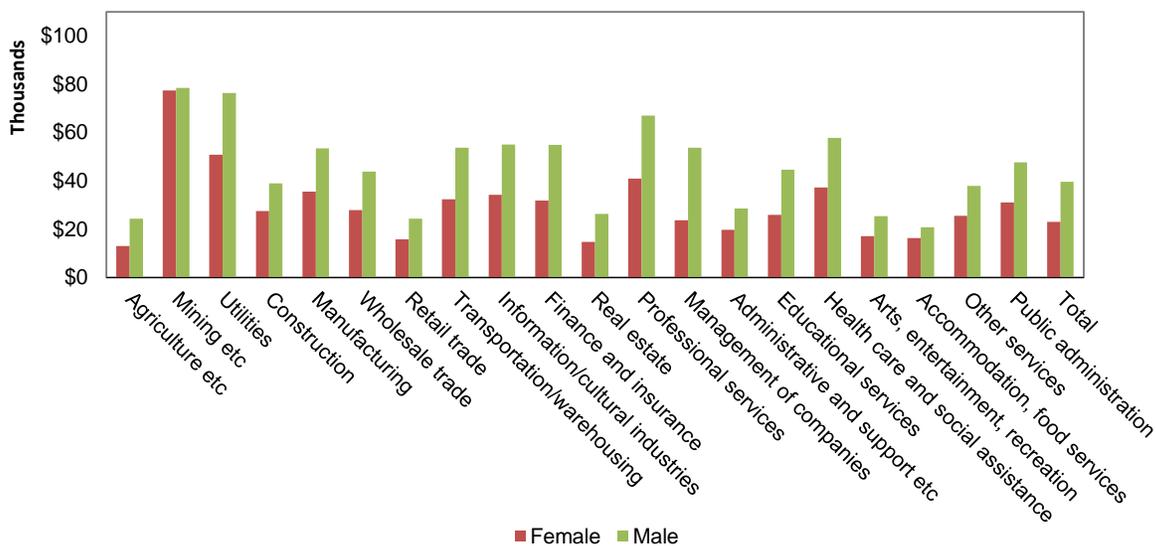
The largest employer of both female and male Veterans was in public administration (federal, provincial, municipal and regional), accounting for over 40% of female Veterans and one-third of male Veterans (Figure 26). For females this was followed by administrative services, health care and retail trade all at 9%. For males, after public administration the most common industries were administrative service and manufacturing at 11% each followed by retail trade at 7%. Females were much more likely to work in health care while males were more likely to work in manufacturing and construction.

Figure 26: Main Industry in Year After Release by Sex



Female Veterans earned 58% of what their male counterparts earned (Figure 27). Female and male Veterans had similar earnings in mining, but earned less than their male counterparts in all other industries. The largest differences were in agriculture and real estate where females earned half of what males earned. For both females and males earnings were highest for those who were working in mining etc. (includes oil and gas) followed by utilities and professional services. Earnings for both females and males were lowest in accommodations/food services, retail trade and agriculture with earnings of \$24,000 per year or less.

Figure 27: Labour-Market Earnings by Main Industry in the Year After Release



3.9 VAC Clients in Rehabilitation Program

There were 3,845 clients who completed the Rehabilitation program and their records were linked to the tax data. Veterans who completed rehabilitation recovered almost all of their pre-release income in the first two years after the program and eventually their total income exceeded their pre-release income. However, labour-market earnings replacement rates were much lower at about one-third of pre-release earnings the first year after completing the program to around 50% in later years (Table 7). Rates of experiencing low income were similar pre-program, during the program and after program completion at between 3 and 4%. Prior to release, however, few (less than 1%) experienced low income.

Table 7: Completed Rehabilitation, Income Pre- & Post-Rehabilitation

	Total income*		Labour-Market Earnings**			Low Income (% below LIM)
	\$	Pre-Release Replacement Rate	\$	Pre-Release Replacement Rate	% of Total Income	
Pre-release	\$70,200	-	\$68,800	-	98%	0.8%
Pre-Program	\$65,120	93%	\$47,810	69%	73%	3.5%
During Program	\$62,800	89%	\$16,350	24%	26%	2.2%
1 Yr After Program	\$68,070	97%	\$22,930	33%	34%	2.8%
2 Yrs	\$68,010	97%	\$24,970	36%	37%	3.0%
3 Yrs	\$69,890	100%	\$29,420	43%	42%	2.9%
4 Yrs	\$70,590	101%	\$32,420	47%	46%	3.8%
5 Yrs	\$81,540	116%	\$35,280	51%	43%	2.2%
6 Yrs	\$73,490	105%	\$33,010	48%	45%	n.a.
7 Yrs	\$84,480	120%	n.a.	n.a.	n.a.	n.a.

n.a. fewer than 5 cases and considered unreliable.

* Includes earnings, pensions, other employment income and government transfers. VAC disability benefits (disability pensions and award) are not included as they are not reported on tax files used in the Income Study.

**Labour-market earnings were calculated as "earnings" less "other employment income."

A subset of those who participated in the Rehabilitation had completed vocational rehabilitation (725 or 19%). Veterans who completed vocational rehabilitation recovered around 90% of their pre-release income in the first few years after the program but this declined to around 80% in later years. However, labour-market earnings replacement rates were lower at about 50% in the first few after completing the program and declined to less than 40% in later years (Table 8). Former vocational rehabilitation clients relied heavily on labour-market earnings, which accounted for roughly 65% of total income after program completion. Labour-market earnings accounted for about half of total income in the first few years and then declined to 22% in the 6th year after program completion. Rates of experiencing low income were similar pre-program, during the program and after program completion at between 5 and 6%. However, rates were lower pre-release and during the program at around 1%.

Table 8: Completed Vocational Rehabilitation, Income Pre- & Post-Rehabilitation

	Total income*		Labour-Market Earnings**			Low Income (% below LIM)
	\$	Pre-Release Replacement Rate	\$	Pre-Release Replacement Rate	% of Total Income	
Pre-release	\$65,570	-	\$64,730	-	99%	0.7%
Pre-Program	\$59,260	90%	\$41,930	65%	71%	4.8%
During Program	\$52,960	81%	\$12,940	20%	24%	1.3%
1 Yr Post-Program	\$60,430	92%	\$32,190	50%	53%	5.5%
2 Yrs	\$59,650	91%	\$29,590	46%	50%	6.9%
3 Yrs	\$61,200	93%	\$29,360	45%	48%	n.a.
4 Yrs	\$50,820	78%	\$21,880	34%	43%	n.a.
5 Yrs	\$55,590	85%	\$13,960	22%	25%	n.a.
6 Yrs	\$48,290	74%	\$10,650	16%	22%	n.a.
7 Yrs	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

n.a. fewer than 5 cases and considered unreliable.

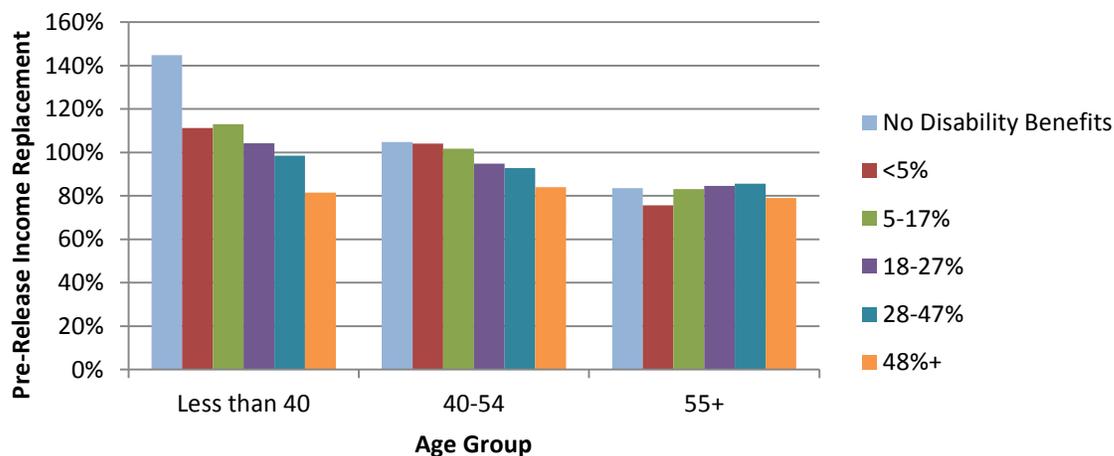
* Includes earnings, pensions, other employment income and government transfers. VAC disability benefits (disability pensions and award) are not included as they are not reported on tax files used in the Income Study.

**Labour-market earnings were calculated as "earnings" less "other employment income."

3.10 VAC Clients and Disability Rating and Age

Among Veterans released from 1998 to 2014, 37% were in receipt of disability benefits from VAC. Of those with disability benefits, 5% had disability ratings of less than 5%, 38% were rated at 5 to 17%, 14% at 18 to 27%, 16% at 28 to 47% and 27% were assessed at 48% or greater. Among Veterans aged less than 40, those without disability benefits replaced 145% of their total income, while those with disability benefits replaced 82% to 113% (Figure 28). Replacement rates among those aged 55 or older at release were similar for those with and without benefits.

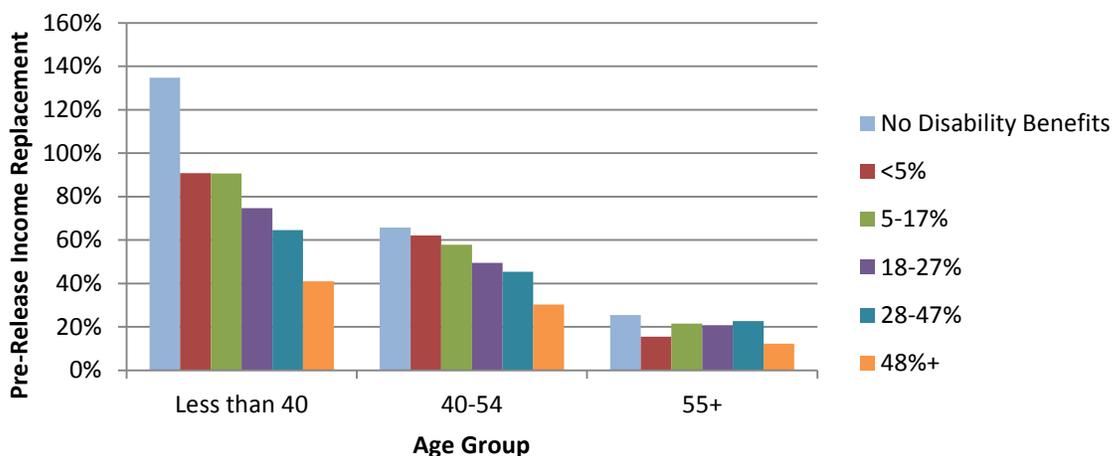
Figure 28: Total Income Replacement Rate in Sixth Year Post-Release



Economic losses were experienced by younger Veterans in receipt of disability benefits but not older Veterans. The labour-market earnings replacement rates among Veterans aged less than 40 without disability benefits was 135% while Veterans with disability benefits replaced 41% to 91% (Figure 29). The labour-market replacement rates among

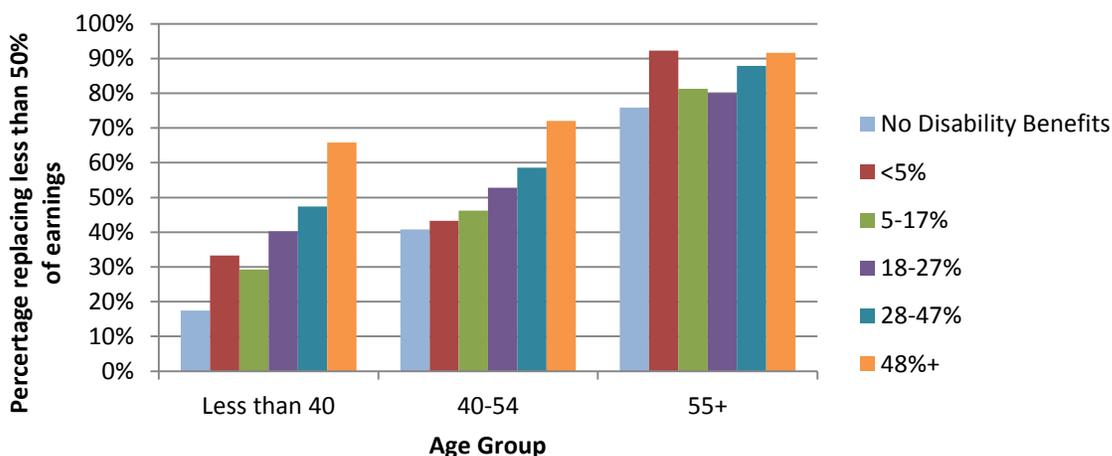
Veterans aged 55 or older were similar (about 20%) among those with disability benefits and those without, suggesting no economic losses.

Figure 29: Labour-Market Earnings Replacement Rate in Sixth Year Post-Release



Regardless of disability assessment older Veterans were more likely than younger Veterans to have low earnings recovery. Veterans with disability benefits were more likely to have low earnings recovery compared to those in receipt of benefits, however, the difference was more pronounced among younger Veterans (Figure 30). Two-thirds of Veterans less than age 40 with a high disability assessment (48% or greater) had low earnings recovery compared to 17% of those with no disability benefits. However, many without disability or with low disability assessments had poor earnings recovery.

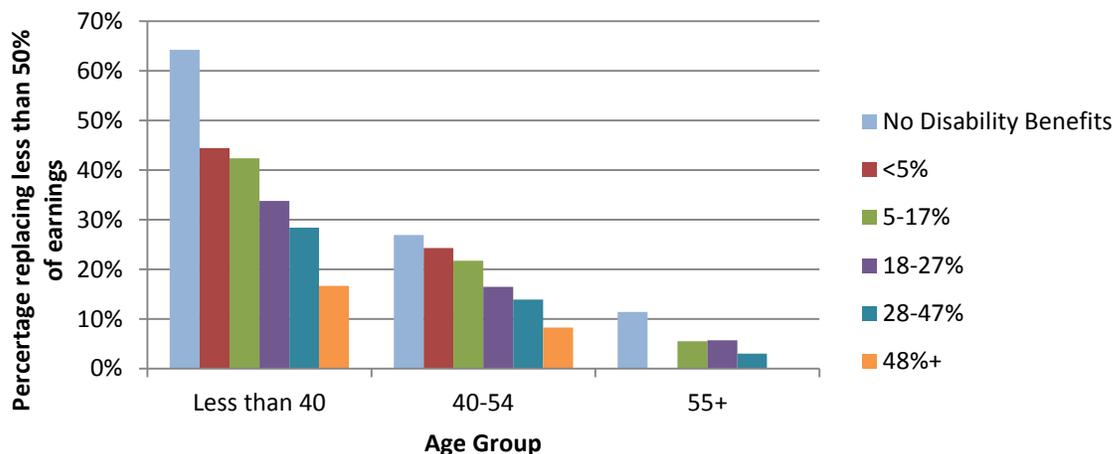
Figure 30: Proportion of Veterans Replacing Less than 50% of Pre-release Labour-Market Earnings in Sixth Year Post-Release



Regardless of disability assessment younger Veterans were more likely than older Veterans to have high earnings recovery. Veterans with disability benefits were less likely to have high earnings recovery compared to those in receipt of benefits, however, the difference was more pronounced among younger Veterans (Figure 31). Among

Veterans less than age 54, the proportion who recovered more than 100% of their pre-release earnings with no disability benefits was over three times that of those at the highest disability level. However, many with high disability assessments had high earnings recovery.

Figure 31: Proportion of Veterans Replacing More than 100% of Pre-release Labour-Market Earnings in Sixth Year Post-Release



6. Discussion

This study includes important information on the trends in income pre and post release for a large population of Canadian Armed Forces Veterans. It covers income data for Regular Force Veterans released since 1998 and followed for up to 16 years post-release. The overall linkage rate was high (92%) ensuring a representative population for studying income. The decline in income post-release was 3% on average in the first three years post-release. Post-release income initially declined and then reached pre-release levels after 3 years post-release. Forty percent of Veterans received EI at least one year post-release, social assistance receipt was 4% and low income was 15%. These findings are similar to the earlier report (MacLean et al, 2014b).

Female Veterans experience much greater declines in income post-release than males (21% compared to 0.5%), similar to the earlier report (MacLean et al, 2014b). A new finding is that across all industries (except mining), female Veterans had lower labour-market earnings. Much of the decline in incomes of females can be attributed to a larger drop in post-release employment earnings (58% for females compared to 39% for males). The income and labour-market experiences of female Veterans has been examined elsewhere (MacLean et al, 2018a and 2018b; Eichler, 2017).

This study found rates of low family income post-release that were more than twice the average rate among some groups, including recruits, involuntary releases and Veterans with less than 2 years of service. A previous study that controlled for various predictors found that being released involuntarily or as a recruit and having more children was associated with greater odds of persistent low income. Staying in the military longer

decreased the odds of experiencing persistent low income (MacLean, Sweet and Poirier, 2012).

Among Veterans released from 1998 to 2014, more than one-third were in receipt of VAC's disability benefits. Particularly at risk of economic losses were Veterans less than age 40 at release. While their counterparts were on civilian career trajectories that replaced 135% of their pre-release labour-market earnings, Veterans with a VAC disability rating replaced only 40% to 90% of their earnings. Also Veterans who completed the Rehabilitation program eventually had incomes in excess of their pre-release income. However, labour-market earnings replacement rates were much lower at about 50% of pre-release earnings. Earnings replacement has been examined in more detail in previous research (OECD, 2009; MacLean and Campbell, 2014; MacLean and Pound, 2014, MacLean, VanTil and Poirier, 2016a and 2016b; MacLean and Lockhart, 2017). Further research on Rehabilitation clients needs to take into account age at release and the steeper earnings trajectories of younger Veterans.

Strengths of the LASS 2016 income study include the use of DND administrative data to identify Veterans (both clients and non-clients of VAC) and the linkage with tax files implemented by Statistics Canada to protect confidentiality and achieve over 90% linkage. The income content is from the most robust source available in Canada, and the linkage provided longitudinal data for up to 16 years of follow-up after release from the military. For example, smaller groups such as females can be studied in more detail compared to using the much smaller sample sizes that would be available through survey data. Limitations of this report include the unavailability of non-taxable income such as VAC disability payments. The data tables used for this report required pre-defined cut-offs for continuous variables, where other categorizations may reveal additional information. Findings cannot necessarily be generalized to all Veterans; however the findings of this report are representative of Regular Force Veterans who released in 1998 to 2014.

This study found that the largest employer of Veterans was the public service, changing employers was common and one in ten Veterans divorced in the first three years post-release. However, it is unknown whether these are findings of concern or of policy interest. Further research is needed to compare these findings to the general population. Also data is available which has yet to be examined in detail. For example, spouses had relative low incomes pre-and post-release and relied heavily on labour-market earnings. Many could be at risk of falling below the low income threshold if the Veteran died, and especially if the Veteran was not in receipt of benefits that continue to the spouse. Details on research related to military and Veteran families in Canada and elsewhere can be found in MacLean et al, 2015. In addition, income and income sources for female and male Veterans by service and demographic characteristics has not been examined in detail.

7. Conclusion

In general, Veterans experience little decline in income post-release and few experienced low income post-release. Some groups, such as older Veterans and senior officers, were unlikely to experience low income. However, there were several groups that warrant further research and policy consideration including females, younger, and medically released Veterans and Veterans who participated in the Rehabilitation program.

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Appendix A: Record Linkage

This study required the links to be done longitudinally, 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 68,120 records of Veterans released from the Regular Force from 1998 to 2014, and 46,199 records of Veterans released from the Primary Reserves from 2003 to 2014 (Table 1). 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 91.0% (91.9% for the Regular Force and 89.6% for the Primary Reserve Force).

Table 1: 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)	
Regular Force	68,120	62,624	91.9%
Primary Reserve Force	46,199	41,411	89.6%
Total	114,319	104,035	91.0%

Linkage rates were consistent for the study period from 1998 to 2014 (Table 1).

Table 2: Linkage rates by year of release (panel)

Panel	Regular Force	Primary Reserve Force
1998	93.3%	n.a.
1999	94.3%	n.a.
2000	93.5%	n.a.
2001	94.7%	n.a.
2002	93.2%	n.a.
2003	91.9%	89.8%
2004	92.5%	89.9%
2005	93.3%	90.6%
2006	93.1%	90.2%
2007	92.5%	89.9%
2008	91.9%	90.3%
2009	91.8%	90.7%
2010	90.7%	89.2%
2011	91.7%	90.4%
2012	90.2%	90.2%
2013	87.8%	89.9%
2014	90.1%	86.4%

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. The cohort included 42,645 Regular Force Veterans and 20,795 Primary Reserves not included in the study. Table 3 shows the Regular Force Veteran cohort for the pre-release (t-1) year, the release year (t0) and up to 16 years post-release. 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 2011 (n=42,645 for Regular Force and n=20,795 for Primary Reserve Force).

Table 3: Regular Force Veteran Population Linked to Income Tax Data

Time Period	Total Population	Clients	Non Clients
Total Population	42,645	15,790	26,855
Pre-release Year (t-1)	42,645	15,790	26,855
Release Year (t0)	42,645	15,790	26,855
Year after Release (t1)	42,645	15,790	26,855
2 years post-release (t2)	42,645	15,790	26,855
3 years post-release (t3)	42,645	15,790	26,855
4 years post-release (t4)	38,785	14,300	24,480
5 years post-release (t5)	35,535	13,140	22,395
6 years post-release (t6)	31,890	11,825	20,065
7 years post-release (t7)	27,660	10,410	17,250
8 years post-release (t8)	24,005	9,130	14,875
9 years post-release (t9)	20,545	7,620	12,920
10 years post-release (t10)	17,665	6,350	11,315
11 years post-release (t11)	14,800	5,090	9,710
12 years post-release (t12)	12,380	4,050	8,330
13 years post-release (t13)	9,950	3,140	6,810
14 years post-release (t14)	7,555	2,285	5,270
15 years post-release (t15)	4,970	1,455	3,515
16 years post-release (t16)	2,490	730	1,760

Appendix B: Service Variable Definitions

Release types⁴:

- 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

Ranks⁵:

- 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 2nd 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 (Ordinary Seaman), Private (trained), Private (basic)
 - Recruit*., Ordinary Seaman-Recruit or Private-Recruit

Occupation:

Each military occupation was categorized into either occupations unique to the military (unique occupation) or occupations comparable to those in the civilian world (civilian comparable). This categorization was based on the matching of Military Occupation Codes (MOCs) to National Occupation Codes (NOCs) done at the Department of National Defence [Director Human Rights

⁴ Definitions available at: www.admfincs.forces.gc.ca/qro-orf/vol-01/doc/chapter-chapitre-015.pdf

⁵ Source: www.forces.gc.ca/en/honours-history-badges-insignia/rank.page

and Diversity (DHRD)] for the purposes of employment equity. The matching was last updated in February 2012⁶.

Occupations were also grouped into eight categories:

- Combat arms
- Communications
- Maritime
- Aviation
- Administration etc.
- Engineering/technical
- Medical
- General officer specialist

⁶ See MacLean MB, Campbell L, Poirier A, and Jill Sweet. Military Occupation and Post-Military Employment and Income Outcomes. Research Directorate, Veterans Affairs Canada, Charlottetown. 8 April 2016.
http://publications.gc.ca/collections/collection_2016/acc-vac/V32-269-2016-eng.pdf

Appendix C: Income Data Definitions

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

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)

Labour-Market Earnings = earnings from T4 + self-employment, excludes "other employment income"

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, 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 included on tax file** Social assistance, Workers' compensation, Child Tax Benefits, Family benefits

5. Investment

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

6. Other income (or other 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: North American Industry Classification System (NAICS)

Code	Sector
11	Agriculture, forestry, fishing and hunting
21	Mining, quarrying, and oil and gas extraction
22	Utilities
23	Construction
31-33	Manufacturing
41	Wholesale trade
44	Retail trade
48-49	Transportation and warehousing
51	Information and cultural industries
52	Finance and insurance
53	Real estate and rental and leasing
54	Professional, scientific and technical services
55	Management of companies and enterprises
56	Administrative and support, waste management and remediation services
61	Educational services
62	Health care and social assistance
71	Arts, entertainment and recreation
72	Accommodation and food services
81	Other services (except public administration)
91	Public administration

Appendix E: 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 for a particular family size (including family size of 1) and composition. In 2014, the before-tax LIM for a family of four (2 adults and 2 children) was \$41,246 (Table 1). This means that a family of four whose before-tax income was less than \$41,246 would be considered low income.

Table 1: Low income measures (LIM) by family size (before tax), 2014

Adults ¹	Children (age 16 and under)					
	0	1	2	3	...	10
1	20,623	28,872	35,059	41,246	...	84,554
2	28,872	35,059	41,246	47,433	...	90,741
3	37,121	43,308	49,495	55,682	...	98,990
4	45,371	51,558	57,744	63,931	...	107,240

1. Includes parents/spouses, children 16 years of age and over and the first child in a lone-parent families regardless of age.

Source: Statistics Canada, Income Statistics Division, Special Tabulation of T1 Family File data (T1FF).