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Developing Postsecondary Education Indicators using the Education Longitudinal Linkage Platform

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Outline

- PSIS and RAIS
- Education Longitudinal Linkage Platform (ELLP)
- Results for Maritime university students
- Advantages and pan-Canadian potential
- Next steps



What are PSIS and RAIS?

- The **Postsecondary Student Information System (PSIS)** is a data holding of all public college and university enrolments and graduates by program / credential type and field of study for each school year.
- The **Registered Apprenticeship Information System (RAIS)** is an administrative database of pan-Canadian, annual data on registered apprentices and trade qualifiers. It compiles data on registered apprentices receiving training and on persons that obtain certification in trades where apprenticeship training is offered.



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Education Longitudinal Linkage Platform



Education Longitudinal Linkage Platform (ELLP)

- ELLP consists of a repository of linkage keys for PSIS and the Registered Apprenticeship Information System (RAIS)
- Using the linkage keys, longitudinal linked file can be created for analysis. These administrative linked file could then be linked with other data sources (admin or survey) to increase analysis potential.



Education Longitudinal Linkage Platform (ELLP) : Analytic possibilities

- **Student pathways**

- Persistence rate and graduation rate
- Transition among PSE program (i.e. college, university, apprenticeship)
- Interprovincial mobility of students during education and on graduating

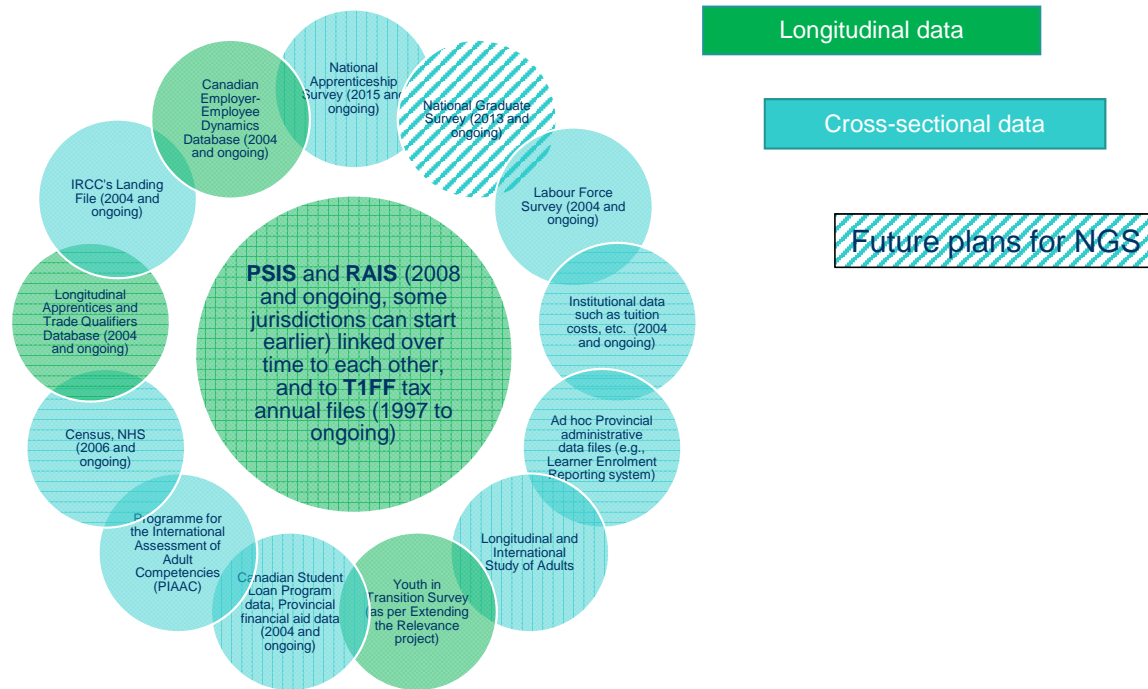
- **Graduate outcomes (earnings)**

- First year earnings after graduation (median or mean)
 - Evolution of graduate earnings over time for those employed over the whole period
 - Comparison could be done among fields of study, or cohorts for a same field of study for men and for women

- **Interprovincial mobility of graduates on the labour market**



Other possible linkages





ELLP: current projects

- Maritime universities graduate outcome indicators (Oct. 2016 report, paper on April 2017)
 - <http://www.statcan.gc.ca/daily-quotidien/170411/dq170411a-eng.htm>
- Maritime universities student pathway indicators (in progress)
- Atlantic colleges graduate outcome indicators (in progress)
- Atlantic colleges student pathway indicators (in progress)
- Alberta Benefits to Postsecondary Education Project (in progress)
- British Columbia graduate outcome indicators (all PSIS institutions, completed in March 2017)
- Link PSIS data to Census data related to language (mother tongue, knowledge of official languages, etc.) for New-Brunswick, Québec and Manitoba.



ELLP: Future projects

- The Canadian Student Loan Program file will soon be linked to the Maritime project to expand the analytical potential with loan information.
- For the fiscal year 2017-2018, the plan is to reproduce the graduate outcome projects for all provinces or territories
 - Statistics Canada has met institution representatives at different forums (IPRNG, CUPA, MAESD university and college working groups) to discuss the importance of obtaining personal identifiers from 2009/10 to the current period and is working on a strategy to get in touch with each of them over the next few months.

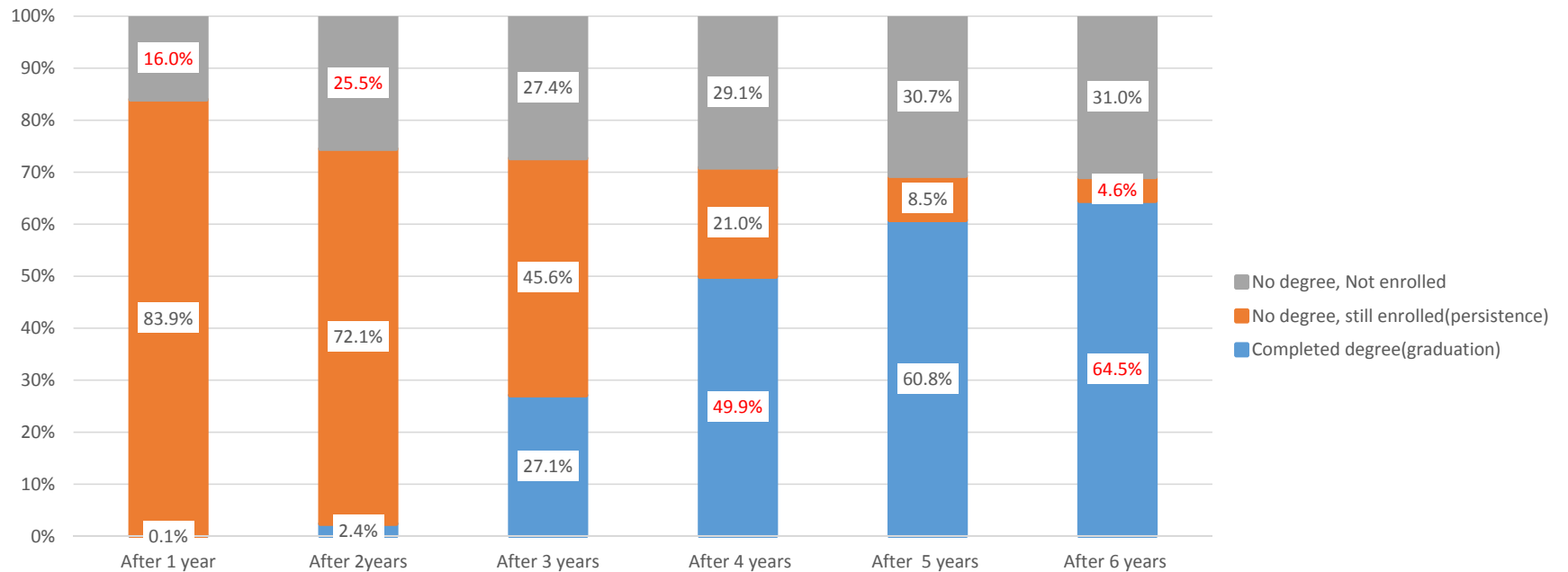


Results for students from Maritime universities



Persistence and Completion Rates for students enrolled full-time in a program leading to a bachelor degree

2006 longitudinal cohort studying all years in a Maritime University



Note: Students aged less than 20 on Dec.31st enrolled full-time in a program leading to a bachelor degree in a Maritime University.
Source: Postsecondary Student Information System.



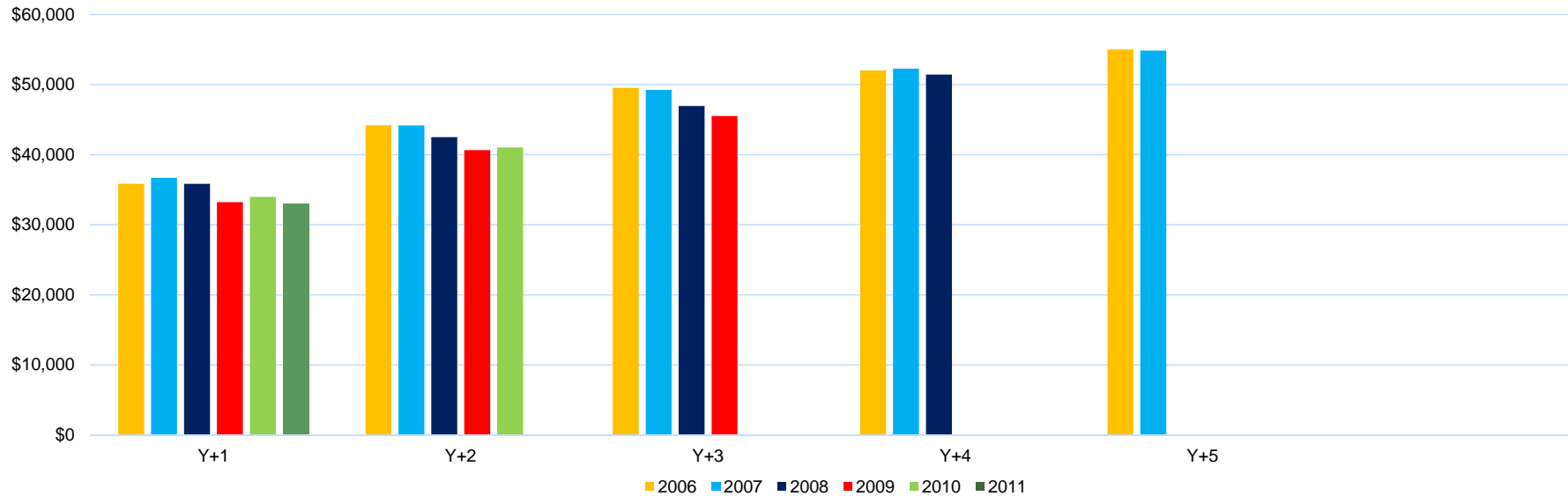
What can we say about the 2006/07 cohort of students under the age of 20 years old enrolled full time in an undergraduate degree in the fall of their first year one and seven years later?

Fields of study of students at year enrolment (2006/07 cohort)	1 st year Persistence rate			Graduation rate		
	Total still in Maritime universities	Same FOS	Different FOS	Graduated from maritime universities	Same FOS	Different FOS
Education	86.9%	79.5%	7.4%	58.2%	50.0%	8.2%
Visual and performing arts, and communications techno.	85.1%	83.0%	2.1%	61.2%	58.7%	2.5%
Humanities	76.3%	70.0%	6.3%	52.9%	22.4%	30.5%
Social behavioral sciences and law	86.8%	80.9%	5.9%	66.0%	52.6%	13.4%
Business, management and public admin.	84.9%	80.5%	4.4%	66.2%	60.3%	5.9%
Physical and life sciences and techno.	87.3%	79.7%	7.6%	72.6%	43.1%	29.5%
Math., computer and information sciences	78.7%	73.1%	5.6%	54.7%	38.5%	16.2%
Architecture, engineering, and related techno.	90.1%	84.7%	5.4%	68.2%	58.6%	9.6%
Agriculture, natural resources and conservation	82.6%	63.6%	19.0%	60.9%	36.4%	24.5%
Health and related fields	90.7%	84.2%	6.5%	78.3%	55.9%	22.4%



Median earnings* of undergraduates by number of year after graduation, 2006 to 2011 cohorts

2012 constant \$



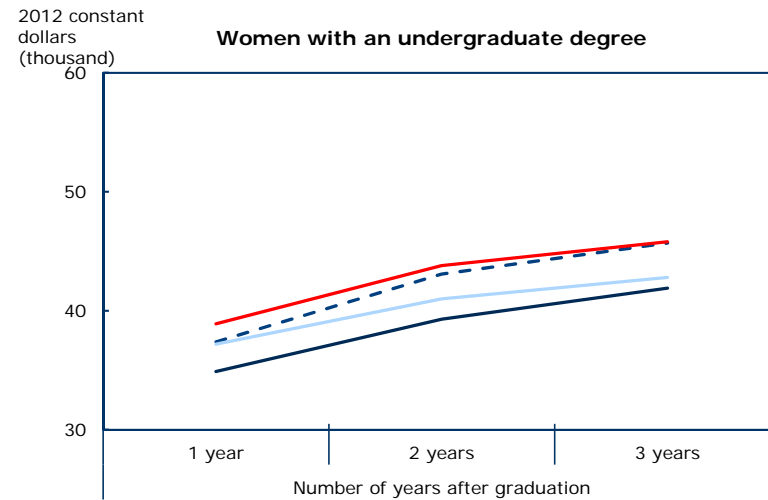
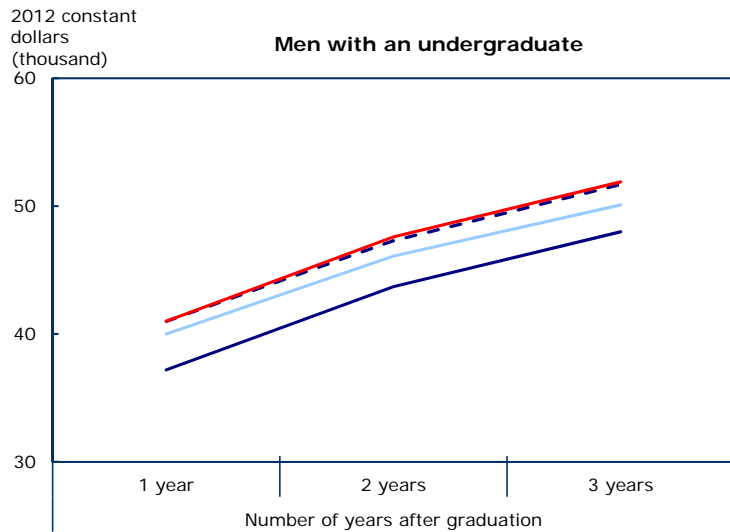
(* Earnings (before tax employment and other employment income) greater or equal to 0\$.

Note: Undergraduates are excluded from calculation as soon as they are not tax filers for a year.

Source: Postsecondary Student Information System linked to T1 family files.



Persistent losses for bachelor's graduates of the 2009 cohort



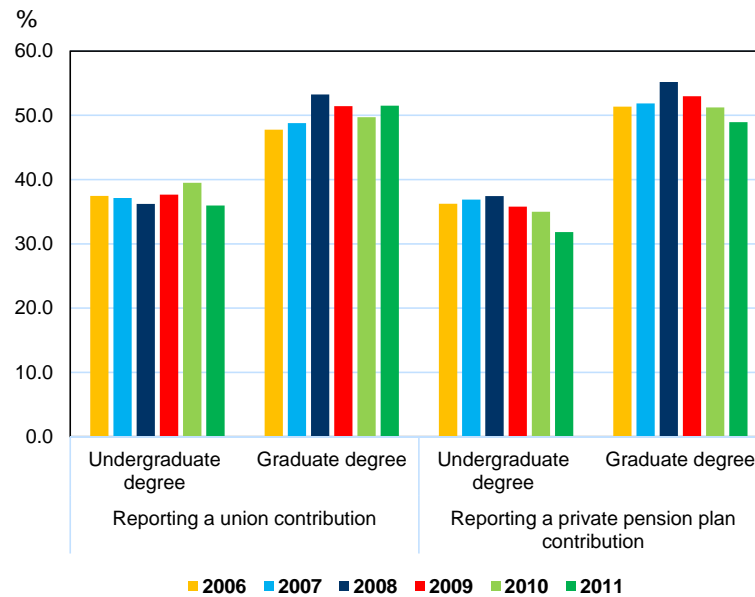
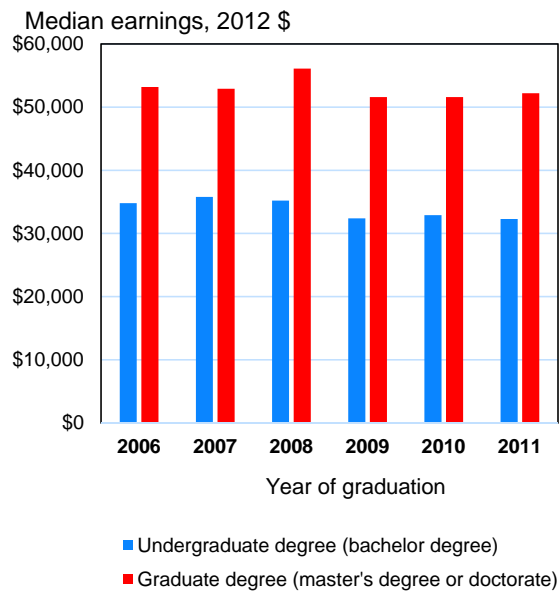
--- 2006 — 2007 — 2008 — 2009

--- 2006 — 2007 — 2008 — 2009

Sources: Statistics Canada, Postsecondary Student Information System (PSIS), 2005/2006 to 2011/2012; T1 Family File (T1FF), 2006 to 2012.



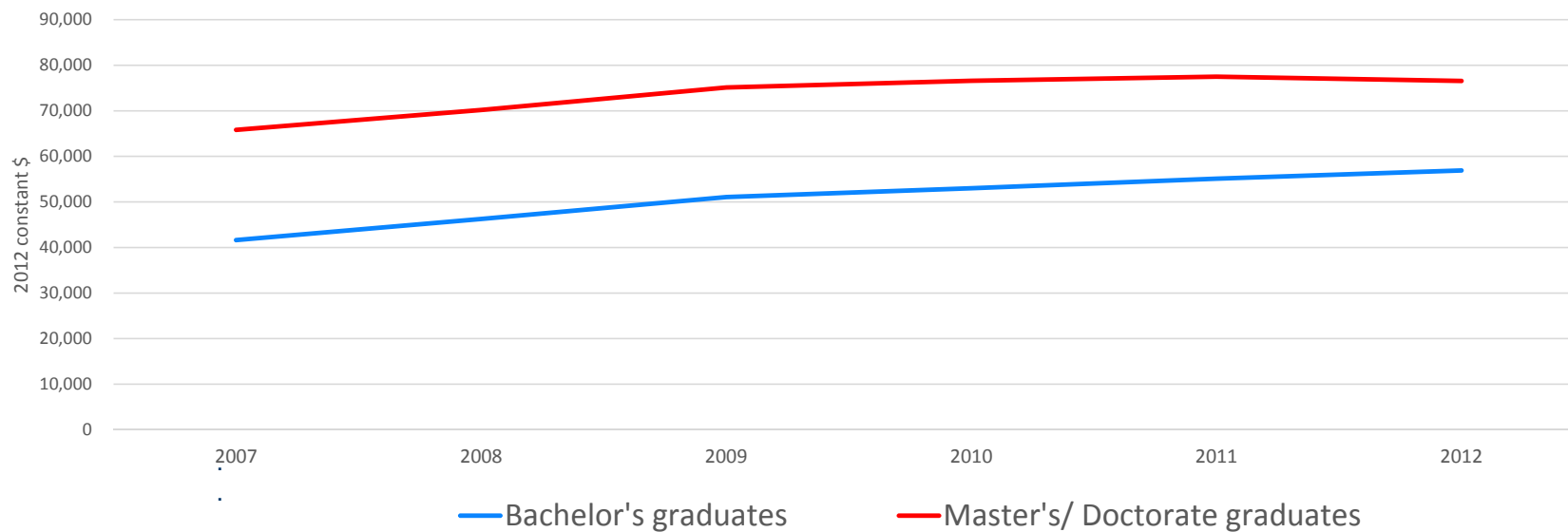
Having a master's degree or a doctorate makes a difference in the type of job



Sources: Statistics Canada, Postsecondary Student Information System (PSIS), 2005/2006 to 2011/2012; T1 Family File (T1FF), 2006 to 2012.



Median employment earnings* over time for the 2006 cohort by education level, Maritime university graduates



(*) Earnings (before tax employment and other employment income) greater or equal to 0\$.

Note: Undergraduates who have reported earnings every year over the 6-year period.

Source: Statistics Canada. Postsecondary Student Information System linked to T1 Family File.



Percentage distribution of 2006 graduates across employment income classes, 1 and 5 years after graduation, by education level, Maritime university graduates

Employment income classes	Bachelor's degree (n=4,205)		Master's/doctorate degree (n=1,355)	
	One year after graduation	Five years after graduation	One year after graduation	Five years after graduation
\$ 0	2.4%	3.5%	3.0%	3.8%
\$0.01 – \$14,000	7.9%	5.1%	3.0%	3.0%
\$14,001 - \$30,000	19.9%	10.4%	6.0%	3.5%
\$30,001 - \$40,000	17.0%	11.0%	6.1%	3.7%
\$40,001 - \$50,000	20.0%	12.3%	9.8%	5.9%
More than \$50,000	32.8%	57.7%	72.0%	80.1%

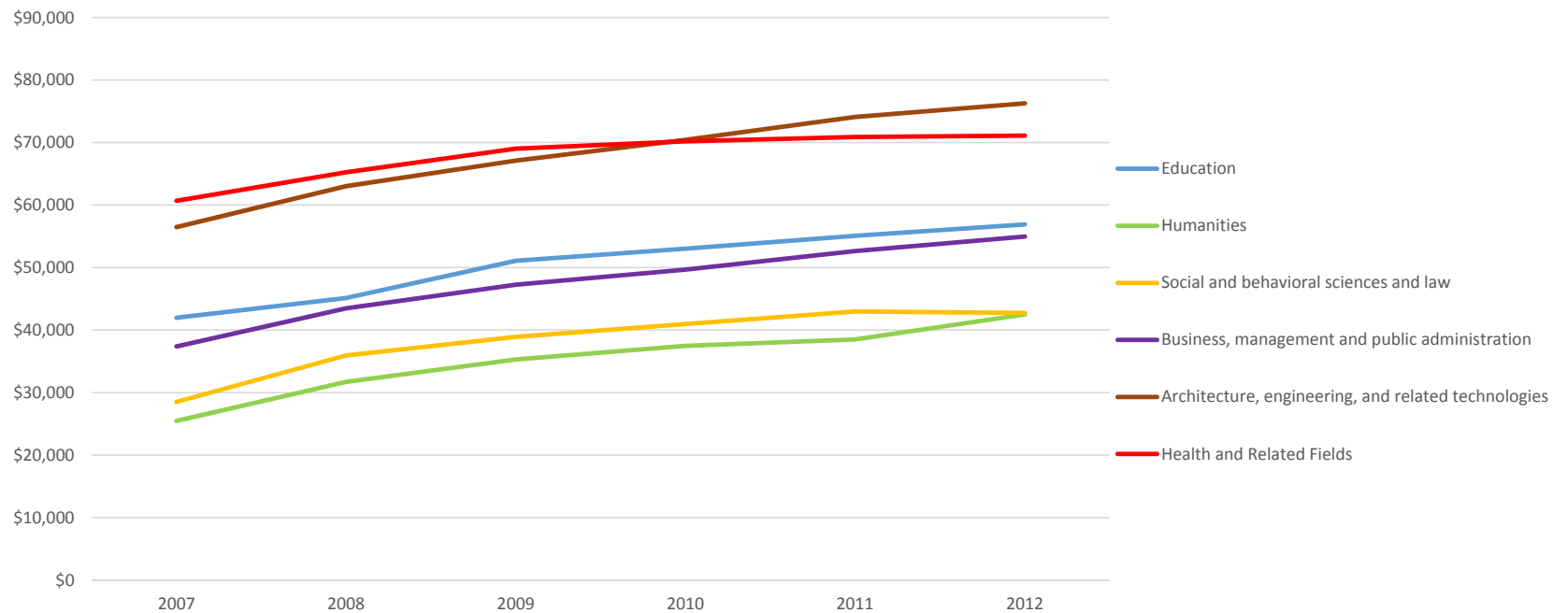
Note: 2006 longitudinal comparison cohort.

Source: Statistics Canada, Postsecondary Student Information System data linked longitudinally with T1 Family File tax variables.



Median earnings* of the 2006 undergraduate cohort by certain field of study, Maritime universities, 2007 to 2012

2012 Constant \$



(*) Earnings (before tax employment and other employment income) greater or equal to 0\$.

Note: Undergraduates who have reported earnings every year over the 6-year period.

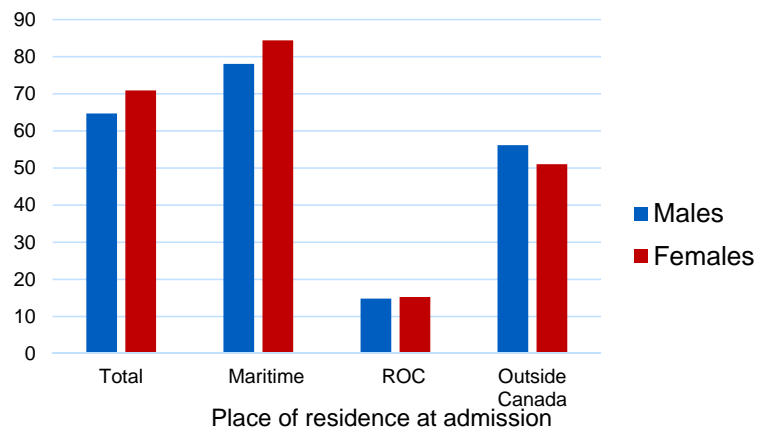
Source: Postsecondary Student Information System linked to T1 Family files.



Retention rates tend to be higher for women, especially when they originate from the Maritimes

Bachelors degree holders

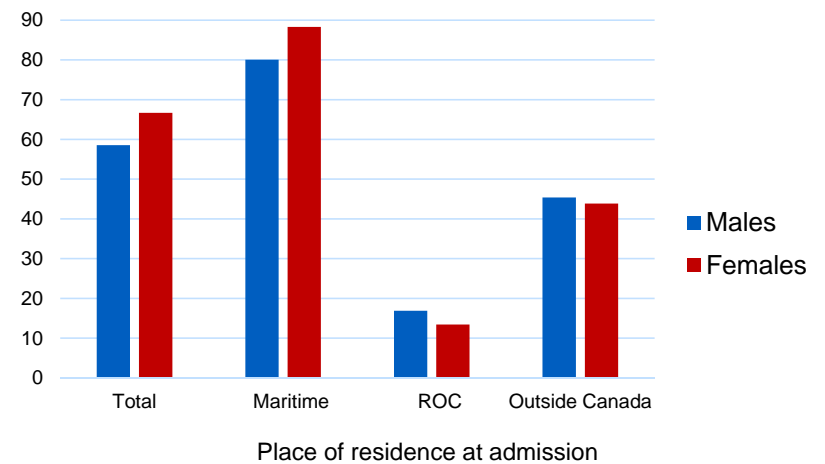
Retention rate (%) one year after graduation



Source: PSIS and T1FF, average for the 2006-2011 cohorts

Master and Doctorate degree holders

Retention rate (%) one year after graduation



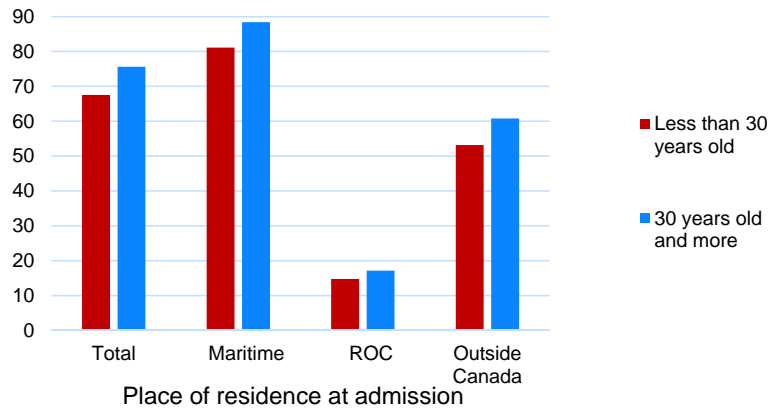
Source: PSIS and T1FF, average for the 2006-2011 cohorts.



Retention rates tend to be higher for older graduates

Bachelor degree holders

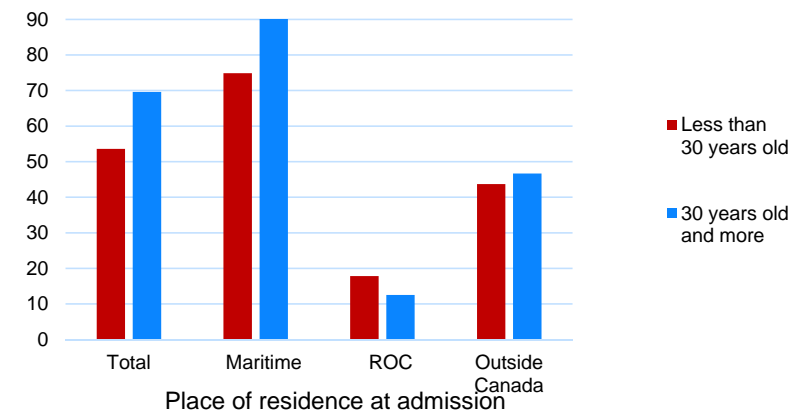
Retention rate (%) one year after graduation



Source: PSIS and T1FF, average for the 2006-2011 cohorts.

Master and Doctorate degree holders

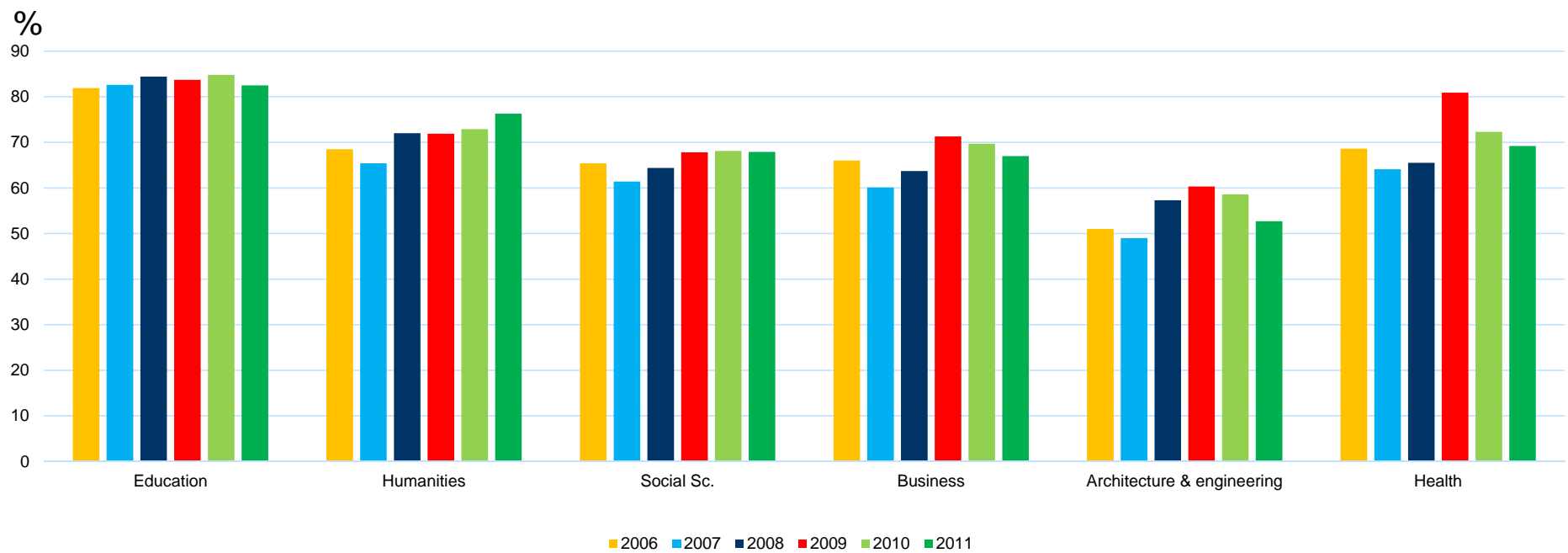
Retention rate (%) one year after graduation



Source: PSIS and T1FF, average for the 2006-2011 cohorts.



Retention rate of Maritime university undergraduates one year after graduation by Field of Study, 2006 to 2011 Cohorts



Data Source: Postsecondary Student Information System (PSIS) and Tax data.



Advantages and Pan-Canadian potential

- ELLP is well-placed to study PSE students
 - over time
 - across jurisdictions
 - through education and apprenticeship programs and
 - into the labour market.
- Will inform on student's education trajectories and labour market activities across jurisdictions
 - Mobility by field of study/institution/province
 - Interprovincial mobility on the labour market



ELLP, next steps

- Analyze data at pan-Canadian and provincial level, and eventually, provide institutions with statistics on itself, its jurisdiction and for Canada overall.
- Extend the potential analysis by linking to other data sources (surveys)
- Make data available in Research Data Centres
 - Data for the maritime provinces will be available in Fall 2017
 - Access is granted once approval is obtained (<http://www.statcan.gc.ca/eng/rdc/process>)



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We welcome your feedback and questions

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