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Education data in the RDCs and Building the Education Longitudinal Linkage Platform (ELLP)

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Outline

- Plans for new education data sources in the RDCs
- Overview of the data sources
- Education Longitudinal Linkage Platform (ELLP) vision
- Preliminary results for Maritime university students
- Advantages and pan-Canadian potential
- Moving forward



New education data proposed for the RDCs

- University and College Academic Staff Survey (UCASS) data
- Longitudinal Postsecondary Information System (PSIS) data
- Longitudinal Registered Apprenticeship Information System (RAIS) data

What is UCASS?

University and College Academic Staff Survey (UCASS)

- Annual survey 1937 to 2012 to obtain a national picture of the socioeconomic characteristics and earnings of Full-time university staff
- Cancelled in 2012, but some data continued to be collected outside Statistics Canada
- Recently reinstated and 2016-17 data to be released next spring
- Will expand to also include public college academic staff and part-time academic staff (future)

What is PSIS?

- The Postsecondary Student Information System 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.
- Socio-demographic characteristics:
 - Already included: age; sex; student status in Canada (Canadian or international); personal identifiers; province/territory of study
 - Could be imported from other sources: mother tongue, knowledge of official languages, and immigrant status

What is RAIS?

- The Registered Apprenticeship Information System compiles data on the number of registered apprentices taking in-class and on-the-job training in trades that are either Red Seal or non-Red Seal and where apprenticeship training is either compulsory or voluntary.
- It also compiles data on the number of provincial and interprovincial certificates granted to apprentices or trade qualifiers (challengers).
- Socio-demographic characteristics:
 - Already included: age, sex, personal identifiers
 - Could be imported from other sources: mother tongue, knowledge of official languages, and immigrant status



Education Longitudinal Linkage Platform Vision

A record linkage platform that allows development and regular production of key education indicators and brings data together to fill existing data gaps related to factors impacting postsecondary education and apprenticeship, student transitions to the labour market and outcomes over time.

Education Longitudinal Linkage Platform (ELLP) Vision (1)

- PSIS as it stands now provides a cross section of the PSE world
- ELLP consists of a **linkage of administrative data** in the PSIS and the Registered Apprenticeship Information System (RAIS).
- These data are linked longitudinally and with other data sources and will be updated annually.
- PSIS in the context of the ELLP will provide a more **dynamic portrait of PSE** and create an information **bridge between education and the labour market**.
- Complete postsecondary student information system **tracing students over time**, through university, college and apprenticeship programs and into the labour market

ELLP can supplement PSIS and RAIS information

- Fill current missing variables using historical information
- Match to other data sources to get additional variables for analysis such as:
 - Improved information on mother tongue
 - Employment earnings during enrolment or after graduation
 - Province of residence after graduation
 - Information on student loans and grants
- Support postsecondary education longitudinal indicator development



Education Longitudinal Linkage Platform (ELLP) Vision (2)

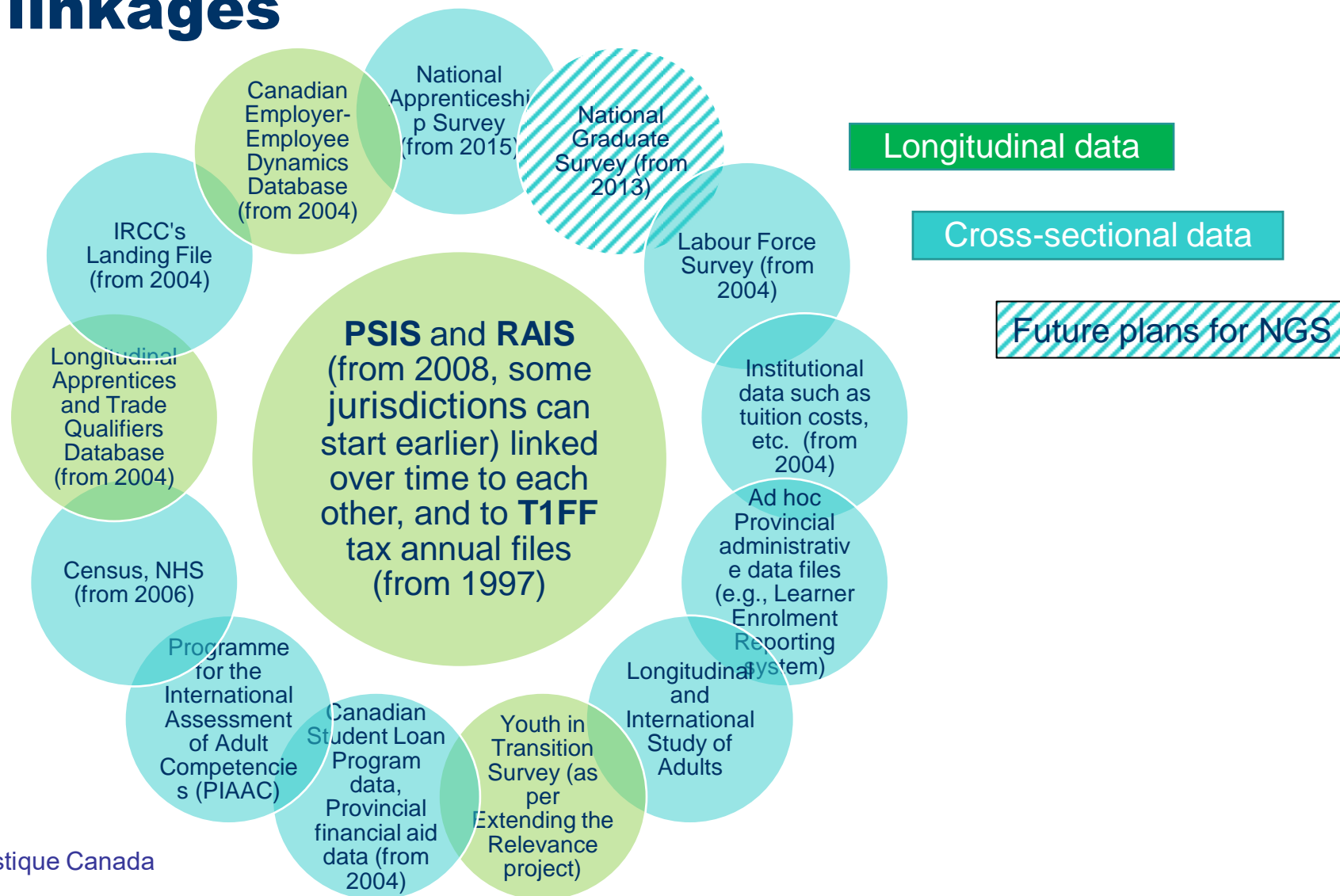
- Creation of **student pathway indicators**
 - Persistence rate by cohort in the same field of study; different field of study
 - Transition between PSE and apprenticeship programs
 - Graduation rate by cohort in the same field of study; different field of study
 - Interprovincial mobility of students during education and on graduating

Education Longitudinal Linkage Platform (ELLP) vision (3)

- Creation of **graduate outcome indicators (earnings)**: bridging PSE outcomes with labour market outcomes
 - First year earnings after graduation (median)
 - 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



Education Longitudinal Linkage Platform (ELLP) vision (4): Other possible linkages



Analysis that could be enabled (1)

Analysis using longitudinal PSIS and tax information

- How long are students taking to complete their postsecondary education?
- How are students transitioning between provinces, between institutions, between programs, between college and university?
- What are the (median) earnings of graduates over time by credential, field of study, gender, and graduating cohort year? How do they differ by province or territory of residence?
- What are the impacts of graduating during a recession or not?
- Geographical mobility of graduates – do they stay where they studied, return home, or go somewhere new?
- Do graduates from certain programs tend to move into self-employment more than wage paying jobs?

Analysis that could be enabled (2)

Analysis using longitudinal PSIS and other information

- What are the quality of jobs new graduates are getting? (Job quality indicators: earnings, unionization, pension plan contribution, part-time/full-time)
- Occupational or skill mismatch
- What movements are there between university, college and apprenticeships?
- What factors are associated with students not completing their programs?
- What are the impacts on students and graduates of having financial aid (loans, grants)?
- Graduating outcomes of co-op students versus non-co-op students
- Relationship between family income at age 15 and postsecondary pathways
- Foreign students becoming permanent residents and Canadian citizens

Pilot projects with longitudinal PSIS data

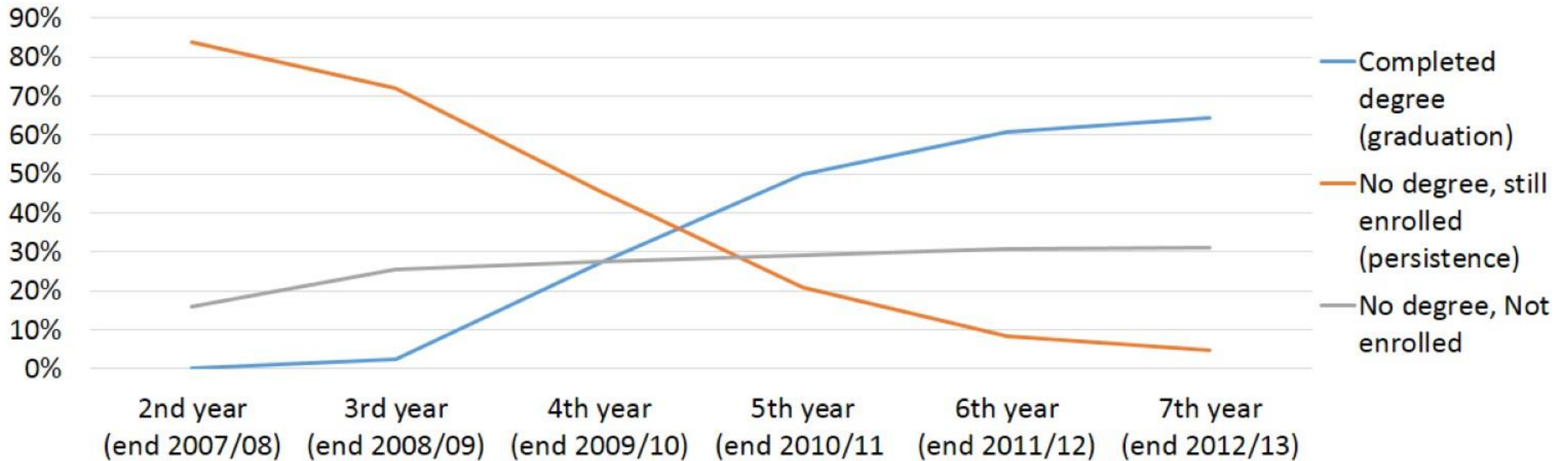
- Maritime universities graduate outcome indicators (Oct. 2016 report)
- Maritime universities student pathway indicators (in progress)
- Atlantic colleges graduate outcome indicators (in progress)
- Atlantic colleges student pathway indicators (in progress)
- Alberta Benefits to Postsecondary Education Project (in progress)
- British Columbia graduate outcome indicators (all PSIS institutions, in progress)
- Others



Preliminary results for the Maritime university students



Persistence and Completion rates for Maritime university Bachelor degree students first enrolled in 2006-07, who attended full-time in Fall 2006 (prelim.)



Reporting year compared to year of program start

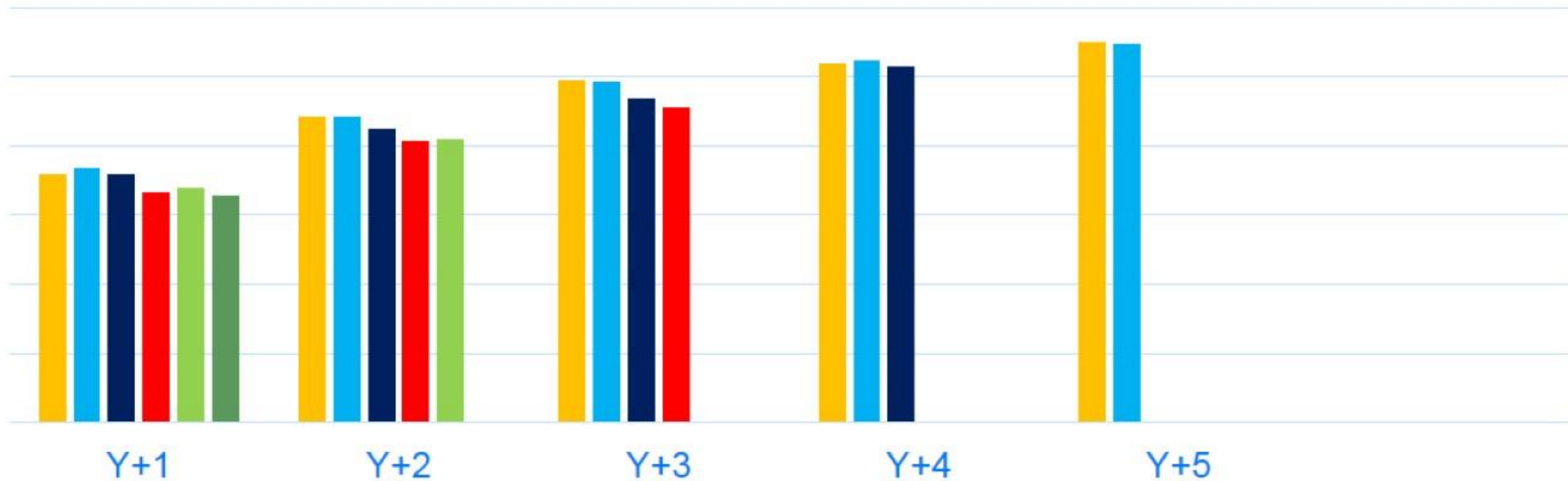
Note: Cohort only includes students aged less than 20 on Dec.31st, 2006. Persistence is counted as any enrolment during the noted reporting year without completing during that year. Completion is measured as of the end of the reporting year noted and the rate is cumulative over time. Someone who was both enrolled and graduated during a reporting year is included with the completed.



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

2012 constant \$

\$60,000
\$50,000
\$40,000
\$30,000
\$20,000
\$10,000
\$0



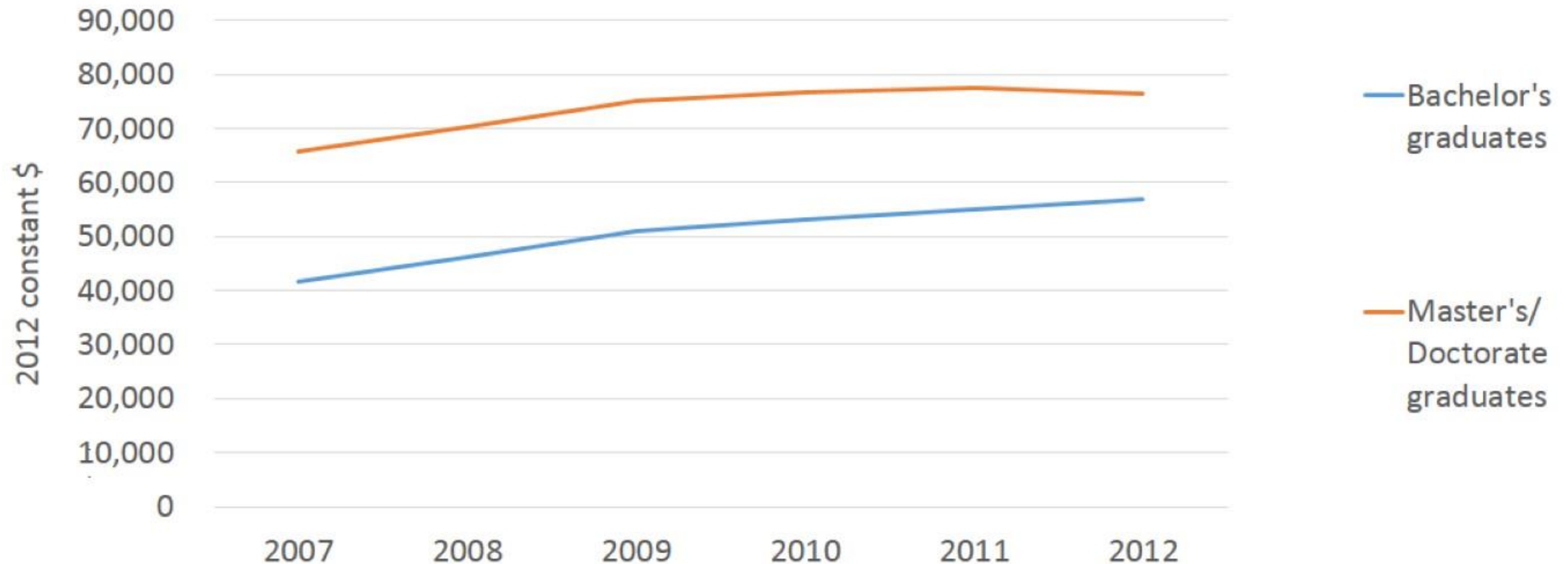
■ 2006 ■ 2007 ■ 2008 ■ 2009 ■ 2010 ■ 2011

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

Note: Undergraduates are excluded from the calculation beginning in the first year that they meet an exclusion criteria (e.g. don't file taxes, or go back to school or have self-employment earnings).

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

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



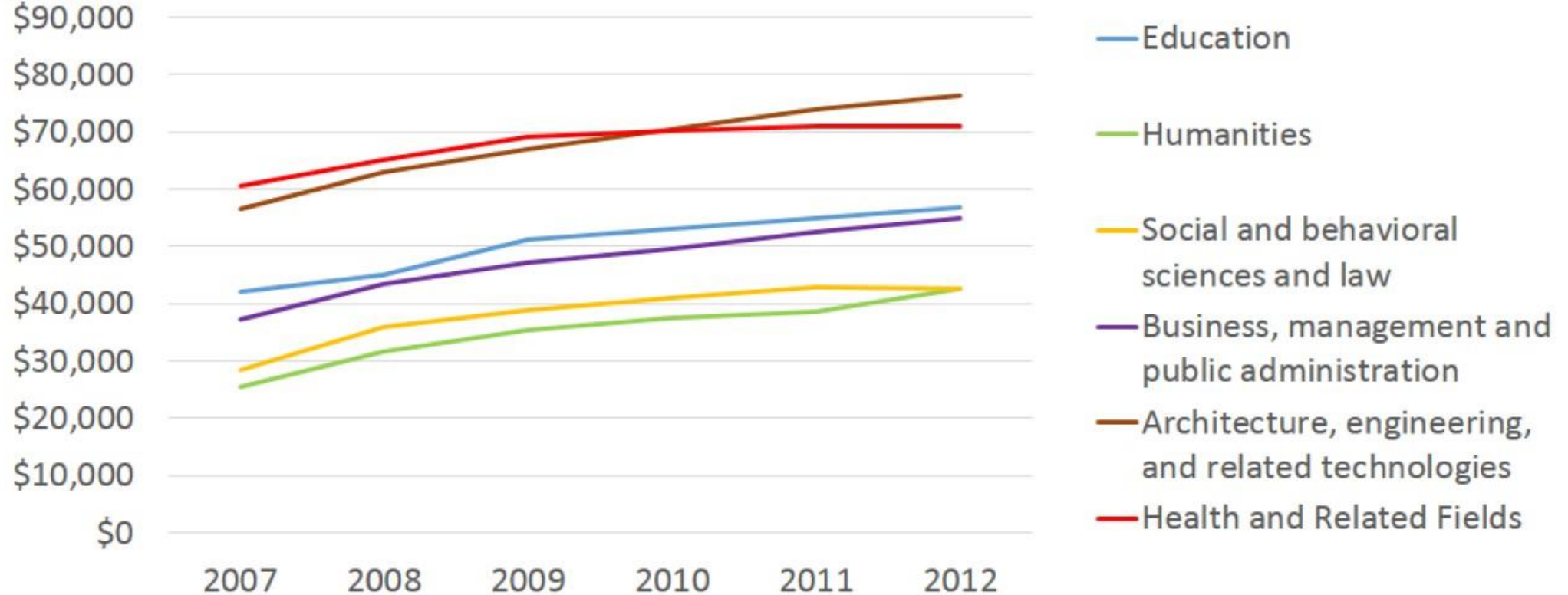
(*) Includes earnings (before tax employment and other employment income) greater or equal to 0\$.

Note: Longitudinal cohort of undergraduates who meet the inclusion criteria in every year over the 6-year period (has tax record, do not go back to school, no self-employment earnings).

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

Median earnings* of the 2006 Maritime university undergraduate cohort for certain fields of study, from 2007 to 2012

2012 Constant \$



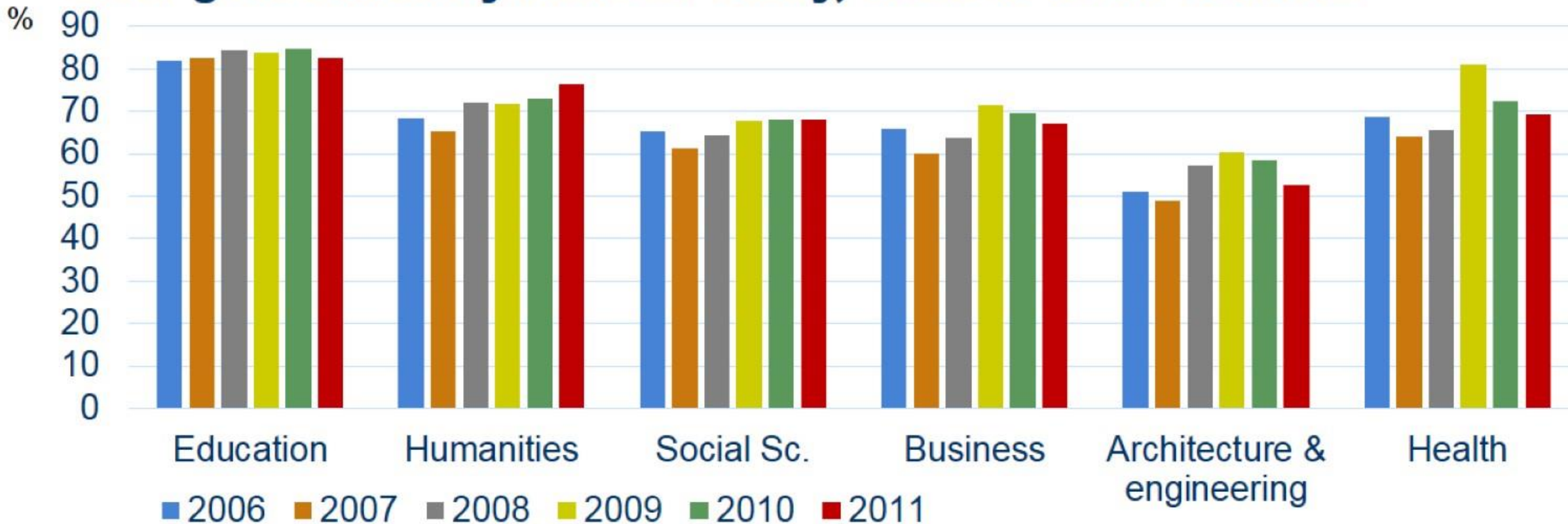
(*) Includes earnings (before tax employment and other employment income) greater or equal to 0\$.

Note: Undergraduates who meet inclusion criteria every year over the 6-year period.

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



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



Note: Retention refers to graduates of Maritime universities that stayed in the Maritimes the first year after graduation.

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**

Moving forward

- Improve ELLP coverage to all jurisdictions
 - Pilot projects with jurisdictions to get historical data
- Get ongoing funding
- Development of the next NGS cycle (2018) in the context of ELLP with the possibility to have a longitudinal cohort
- Expand graduate outcome and student pathways indicator development to other jurisdictions
- Activities to prepare education data files for the RDCs



We welcome your feedback and questions

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