

Switching in the Market for Post-Secondary Education

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Motivation and Context

- Switching (both across majors and institutions) is a common practice among students enrolled in post-secondary education.
 - Chen (2013) finds that the major switch rate varies from 42 – 28 percent depending on the initial subject.
- Given differences in earnings across fields of study, switching has the potential to alter ones expected labour market outcomes.
- Despite a large literature on major choice, relatively little is known on the patterns, and consequences, of switching.

Research Question(s)

- What are the patterns in program switching exhibited by students across the achievement distribution?
 - Program = field of study and institution combination.
- How does a student's expected earnings outcome change when they switch programs?
 - Expected earnings is defined as the median annual earnings of prior graduates.

Contribution & Importance

- Contribution
 - First work to document switching patterns in terms of expected earnings.
- Importance
 - Switching in post-secondary education is a common practice and yet little is known about it.
 - Students are increasingly enrolling in programs that offer high labour market returns.
 - Policy implications: Reduce barriers to switching

Data

- BC K-12 – Detailed information on students enrolled in BC schools between 1994 and 2020.
 - Outcome on FSA, grades in high school courses (grades 10 and 12), special needs, Indigenous identity, school attended, postal code, gender.
- PSIS – Information on students enrolled in post-secondary education (university & college) between 2004 and 2020 (BC enters in 2008).
 - Field of study (CIP categories), degree type (ISCED), program start/end date, graduation flag, declared major.
- T1FF – Income (earnings & benefits) of individuals who filed a tax-return between 1998 and 2018.
- Restrict attention to students who completed high school in BC.

Main Sample

- Approximately 52,000 Individuals
 - Completed Grade 12 between 2013 and 2018 – All subject to 2004 Graduation requirements.
 - Enrolled in a post-secondary program.
 - High school grades in mandatory Grade 10 courses (Math, English and Science)
 - Parental income
 - Observed for at least two years in post-secondary education.

Identifying Switchers

- Started a new program with a different CIP code after exiting from a previous program.
 - Exiting = Graduation, Expulsion, Dropping Out or otherwise transitioning into another field.
- Does not include students who declare a major or transition to graduate programs.
 - I.e. Transitioning from General Humanities into English is not a switch. However, General Humanities into Business is a switch.
- Includes students who transition between Diploma and Bachelors programs (of different subjects).

Earnings and Achievement Ranking

- Programs are ranked on the earnings outcomes of prior graduates.
 - Median post-graduation annual labour market earnings until age 32 (inflation adjusted to 2020).
 - Prior studies that incorporate earnings use national averages across fields of study.
 - Programs placed into percentiles.
- Student achievement determined through high school marks.
 - Use Grade 10 average in mandatory English, Math and Science.
 - Difficulty-corrected grades across courses (Kelly, 1976).
 - Decile of student quality calculated within-cohorts.

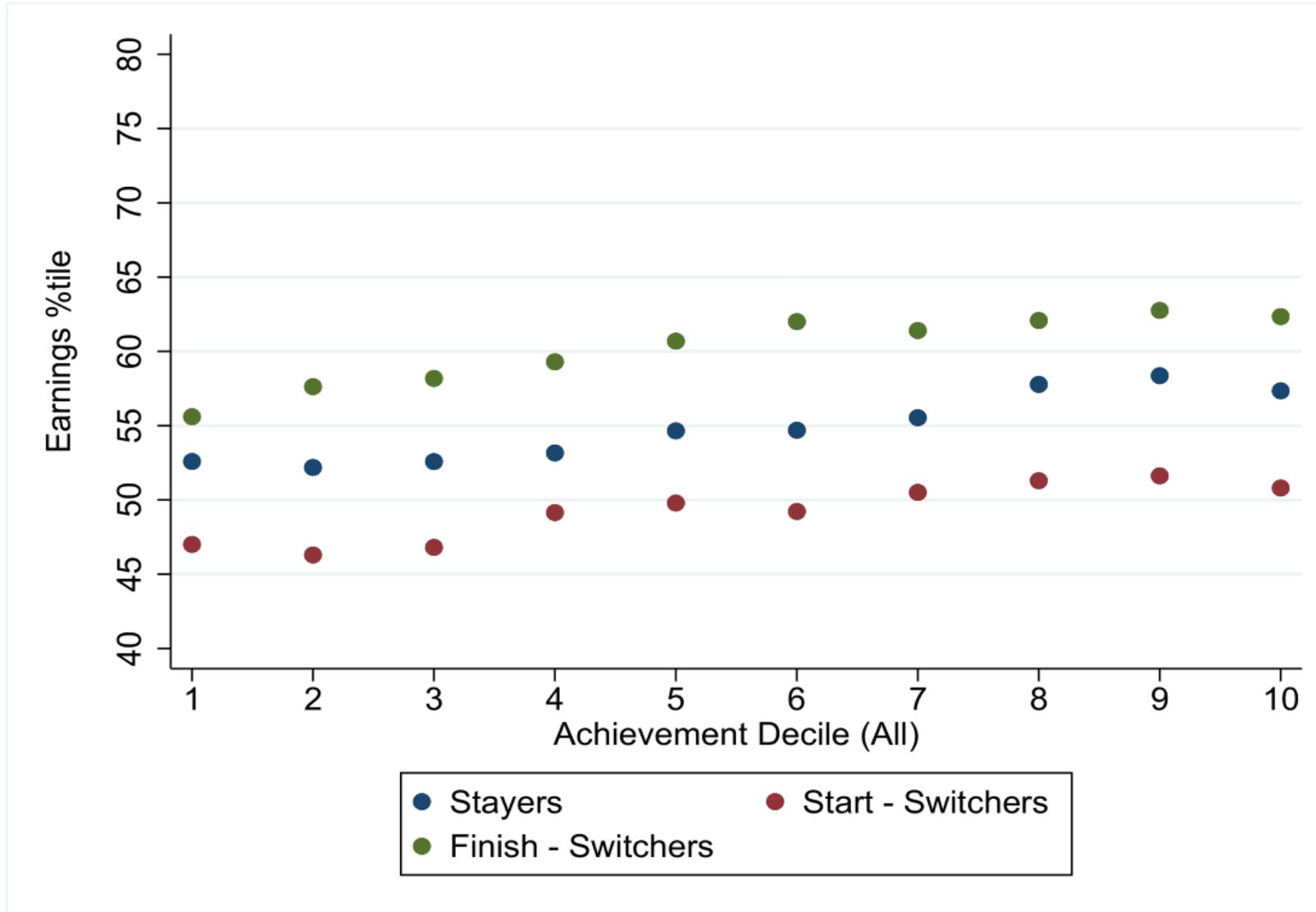
Summary Statistics – Demographics

	Switchers (%)	Non-Switchers (%)
Female	59.40	53.9
Parental Income		
<i>5th Quintile</i>	23.11	22.40
<i>1st Quintile</i>	16.13	21.68
Academic Achievement		
<i>5th Quintile</i>	19.70	19.26
<i>1st Quintile</i>	16.96	21.13
Observations	12,030	40,130

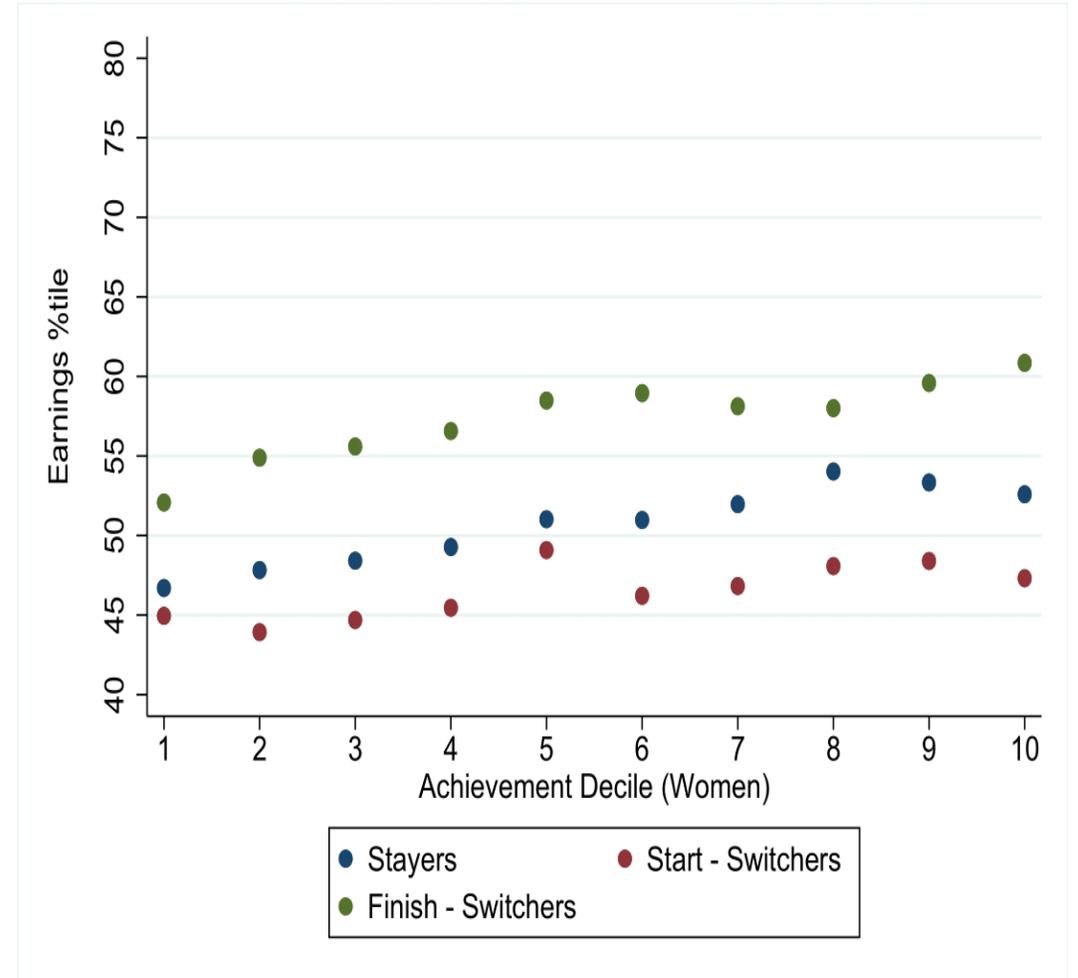
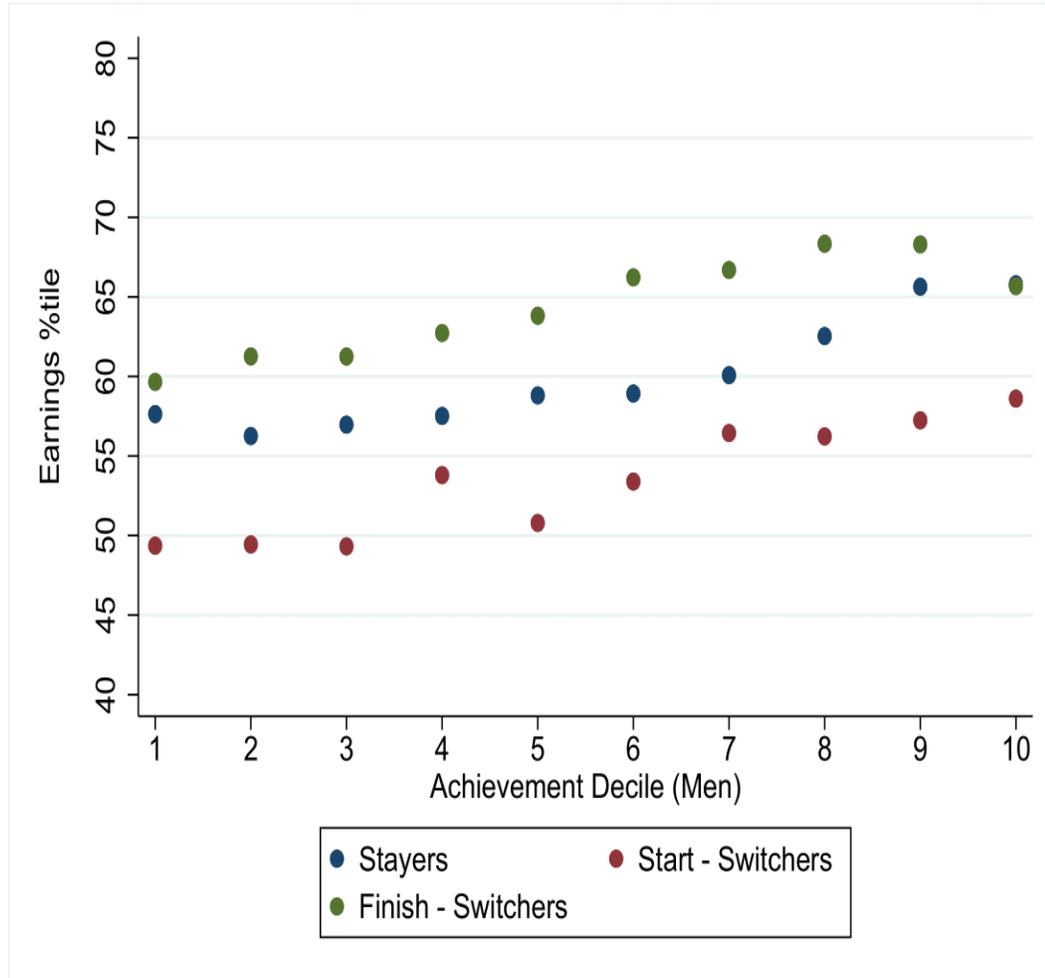
Summary Statistics – Programs

CIPPG	Switch Out Rate (%)	Switch-In Rate (%)
Physical and Life sciences and Technologies	37.3	14.86
Social Sciences and Law	32.2	31.41
Humanities	25.9	11.97
Education	25.3	61.44
Agriculture, Natural Resources and Conservation	24.5	32.38
Math and Computer Science	21.6	27.64
Architecture, Engineering, and Trades	18.7	18.03
Health and Related Fields	17.3	31.29
Personal, protective and transportation services	16.4	32.37
Visual and Performing Arts	12.6	13.47
Business, Management and Public Administration	11.1	23.97

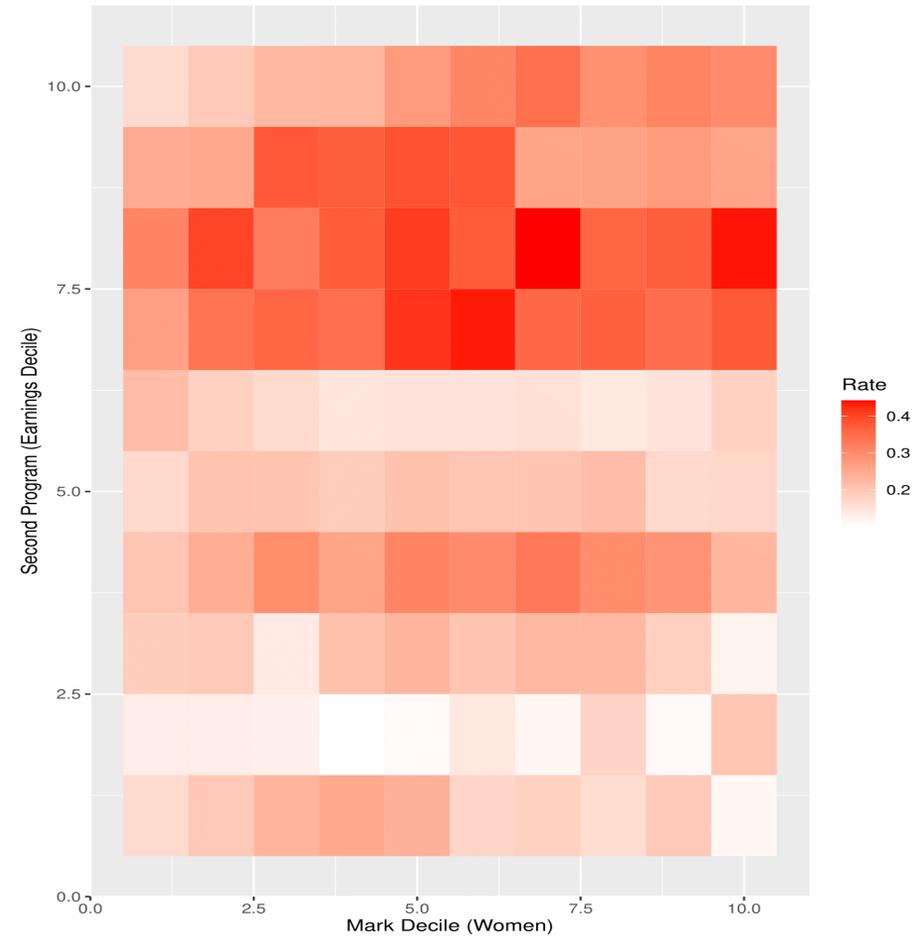
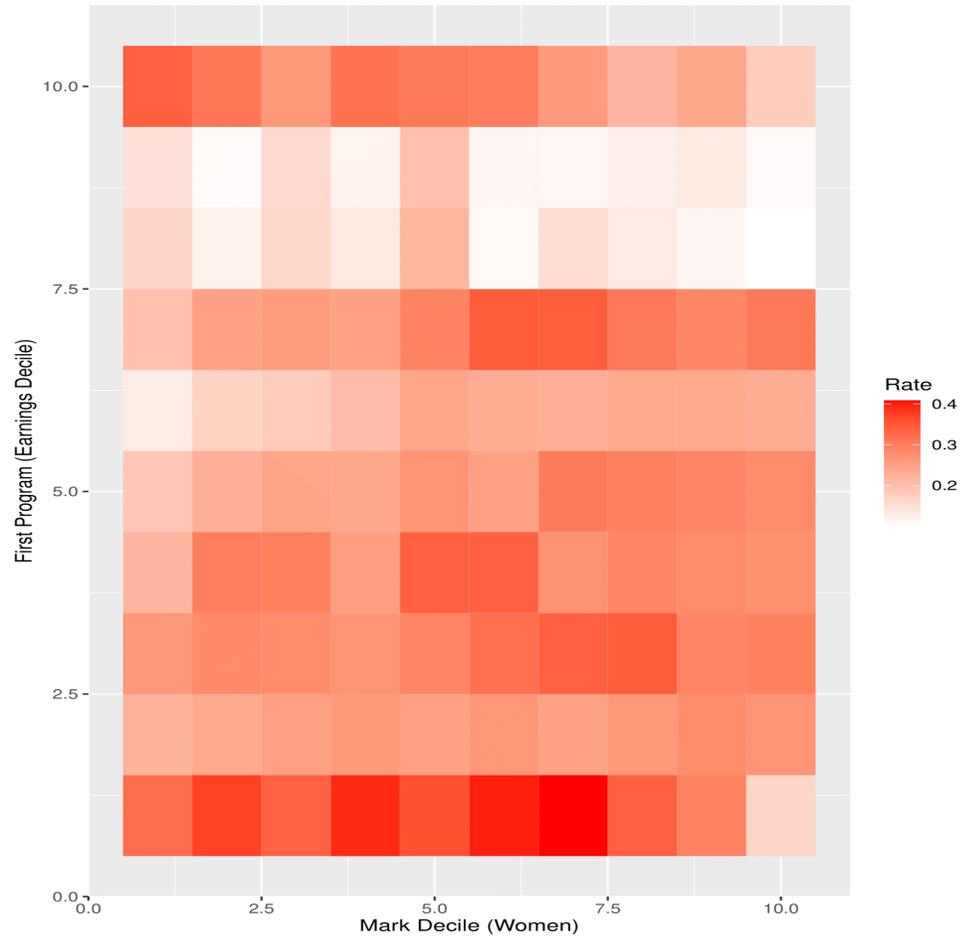
Average Expected Earnings



Average Expected Earnings (Gender)



Switch-Out Rate (Female)



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