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# How Costs Affect Student Choice of University

Research Brief No. 11



## Summary

This study delves into the link between the cost to attain an undergraduate degree and the choice of university among academically stronger students. By looking at Ontario Undergraduate Application Centre data as well as the average family income in the student's neighbourhood, researchers were able to conclude that the number of strong registrants at a university does not change substantially when there is a change in the net cost (tuition minus entry scholarship) of attending the institution. Entry scholarships usually are granted solely on the basis of high school grades and are guaranteed to any qualified applicant. There are, however, changes in the type of strong student that registers: when net cost rises, more students from high-income neighbourhoods and fewer from low to medium-income neighbourhoods will apply for the Arts and Science programs. There is no discernible difference in professional programs like Commerce and Engineering. The study also concludes that there are only very small differences among university students from low-, medium- and high-income neighborhoods in the likelihood of winning an entry scholarship.

## Goals

The paper seeks to answer three questions:

- Does lower net cost (relative to other Ontario universities) enable a school to attract a larger share of academically strong students from Ontario?
- Does net cost have a different impact on attracting strong students from low income neighbourhoods than those from high income neighbourhoods?
- What are the distributional implications of entry scholarships? Specifically, are the students from high income neighbourhoods disproportionately likely to win an entry scholarship due to a positive correlation between high school grades and economic background?

## Key Findings

- Lower net cost (tuition minus entry scholarship) in a given university generally has little ability to attract a larger share of academically strong registrants.
- For Arts and Science students, a decrease in the net cost of university is associated with more students attending from low to middle-income neighbourhoods compared to high-income neighbourhoods.
- For Commerce and Engineering students, there is no change in the ratio between high income and mid to low income students attending when there is an increase in the net cost of university.

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### Information Sources

- Information about registration in universities was obtained from the Ontario Universities Application Centre. Entry cohorts from the years 1994 through fall of 2005 were studied.
- Information about tuition, mandatory fees and scholarships was obtained from the Council of Ontario Universities, university web sites, and the Statistics Canada Survey of Tuition and Living Costs.
- Scholarship information was obtained from the annual INFO publication of the Ontario Universities Application Centre, the Maclean's Magazine Annual Report on Universities, university web sites and personal communication with administrators.
- To analyze university choice and economic background, the student's postal code at the time of application from high school was linked with census neighbourhood data from 1996, 2001, and 2006. Individual application records were associated with the average household income from the neighbourhood area of the student's family residence. Census neighbourhoods usually have 500 to 800 households.

### Findings

Students from high income neighbourhoods are more likely to attend university than other students. The top row of Table 1 shows that 40 percent of persons age 15 to 24 in the 2001 census lived in low income neighbourhoods and 35 percent lived in high income ones. The next panel demonstrates, however, that only 20 to 23 percent of university entrants come from low income neighbourhoods whereas 42 to 47 percent come from high income ones. The lower two panels of the table show the distribution by average household income of those academically stronger entrants who typically qualify for entrance scholarships. These panels show that only a slightly higher proportion of academically stronger entrants come from high income neighbourhoods compared to all university entrants. Hence, among those who go to university, entrance scholarships do not disproportionately favour entrants from more advantaged areas.

**Table 1: Distribution of University Registrants by Neighbourhood Average Income: Overall and by Grade Category**

	Low Income*	Middle Income*	High Income*
All Persons Age 15 -24 in 2001 Census	40%	25%	35%
<b>Year</b>	<b>All University Entrants</b>		
1995	23%	34%	42%
2000	22%	34%	44%
2005	20%	33%	47%
<b>Year</b>	<b>Entrants with High School Grade Point Average of 90+</b>		
1995	20%	34%	46%
2000	19%	33%	48%
2005	20%	32%	48%
<b>Year</b>	<b>Entrants with High School Grade Point Average of 80 to 90</b>		
1995	22%	34%	44%
2000	20%	34%	46%
2005	20%	33%	47%

\*High, middle and low income refer to the terciles of the distribution of census neighbourhoods by average household income.



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## Definitions

- Net cost: the net cost of university is defined as the cost of tuition minus any guaranteed entry scholarship both of which are known factors when applying for university. Entry scholarships typically are granted solely on the basis of high school grades.
- High, Middle and Low-incomes are defined by the 33rd and 67th percentiles of the distribution of neighbourhood average income.

## History

Deregulation in the mid-1990s led to changes in tuition and fees amongst Ontario's universities. With increasing costs of attendance, there has also been a rise in guaranteed entry scholarships. The proportion of university budgets dedicated to scholarships and bursaries has increased from 3.1% on average in 1994 to 5.2% in 1999 and to 10.7% in 2005. One consequence of the changes in tuition, fees and scholarships has been a large increase in the differences among universities in the net cost to the student, especially in professional programs.

## Factors Other Than Net Cost

The authors recognize various factors other than cost that affect a student's decision of which university to attend, including class size, facilities, athletic and social programs, etc. Higher net cost may allow a university to finance more features and attract a larger share of top students from high-income neighbourhoods. Unfortunately, the data do not contain measures of such factors. A key assumption is that differences in such factors among universities changed less than differences in net cost.

## Conclusion

With the exception of Science and Engineering students in the 90-100 grade range, the findings indicate no relationship between net cost and the overall share of strong applicants that a university is able to attract. These findings indicate that universities have very little ability to control the number of academically strong students who apply based on tuition levels or scholarships based on merit.

As to whether the impact of net cost varies by the average income of the student's neighbourhood, the authors found that increased university costs (net) are associated with an increase in the share of students from high income neighbourhoods and a decrease in the shares from middle- and low-income neighbourhoods. This finding is not generally true of students in Commerce and Engineering. This finding deserves more study.

University registrants disproportionately come from high income neighbourhoods. Among students who go to university, however, there are only very slight differences in the incidence of entry scholarships among university students from neighbourhoods with different average incomes. Therefore, such scholarships do not seem to favour disproportionately students from more economically advantaged neighbourhoods.



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### About the study

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