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A Competing Risks Analysis of the Determinants of Low Completion Rates in the Canadian Apprenticeship System

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A COMPETING RISKS ANALYSIS OF THE DETERMINANTS OF LOW COMPLETION RATES IN THE CANADIAN APPRENTICESHIP SYSTEM[1]

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ABSTRACT

In this paper, we estimate the determinants of low (and slow) completion rates with a competing risk duration model using data from the National Apprenticeship Survey (NAS) 2007. This allows us to distinguish the impact age and duration dependence on the probability of dropping out. We find older apprentices are less likely to transit toward completion after age 28. We also find duration dependence to be positive, meaning transition probabilities to completion increase with apprenticeship duration. However, the positive effect dies out quickly after 10 years of apprenticeship.

EXECUTIVE SUMMARY

This report uses data from the National Apprenticeship Survey (NAS) 2007 to estimate the determinants of low (and slow) completion rates in the Canadian apprenticeship system. In the NAS, each apprentice is classified into one of three status: (1) Long-Term Continuers, (2) Completer and (3) Discontinuer. We use a competing risk duration model to estimate the impact of various demographic and apprenticeship characteristics on the probabilities of being classified into each one of the three status.

We find older apprentices are less likely to transit toward completion after age 28. We also find duration dependence to be positive, meaning transition probabilities to completion increase with apprenticeship duration. However, we also estimate large increases in the probability of discontinuation around 3-4 years and 6-7 years. It appears that policies to prevent dropping out must then act in these time windows to be most effective.

In terms of demographic characteristics, we find that apprentice with disability, immigrant, aboriginal, and apprentices with kids below 18 are all less likely to complete. Also, even controlling for all other factors, we find that apprenticeship in Building, Construction, and apprentices from the East are all less likely to complete. These groups could be targeted by policies to foster completion.
We also find that individuals who completed high school are more likely to complete. This could mean that restricting entry into apprenticeship to individual with a high school degree would increase the completion rates.

Finally, another interesting finding is the negative impact on the probability of completion if the technical training is taken through day-released or self-paced. This could indicate that learning by block (one week or more) could help increase completion rates.