

Evaluating the Effects of a Transit Fare Exemption for the Elderly in Brazil

Renato Schwambach Vieira

Background

In Brazil, the constitution grants the right of free public transportation for people older than 65. In the city of São Paulo, the policy was extended to seniors over the age of 60. While the threshold age was reduced for women in 1993, a similar reduction was only granted for men in 2013. However, due to a budget crisis, the City Administration is studying the possibility of revoking the extension of the benefit to all people 60 to 64 years old.

Research Questions

Do eligible individuals take advantage of the fare exemption? Are they more likely to use public-transportation? How much more likely? Is there any evidence of mode substitution due to the policy? How many trips by public transportation would be made if the alternative policy proposed by the city Administration were implemented? What will be the distributive impacts of such decision?

Identification Strategy

I explore the age threshold differential that existed for men and women between 1993 and 2013 to identify the effects of the policy. Using a difference-in-differences design I compare the changes in the travel behavior of men and women below and above the age of 60. I assume that any abnormal variation observed for women and not observed for men is likely to be caused by the exemption policy.

Data

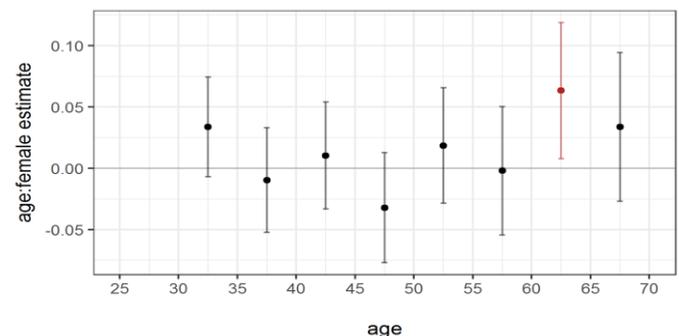
Data about the travel behavior of individuals is extracted from a pair of household travel surveys carried in 2007 and 2012, years when the threshold age for fare exemption was different for men and women. The surveys include a rich dataset of socioeconomic

information and the travel behavior of thousands of randomly selected individuals in a regular weekday.

Results

My preliminary results indicate that women age 60 to 64 were substantially more likely to ride for free on public transportation than men. I also observe a substitution from public modes where the exemption was not valid to public modes where it was. Moreover the share of walking trips also seems to be reduced due to the fare exemption, however, I do not observe a significant increase in transit ridership. I was still not able to estimate a model that simulates the government revenue gains and losses in case of alternative fare exemption policies.

Figure 1: Changes in the Share of Public Transit Trips by Bus for Women in Comparison to the Changes Observed for Men – OD Survey of 2007*



**Women 60-64 years old could ride for free on São Paulo buses, men of the same age had to pay the full fare. This fare exemption for women was not valid on other public transit modes such as the subway and urban trains.*

Next Steps

- Summarize results in the literature;
- Estimate the model excluding trips where public transportation is not a real alternative. Use Google Maps to identify these trips.
- Explore other relevant subsets of the population
- Design and estimate the structural choice model to simulate alternative policy scenarios.