

## IVT – Assignments

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<b>Head:</b>	Prof. Dr. Eva Heinen
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<b>Topic:</b>	Pseudo-panel Analysis on the Impacts of Car Ownership Changes on Travel Behavior
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<b>Assistant:</b>	Anna S. Reiffer
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<b>Registration:</b>	<a href="http://www.ivt.ethz.ch/en/studies/downloads/assignments.html#registration">www.ivt.ethz.ch/en/studies/downloads/assignments.html#registration</a>
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Travel behavior is largely stable and habitual in a medium and short-term perspective. However, disruptive events—such as getting a car—can considerably alter travel behavior. To analyse such long-term behavior, longitudinal data is needed; however, only few such data sources exist and currently, no adequate Swiss data is available. Alternative methods to apply are pseudo panel analysis—a statistical technique that uses repeated cross-sectional data to create synthetic panels, allowing for the study of long-term behavior changes when true longitudinal data is unavailable. The aim of this thesis is to conduct a pseudo-panel analysis of the Swiss Microcensus to analyse the impact of car ownership changes on travel behavior changes.

In this thesis, the 2010, 2015, and 2021 waves of the Swiss Microcensus will be used to construct a pseudo panel. Based on the constructed panel, this thesis will explore how changes in car ownership—both increases and decreases in car ownership—affect travel behavior.

Tasks to be conducted in this thesis (depending on final format and group size):

- Familiarisation with the data and exploratory data analysis
- Familiarisation with pseudo-panel analysis
- Identification of a suitable method of analysis
- Conduct data analysis, interpret, and discuss results

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<b>Links:</b>	
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<b>Additional remarks:</b>	The analysis can be conducted in either R or python. Other data analysis software can be used, but software support cannot be given.
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<b>Minimum credits:</b>	Topic suitable for MSc thesis, credits will depend on study program
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<b>Recommended lectures:</b>	Transport planning methods (MSc)
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