

## Preferred citation style

---

Axhausen, K.W. (2020) Swiss longer duration surveys: Experiences and insights, *MPN Symposium, KIM Netherlands Institute for Policy Analysis*, zoom, September 2020.

# Swiss longer duration surveys: Experiences and insights

KW Axhausen

IVT  
ETH  
Zürich

September 2020

 Institut für Verkehrsplanung und Transportsysteme  
Institute for Transport Planning and Systems

**ETH**

Eidgenössische Technische Hochschule Zürich  
Swiss Federal Institute of Technology Zurich

# Acknowledgements

---

## Response analysis

- B Schmid

## Previous long duration and panel studies

- R Schlich, A König, S Schönfelder
- R Schlich
- M Löchl, U Buhl, P Widmer
- H Becker, D Reck
- B Schmid
- A Meister, C Winkler, B Schmid

# Acknowledgements for the current studies

---

## MOBIS/COVID19 GPS tracking study

- J Molloy
- C Tchervenkov
- T Schatzmann
- Prof. B Hintermann, WWZ, Universität Basel
- B Schoeman, WWZ, Universität Basel

## TimeUse+ including GPS tracking

- A Meister
- C Winkler

# Challenges

---

# Challenge

---

A survey has to

- Win the trust of the respondents and engage them
- Maintain it to the last answer
- Pitch the questions at the correct level of complexity
- Balance the respondent burden with the motivation and incentive of the respondents/participants

# A tragedy of the commons: Willingness to participate

---

through

- Overuse by too many small studies (rare power calculations)
- Misuse to sell products or services
- Misuse for political advertisements

Resulting in

- Low participation rates and mistrust
- High incentives with unwanted self-selection of the purely financially motivated
- In a shift to longer duration surveys of the willing
- Shift to admin records, e.g. GSM, GPS

# Why (not) panels or long-duration studies?

---

# Causal identification and parsimony

---

Statistical reasons:

- Causal identification by keeping the actors fixed
- Reduction of behavioural/setting variance and resulting smaller sample sizes
- But lower marginal value of each observation due to similarity
- But concern about possible self-selection bias of the volunteers

Financial reasons:

- High recruitment costs per person/household for longer studies
- Lower costs per daily observations

# Practical concerns

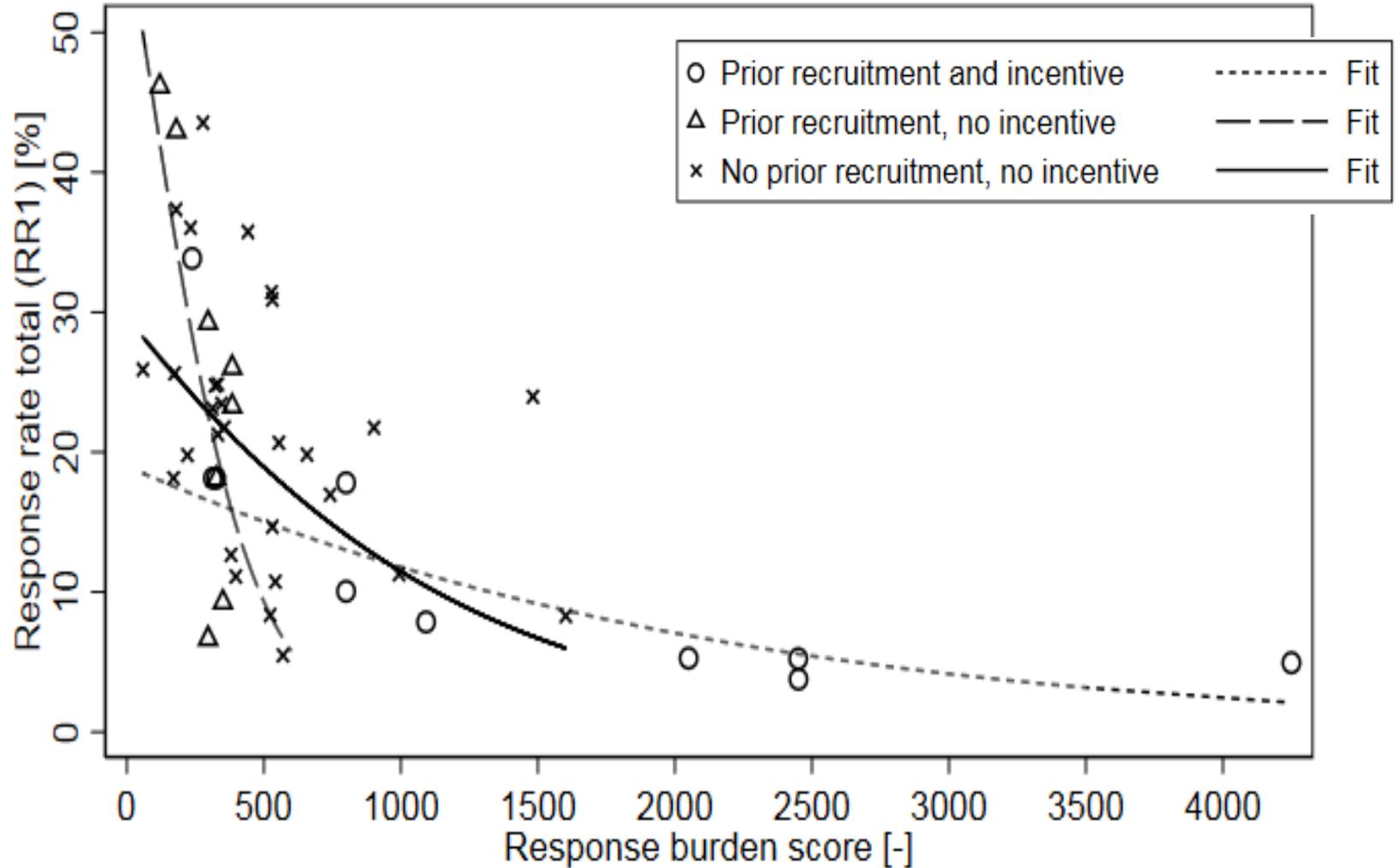
---

- Natural panel attrition
- Cost of panel maintenance
- Staff continuity and respondent/study trust
- Behavioural adjustments given the survey experience, especially for virtual policy experiments (information provision, pricing, etc.)

# Response behaviour @ IVT since 2000

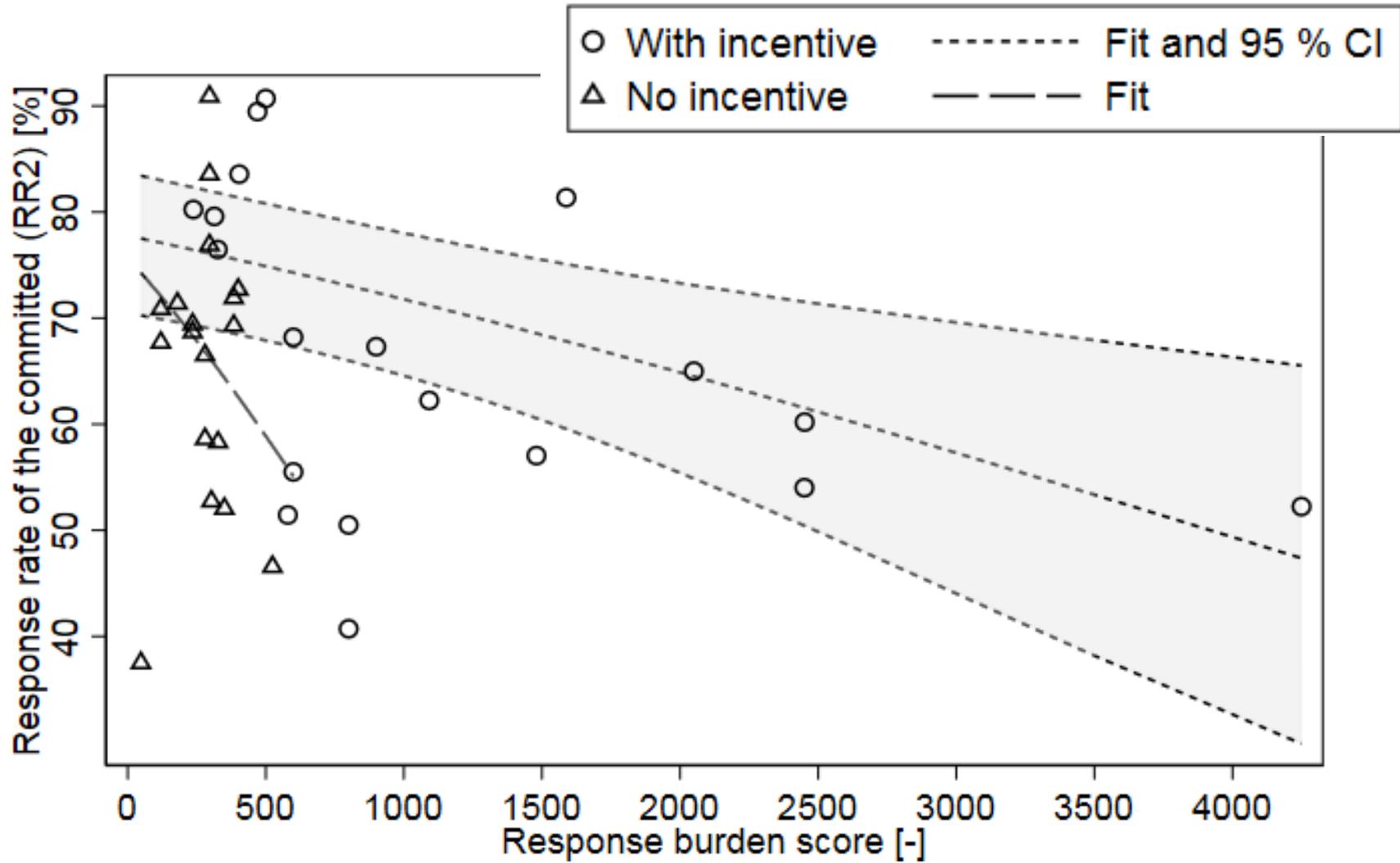
---

# Response behaviour: Raw



Schmid et al. (2017)

# Response behaviour: Committed



## 2007 VTTS-CH Study : Willingness to respond

---

Chosen	Car availability	RW for chosen mode	Number of choices	Response rate [%]
Car	Yes	Yes	15	52.2
Car	Yes	No	15	48.6
Bus	Yes	Yes	15	54.4
Train	Yes	Yes	15	65.7
Bus	No	Yes	9	37.7
Train	No	Yes	9	50.2

# Trends and new challenges at IVT

---

# Long duration and panel surveys

---

- [1995-1997 **MEST** (8 week long distance travel survey)]
- 1999-2000 **MobiDrive** (6 week travel diary)
- 2003 Time use and partial **leisure travel diary** (12 week)
- 2005 **Thurgau** (6 week diary)
- 2015-2016 **PostCarWorld** (1-2 week travel and expenditures diary)
- (2015-2017 **MAED** (1 week week travel and expenditures diary))
- 2016-2020 **Basel** 4-wave panel (inc. 1 week tracking study)
- 2018-2020 **Geneva** 2-wave panel (inc. 1 week tracking study)
- 2019 **MOBIS** (inc. 8 week tracking study)
- 2020 **MOBIS/COVID19** (inc. open ended tracking study)
- 2021-2022 **TimeUse+** (4-week time use and expenditure app-based study inc. GPS tracking)
- 2021-2025 **Swiss Mobility Panel** (attitudes and one-off diaries)

# MOBIS COVID Sample

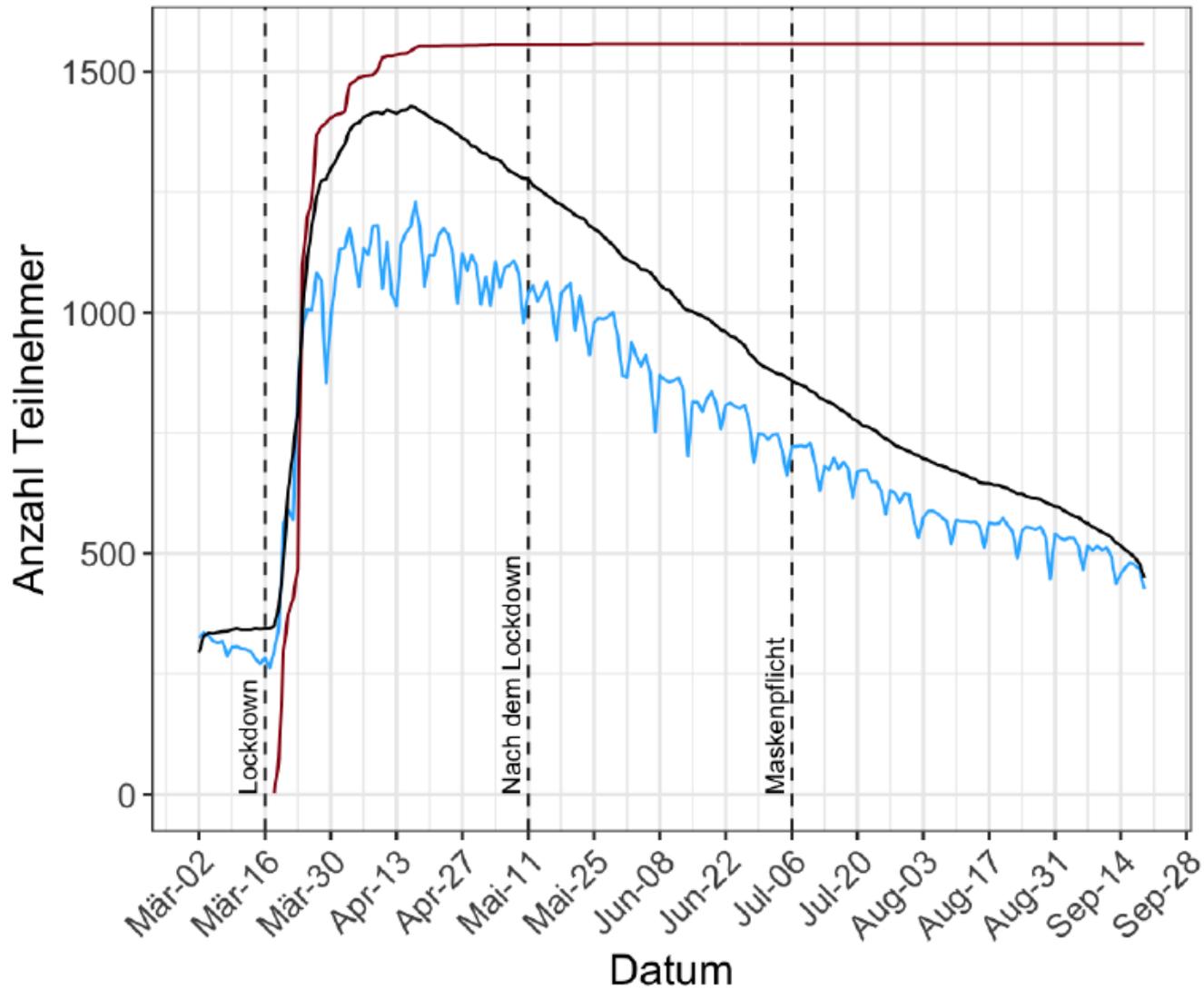
---

# MOBIS COVID Sample

---

- Earlier virtual mobility pricing study of car and transit users
- French and German speaking Switzerland
  
- 1100+ started out of 3700 original ones
- No incentives for COVID19 phase
  
- Catch-a-day app (motion-tag, Berlin)

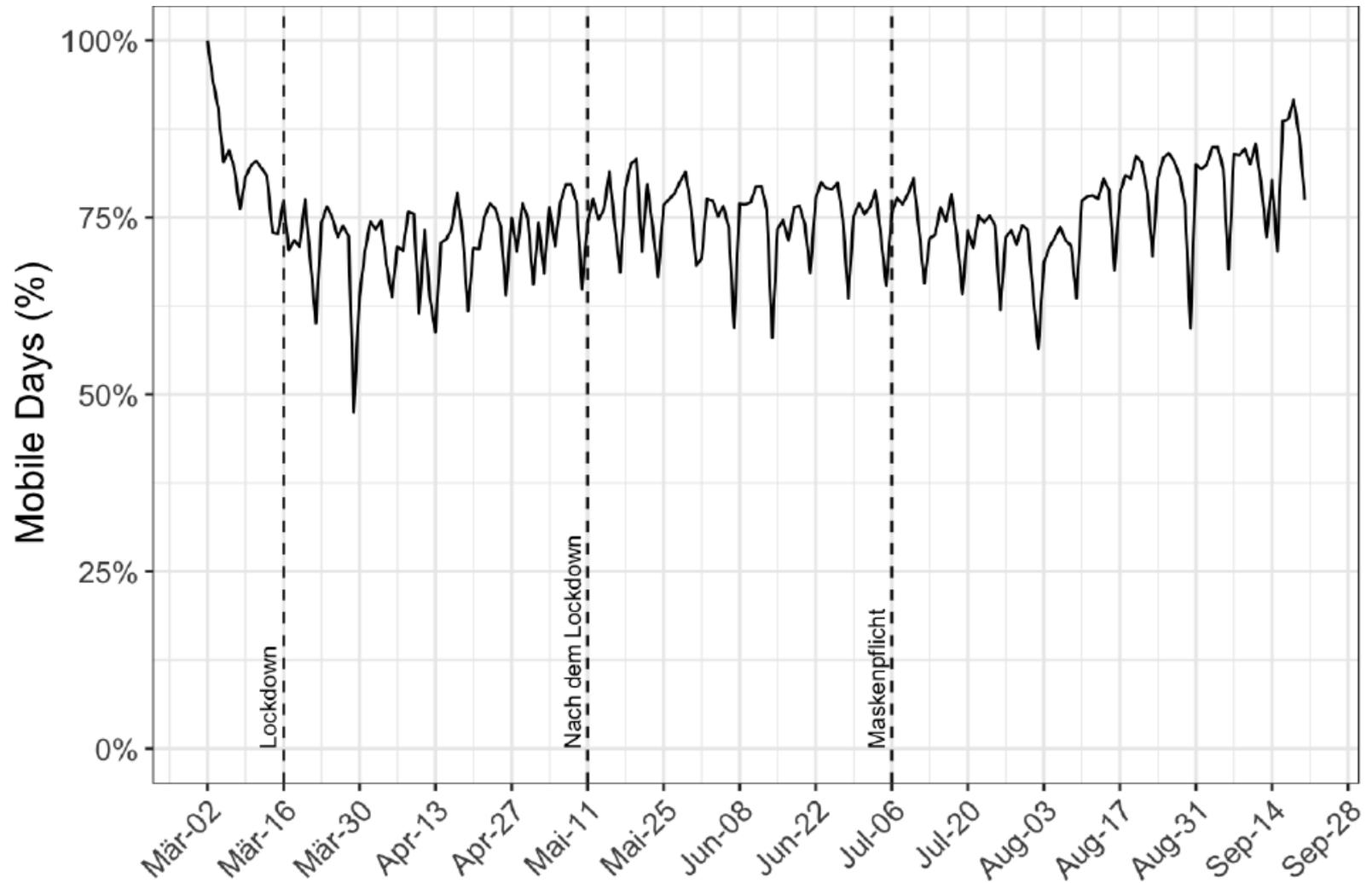
# MOBIS COVID sample evolution



# MOBIS COVID trajectory of out-of-home activities

---

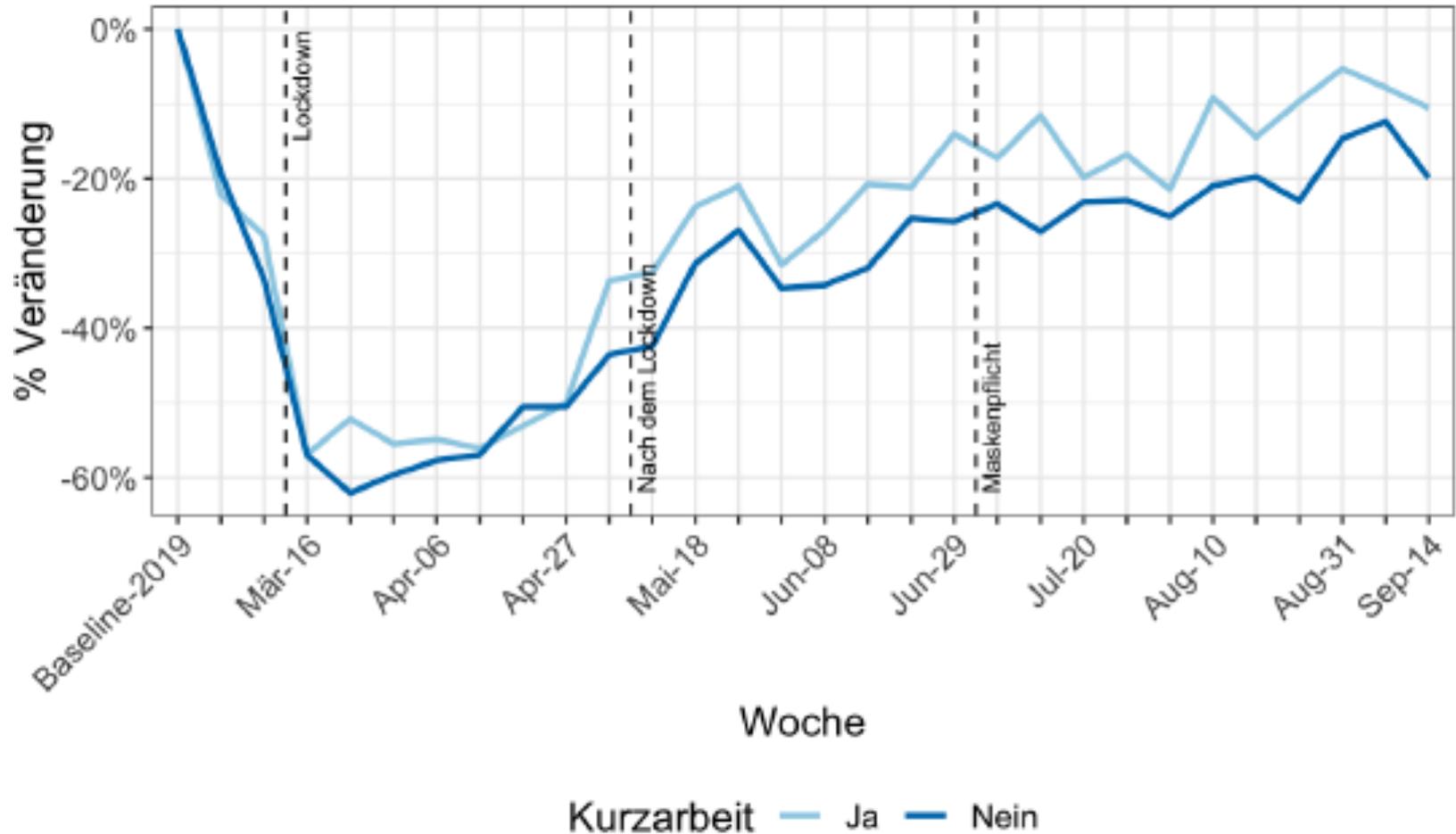
# Mobile persons per day



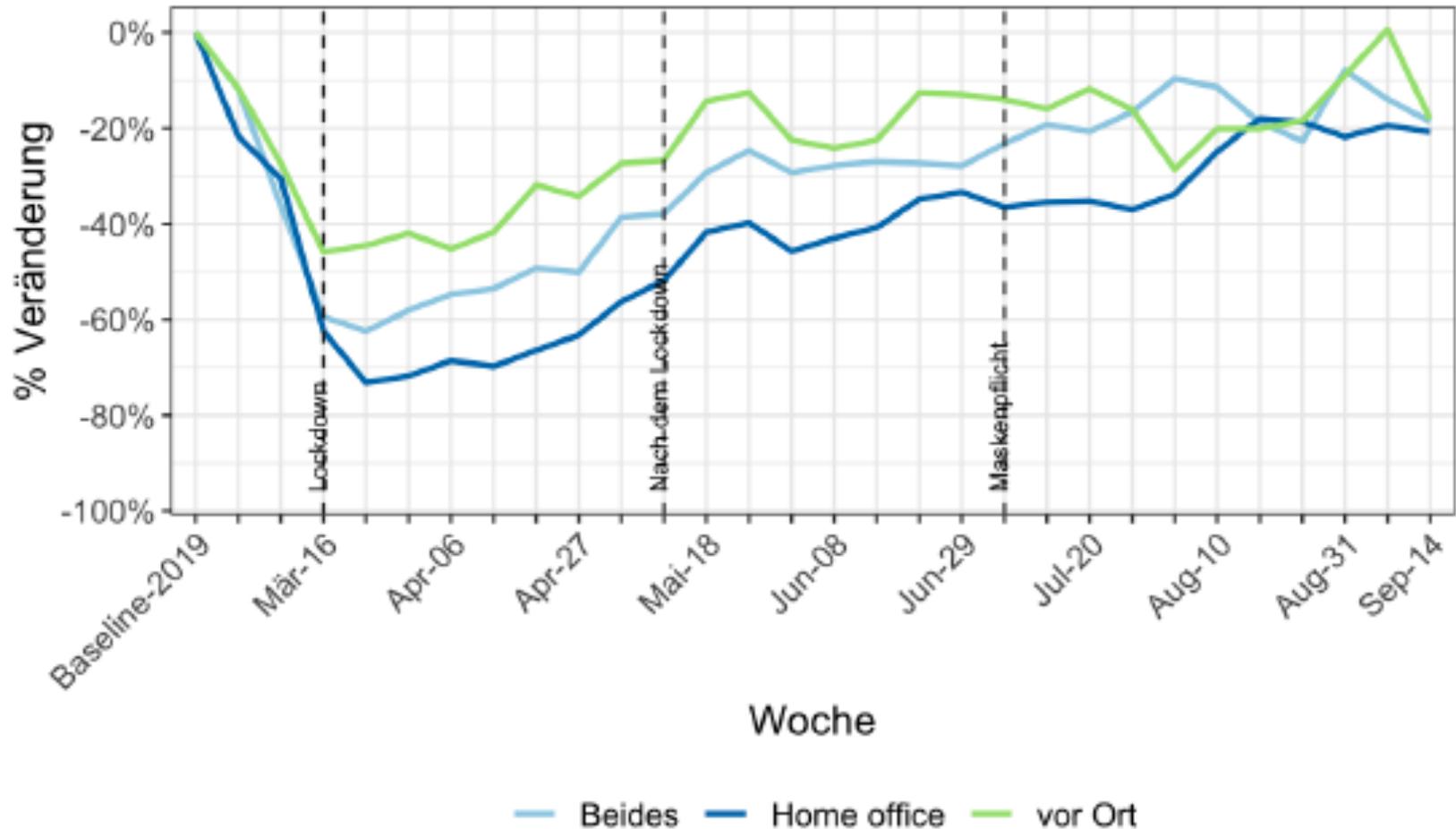
# MOBIS COVID PKm, trips and activity space trajectory

---

# $\Delta\%$ of PKm by work arrangement: “Kurzarbeit”



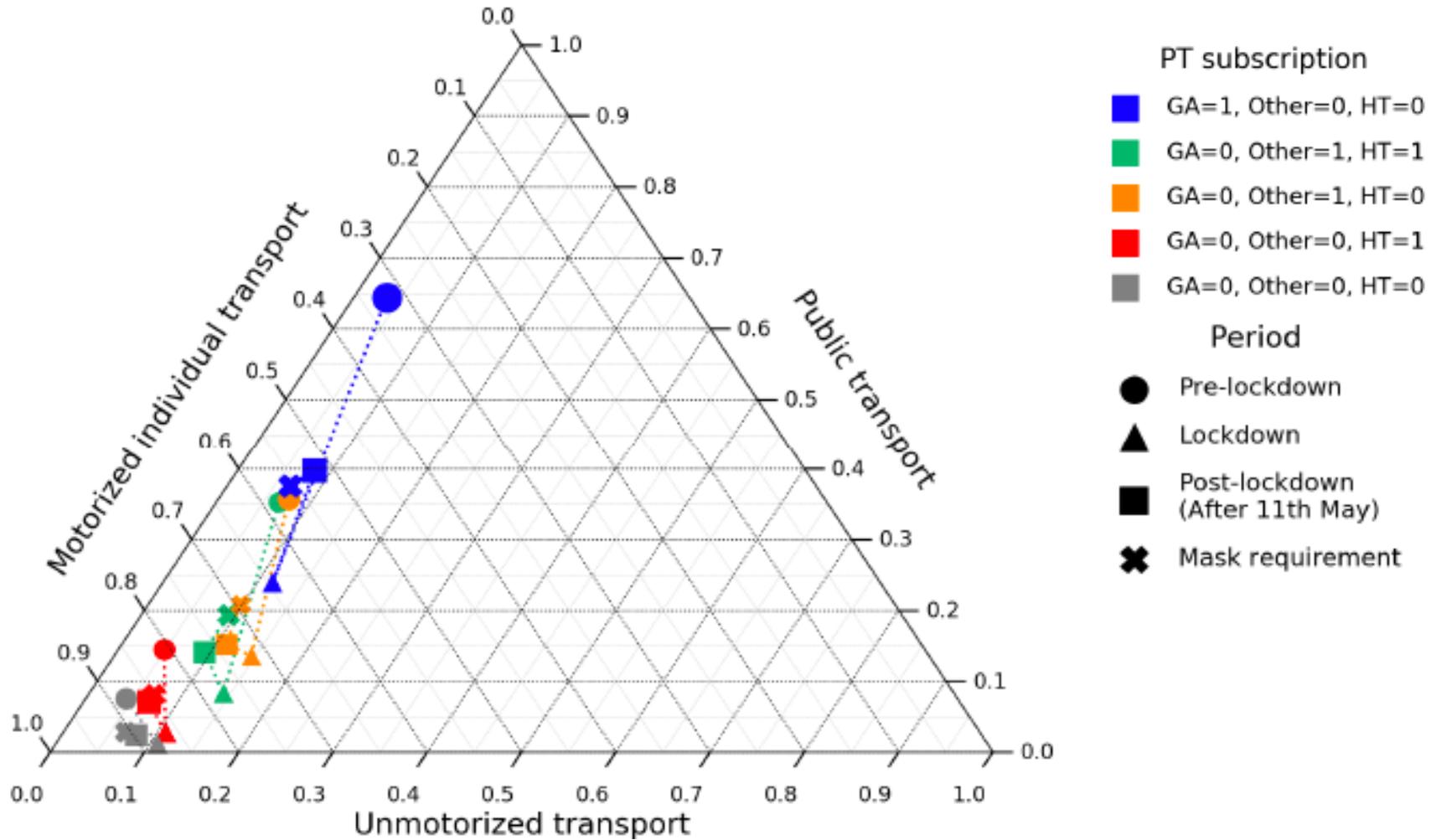
# $\Delta\%$ of PKm by work arrangement: "WFH"



# MOBIS COVID mode usage trajectory

---

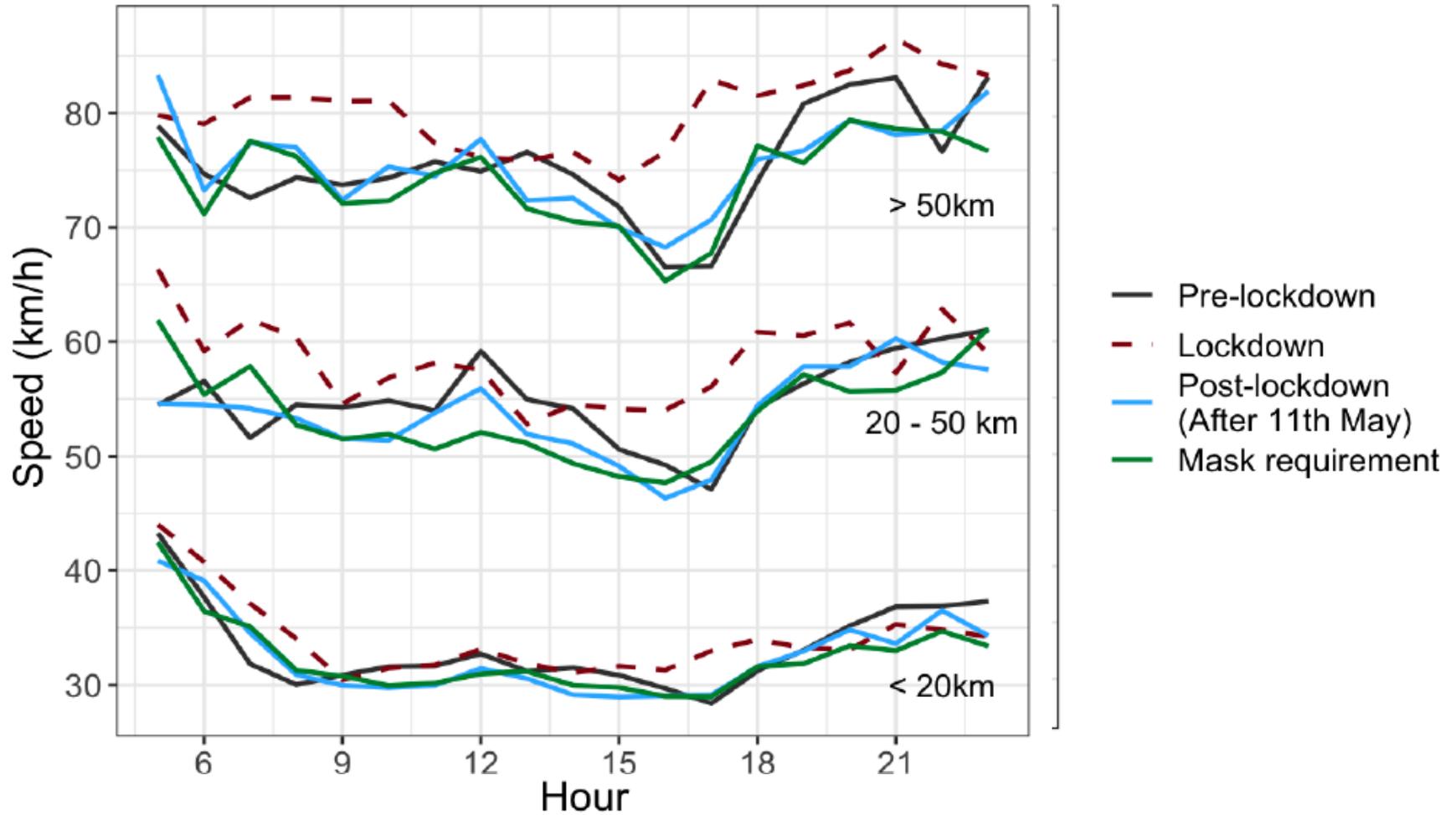
# PKm before, ....: Weekdays



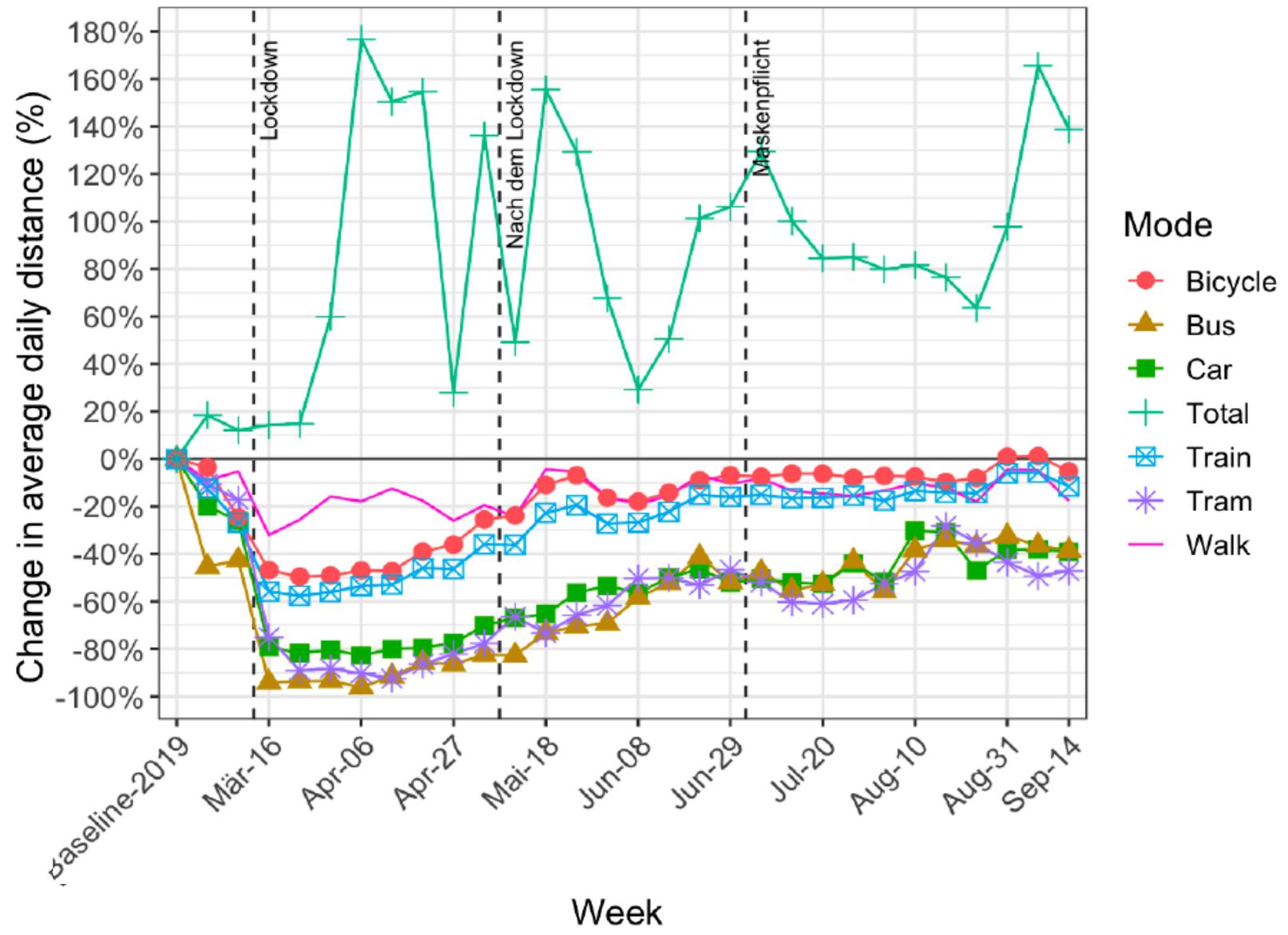
# MOBIS COVID problems in the fall?

---

# COVID19 impacts: Door to door speeds



# COVID19 impacts: Supressed demand in PKM



# Next steps

---

# New equilibrium ?

---

- Productivity ~ accessibility ~ speeds & lived density
- Share of work from "home" – end of the office ?
  - Cost allocation for the work place (*free lancing/putting out/ generalised gig economy*)
  - Resilience of such an economy (health care, retirement)
- Use of large pooled vehicles (bus, tram, train)
- Redistribution of road space (pedestrians, cyclists, cars, big vehicles)
- Desired/enforced speed levels
  - Crowding pricing for all vehicle sizes/services
  - Parking pricing
- Crowding control in the city

# New equilibrium for surveys ?

---

- Travel behaviour model demand information about:
  - Travel
  - Time use
  - Expenditure
  - Social networks
  - Attitudes
- Larger set of non-chosen alternatives
- Division of labour:
  - Very large scale GSM use/open or hidden GPS tracking
  - Substantial time use and expenditure surveys (with tracking)
  - Substantial attitude, mileage and mobility tool panels
  - (Substantial long-distance travel panels)

Questions ?

---

[ivtmobis.ethz.ch/mobis/covid19/](https://ivtmobis.ethz.ch/mobis/covid19/)

[www.ivt.ethz.ch](https://www.ivt.ethz.ch)