Estimation Results of Bayesian hierarchical NHPP

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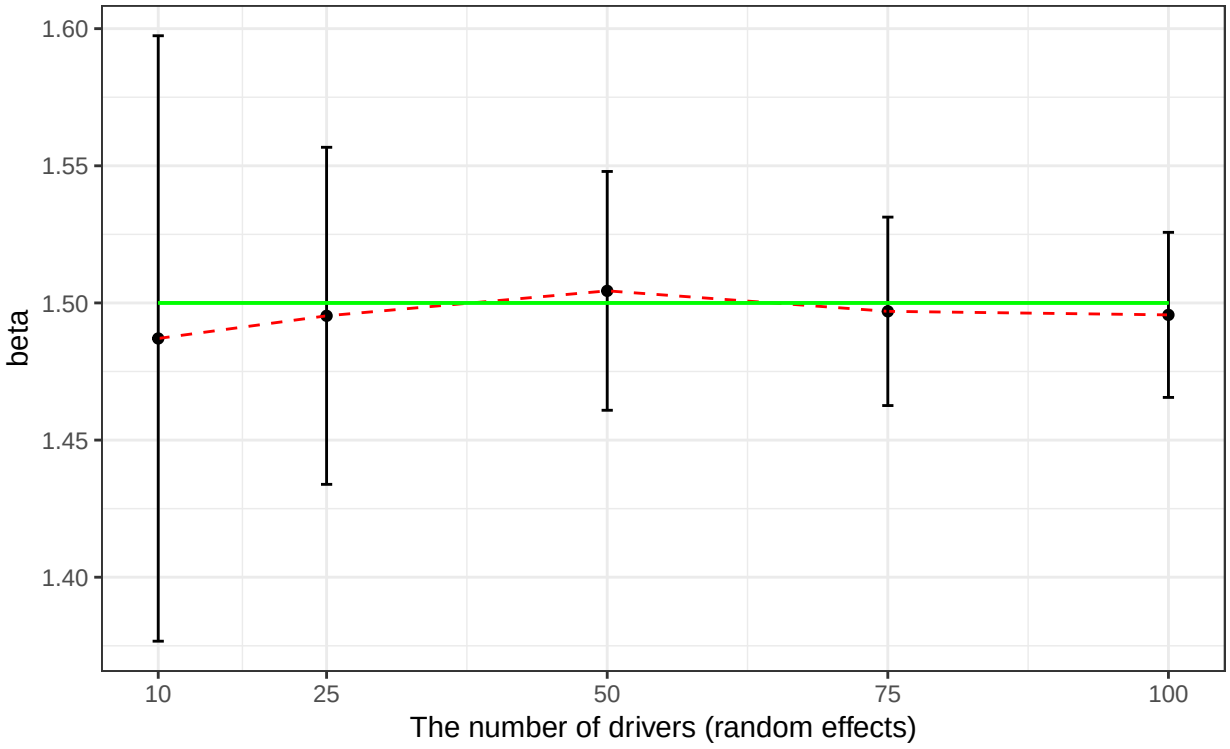
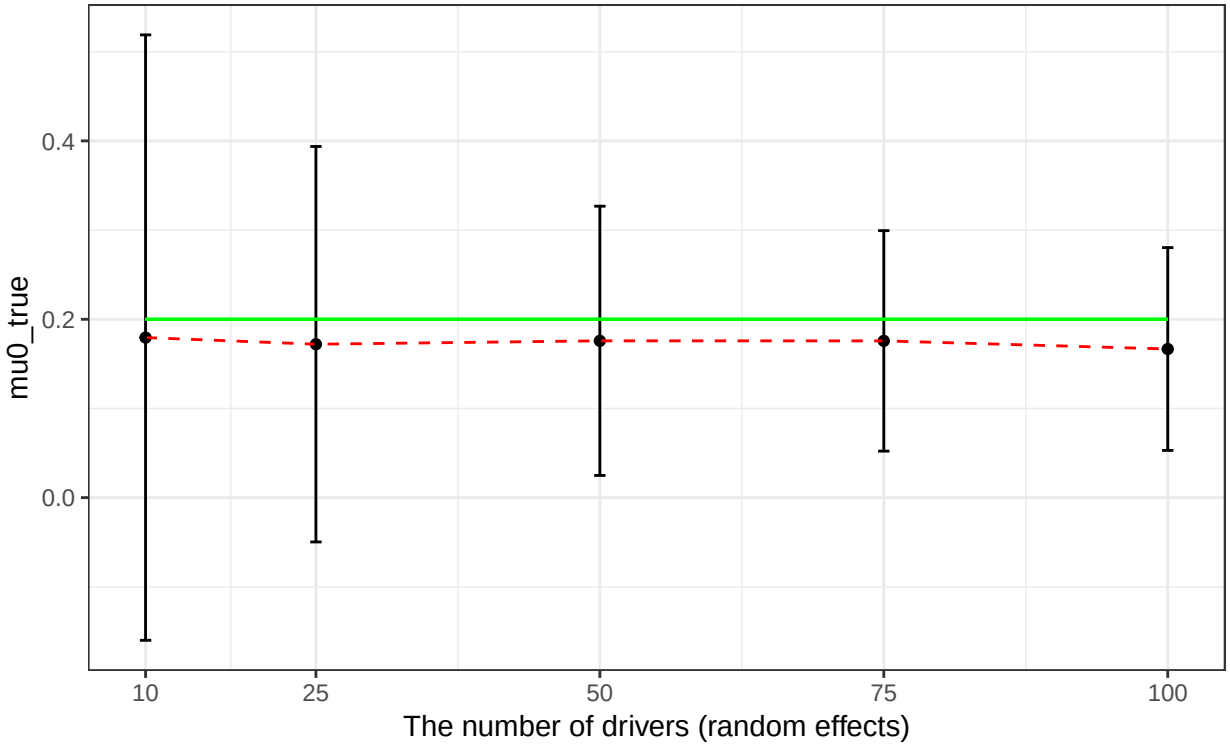
Contents

1 100 simulation on 2019-07-14

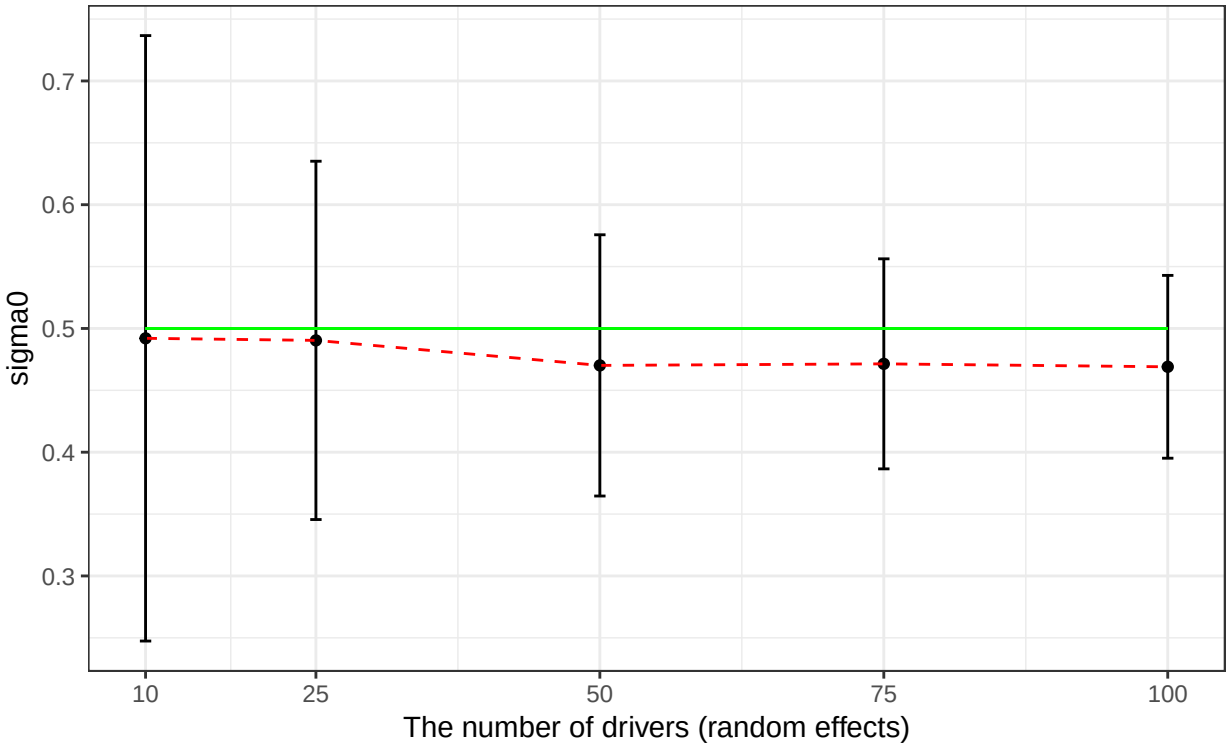
1.1 beta



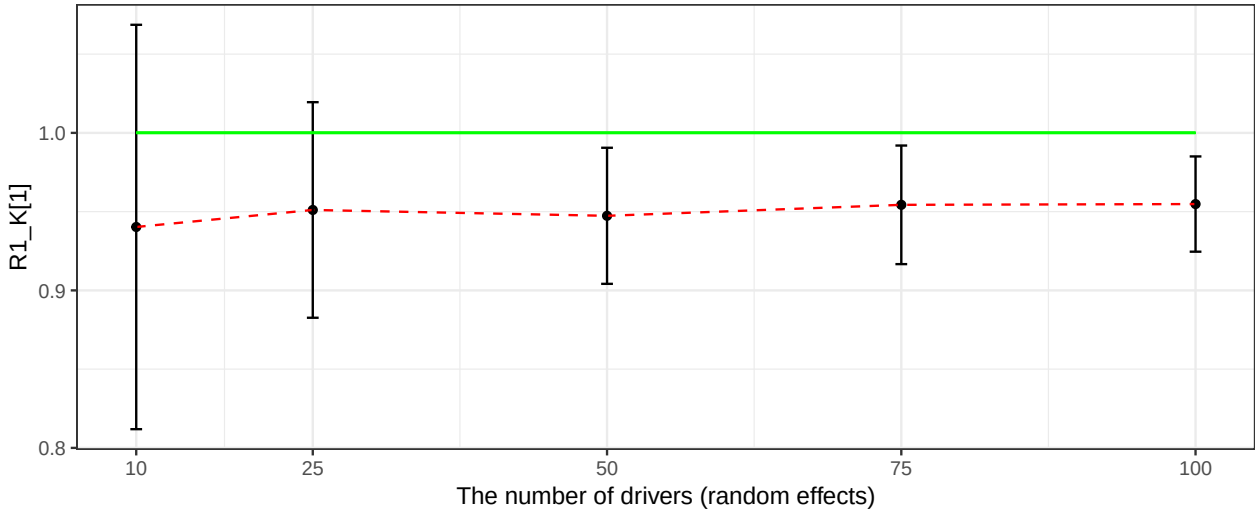
1.2 mu0

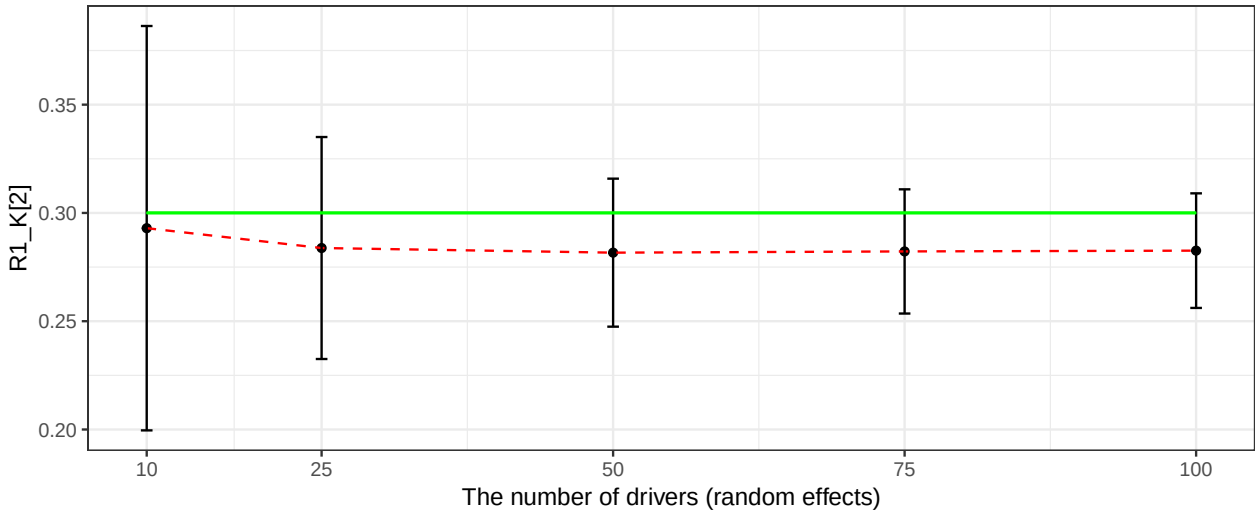


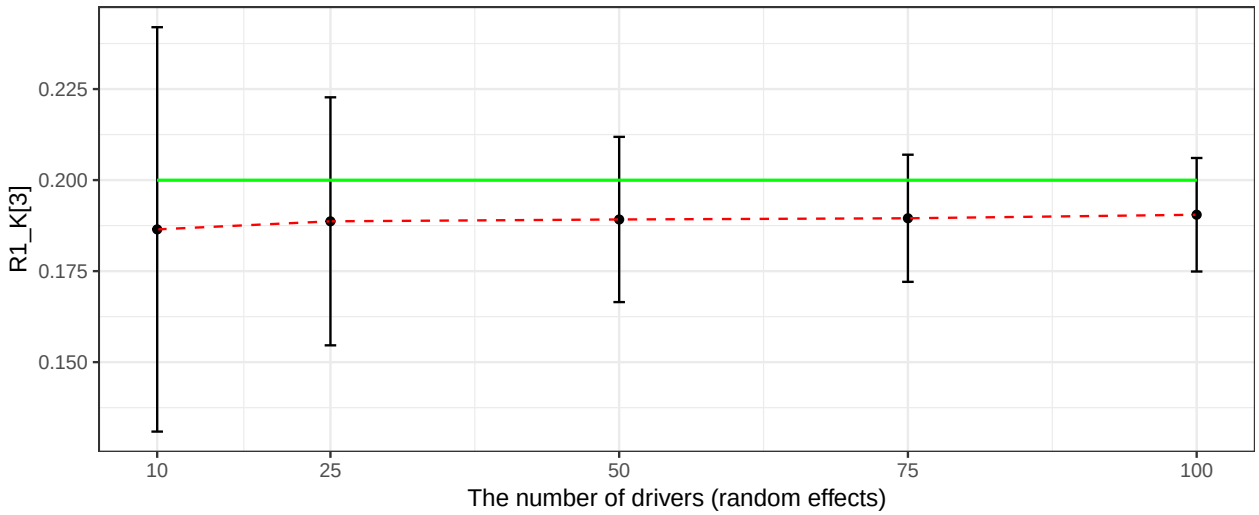
1.3 sigma0



1.4 Fixed parameters

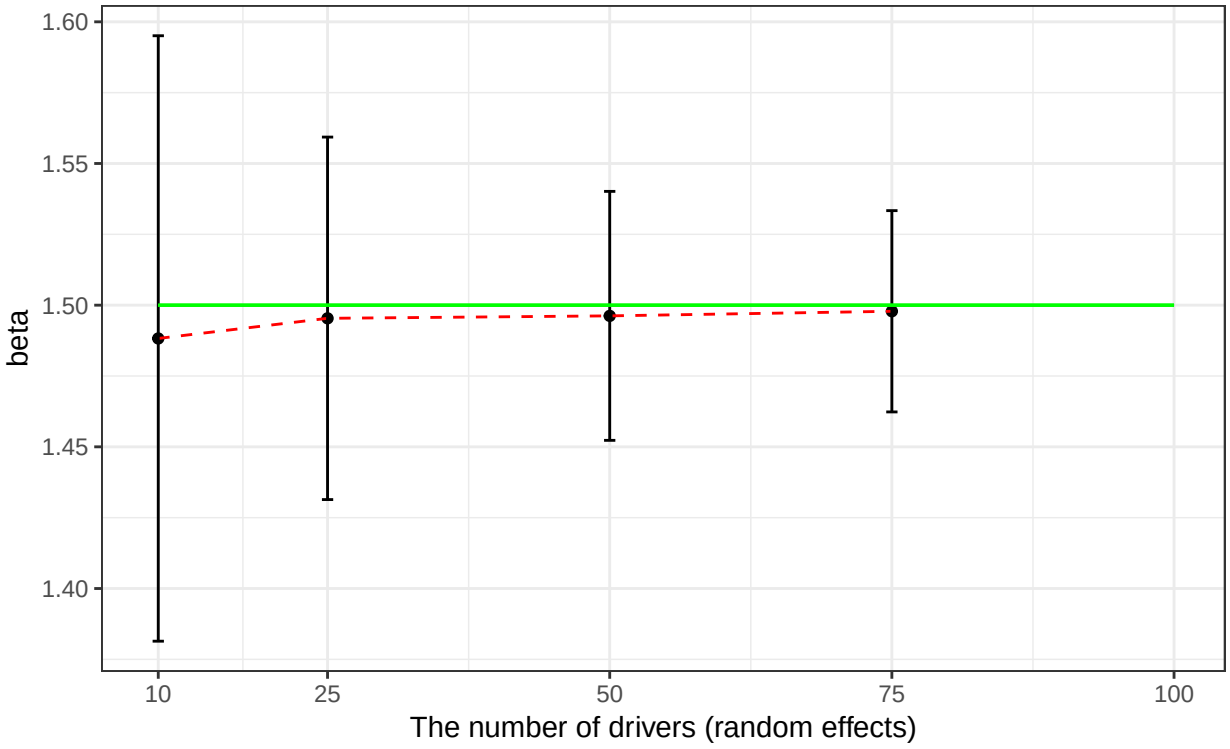




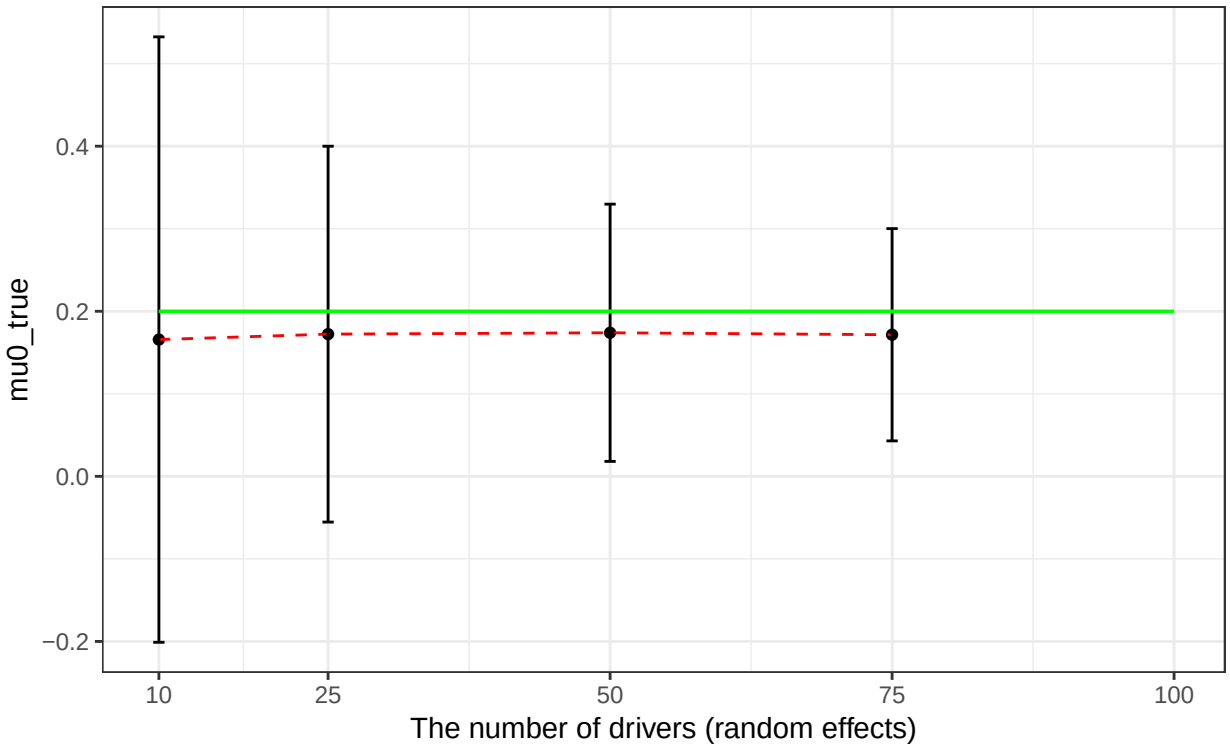


2 3000 simulations

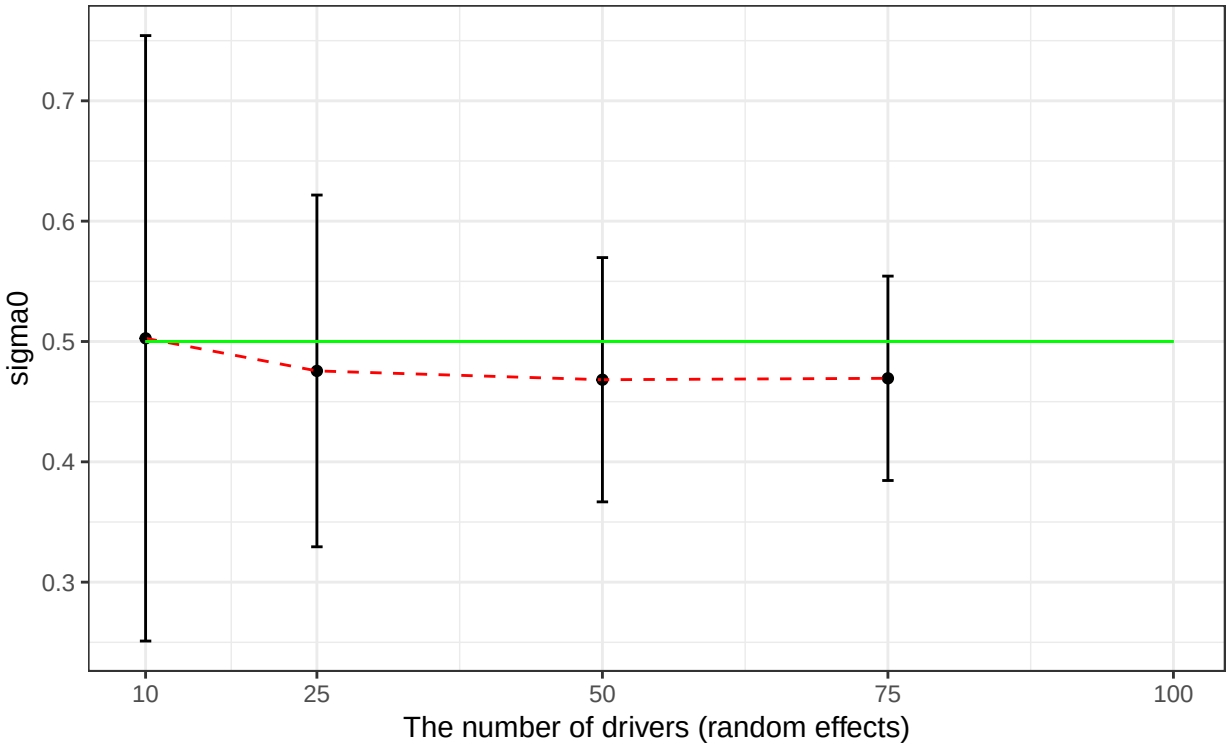
2.1 beta



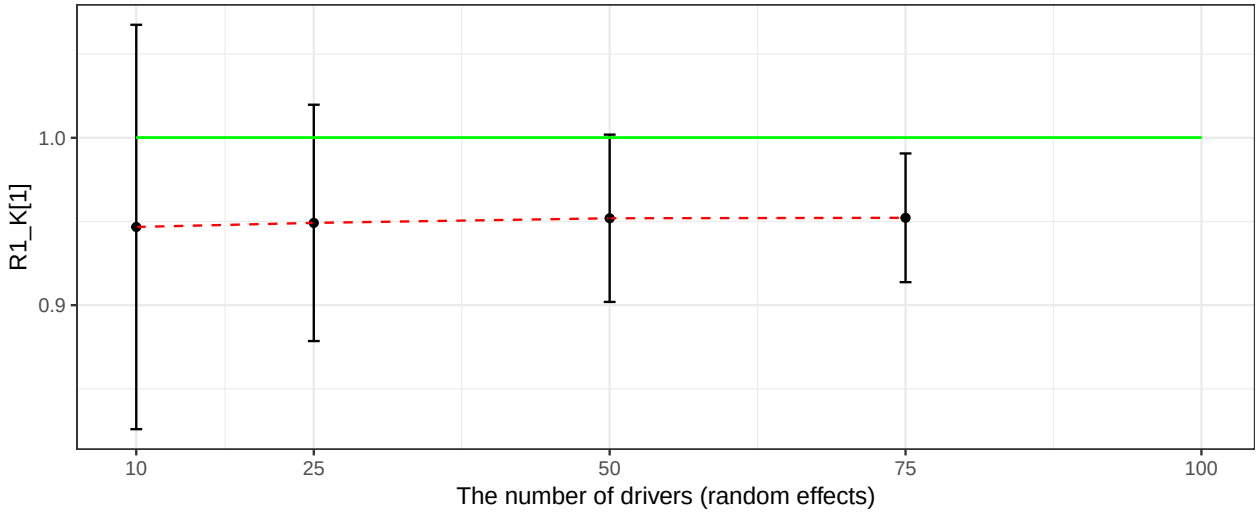
2.2 mu0

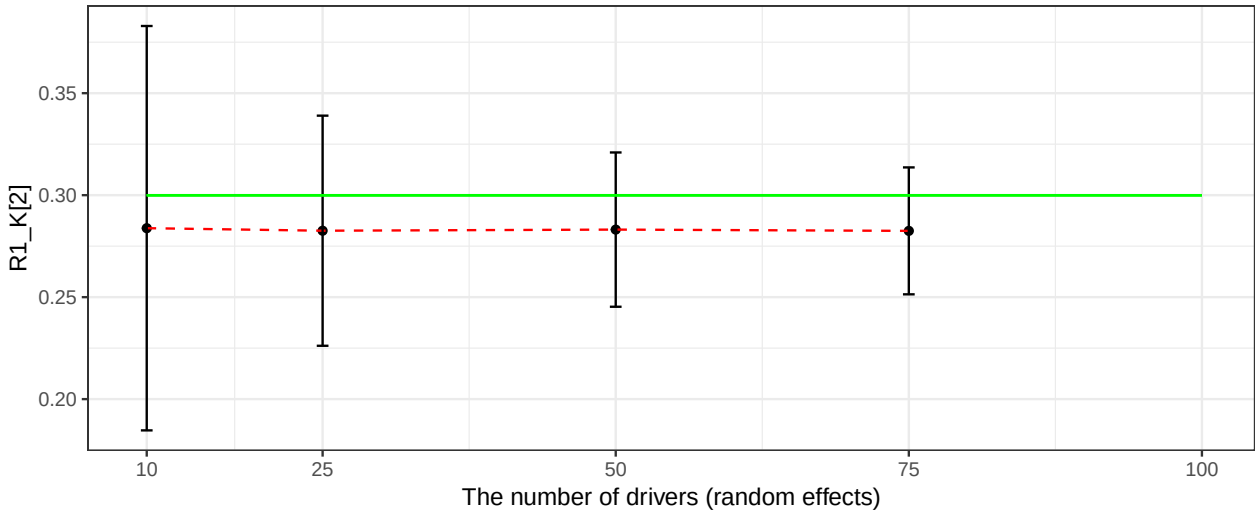


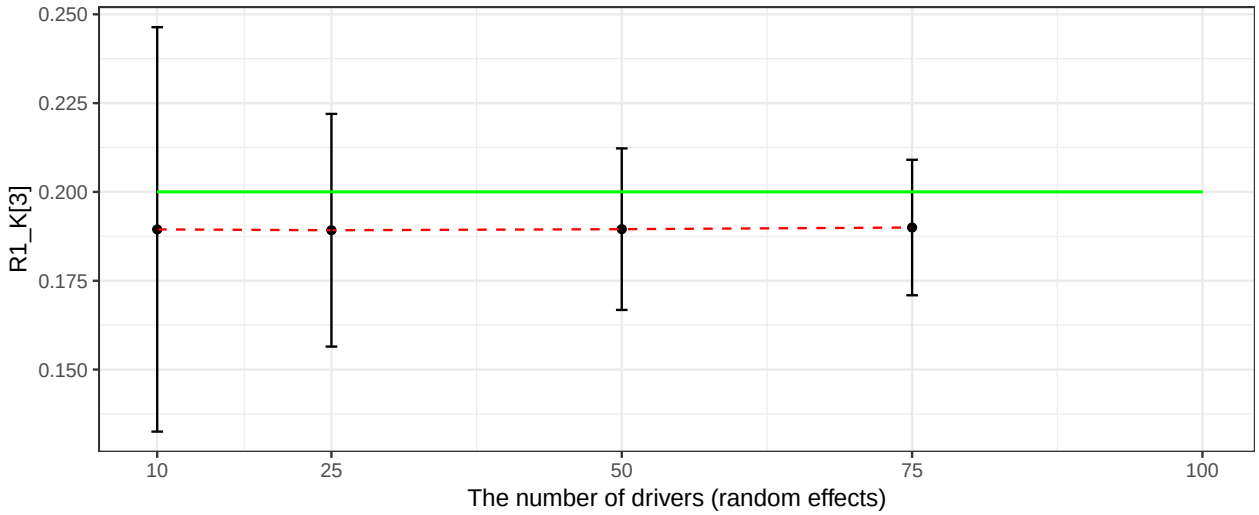
2.3 Sigma0



2.4 Fixed-effect parameters







3 Real data estimation

parameters	drivers 1-50	drivers 101-150	drivers 151-200	drivers 251-300
NHPP parameters				
β	0.9503 (0.0215)	0.8916 (0.0228)	0.9101 (0.0254)	0.9599 (0.0225)
μ_0	6.1397 (0.3349)	6.6584 (0.3172)	5.6763 (0.3567)	6.3923 (0.3561)
σ_0	0.2479 (0.0417)	0.312 (0.0467)	0.2405 (0.0424)	0.2371 (0.0416)
Covariate parameters				
driver age	0.001 (0.0047)	-0.002 (0.0041)	0.004 (0.0043)	0.0025 (0.0049)
ping speed	-0.0075 (0.005)	-0.0058 (0.0051)	0.0054 (0.0046)	-6e-04 (0.005)
precip intensity	-3.7338 (3.3629)	-3.8792 (3.0303)	-1.6292 (3.4311)	2.25 (3.849)
precip probability	0.5722 (0.3035)	0.4664 (0.3335)	0.3172 (0.3589)	-0.4808 (0.3005)
visibility	0.0321 (0.0179)	-0.0066 (0.0214)	0.0205 (0.0254)	-0.0239 (0.0205)
wind speed	0.0194 (0.0117)	-0.0139 (0.0128)	0.0031 (0.0157)	0.0222 (0.0126)

Potential problems and further improvement

- A eight-hour threshold is not sufficient to separate shifts,
- Should I just delete the extremely long shifts due to the imperfect eight-hour threshold?
- Should I compute the time to event within shifts or trips?
- Imperfect repair between trips and within shifts?
- Bathtube shape intensity?
- Submodels by different types of critical events?