Interaction and Telemarketers

EES 4760/5760
Agent-Based and Individual-Based Computational Modeling
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Class #14: Tuesday, October 8 2019

Getting Started

- Download files from course download page for Oct. 8: ees4760.jgilligan.org/downloads/telemarketer_class_14 or from Brightspace.

Telemarketer Model

Telemarketer Model

- Telemarketing firms interact
  - Telemarketer calls patches
  - If patch has received a previous call that tick, it hangs up
  - If patch has not received a previous call that tick, it buys something
  - Interaction is indirect, mediated by patches
- Accounting:
  - Net profit = 2 × sales – 50 × size
  - If balance < 0, firm goes bankrupt
- Growth
  - If balance > growth threshold, firm increases size proportional to excess balance

Results

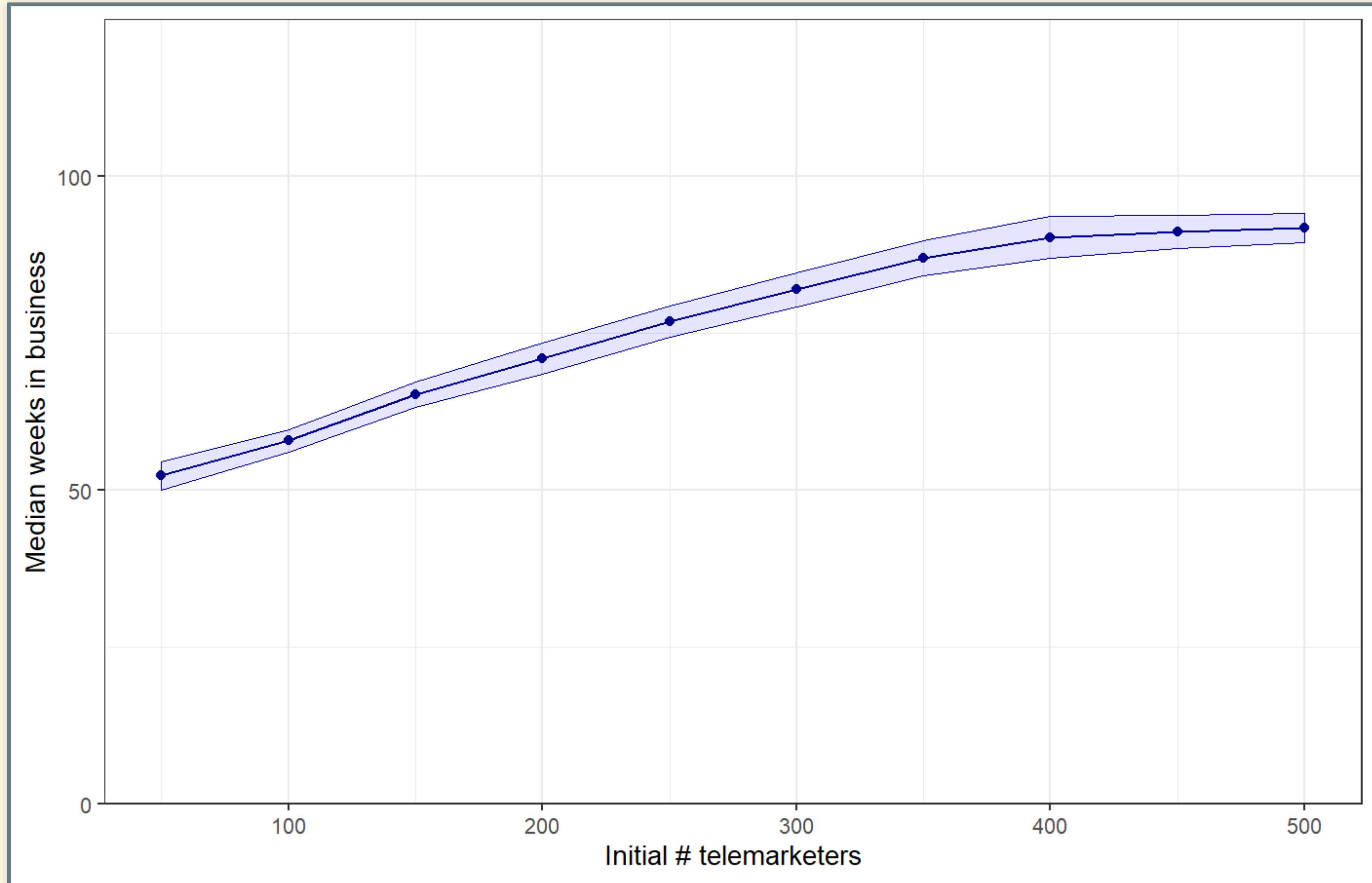# Results
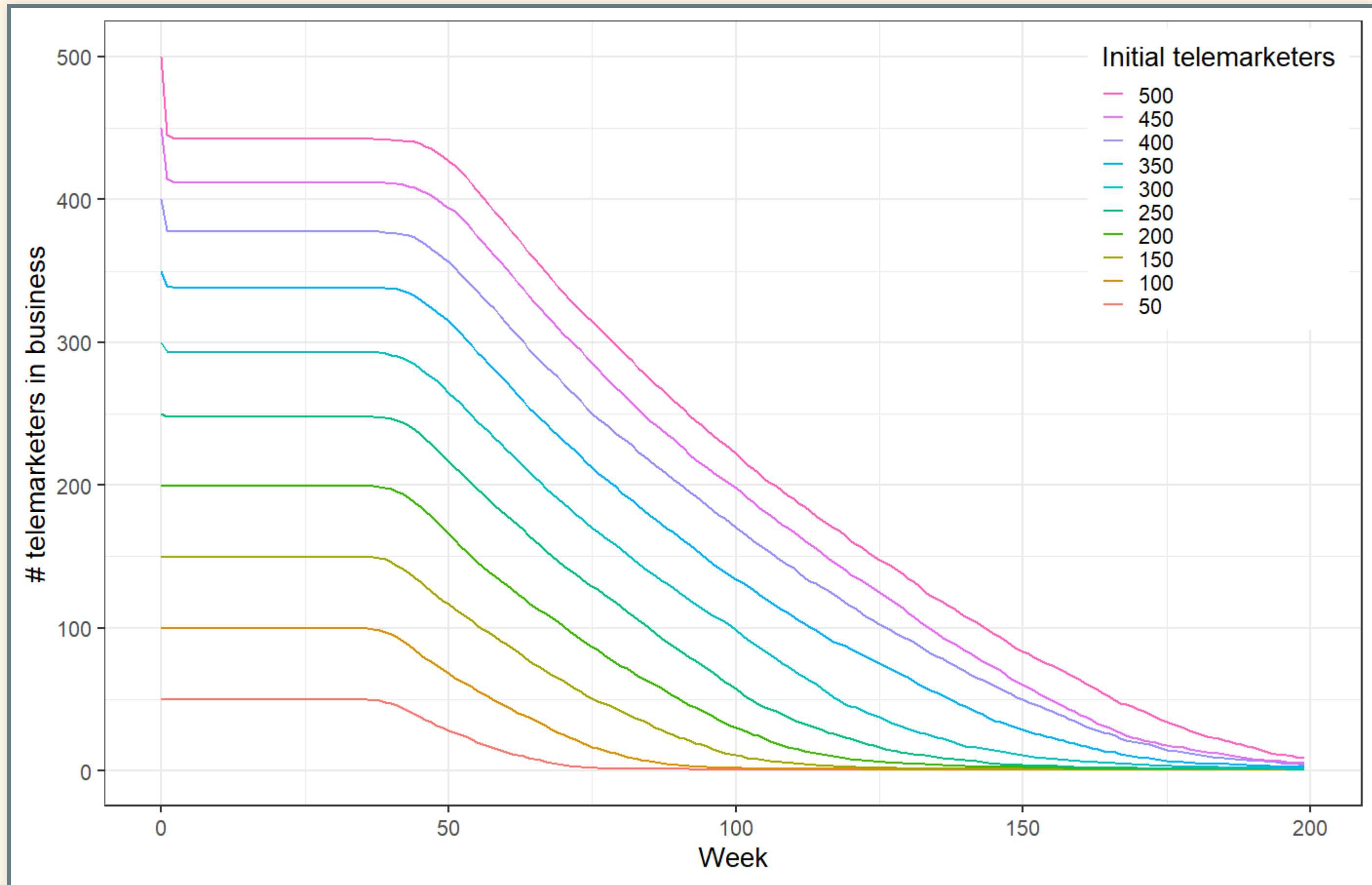
Variation
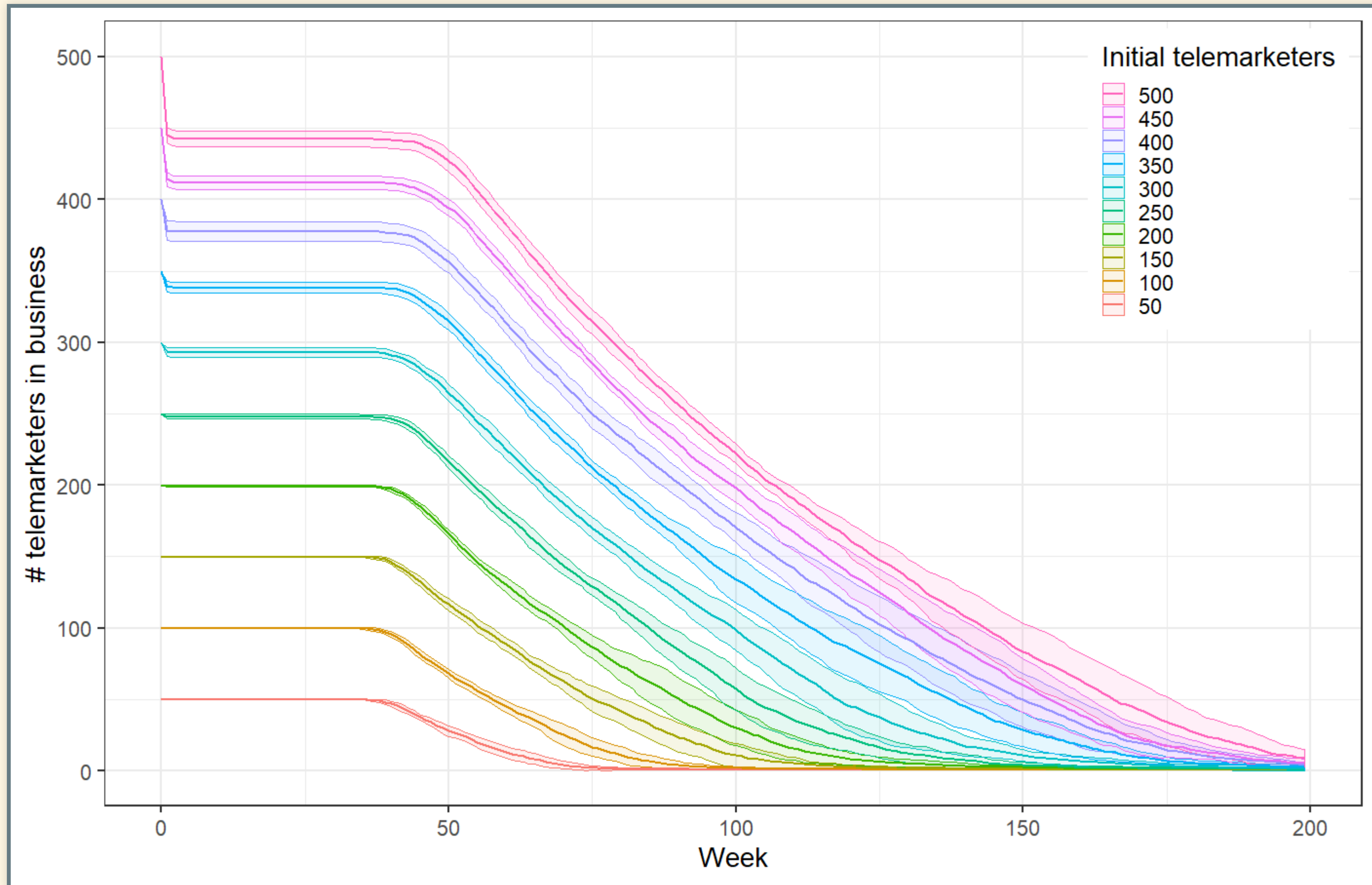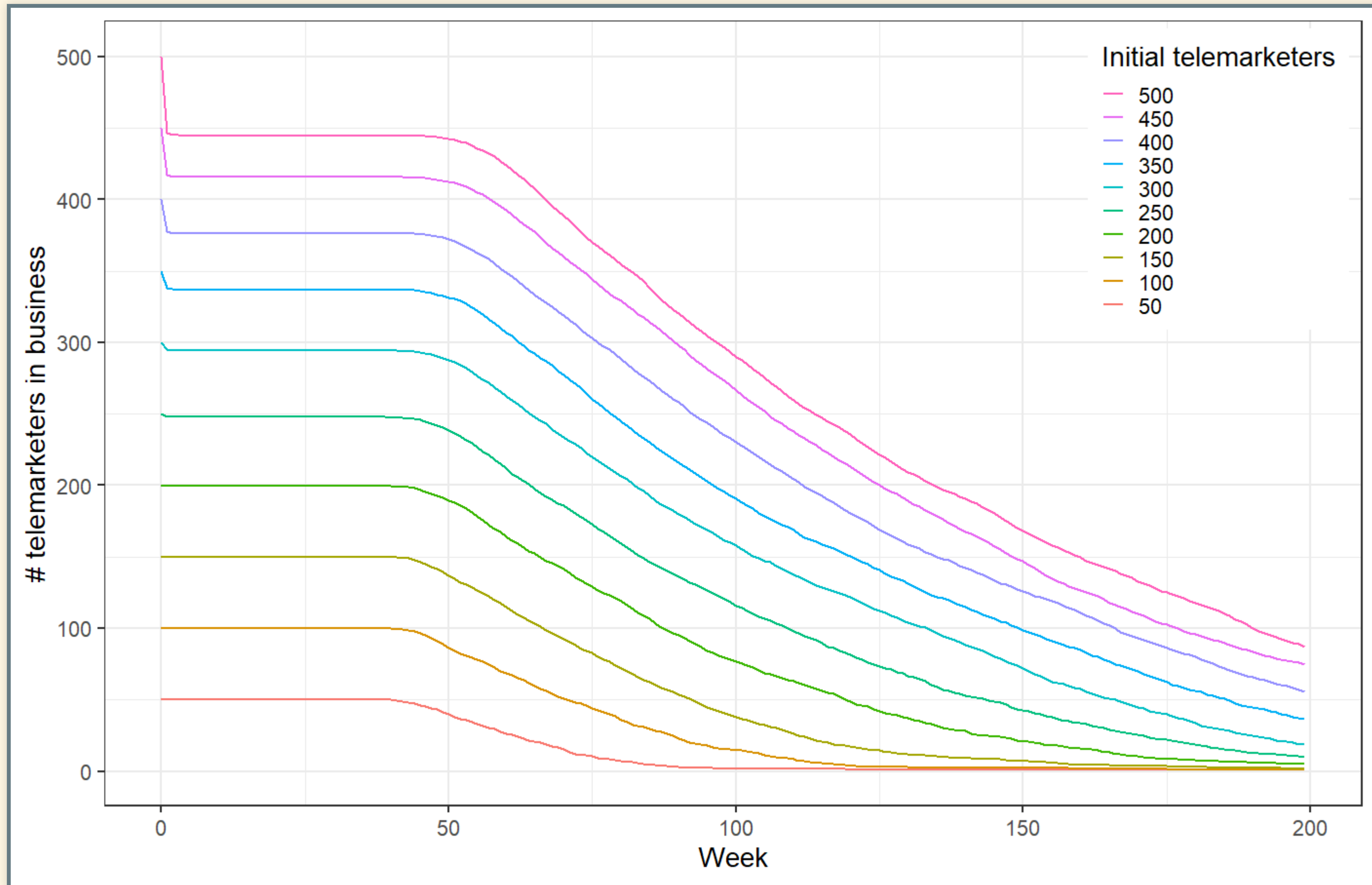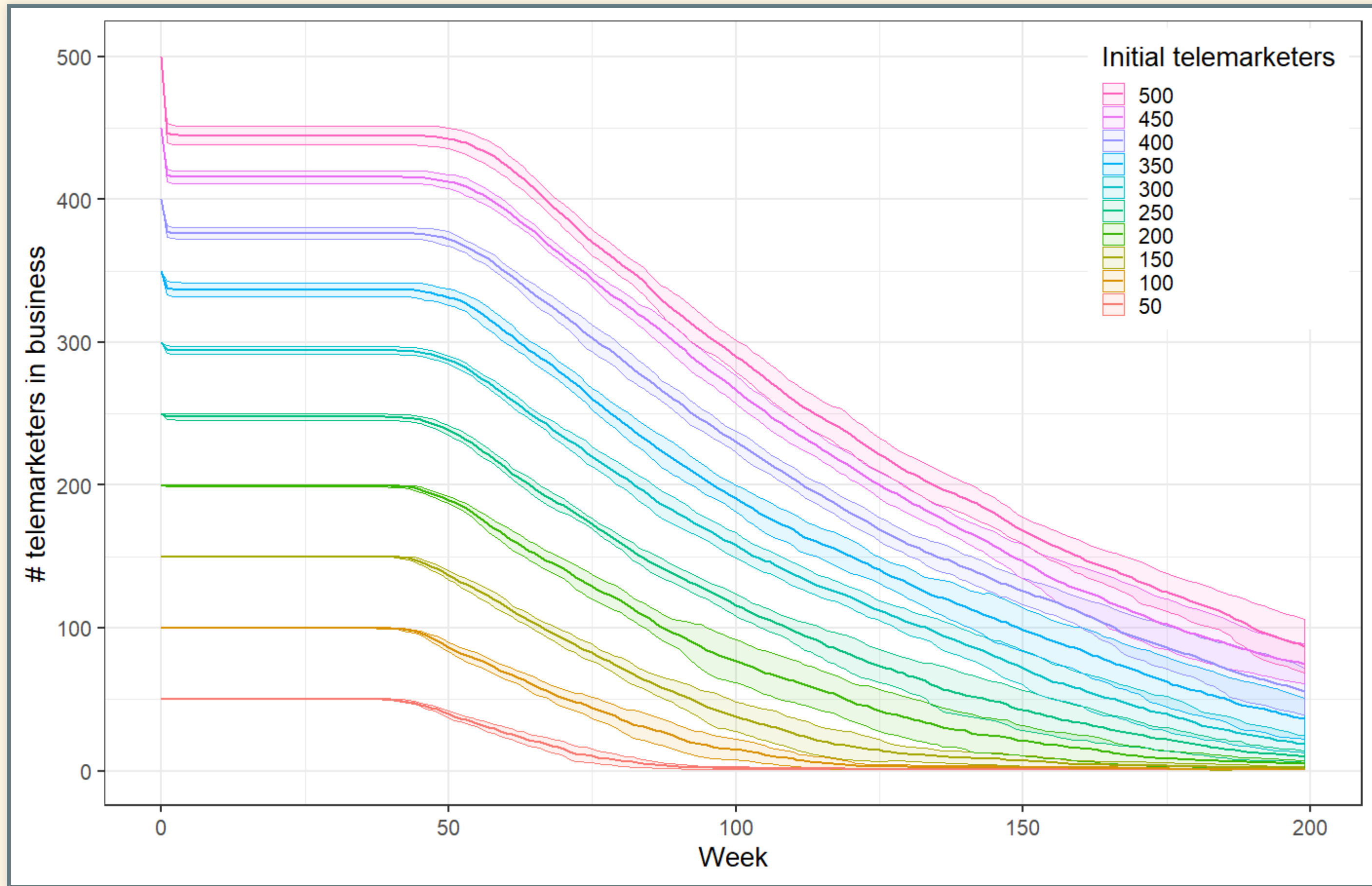
Median Weeks in Business

Mergers

Mergers

- Instead of going bankrupt when the bank balance drops below 0, firms look for acquisition partner
  - Find a company that's bigger and has enough money to pay off deficit.
  - If it finds a parent, parent pays off deficit
    - child firm ends up with 0 balance
  - In future turns, child pays parent 50% of its net profits.
  - In future, if child's balance becomes negative:
    - If parent has enough money, it pays child's deficit
    - If parent does not have enough money, child dies.

Results

Variation

Median Weeks in Business