Day-to-day dynamics in ridesourcing supply

Introduction
Unlike traditional transit services, ridesourcing platforms like Uber and Lyft operate in the gig economy. Flexible labour (or 'gig') agreements permit freelance drivers to work for the platform when their opportunity costs of labour are low. Nevertheless, worldwide protests over driver earnings illustrate that flexibility in labour supply to ridesourcing platforms does not necessarily lead to satisfied drivers. Early research suggests that oversupply is likely.

Problem description
Scheduled economic activities cause dynamic variations in labour opportunity costs which may explain why labour supply occurs even when expected earnings are low. Given that some drivers work for the platform as a replacement for a full-time job and others to complement other economic activities, there is also significant heterogeneity in driver's participation costs. Many questions remain unanswered in relation to the value of flexible work for drivers and the implications for travellers and service provider. You can choose which questions you would like to answer. For example, it may be interesting to learn how part-time and full-time labour supply coevolve and to what extent platforms are dependent on driver retention. You may also evaluate the effectiveness of policy interventions such as a supply cap under different circumstances.

Assignment
- Conceptualise labour supply decisions in consideration of heterogeneous and dynamic opportunity costs
- Integrate labour choice models into an agent-based simulation framework for ridesourcing
- Perform a scenario analysis, investigating for example:
  - Platform pricing strategies
  - Supply side entry barriers
  - Travel demand
  - Labour market properties
- Evaluate policy interventions to safeguard driver earnings and ridesourcing level of service

Candidate background
T&P or TIL Students with an affinity for programming, in particular Python, that are interested in on-demand transit operations.

Research group
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