

# Automated Market-Making

Supervised by Professor Nick Whiteley

Joshua Acton

18th March 2024

# Introduction

- How do financial markets work? (at the micro level)
- How can we model the behaviour of their participants?
- Results on the optimal behaviour of a dealer
- Results on the statistical properties of the limit orderbook

# Main Body

- Orderbooks & liquidity
- Market making
- Stochastic control
- Avellaneda & Stoikov
- “Econophysics”

# Conclusion

- Under a few (potentially unrealistic) assumptions, it is possible to determine what the optimal dealer strategy should be
- No one model for all markets
- Still very much an open field of study bringing together ideas from maths, stats, physics, computer science and economics

Thank you for your attention!

Questions?

email: `andrew.booker@bristol.ac.uk`