

README

Article: "Optimal Contract Regulation in Selection Markets"

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Overview

This repository contains the code used to generate the figures in the paper "Optimal Contract Regulation in Selection Markets" using MATLAB. The paper relies solely on simulations and does not involve the analysis of external data. The replicator should expect the code to run in under 5 minutes.

Data Availability and Provenance Statements

This paper does not involve the analysis of external data. All data are generated via simulations within the provided code.

Computational and Software Requirements

The code was executed using MATLAB R2023 on a desktop computer with a 3.6 GHz 10-core processor running macOS. No significant memory or runtime requirements are present.

Controlled Randomness

The seed for the random number generator is set on line 10 of the main.m file.

Memory and Runtime Requirements.

The code executes within 10m on an 2022 iMac, 3.6 GHz 10-Core Intel Core i9.

Description of Programs/Code

The code can be executed by running the main.m file. This file will:

- Create an appropriate output folder (if needed)
- Generate figures describing the effects of parameters on welfare
- Generate figures illustrating the various possible structures of equilibrium
- Generate Appendix Figure 6, which refers to the conditions under which an increase in the non-purchase fee increases welfare

All graphs are saved to a subfolder named "output" (created if it does not exist).

License for Code

This code is licenser under a MIT license.

Instruction to Replicators

All figures are produced by running the main.m script. The code will create the appropriate sub-folders to save the output, if needed. All MATLAB functions (.m files) should be in the same folder as the main.m file.

List of Tables and Programs

There are no tables produced. The following are the programs included in this package:

- check_bunching_xL.m
- check_bunching_zero.m
- draw_eql_egs.m
- draw_eql_no_zero.m
- draw_eql_w_zero.m
- find_eql_akerlof.m
- find_eql_nozero.m
- find_eql_with_zero.m
- find_sigma.m
- find_tau.m
- find_x_star.m
- g.m
- gen_mu.m
- main.m
- make_col_vec.m
- make_eql_graph.m
- mysave.m
- util.m
- welf_vs_param.m
- welf.m

References

None

Mapping from Programs to Figures

- Figure 6 (in Appendix E) is created in the section starting on line 51 of main.m.
- Figures illustrating the possible equilibrium structures (Figures 1, 2, 3) are created by the draw_eql_egs program on line 82 of main.m.
- The remaining figures, which illustrate the effect on equilibrium and welfare of changing the various regulatory parameters (Figures 4, 5, and 7-14), are created by several calls to the welf_vs_param program on lines 88-92 of main.m.