README

Ying Fan and Chenyu Yang, June 2019

"Competition, Product Proliferation and Welfare: A Study of the U.S. Smartphone Market", American Economic Journal: Microeconomics

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This zip file contains the following files and folder, including this ReadMe.pdf file.

DataDescription.pdf

Code (folder)

- master_est_smartphone.m: The script for estimating the demand parameters
- master_est_smartphone_part2.m: The script for estimating the marginal cost parameters
- master_est_smartphone_part3.m: The script for estimating the fixed cost bounds
- counterfactual_smartphone.m: The script for conducting counterfactual simulations
- gen_table.m: The script for generating the summary statistics (Tables 1 – 3), computing the elasticities and semi-elasticities (Tables 5 – 6), and for generating Figures 1 and 2.


- gmm_iv.m: This function gives the 2SLS estimates (of a logit model).
- paravec2para_smartphone.m: This function defines the nonlinear demand parameters.
- gmmobj_BLP_smartphone.m: This function defines the GMM objective function. It also computes the markups and marginal costs.
- gmm_std_err_smartphone.m: This function gives the standard errors of the estimates of the demand parameters.
- fminsearch_intermediate_output.m: This function is identical to the Matlab built-in fminsearch function except that the second output of the objective function is saved.


- invertcost.m: This function computes markups. It calls invertcost_t.m.
- invertcost_t.m: This function computes markups for firms in each market.


- equi_p0.m: This function computes the carrier pricing equilibrium.
- equi_pw0.m: This function computes the smartphone firms' pricing equilibrium.

- equi_pwq.m: This function calls either equi_p0.m or equi_pw0.m to compute the equilibrium for different pricing models.
- gen_mean.m: This function computes the part of utility and marginal cost that is invariant to the price and the quality of a product.


- prod_equi_swap.m: This function computes the product-choice equilibrium. It calls one_product_swap_BR.m.
- one_product_swap_BR.m: This function computes the best-response product portfolio. It nests a pricing equilibrium computation (by calling equi_ind.m).
- equi_ind.m: This function organizes the inputs and computes the pricing equilibrium (by calling equi_pwq.m) in counterfactual simulations.
- compute_fc.m: This function computes the fixed cost.
- merger_change_brand.m: This function computes the brand value of the merged firms' products. It takes either the pre-merger value or the average of the brand values of the merged parties.
- convert_config.m: This function organizes the information about each product into a cell format.
- regression_and_plot_fc_bound_quality.m: This function runs the regression of the fixed cost bounds. It also generates Figure 3.