

Index

A

- Acquisition cost, 11
- Action asset, 50
- Adjustment costs, 10, 24, 25, 31, 56, 67, 68, 72, 93
 - capital, 68, 69
 - function, 56, 59
 - prices, 4, 75
- Advertising
 - costs, 25
 - intensive industry, 91
 - prices, 19, 25, 29
 - return function, 92
 - revenues, 49, 71, 83, 84
 - space, 11, 12
- Affiliate fees, 33, 39, 40
- Agents, 22
 - behavior, 6, 105
 - expectation
 - conditional, 11
 - operator, 22
 - experience, 72
 - heterogeneous, 6, 22
 - marginal, 14–16, 40–42, 68
 - perceptions, 11
 - single, 5, 13, 16, 18, 25, 31
 - strategic, 54, 104
 - uninformed, 17
- Aggregate state, 39, 40
- Aggregation, 32
 - expert, 35
- Airline
 - industry, 48, 73, 74, 76, 97, 98
 - markets, 48, 49
 - pricing, 76
- Algorithm
 - computational, 36
 - NPL fixed point, 33
- All units discount (AUD), 59
- Alternative-specific constant, 45
- Anheuser Busch (AB), 61
- Approach
 - Bayesian, 68
 - criterion function, 66
 - demand, 73
 - Nash-in-Nash, 25
 - production, 71
 - random set, 67
- Approximate DP methods, 15
- Artificial Intelligence (AI), 30
- Artificial regressions, 40
- Asset
 - action, 50
 - deadline, 50
 - markets, 14, 46
 - price, 38, 51
- Asymmetric information, 12, 14–18, 48, 77, 95
 - persistent, 15
- Auction
 - matching, 73
 - price, 53, 73
 - revenue, 53
- Audience segments, 12
- Augmented production function, 52
- Automated market maker, 44
- Automobile
 - industry, 3, 4, 69
 - market, 95
- Average interaction benefit, 15
- Average treatment effects, 11

B

- Bajari-Benkard-Levin (BBL) method, 38
- Balancing flexibility, 12
- Bargaining, 2–4, 18, 24, 27, 29, 37, 40, 41, 43, 52,
 - 53, 55, 56
 - bilateral, 95
 - problem, 53
 - breakdowns, 25, 40
 - disagreement, 40
 - game, 72
 - leverage, 53–55
 - model, 11, 42, 49, 52, 54, 55, 57–59
 - models, 52
 - Nash-in-Nash, 25, 34, 53
 - outcome, 54
 - parameters, 40–44, 46, 51, 52, 54, 55, 57, 59
 - power, 5, 7, 8, 23, 27, 37, 41, 43, 44, 53, 54
 - problems, 42, 55, 56
 - process, 7, 11
 - protocol, 21
 - retailer, 8
- Base model, 76
- Bayesian approach, 68
- Bayesian Nash equilibrium, 17, 43, 50, 51, 54, 55,
 - 82
- Behavior, 67
- Beliefs
 - biased, 17, 18, 28

- concordant, 44
- equilibrium, 28
- favorable, 53
- function, 17
- heterogeneous, 37, 39, 43, 44, 48
- initial, 6
- interim, 6, 9
- passive, 15–17, 19, 21, 22, 24, 26, 36, 60, 62, 63
- pessimistic, 18, 33, 51
- posterior, 30, 45, 62
- rational, 18
- symmetry, 19
- unbiased, 28
- unfavorable, 26, 28, 59
- wary, 20
- Benchmark
 - coordination, 90
 - regulator, 90
- Benefits
 - consumers, 58
 - homogeneous stand-alone, 14
 - interaction, 11
 - average, 15
 - heterogeneous, 14, 42, 48, 58, 60
 - homogeneous, 14, 35
- Best response probability function, 31
- Betting markets, 37, 45, 47, 48
- Biased beliefs, 17, 18, 28
- Bidders, 18
 - valuations, 53, 54
- Bidding game, 22, 24, 25, 27
- Bilateral, 9
 - bargaining, 95
 - problem, 53
 - contracting principle, 5
 - market, 95
 - surplus, 5–8, 16, 22, 26, 43
 - trade, 14
- Binding, 28
- BLP
 - estimator, 22, 23, 27, 30, 31, 38
 - instruments, 25, 26, 31, 41–43, 56
 - model, 35
- Brand
 - capital, 59, 90
 - conditional, 66
 - consumers, 75
 - equity, 14, 92
- Brokers, 8, 12, 14, 18, 32, 38, 94
 - data, 18
 - mortgage, 32, 94
 - online, 10
- Bulk shipping industry, 26, 94
- Bunching, 26
- Bundling, 33, 52, 55–57, 72, 97
- Buyers
 - data, 5
 - downstream, 53
 - homogeneous, 23
 - potential, 12
- C**
 - Candidate instruments, 42, 56
 - Cannibalization, 85, 86
 - Canonical model, 16
 - Capital
 - adjustment costs, 68, 69
 - brand, 59, 90
 - costs, 22
 - investments, 84, 93
 - quality, 14
 - Car
 - dealers, 18
 - industry, 44
 - market, 5, 10, 15–17
 - prices, 8
 - production, 53
 - sellers, 11, 29
 - wholesale, 18
 - Car innovation, 69
 - CARA preferences, 40, 44, 46
 - Cartesian product, 46, 73
 - CCPs, 9, 10, 21, 24, 27, 28, 31, 33–36, 39, 41, 43, 48, 56, 74, 106
 - equilibrium, 30–32
 - estimators, 37
 - identification, 23, 24
 - Cement
 - industry, 54
 - market, 54, 55, 57, 58
 - production, 55
 - Certification intermediaries, 17
 - Chains, 87
 - Chicken & egg problem, 17
 - Coasian pricing problem, 63
 - Coefficients of interest, 41
 - Collusion, 4–6, 10, 45, 46, 49, 51, 60
 - tacit, 13, 52
 - Commodity prices, 94
 - Common choice probability, 55
 - Competition
 - agencies, 52
 - authority, 71, 73
 - Cournot, 34, 55, 60, 72
 - dynamic, 31
 - effects, 23, 24, 28, 42, 65
 - harm, 61
 - imperfect, 3, 18, 19, 21, 28, 32, 33, 43, 46, 69
 - local, 26, 27
 - manufacturers, 46

- market, 17, 25, 88
 - product, 74, 89
- monopolistic, 18, 19
- network, 97
- oligopolistic, 17, 90, 101
- on the market, 34
- perfect, 25
- platform, 28, 35, 38, 45, 56, 61, 62, 96
- policy, 4, 9, 61
- prices, 10, 11, 34, 42, 60, 62, 63, 69, 75, 78, 98
- quality, 69, 70
- quantity, 60
- retail, 89
- sellers, 29
- Competitive bottleneck, 44
- Competitive menu, 20
- Completeness condition, 39
- Complexity, 8, 35, 72, 87
- Component
 - fundamental, 20
 - innovation, 30
 - noise, 20
- Computational algorithms, 36
- Computational cost, 30, 34, 37, 41–43, 71, 90
- Concentration, 49
 - equilibrium, 55
- Concordant, 41
 - beliefs, 44
- Conditional
 - agent expectations, 11
 - brand, 66
 - choice probability, 5, 9, 35, 53, 58, 103
 - function, 103
 - choice value function, 8, 21, 34, 35, 41, 63
 - distribution, 7, 53, 60
 - expectation, 34, 41, 47
 - independence, 21
 - likelihood, 30
 - logits, 24
 - models, 7, 42
 - moment, 24, 27, 28, 32, 35
 - inequality, 12, 61, 62, 64
 - prices, 62
 - pricing, 11
 - practices, 9
 - probability, 6, 7, 41, 43, 66
 - density, 43
 - distribution, 43
 - quality, 6
 - shocks, 34
- Conduct parameter, 3, 48
- Congestion within sides, 28
- Consensus forecast, 35
- Console
 - game, 23
- producers, 19
- sales, 23, 77
- Constant
 - alternative-specific, 45
 - prices, 20, 52
 - returns, 7, 21, 23, 24, 32, 38, 40–42, 44, 46, 47, 53, 68, 73
- Constant absolute risk aversion (CARA), 41
- Consumers
 - adoption, 6, 62, 81, 91
 - behavior, 3, 23, 31, 54, 63
 - benefit, 58
 - brand, 75
 - choice, 25, 34, 90, 95
 - demand, 9–11, 13, 22, 29, 41, 48, 56, 62, 76, 86, 89–91, 99
 - demographics, 23, 26, 90
 - experience, 19, 29
 - heterogeneity, 14, 20, 25, 27, 34, 41, 43, 75, 77
 - marginal, 14, 41, 45, 46, 48, 49, 51, 57, 58
 - markets, 3, 12
 - product, 19
 - observables, 51
 - panel, 48–50
 - potential, 12
 - preferences, 15, 22, 28, 50, 51
 - prices, 3, 45, 60, 92, 93
 - privacy, 21, 25
 - problem, 68
 - purchasing, 46, 74
 - score, 28
 - search, 19, 21, 23, 25–28, 30, 31, 33, 36
 - behavior, 26
 - costs, 33
 - markets, 19
 - process, 33
 - selection, 50
 - stockpiling, 63, 75
 - surplus, 20, 22, 23, 25–28, 32, 33, 42, 46, 48, 50–53, 55, 57, 65, 66, 69, 70, 77, 84, 97
 - uninformed, 20, 21, 24, 32
 - utility, 13, 50, 79
 - valuations, 5, 47, 51, 53
 - welfare, 3, 19, 26, 28, 32, 46, 52, 53, 55, 58, 63, 65, 77, 93
- Container shipping industry, 94, 96
- Contemporaneous CCPs, 41
- Contemporaneous price, 24, 41
- Contextual effects, 78
- Continuous time, 12
- Contract
 - equilibrium, 16, 38, 60
 - exclusive, 4, 14, 19, 52, 53, 61, 62
 - null, 7, 30
 - sell-out, 6

- Contracting
 - externalities, 3, 9–12, 18, 23, 24, 52
 - games, 34, 37
 - incentives, 30
 - Contractors, 39
 - Contracts
 - exclusive vertical, 61
 - nonlinear, 59
 - Control function, 10, 19, 21, 25–27, 29, 30, 32, 34, 36, 38, 40, 45, 48, 50–54
 - methods, 33
 - Coordinated effects, 52
 - Coordination benchmark, 90
 - Correlated effects, 76
 - Correlations, 7
 - Costs
 - acquisition, 11
 - adjustment, 10, 24, 25, 31, 56, 67, 68, 72, 93
 - advertising, 25
 - capital, 22
 - computational, 30, 34, 37, 41–43, 71, 90
 - data, 70, 76
 - distribution, 61
 - exit, 25, 56, 81
 - function, 5, 20, 31, 43–51, 53, 54, 91
 - incumbent, 76
 - labor, 24, 86, 98
 - marginal, 3, 5, 7, 9, 19, 20, 23, 29, 48, 52, 57, 64, 70
 - minimization, 16, 22, 49, 71
 - problem, 5, 48
 - parameters, 10, 56
 - savings, 51, 87
 - shifters, 5, 21, 24, 25, 29, 34, 35, 40, 41, 43, 46
 - shipping, 43, 101
 - shocks, 32
 - social, 80
 - structure, 3, 84, 85
 - switching, 19
 - trade, 8, 42
 - transaction, 2, 3, 6, 9–11, 15, 19, 26
 - transport, 8, 11
 - travel, 26, 27
 - upstream, 54, 55
 - variable, 19, 32, 51, 59, 86
 - welfare, 54
 - Counterfactual
 - choices, 19, 20
 - equilibrium, 5, 12, 20, 21, 31, 104
 - experiments, 11, 12, 18, 25, 57, 67, 68, 78, 97, 99, 106
 - identification, 29
 - incumbent type, 68
 - merger, 57
 - outcome, 20, 55, 74, 75
 - policy, 12, 32
 - predictions, 19, 32, 74, 75
 - question, 3
 - scenario, 60, 65, 99
 - simulations, 66
 - unbundling, 58
 - Cournot
 - competition, 34, 55, 60, 72
 - equilibrium, 60, 61
 - retailer, 9, 12, 14, 16, 19, 20, 23, 26, 28
 - Credit markets, 9, 17
 - Criterion function approach, 66
 - Cross-subsidization, 69
 - Curse of dimensionality, 63
- ## D
- Data
 - appends, 10
 - brokers, 18
 - buyers, 5
 - cost, 70, 76
 - dynamic panel, 19
 - externalities, 20
 - individual-level, 23
 - infinite, 6
 - intermediaries, 18–20
 - intermediation, 18
 - market, 20
 - market-level, 21
 - micro, 3, 4, 16, 22, 23, 34, 37, 44–46, 48, 50, 51, 56
 - partial, 56
 - platform, 21
 - prices, 29, 37
 - production, 70
 - productivity, 69, 73, 74
 - ranked choice, 49
 - revenue, 44
 - selling, 21
 - trade, 12
 - Data management platforms (DMP), 10
 - Deadline asset, 50
 - Dealers, 8, 18, 34, 44, 95
 - cars, 18
 - Decentralized market, 37, 38, 72
 - Decentralized platforms, 44
 - Declining industries, 89
 - Decreasing absolute risk aversion (DARA), 41
 - Deflated revenue, 37
 - Demand, 3, 6, 8, 11, 13, 44
 - approach, 73
 - consumers, 9–11, 13, 22, 29, 41, 48, 56, 62, 76, 86, 89–91, 99
 - differentiated product, 4, 40, 74
 - discrete choice, 14

- dynamic, 62
- estimation, 4, 21
- identification, 55
- inverse, 20, 36, 41
- inverting, 37
- market, 22, 32, 55
- model, 57
- shocks, 58
- Demographics, 7, 15, 22, 23, 26, 32–34, 44, 60, 82, 83
 - consumers, 23, 26, 90
 - household, 44
- Deviation profits, 52
- Differentiated product, 3, 7, 11, 13, 18, 19, 26, 27, 31, 33, 40, 42, 43, 49, 63
 - demand, 4, 40, 74
 - industry, 3, 7, 70, 77
 - market, 27
- Differentiation
 - instruments, 31
 - product, 19, 20, 23, 25, 26, 29, 32, 33, 35, 39, 40, 42, 43, 45, 46, 48, 63, 67, 95
 - vertical, 4, 7, 8, 10, 14, 16, 38, 48
- Discrete choice demand, 14
 - models, 13
- Discrete games, 24, 32, 37, 51, 54, 68
- Discrimination
 - prices, 4, 7, 13, 22, 25–28, 44, 52, 56, 58, 59, 64, 75
 - first-degree, 22, 23
 - second-degree, 22
 - third-degree, 22, 71
- Dispatch platform, 43, 44
- Dispersed information, 39
- Dispersion, 6
 - equilibrium, 68
 - productivity, 7, 9
 - price, 9, 19, 20, 22, 23, 28–30, 33, 37
 - productivity, 6, 10, 60, 61, 66–68
- Distortionary taxation, 21
- Distortions, 16
- Distribution
 - conditional, 7, 53, 60
 - costs, 61
 - joint, 37
 - marginal, 25
- Distributor
 - exclusive, 61
 - prices, 39
 - pricing, 54
 - rival, 34, 40, 55
 - single, 39
- Divide-and-conquer strategies, 5, 25, 27
- Double marginalization problem, 6

- Downstream
 - buyers, 53
 - consumers conditional, 45
 - distributor, 34, 40, 46
 - pricing, 39
 - equilibrium, 12
 - firms, 12, 23, 24, 32, 34, 37, 44, 50, 52, 58
 - hospital, 31, 32
 - industry, 52, 58
 - merger, 53
 - prices, 33, 35, 38–40, 45, 53
 - pricing, 40, 41, 44
 - equilibria, 40
 - products, 45, 46, 50, 51
 - sales, 59
- Drivers
 - endogenous, 66
 - exogenous, 56, 63
- Duopoly market, 27, 37, 42, 73
- Dynamic, 84, 88
 - arrival, 72
 - competition, 31
 - demand, 62
 - equilibrium, 10, 32
 - matching, 99
 - panel data, 19
 - pricing, 23, 75, 77
 - programming problem, 8
 - trading, 13
- E**
- Economics
 - platform, 4–7, 9, 91, 96
 - revolution, 39, 44
 - social, 5, 80
- Effect
 - average treatment, 11
 - local, 11
 - competition, 23, 24, 28, 42, 65
 - contextual, 78
 - coordinated, 52
 - correlated, 76
 - endogenous, 76
 - neighborhood, 5
 - network, 10
 - direct, 75, 79
 - indirect, 4, 6, 10, 74–78, 81, 84, 86–88, 95
 - prices, 12, 47, 59
 - ratchet, 27
 - seesaw, 6, 25
 - unilateral, 52
 - Walmart, 89
 - welfare, 4, 19–21, 52, 55, 57, 58, 60, 62, 80, 82
- Efficiency, 4
- Efficient estimator, 4

- Emissions leakage, 79
- Empirical
 - contributions, 28, 36
 - framework, 29
 - implications, 9
- Empirics, 16
- Encouragements, 53
- Endogeneity, 4, 5, 7–11, 42, 52, 56, 96
 - potential, 44
 - prices, 4, 5, 41, 43, 44
 - problem, 5, 9, 17, 45
- Endogenous, 5, 6, 8, 10, 11, 15, 17, 36, 42, 46, 56, 67, 69, 73, 82, 83, 87, 90–92
 - drivers, 66
 - effect, 76, 78–82, 86
 - equilibrium, 53
 - evolution, 4, 77
 - incentives, 22
 - initial ownership, 14
 - market structure, 4
 - mergers, 11, 71, 72
 - prices, 4, 9, 10, 51
 - productivity, 52, 56, 75
 - growth, 75
 - quantities, 41, 56
 - state variable, 11
 - technological obsolescence, 63
 - variables, 6, 7, 9, 10, 27, 28, 30, 33–35, 39, 40, 59, 77, 79
- Entry of platforms, 49
- Equilibrium, 9
 - allocation, 6, 15, 21, 26, 35, 43, 57, 64, 65
 - Bayesian Nash, 17, 43, 50, 51, 54, 55, 82
 - beliefs, 28
 - passive, 17, 20, 21, 26
 - CCPs, 30–32
 - concentration, 55
 - conditions, 9, 10, 37, 41, 59
 - configuration, 43
 - demand, 56
 - contract, 16, 38, 60
 - counterfactuals, 5, 12, 20, 21, 31, 104
 - Cournot, 60, 61
 - dispersion, 68
 - downstream, 12
 - pricing, 40
 - dynamics, 10, 32
 - endogenous, 53
 - existence, 8, 10
 - inefficient, 34
 - insulated, 58, 61
 - mapping, 43
 - market, 3, 27, 33, 41, 68, 99
 - allocation, 18
 - Markov, 14
 - markups, 19, 25, 26
 - matching, 68
 - models, 3, 18, 19, 43
 - moment based Markov, 97
 - monopoly, 21
 - multiple, 10, 74
 - Nash, 39
 - oblivious, 5, 12–14, 70, 95, 101
 - outcomes, 3, 4, 9, 13, 19, 20, 23, 24, 26, 35, 36, 38, 41, 47, 53, 54, 63, 64, 74, 84, 92, 106
 - partial, 96
 - path, 14
 - policy, 46, 56
 - premiums, 38, 39
 - prices, 5, 6, 10, 11, 16, 17, 21, 24, 25, 27, 36–43, 46, 47, 57, 60
 - retail, 16
 - pricing formulas, 36
 - pricing strategy, 21
 - productivity dispersion, 7, 9
 - quantities, 10, 16, 22, 37, 61
 - REE, 42
 - requirement, 56
 - selection, 14, 41, 42, 58
 - probability, 72
 - single, 43, 50, 51, 73, 102
 - static Bertrand, 7
 - symmetric, 24, 38, 57
 - tipping, 52
 - trades, 14, 16
 - uniqueness, 30
 - values, 18, 39
- Error
 - in market shares, 38
 - measurement, 50, 55
 - misspecification, 4, 22, 39
 - specification, 13, 38, 39, 50, 51
 - statistical, 9
 - structural, 35
 - term, 34, 55
- Estimate transformation function, 45
- Estimation
 - demand, 4, 21
 - joint, 51
 - methods, 29
 - problem, 22
 - production function, 20, 24
- Estimator
 - BLP, 22, 23, 27, 30, 31, 38
 - CCP, 37
 - efficient, 4
- Everyday low prices (EDLP), 91
- Exclusion restriction, 9, 22–28, 42, 56
- Exclusive contracts, 4, 14, 19, 52, 53, 61, 62

- vertical, 61
- Exclusive distributor, 61
- Exclusivity, 52
- Exit
 - costs, 25, 56, 81
 - game, 73
- Exogeneity, 56
- Exogenous, 12, 94
 - actors, 82
 - change, 25, 26
 - characteristics, 25, 36, 78, 81
 - drivers, 56, 63
 - fixed cost, 86
 - initial ownership, 13
 - instruments, 27, 84
 - material costs, 24
 - observables, 34, 42
 - ownership, 12
 - prices, 7, 23, 48
 - product, 34, 40
 - shifter, 82, 90
 - shocks, 4
 - sources, 23
 - state variables, 7, 41, 61, 103, 104
 - variables, 23, 24, 27–29, 37, 74, 84, 90, 102
 - variation, 3, 4, 7, 20, 24, 25, 39–41, 43, 45–48, 76, 80
- Experience Based Equilibrium (EBE), 16
- Experiment
 - counterfactual, 11, 12, 18, 25, 57, 67, 68, 78, 97, 99, 106
 - selling, 8
 - statistical, 6
- Expert
 - aggregation, 35
 - markets, 31
- Export markets, 19
- Extended gravity, 19
- Extensions, 38
- Externalities, 9, 14, 17–20, 22, 25, 28, 29, 45, 59, 73
 - accounts, 16
 - contracting, 3, 9–12, 18, 23, 24, 52
 - data, 20
 - information, 21
 - negative, 14, 17, 27, 29, 70
 - network, 10, 23, 28, 31, 49, 56, 63
- Externality, 73
 - network, 7
 - vertical, 6
- F**
- Facing
 - incumbent, 32
 - prices, 40, 63
- Factor
 - markets, 25, 33, 49, 73, 74
 - prices, 21, 26, 31, 34, 48
 - quality, 58, 59
- Factor-biased technological change, 75
- Favorable beliefs, 53
- Fees, 33, 44, 56, 57, 82, 84, 93, 94
 - affiliate, 33, 39, 40
 - interaction, 57
 - negotiated, 44
 - participation, 17, 21, 22, 31, 40, 56, 57
 - platform, 34
 - transaction, 15, 17, 21–23, 28, 31, 49, 56, 58
- Finite dependence, 41
 - structure, 36, 41
- Firm
 - downstream, 12, 23, 24, 34, 37, 44, 50, 52, 58
 - incumbent, 7, 25, 26, 28, 30, 31, 50, 54, 56, 57, 61, 66–68, 73, 80
 - investment, 92
 - single, 10, 11, 48, 70
- First-degree price discrimination, 22, 23
- Flow profit, 61
- Focal platform, 29, 33
- Focality, 33
- Forecast
 - consensus, 35
 - verification, 33
- Forecasting, 32
 - contests, 34
 - nonmarkets, 32, 33
 - productivity, 56
 - reputational, 34
 - sales, 50
- Forensic, 106
- Foundations, 56
- Frictionless secondary markets, 9
- Frictions, 2, 3, 6, 11, 34, 38–41, 43, 68, 72
 - market, 2, 3, 5
 - matching, 38
 - search, 18
- Full solution methods, 30
- Function
 - advertising return, 92
 - augmented production, 52
 - beliefs, 17
 - best response probability, 31
 - conditional choice value, 8, 21, 34, 35, 41, 63
 - conditional probability value, 103
 - control, 10, 19, 21, 25–27, 29, 30, 32, 34, 36, 38, 40, 45, 48, 50–54
 - cost, 5, 20, 31, 43–51, 53, 54, 91
 - adjustment, 56, 59
 - marginal, 11, 42
 - inverse demand, 9, 38–42
 - investment policy, 26, 32, 93
 - misspecified profit, 13

- production, 22, 42
 - estimation, 20, 24
 - harvest, 103
- regression, 55
- revenue, 37–39, 81
- transformation, 42
 - estimate, 45
- translog production, 53

Functional form, 4, 6–8, 10–13, 18, 24, 26, 32, 39, 42–44, 52, 53, 56, 57, 61

- costs, 42
 - marginal, 44
- inverse demand, 41
- misspecification, 13
- nonparametric, 37, 43
- parametric, 35
- quality, 9

Fundamental component, 20

G

Game

- bargaining, 72
- bidding, 22, 24, 25, 27
- console, 23
- contracting, 34, 37
- discrete, 24, 32, 37, 51, 54, 68
- exit, 73
- incomplete information, 52
- manipulation, 46
- network, 21, 99
- offer, 12
- static, 8, 33
 - Cournot, 14

General Electric (GE), 51

Geographic markets, 19, 24, 48, 61, 92

Goods

- durable, 3–5, 15, 16
- heterogeneous, 30
- homogeneous, 3, 25, 29

Growth rates, 10

H

Hadamard product, 35

Hard drive innovation, 66

Hardware manufacturers, 62

Hardware platforms, 51, 62

- video game, 47

Harm competition, 61

Harvest production function, 103

Hausman instruments, 24, 25, 40, 43

Hausman IVs, 32

Hedonic prices, 60, 61

Heterogeneity

- consumers, 14, 20, 25, 27, 34, 41, 43, 75, 77

- prices, 32, 36, 39
- substantial, 17, 81
- unobserved, 12, 19, 24–26, 28, 37, 42, 53, 56, 88, 89, 91
 - market, 20, 23, 24, 42, 43

Heterogeneous

- agents, 6, 22
- beliefs, 37, 39, 43, 44, 48
- goods, 30
- interaction benefits, 14, 42, 48, 58, 60
- networks, 81
- preferences, 20, 28
- sellers, 30

Hitting probability, 67

Homogeneous

- benefits
 - interaction, 14, 35
 - stand-alone, 14
- buyers, 23
- goods, 3, 25, 29
- platforms, 50, 59
- product, 28, 36, 46
 - industry, 72
 - markets, 67
- sellers, 23, 29

Horizontal mergers, 51, 52

Hospitals

- admission, 47
- downstream, 31, 32
- market, 48, 74
- negotiate, 49
- networks, 36
- payments, 38, 39
- pediatric, 48
- prices, 53–55
- system, 3, 56
- upstream, 45
- usage, 48

Hotz-Miller inversion property, 27

Hourly profits, 41

Household

- demographics, 44
- preferences, 51
- purchases, 62

Hybrids, 50

Hypothetical merger, 32

- vertical, 56

I

Identification, 53

- analysis, 9, 32, 41, 42
- argument, 37, 42, 53
- CCPs, 23, 24
- counterfactual, 29
- issues, 5, 6, 20, 77, 96

- key, 28
- network effects, 74, 92
- nonparametric, 4, 5, 18, 24, 27, 29, 32, 36, 44, 46, 47, 50, 51
- of demand, 55
- of the index function, 53
- partial, 5, 7, 10, 25, 28, 45–47, 52–54, 67, 68, 70, 74, 76, 77
- problem, 6, 22, 25, 33, 37–39, 42, 52, 75, 79, 84, 88
- restrictions, 22–24
- standard, 70
- strategy, 3, 4, 9, 26, 36, 46, 47, 51, 56, 75–77
- without normalization restrictions, 25
- Idiosyncratic
 - shocks, 19
 - variation, 8
- Imperfect competition, 3, 18, 19, 21, 28, 32, 33, 43, 46, 69
- Implications, 2, 3, 7, 10–12, 19, 25, 32, 36, 46–49, 51, 55, 58, 61, 62, 66, 74, 75, 87, 105, 106
 - empirical, 9
 - welfare, 19, 20, 23
- Impression, 19
- Incentives
 - compatibility, 29, 33, 36
 - contracting, 30
 - endogenous, 22
 - investment, 54
 - manipulation, 46
 - profits, 104
 - schemes, 32
 - system, 55
 - traders, 46
- Incidental parameters problem, 59
- Incomplete information, 9
 - games, 52
- Incremental pricing principle, 49
- Incumbent
 - cost, 76
 - facing, 32
 - firm, 7, 25, 26, 28, 30, 31, 50, 54, 56, 57, 61, 66–68, 73, 80
 - manufacturer, 10
 - platform, 26, 53, 62, 63
- Index, 42
 - nonparametric, 37
 - price, 19, 20, 22, 36, 37
- Indirect compensation, 27
- Indirect network effects, 4, 6, 10, 74–78, 81, 84, 86–88, 95
- Individual-level data, 23
- Industrial organization, 2–4, 8, 10, 11, 17, 26, 35, 48, 49, 52, 55, 56, 62, 67, 69, 74, 78, 85, 92, 96, 104
- Industrial policy, 84
- Industry
 - advertising intensive, 91
 - airline, 48, 73, 74, 76, 97, 98
 - automobile, 3, 4, 69
 - bulk shipping, 26, 94
 - cars, 44
 - cement, 54
 - declining, 89
 - downstream, 52, 58
 - manufacturing, 6, 51, 63, 65, 66
 - models, 2, 29, 36
 - monopolistic, 7
 - newspaper, 59
 - oil, 94
 - oligopoly, 51
 - pharmaceutical, 70
 - producers, 8, 9, 31, 64
 - product, 7
 - differentiated, 3, 7, 70, 77
 - profits, 17, 18, 90
 - retail, 19
 - shipping, 84
 - container, 94, 96
 - smartphone, 56
 - steel, 65, 75
 - strategic, 84
 - upstream, 54
- Inefficient
 - equilibrium, 34
 - payoffs, 25
 - production, 61, 67
- Infinite data, 6
- Influence
 - measuring, 55
- Information
 - asymmetric, 12, 14–18, 48, 77, 95
 - persistent, 15
 - clearinghouse, 19
 - dispersed, 39
 - externalities, 21
 - incomplete, 9
 - intermediaries, 3, 34, 37
 - intermediaries role, 18
 - monopolist, 16
 - products, 8, 12
 - quality, 62
 - seller, 3, 9, 16, 17, 30
 - selling, 5, 9, 16, 17, 30
 - trade, 14, 21

Information-based manipulation, 46

Initial belief, 6

Innovation

car, 69

component, 30

hard drive, 66

microprocessor, 62

platforms, 10

product, 67

productivity, 10

quality, 13

Inside good, 15

Instrumental variables, 3, 5, 7, 8, 12, 17, 20, 22, 23,
29, 33, 36, 40, 44, 50, 53, 55, 68, 88,
90, 92

nonparametric, 8, 90

Instruments

BLP, 25, 26, 31, 41–43, 56

differentiation, 31

exogenous, 27, 84

for itself, 41, 42

Hausman, 24, 25, 40, 43

optimal, 24, 27, 28, 31

prices, 52, 56

pricing, 58

Waldfoegel, 26, 40, 43, 46

Waldfoegel-Fan, 25

Insulated equilibrium, 58, 59, 61

Insulating tariff system, 58

Integrated Bellman equation, 10

Interaction benefit, 11

Interim belief, 6, 9

Intermediaries

certification, 17

data, 18–20

information, 3, 34, 37

role, 11, 17, 31, 34, 43

International trade, 38, 50, 63, 74

Intersection bounds, 64

Inverse demand, 20, 36, 41

equation, 36, 41, 43

function, 9, 38–42

system, 39

Inverse product differentiation logit, 41

Inverting demand, 37

Investment

capital, 84, 93

efficiency, 64

firm, 92

incentives, 54

lagged, 28, 51

logged, 26

policy function, 26, 32, 93

producer, 26

J

Joint

distribution, 37

estimation, 51

profit, 5, 6, 10, 11, 18, 63

L

Labor

costs, 24, 86, 98

market, 14, 18, 19, 24, 38, 72–74

productivity, 5, 65

quality, 14, 15, 58

Lagged

investment, 28, 51

prices, 41

sales, 84

Land use regulation, 80

Large state space, 15, 41

Least favorable, 63, 64

Limit pricing, 76, 77, 91

Linear parameters, 22

Local

competition, 26, 27

market structure, 10, 15, 28, 29, 54, 58, 61, 81,
83, 89, 91

Local average treatment effect (LATE), 11

Logarithmic market scoring rule (LMSR), 45

Logged

investment, 26

price, 37

Logit

conditional, 24

multinomial, 33

nested, 35

Lucas critique, 78

M

Managed care organizations (MCO), 55

Manipulation

game, 46

incentives, 46

information-based, 46

trade-based, 46

Manufacturers

competition, 46

hardware, 62

incumbent, 10

pricing, 46

rival, 18, 60

smartphone, 56

upstream, 53

Manufacturing industry, 6, 51, 63, 65, 66

Many-to-many matching, 67

Mapping

equilibrium, 43

- NPL, 33
- Marginal
 - agent, 14–16, 40–42, 68
 - consumer, 14, 41, 45, 46, 48, 49, 51, 57, 58
 - cost, 3, 5, 7, 9, 19, 20, 23, 29, 48, 52, 57, 64, 70
 - function, 11, 42
 - retailer, 35, 42, 43
 - distribution, 25
 - price, 12, 76
 - revenue, 52, 68–70
 - trader, 41
 - welfare, 70
- Market, 3, 9, 14, 17, 23, 24, 82
 - airline, 48, 49
 - asset, 14, 46
 - automobile, 95
 - betting, 37, 45, 47, 48
 - bilateral, 95
 - cars, 5, 10, 15–17
 - cement, 54, 55, 57, 58
 - characteristics, 81, 85, 88
 - competition, 17, 25, 88
 - consumers, 3, 12
 - product, 19
 - credit, 9, 17
 - data, 20
 - decentralized, 37, 38, 72
 - demand, 22, 32, 55
 - duopoly, 27, 37, 42, 73
 - equilibrium, 3, 27, 33, 41, 68, 99
 - expert, 31
 - export, 19
 - factor, 25, 33, 49, 73, 74
 - for information, 14
 - frictions, 2, 3, 5
 - geographic, 19, 24, 48, 61, 92
 - hospitals, 48, 74
 - labor, 14, 18, 19, 24, 38, 72–74
 - local, 10, 15, 28, 29, 54, 58, 61, 81, 83, 89, 91
 - maker, 45
 - automated, 44
 - matching, 43
 - oligopolistic, 2, 10, 101
 - online, 11, 28, 94
 - outcomes, 3, 15, 19, 27, 29, 37, 47, 56, 62, 70, 82, 96
 - platform, 6
 - power, 7, 66, 69, 70
 - prediction, 36, 37, 44, 45, 50
 - price, 25, 36, 38, 39, 41, 45–49, 51, 63, 85
 - probability, 38
 - product, 8, 19, 20, 28, 36, 59, 69, 72, 80
 - differentiated, 27
 - profitability, 27
 - resale, 27, 68, 95
 - retail, 33, 74
 - search, 34
 - secondary, 4–11, 15
 - shipping, 42
 - single, 6, 23–25, 33, 46, 47, 56
 - structure, 73
 - taxi, 39–42, 100, 101
 - two-sided, 4, 6, 8, 88
 - unobserved, 24
 - upstream, 58
 - vertical, 3, 4, 52, 64
 - wholesale, 57, 58
- Market-level data, 21
- Market-level outcomes, 75
- Marketed plus, 20
- Marketing, 10, 12, 13, 19, 20, 28, 40, 49, 97
 - activities, 41
 - campaign, 80
 - efforts, 23
 - purposes, 10, 29
 - reasons, 89
- Marketplace, 7
- Marketplace design, 38
- Marketplace online, 3
- Marketplace organizer, 7
- Markov
 - equilibrium, 14
 - perfect, 17, 23
 - productivity process, 32
- Markov Perfect Bayesian Nash Equilibrium (MPBNE), 9
- Markov Perfect Nash Equilibrium (MPNE), 8
- Markup, 70
 - equilibrium, 19, 25, 26
- Match regularity, 70
- Matching, 95
 - auctions, 73
 - design, 63, 64
 - dynamic, 99
 - equilibrium, 68
 - frictions, 38
 - many-to-many, 67
 - markets, 43
 - one-to-one, 65
 - rules, 64
- Maximum likelihood estimator (MLE), 31
- McFadden surplus, 15
- Mean utility, 15, 19
- Measurement error, 50, 55
- Merger, 73
 - analysis, 52, 55
 - counterfactual, 57
 - downstream, 53
 - efficiencies, 54, 74
 - endogenous, 11, 71, 72

- horizontal, 51, 52
 - hypothetical, 32, 56
 - policy, 54, 71, 73
 - rules, 71, 73
 - vertical, 54, 55
 - Methods
 - approximate DP, 15
 - Bajari-Benkard-Levin (BBL), 38
 - control function, 33
 - estimation, 29
 - full solution, 30
 - two-step CCP, 34
 - Micro
 - data, 3, 4, 16, 22, 23, 34, 37, 44–46, 48, 50, 51, 56
 - partial, 56
 - variation, 55, 56
 - moments, 33, 34, 47, 49
 - productivity, 16, 55, 75
 - Microprocessor innovation, 62
 - Misallocation, 63, 67
 - Misspecification, 5, 27, 35, 39, 40, 50, 59, 65, 77
 - error, 4, 22, 39
 - functional form, 13
 - model, 22, 51
 - Misspecified profit functions, 13
 - Mixed continuous-discrete choice models, 28
 - Mixed Logit model, 13
 - Model
 - bargaining, 11, 42, 49, 52, 54, 55, 57–59
 - non-cooperative, 11
 - base, 76
 - BLP, 35
 - canonical, 16
 - conditional, 7, 42
 - Cournot retailer, 9, 12, 16, 23
 - demand, 57
 - discrete choice, 13
 - nonparametric, 36, 51
 - equilibrium, 3, 18, 19, 43
 - industry, 2, 29, 36
 - inverse product differentiation logit, 41
 - misspecification, 22, 51
 - mixed continuous-discrete choice, 28
 - Mixed Logit, 13
 - nested logit, 18, 28, 30, 33, 35, 42
 - nonlinear, 83
 - pricing, 5, 9, 17, 43, 45, 50, 52, 77
 - productivity, 46
 - random coefficients Logit, 13
 - random utility, 15
 - revenue, 88
 - Rust, 21
 - sequential-search, 31
 - simple depreciation, 16
 - simultaneous-search, 29
 - standard trade, 42
 - static, 4, 10, 11, 57, 58, 60, 62, 63, 66–70, 83
 - pricing, 43
 - standard, 77
 - Moment based Markov equilibrium (MME), 97
 - Monopolist
 - entrant, 40, 42
 - information, 16
 - manufacturer, 5
 - retailer, 18
 - seller, 14
 - upstream, 16, 28
 - Monopolistic
 - competition, 18, 19
 - industry, 7
 - seller, 16, 17
 - Monopoly, 11
 - equilibrium, 21
 - platforms, 5, 23, 96
 - price, 13, 20–25, 53
 - pricing, 21, 25, 56
 - profit, 18, 23–25, 27, 28, 62
 - retailer, 5, 18, 19, 22, 25–27
 - Mortgage brokers, 32, 94
 - Multi-homing, 30, 43, 46
 - Multi-product production, 42
 - Multichannel video program distributors (MVPD), 33, 56
 - Multifactor productivity, 5
 - Multinomial logit, 33
 - Multiple
 - purchases, 59
 - Multiple goods, 58
- ## N
- Nash equilibrium, 39
 - Nash-in-Nash
 - approach, 25
 - bargaining, 25, 34, 53
 - solution, 11
 - Negative
 - externalities, 14, 17, 27, 29, 70
 - targeting, 11
 - Negotiated
 - fees, 44
 - affiliate, 40
 - price, 43–46, 55
 - wholesale, 42–44
 - Neighborhood effect, 5
 - Nested logit, 35
 - model, 18, 28, 30, 33, 35, 42
 - random coefficients, 48
 - Nested pseudo likelihood (NPL), 32
 - Network, 10

- competition, 97
- externalities, 10, 23, 28, 31, 49, 56, 63
- externality, 7
- game, 21, 99
- heterogeneous, 81
- hospitals, 36
- Network effects
 - direct, 75, 79
 - identification, 74, 92
 - indirect, 86, 88
 - role, 4
- Newspaper
 - industry, 59
 - prices, 93
 - single, 59
- Noise component, 20
- Non-cooperative bargaining models, 11
- Non-identification result, 20
- Non-negative prices, 19
- Nonlinear
 - contracts, 59
 - models, 83
 - parameters, 22, 50
- Nonmarkets, 4, 5, 52
 - forecasting, 32, 33
- Nonparametric
 - demand model, 36, 51
 - functional form, 37, 43
 - identification, 4, 5, 18, 24, 27, 29, 32, 36, 44, 46, 47, 50, 51
 - index, 37
 - instrumental variables, 8, 90
 - specification, 36
- Normative implications, 94
- NPL
 - fixed point, 33
 - algorithm, 33
 - mapping, 33
 - root, 33
- Null contract, 7, 30

O

- Oblivious equilibrium, 5, 12–14, 70, 95, 101
- Offer game, 12
- Oil
 - drilling, 94
 - industry, 94
 - prices, 94
 - production, 67
- Oligopolistic
 - competition, 17, 90, 101
 - markets, 2, 10, 101
- Oligopoly
 - industry, 51
 - pricing, 51

- rule, 62
- One-to-one matching, 65
- Online
 - brokers, 10
 - marketplace, 3
 - markets, 11, 28, 94
 - platform, 30, 64, 94
 - prices, 30
- Optimal
 - instruments, 24, 27, 28, 31
 - investment
 - decisions, 70
 - level, 10
 - price, 14, 20, 25, 45
 - pricing, 21, 30, 44
 - profits, 90
 - revenue, 11
 - stopping problems, 35, 41
- Ordered search, 32
- Organizational inertia, 67
- Original list, 10, 12
- Outcomes
 - bargaining, 54
 - counterfactual, 20, 55, 74, 75
 - equilibrium, 3, 4, 9, 13, 19, 20, 23, 24, 26, 35, 36, 38, 41, 47, 53, 54, 63, 64, 74, 84, 92, 106
 - market, 3, 15, 19, 27, 29, 37, 47, 56, 62, 70, 82, 96
 - market-level, 75
- Outside good, 14
- Ownership, 7, 51
 - endogenous initial, 14
 - exogenous, 12
 - initial, 13

P

- Pairwise-stable
 - contract profile, 16
 - quantity profiles, 16
 - trade profile, 16
- Panel
 - consumers, 48–50
 - data, 48
- Parameters
 - bargaining, 40–44, 46, 51, 52, 54, 55, 57, 59
 - conduct, 3
 - cost, 10, 56
 - linear, 22
 - nonlinear, 22, 50
- Partial
 - equilibrium, 96
 - identification, 5, 7, 10, 25, 28, 45–47, 52–54, 67, 68, 70, 74, 76, 77
 - specification, 46

- Participation fees, 17, 21, 22, 31, 40, 56, 57
- Passive beliefs, 15–17, 19, 21, 22, 24, 26, 36, 60, 62, 63
 - equilibrium, 17, 20, 21, 26
- Payment
 - per-unit, 17
 - rules, 64
- Pediatric hospitals, 48
- Per-unit payment, 17
- Perfect competition, 25
- Persistence within producers, 7
- Persistent asymmetric information, 15
- Personalized
 - prices, 21, 64
 - pricing, 21, 25, 26
- Pessimistic beliefs, 18, 33, 51
- Pharmaceutical
 - industry, 70
 - prices, 59
 - sales, 37
- Platform, 3, 10
 - competition, 28, 35, 38, 45, 56, 61, 62, 96
 - data, 21
 - decentralized, 44
 - differentiation, 34, 35
 - dispatch, 43, 44
 - economics, 4–7, 9, 91, 96
 - fees, 34
 - focal, 29, 33
 - hardware, 51, 62
 - homogeneous, 50, 59
 - incumbent, 26, 53, 62, 63
 - innovation, 10
 - markets, 6, 9, 62, 63, 74, 88, 92, 96
 - mediating, 8, 18
 - monopoly, 5, 23, 96
 - online, 30, 64, 94
 - pricing, 6, 79
 - single, 6, 11, 25, 47, 48
 - transaction, 10
- Policy, 67
 - competition, 4, 9, 61
 - counterfactual, 12, 32
 - equilibrium, 46, 56
 - industrial, 84
 - merger, 54, 71, 73
 - pricing, 17, 59
- Positive targeting, 11
- Posterior beliefs, 30, 45, 62
- Potential
 - buyers, 12
 - consumers, 12
 - cost effects, 69
 - endogeneity, 44
 - entrants, 11, 56
- Prediction
 - counterfactual, 19, 32, 74, 75
 - markets, 36, 37, 44, 45, 50
 - robust, 21, 24
- Preferences
 - CARA, 40, 44, 46
 - consumers, 15, 22, 28, 50, 51
 - heterogeneous, 20, 28
 - household, 51
 - revealed, 10
 - social, 54
 - unobserved, 50
- Price war, 4
- Prices
 - adjustment costs, 4, 75
 - advertising, 19, 25, 29
 - asset, 38, 51
 - auctions, 53, 73
 - cars, 8
 - coefficients, 15, 19, 26, 30
 - commodity, 94
 - competition, 10, 11, 34, 42, 60, 62, 63, 69, 75, 78, 98
 - conditional, 62
 - constant, 20, 52
 - consumers, 3, 45, 60, 92, 93
 - contemporaneous, 24, 41
 - data, 29, 37
 - discrimination, 4, 7, 13, 22, 25–28, 44, 52, 56, 58, 59, 64, 75
 - dispersion, 9, 19, 20, 22, 23, 28–30, 33, 37
 - distributor, 39
 - downstream, 33, 35, 38–40, 45, 53
 - effects, 12, 47, 59
 - elasticities, 13, 16, 18, 19, 21, 36, 37
 - endogeneity, 4, 5, 41, 43, 44
 - endogenous, 4, 9, 10, 51
 - equilibrium, 5, 6, 10, 11, 16, 17, 21, 24, 25, 27, 36–43, 46, 47, 57, 60
 - exogenous, 7, 23, 48
 - facing, 40, 63
 - factor, 21, 26, 31, 34, 48
 - hedonic, 60, 61
 - heterogeneity, 32, 36, 39
 - hospitals, 53–55
 - index, 19, 20, 22, 36, 37
 - instruments, 52, 56
 - lagged, 41
 - marginal, 12, 76
 - market, 25, 36, 38, 39, 41, 45–49, 51, 63, 85
 - monopoly, 13, 20–25, 53
 - negotiated, 43–46, 55
 - non-negative, 19
 - observability, 27
 - oil, 94

- online, 30
 - optimal, 14, 20, 25, 45
 - personalized, 21, 25, 64
 - pharmaceutical, 59
 - profit-maximizing, 13
 - rental, 5–7, 16
 - resale, 10
 - maintenance, 6
 - reservation, 23, 34, 52
 - retail, 5–7, 10, 20, 23, 28, 35, 50, 51
 - sensitivity, 18, 29
 - shipping, 42, 101
 - single, 26, 56
 - sticky, 75
 - subscription, 20, 24, 33, 51
 - transaction, 17, 30, 37, 38, 54, 95
 - unobserved, 36, 42
 - upstream, 45
 - variation, 7–9, 13, 23, 36, 39–41, 46, 49
 - welfare-maximizing, 15
 - wholesale, 3, 5–8, 10, 11, 35, 37–41, 43–45, 50, 51, 53–57, 59
- Pricing
- airline, 76
 - conditional, 11
 - distributor, 54
 - downstream, 40, 41, 44
 - dynamic, 23, 75, 77
 - instruments, 58
 - limit, 76, 77, 91
 - manufacturers, 46
 - model, 5, 9, 17, 43, 45, 50, 52, 77
 - monopoly, 21, 25, 56
 - oligopoly, 51
 - optimal, 21, 30, 44
 - personalized, 21, 25, 26
 - platform, 6, 79
 - policy, 17, 59
 - promotional, 91
- Primitive assumptions, 11
- Primitives, 67
- Principals, 22
- Principle
- bilateral contracting, 5
 - incremental pricing, 49
 - seesaw, 50
- Private information
- shocks, 20, 21, 23, 42, 59, 67
 - unobservables, 50
- Probability
- common choice, 55
 - conditional, 6, 7, 41, 43, 66
 - choice, 5, 9, 35, 53, 58, 103
 - hitting, 67
- Problems
- bargaining, 42, 55, 56
 - bilateral, 53
 - chicken & egg, 17
 - Coasian pricing, 63
 - consumers, 68
 - cost minimization, 5, 48
 - double marginalization, 6
 - dynamic programming, 8
 - endogeneity, 5, 9, 17, 45
 - estimation, 22
 - identification, 6, 22, 25, 33, 37–39, 42, 52, 75, 79, 84, 88
 - incidental parameters, 59
 - optimal stopping, 35, 41
 - reflection, 5
 - simultaneity, 26, 45, 77, 86
- Producer, 5
- console, 19
 - industry, 8, 9, 31, 64
 - investment, 26
 - level, 5, 18–20, 24, 42, 44, 52, 54, 55, 57, 60, 74, 75
 - profits, 3, 84
 - single, 20
 - size, 10, 60
 - steel, 65
 - surplus, 22, 23, 25, 97
- Producer-level productivity analysis, 55
- Product
- Cartesian, 46, 73
 - differentiated, 3, 7, 11, 13, 18, 19, 26, 27, 31, 33, 40, 42, 43, 49, 63
 - differentiation, 19, 20, 23, 25, 26, 29, 32, 33, 35, 39, 40, 42, 43, 45, 46, 48, 63, 67, 95
 - downstream, 45, 46, 50, 51
 - exogenous, 34, 40
 - Hadamard, 35
 - homogeneous, 28, 36, 46
 - innovation, 67
 - level, 19, 20
 - market, 8, 19, 20, 28, 36, 59, 69, 72, 80
 - competition, 74, 89
 - surplus, 80
 - quality, 3, 9, 26, 40, 46, 50, 63
 - single, 5, 10, 25, 35, 46, 48, 58, 68
 - storable, 11, 62
 - upstream, 46, 47, 49–51
- Production
- approach, 71
 - cars, 53
 - cement, 55
 - data, 70
 - function, 22, 42
 - estimation, 20, 24

- inefficient, 61, 67
- multi-product, 42
- possibility frontier, 42
- Productivity, 5
 - analysis, 3, 4, 43, 52, 54
 - conceptualized, 4
 - data, 69, 73, 74
 - dispersion, 6, 10, 60, 61, 66–68
 - distribution, 9, 27, 57
 - endogenous, 52, 56, 75
 - forecasting, 56
 - innovation, 10
 - labor, 5, 65
 - micro, 16, 75
 - model, 46
 - multifactor, 5
 - primer, 3
 - unobservables, 45
 - unobserved, 22, 26, 27, 29, 30, 38, 40, 45
 - variation, 11
- Profile
 - pairwise-stable
 - contract, 16
 - quantity, 16
 - trade, 16
- Profit-maximizing prices, 13
- Profits
 - deviation, 52
 - flow, 61
 - incentives, 104
 - industry, 17, 18, 90
 - joint, 5, 6, 10, 11, 18, 63
 - monopoly, 18, 23–25, 27, 28, 62
 - optimal, 90
 - producer, 3, 84
 - sellers, 33, 54
 - static, 19
 - vertical structure, 14, 15, 17, 22, 26
- Promotional pricing, 91
- Property
 - Hotz-Miller inversion, 27
 - zero Jacobian, 36
- Proxy, 19
- Pulsing, 91, 92

Q

- Quality
 - capital, 14
 - competition, 69, 70
 - conditional, 6
 - factor, 58, 59
 - information, 62
 - innovation, 13
 - labor, 14, 15, 58
 - product, 3, 9, 26, 40, 46, 50, 63

- station, 83
- variation, 39, 40
- Quantity competition, 60

R

- Random assignment, 79
- Random coefficients, 18–20, 24, 44, 46, 48, 50
 - Logit, 18
 - Logit model, 13
 - Nested Logit model, 48
- Random search, 31
- Random utility models, 15
- Randomized controlled trials (RCT), 61
- Ranked choice data, 49
- Ratchet effect, 27
- Rational beliefs, 18
- Rational expectations equilibrium (REE), 39, 42
- Reallocation, 63
- Reciprocity condition, 64
- Red-bus blue-bus example, 21
- Reduced form, 10
- REE equilibrium, 42
- Reference rivals, 9
- Reflection problem, 5
- Regression
 - artificial, 40
 - function, 55
- Regularity
 - condition, 70
 - match, 70
- Regulation
 - land use, 80
- Regulator benchmark, 90
- Relative attractiveness, 14
- Reliance, 20
- Rental price, 5–7, 16
- Reputation, 33
- Reputational forecasting, 34
- Resale
 - market, 27, 68, 95
 - prices, 10
 - maintenance, 6
 - rates, 8
 - values, 5–7
- Reservation price, 23, 34, 52
- Residual, 11
- Restriction
 - exclusion, 9, 22–28, 42, 56
 - identification, 22–24
- Retail, 85
 - competition, 89
 - industry, 19
 - market, 33, 74
 - price, 5–7, 10, 20, 23, 28, 35, 50, 51

Retailer
 bargaining, 8
 Cournot, 9, 12, 14, 16, 19, 20, 23, 26, 28
 marginal costs, 35, 42, 43
 monopolist, 18
 monopoly, 5, 18, 19, 22, 25–27
 profit maximization, 41
 sign, 11
 exclusives, 10, 11, 14

Revealed preference, 10

Revenue
 advertising, 49, 71, 83, 84
 auction, 53
 data, 44
 deflated, 37
 elasticity, 38
 function, 37–39, 81
 marginal, 52, 68–70
 model, 88
 optimal, 11
 specification, 91

Richer price structures, 56

Rival
 distributor, 34, 40, 55
 manufacturers, 18, 60
 reference, 9

Rival-foreclosure, 34

Robust predictions, 24

Role
 intermediaries, 11, 17, 31, 34, 43
 network effects, 4
 substantial, 95

Rules
 matching, 64
 payment, 64
 scoring, 33
 threshold, 68

Rust model, 21

S

Sales
 console, 23, 77
 downstream, 59
 forecasting, 50
 lagged, 84
 pharmaceutical, 37

Salience, 67
 total, 67

Scoring rules, 33

Search
 consumers, 19, 21, 23, 25–28, 30, 31, 33, 36
 frictions, 18
 markets, 34
 ordered, 32
 random, 31

 sequential, 22

 simultaneous, 21

Second-degree price discrimination, 22

Secondary markets, 4–11, 15

 frictionless, 9

 transactions, 2, 4

Seesaw effect, 6, 25

Seesaw principle, 50

Segmentation, 23

Selection

 consumers, 50

 equilibrium, 14, 41, 42, 58

 static adverse, 12

 terms, 37

Sell-out contract, 6

Sellers

 cars, 11, 29

 choosing, 49

 competition, 29

 heterogeneous, 30

 homogeneous, 23, 29

 information, 3, 9, 16, 17, 30

 monopolistic, 16, 17

 non-price behavior, 24

 profits, 33, 54

Selling

 data, 21

 experiments, 8

 information, 5, 9, 16, 17, 30

 lists, 11

 mechanisms, 11, 34

 realizations, 10

Semi-collusion, 52

Sequential search, 22

Sequential-search models, 31

Sharpness, 4, 10

Shifters

 cost, 5, 21, 24, 25, 29, 34, 35, 40, 41, 43, 46

 exogenous, 82, 90

Shipping

 costs, 43, 101

 industry, 84

 market, 42

 prices, 42, 101

Shocks

 conditional, 34

 cost, 32

 demand, 58

 unobserved, 11, 12

 exogenous, 4

 idiosyncratic, 19

 private information, 20, 21, 23, 42, 59, 67

 uncertainty, 93

 unobservable, 21, 27

 unobserved, 76

- productivity, 26, 32, 33, 48, 50
- Simple depreciation model, 16
- Simultaneity, 4, 5, 31, 48, 57, 65, 76, 89
 - bias, 24, 26, 38, 50, 51, 54
 - challenges, 45
 - problem, 26, 45, 77, 86
- Simultaneous search, 21
 - models, 29
- Single
 - agent, 5, 13, 16, 18, 25, 31
 - buyer, 5, 11
 - channel, 39
 - distributor, 39
 - equilibrium, 43, 50, 51, 73, 102
 - firm, 10, 11, 48, 70
 - inclusive value, 69
 - market, 6, 23–25, 33, 46, 47, 56
 - MPBNE, 23
 - newspaper, 59
 - party, 12, 21, 22, 59
 - platform, 6, 11, 25, 47, 48
 - price, 26, 56
 - producer, 20
 - product, 5, 10, 25, 35, 46, 48, 58, 68
 - seller, 5
 - snapshot, 24
 - unit, 58
- Single-homing, 35
- Singleton, 7, 10, 58, 59, 72
- Smartphone
 - industry, 56
 - manufacturers, 56
- Social
 - cost, 80
 - economics, 5, 80
 - literature, 5, 75, 78, 79, 84, 91
 - papers, 76, 79
 - studies, 78
 - interactions, 22, 35, 49, 56
 - preferences, 54
 - spillover, 5
 - surplus, 23, 65
 - welfare, 10, 26, 30, 61, 80
- Special regressor, 28
- Specification
 - errors, 13, 38, 39, 50, 51
 - nonparametric, 36
 - partial, 46
 - revenue, 91
 - standard, 32, 52
- Stand-alone value, 11
- Standard
 - identification, 70
 - model
 - static, 77
 - trade, 42
 - specifications, 32, 52
- Static
 - adverse selection, 12
 - Bertrand equilibrium, 7
 - game
 - Cournot, 14
 - games, 8, 33
 - model, 4, 10, 11, 57, 58, 60, 62, 63, 66–70, 83
 - pricing, 43
 - profits, 19
 - Station quality, 83
 - Statistical errors, 9
 - Statistical experiment, 6
 - Steel
 - industry, 65, 75
 - producers, 65
 - Steering, 49
 - Sticky prices, 75
 - Stockpiling, 67
 - consumers, 63, 75
 - Storable products, 11, 62
 - Strategic
 - agents, 54, 104
 - industry, 84
 - interactions, 2, 6, 19, 24, 33, 34, 64, 82, 98
 - Strategy
 - divide-and-conquer, 5, 25, 27
 - identification, 3, 4, 9, 26, 36, 46, 47, 51, 56, 75–77
 - Structural errors, 35
 - Structure
 - finite dependence, 36
 - richer price, 56
 - threshold, 72
 - triangle, 11
 - vertical, 2, 17–19, 22, 23, 26, 27, 53, 63
 - Subjective beliefs, 38
 - Subjective expected utility (SEU), 37
 - Subscription prices, 20, 24, 33, 51
 - Substantial
 - heterogeneity, 17, 81
 - role, 95
 - Surplus
 - bilateral, 5–8, 16, 22, 26, 43
 - consumers, 20, 22, 23, 25–28, 32, 33, 42, 46, 48, 50–53, 55, 57, 65, 66, 69, 70, 77, 84, 97
 - McFadden, 15
 - producer, 22, 23, 25, 97
 - product market, 80
 - social, 23, 65
 - trade, 22
 - Switching cost, 19
 - Symmetric equilibrium, 24, 38, 57
 - Symmetry beliefs, 19

T

Tacit collusion, 13, 52
 Take-it-or-leave-it (TIOLI), 34
 Targeting, 71
 negative, 11
 positive, 11
 Taxi market, 39–42, 100, 101
 Temporary price reductions, 46, 62, 63
 Third-degree price discrimination, 22, 71
 Threshold rule, 68
 Threshold structure, 72
 Time-to-build, 7
 Tipping equilibrium, 52
 Total factor productivity (TFP), 5, 17, 24, 92
 Total salience, 67
 Trade
 bilateral, 14
 costs, 8, 42
 data, 12
 equilibrium, 14, 16
 friction, 15
 information, 14, 21
 international, 38, 50, 63, 74
 surplus, 22
 Trade-based manipulation, 46
 Traders
 incentives, 46
 marginal, 41
 uninformed, 52
 Trading
 dynamic, 13
 frictions, 37
 Tragedy of the commons, 11
 Transaction
 cost, 2, 3, 6, 9–11, 15, 19, 26
 economics, 2
 fees, 15, 17, 21–23, 28, 31, 49, 56, 58
 platforms, 10
 prices, 17, 30, 37, 38, 54, 95
 secondary market, 2, 4
 Transformation function, 42
 Translog production function, 53
 Transmission, 24
 Transport costs, 8, 11
 Travel costs, 26, 27
 Triangle structure, 11
 Trick, 41
 True value, 60
 Two-part tariffs, 21
 Two-sided market, 4, 6, 8, 88
 Two-step CCP methods, 34

U

Unbiased beliefs, 28
 Unbundling, 52, 55, 58

Uncertainty, 92, 94
 in shipping, 94
 shock, 93
 Unconditional moments, 27, 35
 conditions, 24, 62
 inequality, 61–64
 restriction, 28
 Unfavorable beliefs, 26, 28, 59
 Unilateral effects, 52
 Uninformed
 agents, 17
 consumers, 20, 21, 24, 32
 traders, 52
 Unobserved
 demand shocks, 11, 12
 heterogeneity, 12, 19, 24–26, 28, 37, 42, 53, 56,
 88, 89, 91
 input prices, 46
 market, 24
 heterogeneity, 20, 23, 24, 42, 43
 preferences, 50
 prices, 36, 42
 product
 characteristics, 34
 differentiation variation, 41
 level quality, 50
 productivity, 22, 26, 27, 29, 30, 38, 40, 45
 shock, 26, 32, 33, 48, 50
 shocks, 76
 Upstream
 costs, 54, 55
 hospitals, 45
 industry, 54
 manufacturers, 53
 market, 58
 monopolist, 16, 28
 prices, 45
 products, 46, 47, 49–51
 suppliers, 53
 Utility, 13, 15
 consumers, 13, 50, 79
 mean, 15, 19
 subjective expected, 37
 viewership, 47
 virtual, 66

V

Valuations
 bidder, 53, 54
 consumers, 5, 47, 51, 53
 Variable costs, 19, 32, 51, 59, 86
 Variance, 85
 Variation
 exogenous, 3, 4, 7, 20, 24, 25, 39–41, 43, 45–48,
 76, 80

- idiosyncratic, 8
- prices, 7–9, 13, 23, 36, 39–41, 46, 49
- productivity, 11
- quality, 39, 40
- Vertical
 - differentiation, 4, 7, 8, 10, 14, 16, 38, 48
 - externality, 6
 - integration, 18
 - markets, 3, 4, 52, 64
 - mergers, 54, 55
 - structure, 2, 17–19, 22, 23, 26, 27, 53, 63
 - payoff, 22
 - profits, 14, 15, 17, 22, 26
- Viewership utility, 47
- Virtual utility, 66

W

- Wage variation, 14
- Wagering, 36
- Waldfoegel instruments, 26, 40, 43, 46
- Waldfoegel IVs, 33
- Waldfoegel-Fan instruments, 25
- Walmart, 3, 85–87, 89, 91

- effect, 89
- Wary beliefs, 20
- Weak rationality, 12
- Welfare
 - consumers, 3, 19, 26, 28, 32, 46, 52, 53, 55, 58, 63, 65, 77, 93
 - costs, 54
 - effects, 4, 19–21, 52, 55, 57, 58, 60, 62, 80, 82
 - implications, 19, 20, 23
 - marginal, 70
 - measure, 19–21, 80
 - social, 10, 26, 30, 61, 80
- Welfare-maximizing prices, 15
- Wholesale
 - cars, 18
 - market, 57, 58
 - prices, 3, 5–8, 10, 11, 35, 37–41, 43–45, 50, 51, 53–57, 59
- Within-group share, 42

Z

- Zero Jacobian property, 36