

Cambridge University Press

978-1-107-00436-8 - Mechanism Design: A Linear Programming Approach

Rakesh V. Vohra

Index

[More information](#)

Index

- 2-cycle condition, 45
- 2-cycle inequality, 44
- active bidders, 91
- affine maximizers, 54
- Afriat's Theorem, 162
- agents are substitutes condition, 88
- allocation network, 42
- allocation rule, 38
- arcs, 25
- Arrowian social welfare function, 8
- Arrow's Impossibility Theorem, 13
- ASC, 88
- Ascending Auctions, 89
- Bayes-Nash incentive compatible mechanism (BNIC), 77
- Bayesian incentive compatibility, 77
- Border's Theorem, 121
- Candidate Stability, 18
- Combinatorial Auctions, 82
- complementary slackness, 90
- complete, 24
- Condorcet, 9
- cone assumption, 130
- connected, 25
- Core, 87
- Correlated types, 130
- cross at most once, 76
- cycle, 25
- cycle elimination, 10
- cyclic monotonicity, 72
- decisive, 8
- decisiveness implications, 10
- decomposed, 30
- decomposition monotone, 53
- degree, 24
- demand correspondence, 91
- demand rationing, 65
- diagonal BNIC constraints, 151
- dictatorial, 8
- direct mechanism, 22
- directed, 25
- dominant strategy equilibrium, 21
- dominant strategy mechanism, 40
- dot-product valuations, 39
- downward BNIC constraint, 115
- edges, 24
- efficient allocation, 79
- English clock auction, 81
- ex-post incentive compatible, 74
- expected allocation, 114
- extended formulations, 84
- feasible flow, 29
- flow decomposition, 31
- full information problem, 113
- generalized axiom of revealed preference, 162
- Gibbard-Satterthwaite Theorem, 17
- graph, 24
- Gross Substitutes, 105
- gross substitutes, 107

172 **Index**

- implementable in Bayes-Nash equilibrium (IBN), 77
- combine into one entry, 40
- implementable in dominant strategies (IDS), 40
- Independence of Irrelevant Alternatives, 8
- individual rationality (IR), 131
- infinite dimensional linear program, 140
- interdependent, 73
- interim allocation, 114
- ironed virtual value, 127
- knapsack problem, 157
- locally nonsatiated, 161
- loop, 24
- Majority rule, 9
- marginal product, 81
- mechanism, 21
- minimally undersupplied, 94
- monotone hazard condition, 118
- Monotonicity, 15
- monotonicity, 45
- Muller-Satterthwaite Theorem, 16
- network, 26
- Newtonian, 69
- node-arc incidence matrix, 28
- nodes, 24
- overdemand, 93
- Pareto Optimality, 15
- path, 24
- payment rule, 38
- Polyhedral approach, 121
- polymatroid, 125
- polymatroid optimization, 125
- pooling, 126
- preference domain, 7
- price adjustment, 95
- price path, 107
- Primal-Dual Algorithm, 89
- profiles, 7
- profitable, 42
- quasiefficient, 127
- rationalizability, 160
- regular, 60
- restricted primal, 90
- Revelation Principle, 22
- revenue equivalence, 59
- Roberts' Theorem, 54
- shortest path polyhedron, 33
- signal, 74
- simple cycle, 25
- simple path, 24
- social choice function, 14
- social welfare function, 7
- spanning tree, 25
- splittable, 62
- Strategy-Proof, 15
- strongly connected, 26
- subgradient algorithms, 99
- submodular, 125
- supply correspondence, 91
- taxation principle, 42
- top single crossing, 76
- Transitivity, 9
- truthfully implementable, 22
- two-cycle connected, 63
- type, 20
- type space, 20
- Unanimity, 8, 18
- undersupplied, 94
- undetectable, 42
- uniformly ordered, 76, 134
- upward BNIC constraint, 115
- Vickrey-Clarke-Groves (VCG), 81
- virtual valuation, 118
- Walrasian tâtonnement, 82