

# Index

- advertising 266
  - monopolist 285-7, 288, 292
- analysis, general 249-51
  - partial and 247-8
- Andrews, P. W. S. 298 n.
- Armstrong, W. 5 n.
- attainable set 8-9, 19
- autonomous behaviour 314-16, 318
  
- bandwagon effect on demand 67
- bargaining
  - collective 220-2, 352-3
  - oligopolistic 319, 321-2, 338
  - power, firm's 338-9
- barter 344-52
- Baumol, W. J. 281 n.
- Bertrand model of oligopoly 316
- bonds
  - demand curve 207-9, 234-6, 239, 245
  - interest 205-7, 209, 233-4, 245
  - prices 233
  - savings in 204-9
  - supply curve 207-8, 234-5
- Brems, Hans 319
- budget lines 19-21, 27, 39, 47, 49, 58, 361-2
- budget set, consumer's 19-21
- business saving 200-1
  
- capital
  - fixed 93, 115, 139
  - gains 205-6, 209
  - human 226-8
  - working 237
- capital/labour ratio 76, 80-4, 90-1
- Chamberlin, E. H. 275, 297 n., 298 n.
- choice
  - consistent 59
  - see also* preferences
- classification 133
- inputs 226-7
- markets 272-5
- Cobb, C. W. 112 n.
- Cobb-Douglas production function 112-13
- cobweb theorem 130, 167
- collective bargaining 220-2, 352-3
- collusive oligopoly 307, 329-39, 343
- commodity 2-3, 6-7, 12-13
  - prices, labour supply and 173-5
  - space 5-7, 13-14, 17
  - substitution rate 14
  - see also* goods; product
- company, *see* firms
- compensated demand curves 54, 365-7
- compensating variation 363
- compensation tests 368-70
- competition
  - discouraging 287-9, 292-3
  - free 265
  - imperfect 100, 260, 388
  - monopsonistic 304-6
  - monopsonistic 304-6
  - non-price 333
  - perfect 100, 102, 118, 155, 246, 260, 275, 280, 289-90, 294
  - conditions for 264-73
  - optimality of 376-8, 384
  - pure 261-4, 271, 273, 275, 345
- competitive output 313-16
- complements
  - goods 56-8
  - inputs 80, 163
  - perfect 24
  - processes 80-2

- completeness, axiom of 8, 16  
 concavity 22  
 conformity, consumer preferences  
     and 67  
 conjectural behaviour 315, 322-4  
 conjectural demand or sales curve 326  
 consume, propensity to 196-8  
 consumer  
     budget set 19-21  
     equilibrium 20-1, 27, 361  
         preferences and 1-30  
     expenditure 31-2, 151-2  
     household as 1-2  
     income, determination of 172-4  
     landowners 186-7  
     market period 151-2  
     selection 8-9, 21  
     sovereignty 2 n.  
     surplus 355-6  
         compensation tests 368-70  
         demand curve and 359-62, 365-8  
         Hick's four measures of 362-8  
         income changes and 359-61  
         Marshallian approach 356-62, 368  
     *see also under* indifference; preferences;  
     sales plan  
 consumption  
     income relationship with 69-74  
     planning 124-5, 127-9, 138  
     price relationship with 36-8, 142,  
         151-2  
     quantities, optimal 41  
     saving and 197-8  
         choice between 188-91, 200  
         time, work time and 172-4, 176-80  
     consumption-saving plan 197-9  
 contract curve 351-2, 372  
 convexity  
     consumer preference curves 14-17,  
         79  
     isoproduct curves 79-32  
     strict 16-17, 79  
     weak 17, 21-2  
 cost-benefit analysis 355-6  
 costing margin 298-300  
 cost(s)  
     average 169, 296, 298-301  
     curves 95-7, 116-18, 122, 271-2  
         production isoquants and 89-91,  
             95-8  
         supply curves and 104-5  
     decreasing 289-90  
     durable goods 168-71  
     fixed 72-3, 93, 107-8, 160, 298  
         and variable 94  
     functions 92-7  
         long-run 116-18, 120, 122  
         short-run 88-108  
     indirect 298-9  
     labour 93, 150, 156-8  
     long-run 145, 169, 296, 289-90  
     marginal 94-5, 102, 278, 296  
         prices equal to 378  
         private and social 387  
     minimising 71-2, 77-8, 88-9, 91,  
         114, 116  
     opportunity 230 n.  
     output and 97-104, 118  
     prices 251, 378  
     production below 103-4, 135  
     substitution effect on 97-8  
     theory of price 298-301  
     *see also* inputs  
 coupon yield 205  
 Cournot, A. 247 n., 308 n.  
     model of oligopoly 308-16, 346  
 Dasgupta, A. 355 n.  
 Debreu, G. 25 n., 80 n.  
 demand  
     advertising and 285-6  
     cross elasticity of 56-8  
     curves 38-42, 52-6, 125, 127, 130-1,  
         244-5  
     *see also* elasticity; inputs; labour  
         bonds and money 207-9, 234-6,  
             239, 245  
         compensated 54, 365-7  
         competition, pure or perfect 271  
         conjectural 326  
         consumer surplus and 359-62,  
             365-8  
         discontinuous 63-4, 327  
         Hicksian 53-4, 365  
         kinked  
             monopolist 289  
             oligopolistic 325-9, 336  
         monopolistic competition,  
             under 294-5  
         pathological 62-5  
         price-maker and price-  
             taker 100-2, 155  
         total 65-6, 123  
     durable goods 168-71, 222-3  
     effort 180-3  
     functions 31-69

- demand (*contd.*)  
 functions (*contd.*)  
   inverse 42  
   partial 41  
   price 38-42, 251  
 government bonds, for 206-7  
 market 65-6, 123  
   aggregation problems 66-9  
   price mapping of 40-1  
   short-run and long-run 150-3  
   supply and 123-32, 139  
     long-run analysis 144-8, 152-3  
     short-run analysis 132-9  
 destruction of goods 136  
 diminishing returns, law of 82-6, 95,  
   113-14, 122, 158-9  
 diseconomies 140-1, 150  
 dispreference 3  
 dominance, axiom of 9-12, 16  
   relaxing 23-5  
 Douglas, Paul 112 n.  
 duopoly 308-15. *See also* monopoly,  
   bilateral  
 durable goods  
   demand for 168-71, 222-3  
   pricing 222-5  
 education as investment 227-8  
 effort  
   demand for labour 180-3  
   price 180-2  
   supply 172-88  
 elasticity 34  
   cross 56-8  
   demand of  
     income 34-6, 41, 46-51  
     inputs 163-4, 167-9, 171  
     price 42-6, 62-5, 126, 137, 158-9,  
       167-8, 284-6, 327-8  
     total revenue and 44-6, 284  
     under monopolistic competition  
       295  
   input substitution 98-9  
   measurement of 34-5  
   supply 125, 129, 140-1, 143, 150  
     conditions for long-run 265-70  
     inputs 266-70  
     labour 185-6, 266-8  
     price 106-7, 137  
 Engel, Ernst 36 n.  
 Engel curves 33, 35  
 entrants to industry, new 265-6  
   monopolistic competition,  
     under 296-7  
   monopoly and 287-9  
   monopsonistic competition,  
     under 305  
 equilibrium  
   consumer 20-1, 27, 361  
     preferences and 1-30  
   cost functions and 91-108  
   duopolist 313-16  
   firm's 99-105, 157-8  
   general, Pareto optimum and 371  
   interest rates and 240-5  
   leadership 317-18  
   market 129, 262-3  
   monopolist 276-80, 290  
     bilateral 346, 348, 351  
   monopolistic competition,  
     under 295-8  
   monopsonistic 303-6  
   oligopolist 314, 316  
   pay-off 341-2  
   price, *see under* prices  
   profit-maximising 278, 290  
   equipment, *see also* durable goods  
     specialised 148-9  
   equivalence relations 5, 10 n.  
   equivalent variation 364-5, 367  
   evaluation curves, marginal 382-3  
   expansion path, firm's  
     cost-minimising 89, 91, 114, 116  
     long-run 110, 114, 118, 122  
     short-run 92-4, 108, 163  
     supply curve 107  
   expenditure-consumption curve 31-2  
   external economies 149-50  
   external effects of public goods 385-8  
   externality 387-8  
 feasible set 8-9, 19  
 Fellner, W. 316 n., 329 n.  
 firm 70  
   bargaining power 338-9  
   equilibrium 99-105, 157-8  
   limited liability 200  
   multiproduct 131-2, 148, 301  
   objectives of 71-2, 108, 159  
   profits of 200  
   restricting entry to industry, 266 (*see*  
     *also* entrants to industry)  
   *see also* expansion path; purchase plan;  
     sales plan  
 free disposal, axiom of 80  
 Friedman, M. 259 n.

- games theory and oligopoly 339-43
- Giffen, Sir Robert 38 n.
- Giffen goods 38, 51-2, 62, 66
- goods
- complementary 56-8
  - destruction of 136
  - Giffen 38, 51-2, 62, 66
  - indispensable 361 n.
  - inferior 32-3, 51-2, 370
  - normal 51-2
  - private 381
  - public 381-5
    - external benefits of 385-8
  - see also* commodity; durable goods; product
- government
- monopolies and 291-2
  - output restriction by 136
  - stock 205-6
- Green, H. A. J. 15 n.
- Hall, R. L. 326 n.
- Hayek, F. A. 263 n.
- Heathfield, D. F. 113 n.
- Henderson, J. 15 n.
- Hicks, J. R. 15 n., 47-50 n., 57 n., 362 n., 369
- demand curve 53-4, 365
  - four measures of consumer surplus 362-8
- Hitch, C. J. 326 n.
- homogeneity 111 n., 261-2, 273
- household as consumer 1-2
- human capital 226-8
- import taxes 292
- income
- changes in 41
    - consumer surplus and 359-61
  - consumer's, determination of 172-4
  - consumption relationship with 36-8, 69-34, 142, 151-2, 198
  - consumption time and 172-4, 176-80
  - distribution 250-1, 373
  - effort price of 180-2
  - elasticity of demand 34-6, 41, 46-51
  - interdependence 67
  - investment and 243
  - leisure and 173, 182
  - marginal utility 359, 362
  - real 32-3, 174
    - constant 47-50, 54, 57
  - saving and 195, 198, 204
  - subsistence level 177
  - substitution effects and 46-52, 54-7, 62, 178-80, 182
  - total 240
- indifference
- consumer 2-5
    - curve 12-13, 17-19, 21
      - barter 344-6, 351
      - budget lines and 21, 27
      - concave 22
      - convex 14-17, 21, 189
      - convex-concave 63-5
      - dominance axiom 9-12
        - relaxing 23-5
      - leisure-income 173, 182
      - linear 22
      - parallel 54, 56, 359-61
      - Pareto optimum and 371-5, 383
      - satiation and 25-7
      - saving 189
      - utility function and 28-30
      - map 9-12, 17, 26, 46-7, 52-3, 173, 178
      - preference and 3-5, 7-12
    - investor's 211-14
    - producer curve 76
    - profit curve 311-12, 316-18, 320-2
    - relationships 5
- indivisibilities 6-7, 113-14, 269-71, 292
- inferior goods 32-3, 51-2, 370
- inferior inputs 98
- innovation 120, 144, 147, 292
- inputs
- classification 226-7
  - complementary 80, 163
  - demand for 154, 252
  - curves
    - labour 216-19
    - long-run 164-5, 218-19, 221-2
    - short-run 155-6, 161-4, 216-18, 220
    - total 165-8
  - durable goods 168-71, 222-3
  - interest rates and 171, 241
  - long-run. 164-5, 218-19, 221-2, 268
  - parameter changes and 159-60
  - price elasticity 163-4, 167-9, 171
  - production possibilities and 159-61

- inputs (*contd.*)
- demand for (*contd.*)
    - selling price relation with 159-60, 165-8
    - short-run 216-18, 220
      - one variable 154-8
      - two variables 160-4
  - diminishing returns from 82-6, 158-9
  - efficiency of 228-30
  - fixed 113, 115-17, 139, 160, 165
  - inferior 98
  - indivisible 113-14, 269-71, 292
  - marginal product of 81-3, 86, 170
    - market, pure competition 264
  - mobility of 266-8
  - monopsonist 304
  - planning curve 164, 169
  - prices
    - see also* cost(s); labour
    - changes in 89-99, 108, 147-50, 157-8, 249, 268
    - elasticity of 158-9
    - determining, firm's role in. 165, 171, 216
    - marginal revenue product equal to 170-1
    - relative 89-99
      - determination of 216-45
      - durable goods 222-4
      - interest and 233-45
      - labour 216-22, 226-30
        - rent 224-5, 230-3
    - purchase planning 71-2, 154-71
    - redundant 80
    - rising 110-12
    - substitute 80, 83, 92, 98-9, 163, 165
    - supply 172, 252
      - curve, labour 216-22
      - elasticity 266-70
      - units 114, 266-8
  - interdependence 249-50
    - consumer preferences 67
    - incomes 67
    - oligopolistic 316
    - price-supply 246-7, 261
    - unpriced 385-6
  - interest
    - bonds 205-7, 209, 233-4, 245
    - calculation of 169 n.
    - price element 226
    - rate 233
      - changes in 239-40, 243
      - saving and 191-5, 201-2
    - consumer preference changes and 244
    - determination of 233-45
    - input-demand relation with 171, 241
    - long-run equilibrium 240-5
    - market 238-43
  - investment
    - human capital 277-8
    - income relationship with 243
    - indifference curve 211-14
    - interest rate and 244
    - savings plan 204-15
    - uncertainty and 268
    - variance calculation 211, 213-14
    - yield 205-6, 210-11, 215
      - see also* inputs; savings
  - investment-saving equilibrium 241-3
  - isocost lines 89-91, 118
  - isoproduct curves 75-6, 86
    - convexity of 79-82
  - isoquants, production 75-80, 82, 110, 112, 115, 374
    - convexity 79-82, 98, 374-5
    - cost curves and 88-91, 95-8
    - linearity 86-7, 98, 374 n.
  - iso-utility curve 28
- Johnston, J. 300 n.
- Kaldor, N. 369
- Kaldor-Hicks tests 369-70
- kinked demand curve
  - monopolistic 289
  - oligopolistic 325-9, 336
- Knopf, A. A. 316 n.
- labour/capital ratio 76, 80-4, 90-1
- labour
  - costs 98, 150, 156-8
  - demand
    - curves 216-19
    - effort 180-3
    - elasticity 158
  - efficiency 228-30
  - human capital 226-8
  - market 174
  - mobility 266-8
  - supply 172-4
    - curve 175-8
      - long-run 183-6, 218-19, 221-2, 231

- labour (*contd.*)  
 supply (*contd.*)  
 curve (*contd.*)  
 short-run 216-18, 220  
 total 173  
 elasticity 185-6, 266-8  
*see also* wages
- Lancaster, K. 379 n.
- land  
 change of use 187  
 services, prices of 202, 224-5  
 supply 186-7  
 taxation 233
- leadership models 316-25, 349
- Leibenstein, H. 67, 68 n.
- leisure-income preferences 172-5, 182
- Lipsey, R. G. 379 n.
- Little, I. M. D. 354 n.
- loans 201-2
- machines  
 demand for 168-71  
 marginal revenue productivity  
 of 170-1
- Majumdar, T. 5 n.
- management  
 ability of 113, 141, 298, 339  
 large-scale 140-1  
 utility, maximising 71
- manager  
 knowledge 267  
 uncertainty and 268-9
- mapping  
 indifference 9-12, 17, 26, 46-7, 52-3,  
 173, 178  
 price-demand 40-1
- market  
 behaviour 261-75  
 assumptions 259-63, 265-70, 273  
 monopoly 276, 282  
 oligopoly 308, 313-14, 316,  
 318-20, 324-5, 329, 332  
 classification 272-5  
 demand 65-6, 123  
 aggregation problems 66-9  
 division of 284-5, 304  
 equilibrium 129, 262-3  
 inputs 264  
 interest rate 238-43  
 knowledge of 262-3  
 labour 174  
 methodology 259-60  
 monopoly 276  
 period 251-2  
 price 205-7, 259  
 sharing agreement 334-6  
 supply 105-6, 123  
*see also* competition; monopoly;  
 monopsony; oligopoly
- Marshall, A. 344 n.
- Marshallian demand curve 38, 53-4
- mergers 292
- monetary authorities' purchase and sale  
 of bonds 236, 239
- money  
 demand for 208-9, 236-8, 245  
 medium of exchange 236-7  
 savings in 204, 208-10  
 supply 208, 236, 243
- monopolistic competition 275, 280,  
 294-31
- monopoly 276-93  
 advertising 285-7, 288, 292  
 bilateral 275, 344-53 (*see also*  
 duopoly)  
 demand curve, kinked 289  
 discouraging competitors 287-9,  
 292-3  
 equilibrium 276-80, 290  
 genesis and maintenance of 290-3  
 natural 291  
 nature of 274, 276  
 objectives of 280-2  
 output and price 330-1  
 price determination 276-82  
 price discrimination 282-5  
 profit-maximising 278, 282, 286,  
 289-90, 295, 331
- monopsonistic markets 302-3
- monopsony 274, 302-4, 348-9  
 competition under 304-6
- monotonicity 10
- Morgenstern, O. 339 n.
- multiproduct firm 121-2, 148, 301
- Nash, J. F. 343 n.
- negative externality 385-8
- Neumann, J. von 339 n.
- Newman, Peter 15 n., 58 n., 61
- nonsatiation 10
- normative price theory 354-88. *See also*  
 consumer surplus
- offer curve 36
- oligopoly 274, 307-43  
 bargaining under 319, 321-2, 338

- oligopoly (*contd.*)  
 collusive 307, 329-39, 343  
 Cournot model 308-16, 346  
 demand curve, kinked 325-9, 336  
 game theory and 339-43  
 leadership models 316-25, 349  
 nature of 307-8  
 reaction curve 312-13, 315, 317-18, 323
- oligopsony 274, 339 n.
- optimal externality 338
- optimality, Pareto 371-8, 380, 383  
 individual 384  
 perfect competition 376-8, 384  
 public-private goods 382-4
- output  
 competitive 313-16  
 costs and 97-104, 118  
 government restriction of 136  
 leadership 316-18, 349  
 monopoly 330-1  
 subsidies and 145-6  
 wage rates and 228-30  
*see also* production; sales plan
- overcompensation effect 62
- Pareto, V. 355  
 improvements 368-9, 372, 375  
*see also* optimality
- Pareto-relevant externality 387
- patents 266, 292
- pay-off equilibrium 341-2
- Pearce, D. W. 355 n.
- Peston, M. 384
- Pigou, A. C. 199
- planning  
 consumption and supply 124-5, 127-9  
 curve 139-41, 148-9  
 inputs 164, 169  
 new techniques 147-8  
 periods 72-3  
 saving and 188-9, 192  
 production and sales 138, 171  
 purchases and consumption 138  
 saving 188-204  
 supply 124-5, 127-9  
*see also* sales plan
- pollution 385
- portfolio, investor's 204, 207  
 mixed 210  
 variance calculation 211, 213-14
- positive externality 385, 387-8
- positivists 260
- prediction, economic 133-4, 146-7
- preferences, consumer 2-3  
 advertising and 285  
 axioms of 7-17  
 relaxing 23-5  
 change in 67, 191, 244  
 price equilibrium and 248-9, 251  
 continuity of 13-14  
 curve 14-17, 19  
 equilibrium and 1-30  
 indifference and 3-5, 7-12. *See also* indifference curve
- indirect 61
- individual and household 1-2
- interdependent 67
- interest rates and 244
- lexicographic ordering of 12-14
- production pattern influenced  
 by 250  
 revealed 58-62  
 switching 11  
 time 189-90  
 wage rates and 219  
 work and leisure 172-5
- price  
 discrimination 282-5  
 effect 48-9, 52, 54  
 leadership 324-5, 329, 336  
 line 19  
 mapping of demand 40-1  
 -makers  
 bilateral monopoly, in 347-53  
 demand curves 100-2, 155  
 independent and interdependent 274  
 land services and 202, 224-5  
 monopolist 284  
 price-takers and 100-2, 155, 259, 264  
 -takers, bilateral monopoly 290, 344-6
- prices  
 agreements on 325, 329-30, 334-6  
 analysis of, general 249-54  
 and partial 246-8  
 change in 128-30, 150-3  
 consumer-surplus and 362-70  
 relative 126-7, 133, 144-5, 249  
 sales plan's response to 104-8, 118, 151  
 saving-consumption plan and 198, 249

prices (*contd.*)

- change in (*contd.*)
  - time path 264-5
  - variable factors in 273-4
- commodity, labour supply and 173-5
- compensating variation 364, 365, 367
- consumption relationship with 36-8, 142, 151-2
- control of 132-6
- costs and 251, 378
- demand as function of 38-42, 251
- determination of 123-4, 150-3
  - average-cost 298-300
  - durable goods 222-5
  - general equilibrium 246-58
  - long-run 139-50
  - monopoly 276-85, 330-1
  - monopsonist 302-6
  - short-run 124-39
- effort 180-2
- entry-forestalling 288
- equilibrium 125, 127, 129, 131, 264
  - general 247, 251-9
    - consumer preference changes and 248-9, 251
    - formal approach 251-4
    - partial analysis of 247-8
    - stability of 256-8
      - long-run 139-40, 142-3, 150
  - equivalent variation 364, 365, 367
  - falling 47, 51, 142, 144-5
    - firm's revenue and 100-1
  - fluctuating 129-30, 143
  - interdependence with supply 246-7, 261
  - interest, rent and wages in 226
  - market 259, 205-7
  - market-sharing 334
  - production pattern determined by 250
  - quality and 67-8
  - relative 123-53, 246-58
  - selling 106, 159-60, 165
  - storage and 138
  - subsidy's effect on 145-6
  - taxation effect on 137-8
    - see also under* elasticity; inputs; product
- private goods 381
- processes 76
  - changed, supply and 107
  - combination of 77-9, 81
- complementary 80-2
  - substitution of 80-2
- producer-indifference curves 76
- product
  - curves 115-16, 154-5. *See also* isoproduct curves
    - cost curves and 95-7
    - linearity and 86-7
  - differentiation 287, 297-8
  - homogeneous 261-2, 273
  - marginal 81-4, 86-7, 155, 170-1, 386-7
- prices
  - changes in, supply curve 104-5, 118, 128-30, 139-45, 152-3
  - constant 155
  - input demand and 159-60, 165-8
  - relative, determination of 123-4, 150-3
    - long-run 139-50
    - short-run 124-39
  - sales plan and 104-8, 118, 151
- transformation
  - curve 374, 376, 379-80
  - function, public-private 381
  - rate 121-2
  - variants 287
  - see also* commodity; goods
- production 70
  - below cost 103-4, 135
  - function 73-5
    - homogeneous 111-13
    - linear case 75-8
    - sales plan 110-16, 121-2
      - short-run 70-87, 109
    - smooth case 79-82, 93, 95, 112
  - pattern determined by prices 250
  - planning 138, 171
  - possibilities
    - frontier curve 374, 376, 379
    - input demand and 159-61
    - intermediate period 120
    - long-run 114-16
    - sales and 138, 171
    - set 77
    - see also* isoquants; output
  - profit(s)
    - increasing with demand 270
    - indifference curve 311-12, 316-18, 320-2
    - maximising 71-2, 102-5, 118, 139, 142, 145
    - agreement on 329-33, 337-8



- profit(s) (*contd.*)
- maximising (*contd.*)
    - average-cost theory and 300-1
    - duopolist 311-12
    - monopoly 278, 282, 286, 289-90, 295, 331
    - minimum necessary 281-2
    - pooling agreement 331, 333
    - possibilities 308-13, 318-19, 321
    - restriction of 289
    - sharing, oligopolistic 335, 337
    - undistributed 200-1
    - use of 200-1
  - public goods 381-5
    - external benefits of 385-8
  - purchase plan 138
    - firm's 71-2, 154-71
  - quality and price 67-8
  - Quandt, R. 15 n.
  - quantity variation 364
  - quasi-substitution effect 62
  - rationing 134-5
  - reaction curve, oligopolist 312-13, 315, 317-18, 323
  - reflexiveness, consumer indifference 5
  - rent 224-6, 230-3
  - research planning 147-8
  - returns
    - diminishing 82-6, 95, 113-14, 122, 158-9
    - non-proportional 82-6, 113, 154
    - to scale 110-12, 116, 118
    - increasing 289-90
  - revenue
    - curves 99-104, 122, 154-5
    - monopolist 277, 283-4, 296
    - marginal 155, 170-1, 278, 283, 296, 348, 350
    - maximising 281, 283
    - total, price elasticity of demand and 44-6, 284
  - risk-bearing 211, 214, 245
  - Robinson, J. 229 n., 284 n.
  - Rothenberg, J. 5 n.
  - Rowan, D. C. 240 n.
  - sales
    - curve, conjectural 326
    - maximising 71
    - see also* prices
  - sales plan, consumer
    - land services 186-7
    - saving and savings 188-215
    - supply of effort and 172-88
  - sales plan, firm's 70-1
    - cost function 116-18, 120
    - equilibrium and 88-108
    - intermediate period 119-21
    - long-run 109-22, 142
    - production function 70-87, 109-16, 121-2
    - response to price changes 104-8, 118, 151
    - revision of 120, 265
    - short-run 70-109
  - sales
    - production and 138, 171
    - tax 136-8
  - Samuelson, P. A. 58, 243 n.
  - satiation, commodity 25-7
  - save, propensity to 196-8, 201-4
  - saving
    - business 200-1
    - consumption and 191, 197-9, 204
    - choice between 188-91, 200
    - income changes and 195, 198
    - indifference curve 189
    - interest rates and 191-5, 201-2
    - plan 188-204
    - price changes and 249
    - supply of 201-3
  - saving-consumption plan 197-9
  - saving-investment equilibrium 241-3
  - savings 188
    - consumer 10 n.
    - firm's 200
    - money 204, 208-10
    - plan, investment and 204-15
  - Scitovsky, T. 370
  - selection, consumer 8-9, 21
  - selfishness axiom 67
  - selling price 106, 159-60, 165. *See also* product price
  - shares, savings in 204
  - Slutsky, E. 47-51, 53-4
  - snob effect 68
  - social benefits, net 356
  - social welfare functions 354, 380. *See also* welfare
  - speculation 239-42
  - spillover 385
  - Sraffa, P. 290 n.
  - stock, savings in 204-6. *See also* bonds

- stocks, government accumulation of 136
- subsidies 145-6
- subsistence level incomes 177
- substitute
  - goods 56-8, 248-9
  - perfect 22, 261, 294, 297
  - processes 80-2
- substitution
  - effects
    - cost 97-8
    - income 46-52, 54-7, 62, 178-80, 182
      - Hicks's approach 47-50, 57
      - Slutsky approach 47, 49-51
  - input 80, 84, 92, 98-9, 163, 165
  - rate
    - commodity 14
    - marginal 15, 264
      - future/present goods 189-90
      - public-private 381-2
      - technical 82, 91, 98, 264, 374
      - personal 14-15, 21-2, 54-5, 375-6
- supply
  - changes in 107, 126
  - curve 105-6, 123, 126, 128, 131, 140-4, 148, 208, 236, 243
    - bonds 207-8, 234-5
    - cost curve and 104-5
    - firm's expansion path 107
    - product price changes and 104-5, 118, 128-30, 139-45, 152-3
    - subsidies and 146
    - total 124, 167
  - demand and 123-32, 139
    - long-run analysis 144-8, 152-3
    - short-run analysis 132-69
  - effort 172-88
  - inputs
    - elasticity 266-70
      - price 230, 232, 265-7
  - land 186-7
  - market 105-6, 123
  - money 208, 236, 243
  - planning 124-5, 127-9
  - prices interdependence with 246-7, 261
    - saving 201-3
    - see also under* elasticity; labour
- surplus, consumer
  - economic rent as 233
  - see also under* consumer
- Sweezy, P. M. 326 n.
- symmetry, consumer indifference 5
- tariffs 292
- taxation 136-9, 233
- technological progress 147-8
- terms of trade 345
- time
  - constraint line 174-5, 179
  - consumption and work 172-4, 176-80
    - optimal allocation of 173-4
    - path, price-change 264-5
    - preference, marginal rate of 190
    - work and leisure 172-4
- trade unions 185
  - collective bargaining 220-2
  - monopoly power 292
- training 227, 267
- transaction balance 237
- transfer earnings 230 n.
- transitivity 5, 8, 16, 61
- uncertainty 267-9
- utility
  - constant 50-1, 56
  - function 29-30
  - income 359-62
  - managerial 71
  - marginal 358-9
  - maximising 9, 30, 71, 264, 352
- valuations, marginal 382-4
- variable proportions, law of 300
- variance calculation, investment 211, 213-14
- variation
  - compensating 363
  - equivalent 364-5, 367
- Veblen, Thorsten 68
- wage rates 156-8
  - changes in 174-9, 182-3, 185, 219, 270
    - consumer preferences and 219
    - firm's equilibrium and 157-8
    - output and 228-30
    - relative, determination of 202, 216-22
- wages 172
  - economic rent in 230-2
  - price element in 226
- Walras, Leon 247, 258
- wealth constraint 19

- welfare
- economics 354 (*see also* consumer surplus)
  - games theory and 343
    - Paretian 355, 371-8, 380
    - price system and 262
  - maximised in perfect competition 378, 386-7
    - Pareto optimum 371-8, 380
    - second-best theorem 378-80
  - Winch, D. M. 362 n.
  - work time, consumption time and 172-4, 176-80
  - working hours and wage rates 180-3
  - yield, investment 205-7, 210-11, 215