
Index

- Aalborg 877, 1058
 IKE group 874
 and NIS approach 928, 936
- Abbate, J. 623
- Abernathy, W. 5, 195, 324, 345, 552,
 822, 828, 1021
- Abromovitz, M. 246, 707
- Acha, V. 613
- Ackoff, R.L. 190
- Ackroyd, S. 228
- Acs, Z.J. 7, 97, 102, 104, 214, 215, 228,
 541, 1165
- action–information loop 60–61
- Adams, J.D. 521, 587, 588
- Addison, J. 721
- Agell, J. 658
- agent-based computational economics
 (ACE) 88, 390, 401
- agent-based modelling 87–9, 467–87,
 400
 as alternative modelling
 methodology 472–4
 in economics 474–83
 basic structure of ABMs 476–8
 building blocks 474–6
 designing agents in ABMs 482–3
 model selection and empirical
 validation in ABMs 480–82
 outcomes of ABMs and their
 analysis 478–80
 mainstream models 469–72
 micro–macro systems 468–9
 Swarm-model: *Sugarscape* 88
- Aghion, P. 377, 692, 694, 695–6, 701–2,
 714, 762, 810, 812, 834, 1049
- Aglietta, M. 339
- Akerlof, G.A. 656, 658
- Åkerman, G. 1059–60, 1072
- Åkerman, J. 1055, 1057–8, 1060,
 1062–3
 and growth cycle 1062–3
- Albert, R. 371
- Alchian, A. 93, 272, 273, 390, 393–4,
 1016, 1048
- Alcorta, L. 937
- Aldrich, H.E. 157, 168
- Alexander, R.D. 325
- Allen, L. 36
- Allen, P. 14
- Allen, P.M. 1118, 1119, 1129, 1140
- Allen, R. 133
- Almeida, P. 580, 582
- Altenberg, L. 828
- Alter, M. 1056, 1071
- Amable, B. 341, 875, 930
- Amendola, M. 1045, 1046, 1049, 1052,
 1165
- America, R.F. 102
- American Economic Review, The* 130
- Amesse, F. 121, 364, 374
- Amit, R. 188
- Amman, H. 479
- analysis(es) 365
 Arrovian 255
 cluster *see* sectoral taxonomies:
 identifying competitive regimes
 correlation 356
 demand-pull 25
 empirical analysis method 565–8
 and game theory 364
 growth 1067
 growth cycle 1061
 macro-level 194–5
 micro-level 195–7
 performance regression 354
 sensitivity 436
 systems 979–81
 transaction costs 362–4, 373
- Anant, T.C.A. 692, 702
- Anderberg, M.R. 529–30, 541
- Anderhub, V. 1078, 1082
- Andersen, B. 964
- Andersen, D.A. 551–2
- Anderson, E.S. 12, 94, 317, 399, 440,
 446, 762, 763, 830, 879
- Anderson, P. 1103
- Anderson, Ph. 227
- Anheier, H.K. 104

- anti-trust authority 460, 465
 anti-trust (competition) policy 224
 Antonelli, C. 8, 172, 173, 251, 253, 255,
 256, 258, 259, 260, 261, 263, 333,
 622, 630, 642
 Antonucci, T. 725–6
 Aoki, M. 341, 374
 Appelbaum, E. 656, 658, 724
 appropriability conditions (APP) 354
 Arcelus, F.J. 936
 Archibugi, D. 520, 528, 875
 Arestis, P. 999
 Argote, L. 173
 Argyris, C. 197
 Aristotelian Essentialism 1057
 Aristotle 31, 52
 Arkwright's water-frame 768
 Armour, H. 281
 Armstrong, J. 612
 Arocena, R. 937
 Arora, A. 239
 Arrow, K.J. 104, 136, 198, 243, 255,
 256, 467, 948
 Arrow–Debreu equilibrium 293
 Arthur, W.B. 5, 14, 88, 113, 123, 338,
 381, 407, 427, 468, 477, 558, 560,
 762, 837, 947, 1103, 1104, 1105,
 1106
 Bar/El Farol Problem 1106–7, 1108
 artificial life (A-life) 390
 Aruka, Y. 472
 Arundel, A. 134, 354, 578, 590
 Arvanitis, S. 528
 Asimakopulos, A. 254
 Assmus, V. 1088
 Atkinson, A. 255, 258, 333
 Atkinson, J. 908
 Attaran, M. 551–2
 auctions, airwave 1093–6
 FCC-style 1093–5
 in Germany and UK 1095
 spectrum 1095
 UMTS 1095–6
 Audretsch, D.B. 8, 97, 104, 211, 212,
 213, 214, 215, 216, 218, 219, 220,
 221, 227, 228, 347, 527, 541, 614,
 1153
 Auer, P. 651
 Augello, M.M. 20
 Augier, M. 9, 337
 augmented logistic diffusion model
 (ALDM) 735–7
 Augustinian theology 30–31
 Auster, E. 206
 Austrian economics and innovation
 (and) 1045–54
 co-ordination issues 1047–8
 innovation as a process in time
 1045–7
 productivity slowdown 1048–50
 sustainability of competition
 1050–53
 Austrian school of economics 1057–8
 Austrian-Schumpeterian economics
 and Swedish growth school (and)
 1055–76
 development blocks and industrial
 transformation 1063–4
 IUI and Swedish growth school:
 empirically founded theorizing
 1068–70
 Knut Wicksell and
 Austrian-Schumpeterian
 heritage 1058–62 *see also*
 Wicksell, K.
 paradoxes 1056–8
 Stockholm school economic model
 1064–8
 structural analysis and the growth
 circle 1062–3
 Autio, E. 206
 automotive industry 900, 901, 906–9,
 921, 1133–40
 Aversi, R. 416, 761
 Axelrod, R. 1082, 1109
 Axelsson, B. 201, 205, 206
 Axtell, R. 88, 94, 478, 479
 Baba, Y. 374, 735
 Babbage, C. 300, 301
 Bachmann, R. 1024
 Backhaus, J. 93
 Backhouse, R.E. 35
 Bacon, F. 31, 32, 52
 Baconian tradition 42
 Badaracco, J. 201, 203, 204
 Baden-Fuller, C. 206
 Bailey, J. 623
 Bailey, K.D. 528
 Balabkins, N. 93

- Baldwin, J.S. 1137
 Baldwin, W.L. 317
 Balzat, M. 13, 933, 936–7
 Bamberger, I. 170
 Bandura, A. 321, 323, 371
 Banerjee, A. 407
 Banks, B.A. 580, 582
 Barone, E. 302
 Barabasi, A. 837
 Barcelona Accord 943
 Barkema, H. 1032
 Barley, S. 206
 Barnard, C. 274–5, 289–90, 294
 Barney, J. 163, 165, 170, 176, 202, 270
 Baron, R.A. 157
 Barone curve 302–5
 Barras, R. 635, 650
 Barré, R. 341, 875
 Bartlesmann, E. 451
 Barzel, Y. 674, 677
 Basalla, G. 340
 Basberg, B.I. 519
 Bass, B.M. 223
 Bassanini, A. 338
 Bassett, G. 500
 Bathelt, H. 897
 Battalio, R.C. 1092, 1093
 Bauer, O. 33
 Baughn, C. 206
 Baum, J. 206, 617
 Baumol, W.J. 277, 707, 710, 833
 Baur, P. 75
 Bax, P.K. 1109
 Bayesian
 approach to modeling 735
 judgments 1084
 Bazerman, M. 1018
 Beck, N. 815
 Becker, G.S. 154, 1078, 1079
 Becker, M. 176, 317
 Beckerman, W. 707
 Beer, S. 848
 behavioral
 cooperative games 365
 and evolutionary economics 270
 learning 431
 strategies 321
 theory of firm 270–72
Behavioral Theory of the Firm, A 843
 Beil, R.O. 1092, 1093
 Bentzel, R. 1066, 1068
 Berger, P. 1018
 Bergholm, F. 1069
 Bernheim, B.D. 1094
 Berninghaus, S.K. 14, 1089, 1090,
 1092–3
 Bernstein, J.I. 583, 584
 Berry, B.J.L. 815
 Berry, C.H. 550, 551
 Bertin, G.Y. 520
 Bertrand 364, 1003
 Besomi, D. 254
 Bessant, J. 132
 Best, M. 206
 Bettis, R. 203, 204, 1041
 Bettles, B. 580
 Beveridge, S.W. 803
 Bewley, R. 735
 Beynon, H. 612
 Bicchieri, C. 1078
 Bidding–Negotiation–Bargaining
 (BNB) 748–9
 Bijker, W.E. 110, 114, 115, 117, 118,
 860
 Binswanger, H.P. 253
 Bioanalysis 899, 901–2, 910, 911
 biography and background of Joseph
 Alois Schumpeter 19–26
 biotechnology industries 607–20
 global 608–12
 and methods and theory in
 appreciative theorizing 615–18
 science and innovation processes in
 612–15
 Birchenhall, C. 399, 405, 407, 420, 430,
 432–3, 435
 Birley, S. 157
 Blackmore, S.J. 94
 Blake, R.R. 223
 Blaug, M. 35, 39
 Bleeke, J. 204, 205, 1035
 Bleicher, K. 185, 186, 190
 Blind, G.D. 75
 Boden, M. 638, 862
 Böhm-Bawerk *see von*
 Böhm-Bawerk, E.
 Boekema, F. 862
 Boerner, C. 167
 Bogenrieder, I. 1027
 Bohlin, E. 623

- Bolle, F. 1093, 1094
 Boltho, A. 728
 Bolton, G. 1083, 1090, 1097
 Boltzmann, L. 544
 Boltzmann distribution 563–5, 569–71
 Börgers, T. 1094
 Boschma, R.A. 1150, 1154, 1155
 Bottazzi, G. 454, 557, 558, 559, 560
 Boulding, K.E. 472
 bounded rationality 1016
 Bowers, D.A. 859
 Bowman, E.H. 186
 Boyer, R. 339, 341, 721, 723, 724, 802, 875
 Bracyzk, H.J. 114
 Bradach, J.L. 1023
 Bradley, S. 203
 Brandstätter, H. 1083
 Brantley, P. 206
 Braunerhjelm, P. 556, 557, 1070
 Breitmoser, Y. 1094
 Bremner, R.H. 99
 Brenner, T. 11, 481, 558, 564, 569
 Breschi, S. 350, 351, 353, 357, 878, 882, 913, 1152
 Bresnahan, T.F. 341, 810
 Bretton Woods agreements 794
 Brewer, R. 612
 BRIDGE (Bloomington Rotterdam International Doctoral and Graduate) program 211
 Brink, J. 611
 Brock, W.A. 211, 214, 216, 418, 454, 1109
 Brockwell, P.J. 815
 Brödner, P. 301
 Bromiley, P. 176
 Brousseau, R. 369
 Brouwer, E. 655, 722
 Brown, C. 214
 Brown, M. 584
 Brown, N. 122
 Bruce, R. 183
 Bruckner, E. 399, 407
 Brüderl, J. 157
 Bruno, A.V. 190
 Bruun, C. 88, 94
 Bryant, J. 1091, 1092
 Buchele, R. 660
 Bucher, K. 37
 Buchinsky, M. 499, 500–501
 Bunker, B.B. 1024, 1041
 Bunn, J. 258
 Bünstorf, G. 311
 Burns, T. 293
 Burt, R. 205
 business cycle analysis 42
Business Cycles 13, 21, 23, 38, 41, 42, 80, 85, 99, 298, 302, 649, 775, 845, 850, 865, 924
 business cycles 83–4, 137
 NBER conference on 879
 Bygrave, W.D. 182
 C-D gap in innovation processes 367
 Cainelli, G. 634
 Calabrese, T. 206, 617
 Caldwell, B. 50
 Calimero syndrome 1040
 Callon, M. 110, 115, 120, 947, 951
 Calmfors, L. 1088
 Calvin, W.H. 93
 Camagni, R. 113
 Cambridge Growth Model 138
 Campbell, D.T. 324, 334
 Caniels, M.C.J. 710, 1157
 Cantillon, R. 82, 148
 Cantner, U. 10, 317, 368, 451, 468, 502, 510, 519
 Cantwell, J.A. 6, 341, 934
Capitalism, Socialism and Democracy (CSD) 4, 20, 24, 38, 40, 48, 50, 60, 66, 80, 85, 97, 299, 345, 526, 688, 841, 857, 858, 864, 1003, 1058, 1165
 capitalist development and Schumpeterian capitalism 97–106
 American philanthropy 99–103
 entrepreneurship–philanthropy nexus 98–104
 Cappelen, A. 710
 Carlaw, K.I. 810
 Carlin, W. 451
 Carlsson, B. 2, 13, 104, 223–4, 556, 557, 859, 861, 865, 878, 930, 934, 959, 960, 1063, 1068, 1069
 Carnegie, A. 100–101
 Carr, E.H. 427

- Carree, M.A. 227, 228
 Carroll, G. 166
 Cartesian
 modeling 31
 reasoning 32
 tradition 42
 Carter, C. 948
 Cartwright, D. 887
 case and industry studies 11, 595–65
 see also individual subject entries
 biotechnology industries 607–20
 flexible labour markets and labour
 productivity growth 647–65
 innovation in services 633–46
 Japanese system from neo-
 Schumpeterian perspective
 (and) 597–606
 telecommunications, the Internet
 and Schumpeter (and)
 621–32
 Cassel, G. 301
 Cassiolato, J.E. 937
 Casson, M. 147, 275, 276, 283
 Castells, M. 135
 Casti, J. 5
 Caves, D.W. 496
 Caves, R. 211, 212
 Cawson, A. 121
 Cesaratto, S. 528
 Chamberlin, E. 824–5
 Chandler, A.D. 163, 212, 213, 214, 220,
 224, 276, 291, 640, 848
 Chandler–Williamson M-form
 hypothesis 281
 Charnes, A. 495
 Cheng, L.K. 810–11, 812
 Chernow, R. 102, 797
 Chertkoff, J.M. 1087
 Chesbrough, H.W. 278, 1041
 Chesnais, F. 366, 880
 Chiaromonte, F. 399, 416–17
 Chick, V. 35
 Chiles, T.H. 1012, 1017, 1023
 Choi, J.P. 381
 Christensen, C.M. 131, 346
 Christensen, L.R. 496
 Christiansen, J. 660
 Chung, S. 206
 Churchill, N.C. 183
 Ciborra, C. 205, 206, 207
 Cimoli, M. 340
 circular flow (*Kreislauf*) 12, 21, 25, 36,
 58–9, 66, 74, 78, 81, 83, 93, 150,
 288, 402, 626, 745, 748–9, 751,
 831, 857
 Clark, J.B. 44, 51, 75, 82, 93, 391, 722,
 806
 Clark, J.M. 44
 Clark, K.B. 346, 356, 1021
 Clark, N. 369, 374
 Clemence, R.V. 93
 clusters/clustering 807
 definitions of 865
 industry 865
 Coase, R. 166, 168, 176, 211, 223, 260,
 276–7, 361, 1027
 Cobb–Douglas aggregate production
 function 421, 699
 Cockburn, I. 520
 Coe, D.T. 584
 cognitive distance 1017–21
 Cohen, B. 159
 Cohen, K. 1072
 Cohen, M.D. 1017
 Cohen, W.M. 155, 173, 197, 218, 219,
 347, 348, 351, 352, 368, 451, 521,
 618, 815
 Cohendet, P. 278, 947, 958, 964
 Coleman, J.S. 1040
 collaboration *see* technological
 collaboration
 Collingridge, D. 115, 120, 126
 Collis, D.J. 171, 268
 Colombo, M.G. 1030
 Commons, J.R. 40, 45, 49
 Community Innovation Survey (CIS)
 635, 642
 compensation mechanism (via) 719–22,
 727
 decrease in prices 720
 decrease in wages 721
 increase in incomes 721
 new investments 720–21
 new machines 720
 new products 721–2
 competencies, capabilities and
 neo-Schumpeterian tradition
 267–86
 antecedents/brief history of
 267–73

- and evolving dynamics of
 - organizational capabilities 273–6
- and relationship to
 - behavioral theory of firm 270–72
 - evolutionary ideas of firm (and strategy) 272–3
 - transaction cost theory 269–70
- and research agenda, implications for 276–9
- strategic management and entrepreneur (and leader-)ship 277–9
- strategic management and theory of the firm 276–7
- competition, reputation or status 307
- competition 1050–53
- competition and cooperation models 224
- Competitive Process, The* 394
- complexity and the economy (and) 5, 1102–10
 - expectational problems in economics 1106–7
 - financial markets 1107–8
 - positive feedbacks 1104–6
- comprehensive neo-Schumpeterian economics 1160–70
 - finance: role in neo-Schumpeterian economy 1162–5
 - public sector in 1165–8
 - and neo-Schumpeterian corridor 1168
- computer industry 131, 218, 420–26, 432–3, 456–61, 464, 797 *see also* ICT (information and communication technology)
- IBM 423–4, 426–7, 456–9, 464–5, 768
- Microsoft 768
- Conner, K. 163, 170
- Conrad, A. 584
- Constant, E.W. 332, 340
- continental drift theory (Wegener) 801
- Contractor, F. 201, 202, 205, 206
- Cooke, P. 6, 13, 194, 896, 913, 934
- Cool, K. 188
- Coombs, R. 370, 374, 634, 948, 957, 962
- Cooper, A.C. 190
- Cooper, R.W. 1091, 1093
- Cooper, W.W. 495
- Cordes, C. 9, 321, 326, 327
- Coriat, B. 337, 339
- Cornwall, J. 707, 715, 823, 834
- Corruption and the Decline of Rome* 99
- Cosgel, M. 283
- Cossa, L. 51
- Cournot, A.A. 364, 1003–4
- Cournot equilibrium 1004
- Coutard, O. 110, 115
- Cowan, R. 173, 239, 243, 246, 371, 420, 427
- Cowen, R.P. 947
- Cramton, P. 1093, 1094, 1097
- creative destruction 59, 60, 93, 95, 132, 182, 195, 280, 299, 302, 314, 344–6, 378, 391–2, 604–5, 621, 623, 629, 631, 655, 688, 701–2, 738, 791, 800, 808–10, 812, 831, 845, 858, 955, 963, 966, 987, 1055–6, 1064, 1069, 1071, 1165–6 *see also* Schumpeter, J.A. (and)
- Crépon, B.E. 131
- Cressy, R.C. 228
- Critique of Pure Reason* 93
- Cronin, B. 517
- Crouch, C. 341
- cumulativeness
 - conditions (CUM) 354
 - of technical advances 349–50
- Curry, B. 549–50
- Curti, M. 99
- Cyert, R. 167, 268, 271, 272, 273, 274, 291, 317, 337, 378, 843
- Cziko, G. 93
- D'Aspremont, C. 364
- Dahmén, E. 133, 1055, 1057–8, 1059, 1060, 1062–4, 1067–8, 1072
 - and development bloc analysis 1063–4
 - and transport innovations 1063
- Dana, L.P. 102
- Darby, M. 612
- Darley, V.M. 1109
- Darwin, C. 160, 161, 176, 316, 317, 326, 428, 843

- Darwinian/neo-Darwinian
 analysis 80
 approaches/processes 85, 86, 92, 93,
 322, 394
 concepts 322
 evolution theory 159, 317, 320–21,
 391, 992
 learning 1125
 pre-Darwinian biology 428
 principle of natural selection 320
 strategies 1123–5, 1128, 1131
 thought and economics 316
 Universal 162, 317, 320, 324
- Das, T.K. 1040
- Das Wesen und der Hauptinhalt der
 theoretischen Nationalökonomie
 (DWHN)* 27, 29, 36, 47, 48, 57,
 78, 297, 314, 671
- Dasgupta, P.S. 346, 504, 521
- David, P.A. 173, 246, 252, 258, 261,
 333, 338, 341, 378, 381, 407, 470,
 504, 517, 521, 808, 837, 947
- Davies, S. 378, 380
- Davis, D.R. 721
- Davis, R.A. 815
- Davos Man/Seattle Man 773
- Dawkins, R. 87, 93, 94, 318, 320, 334
- Day, R. 12, 88, 472, 753, 993
- DeBresson, C. 121, 363, 374, 586, 882
- de Groot, M.H. 1079
- de Haan, J. 653
- De Laet, B. 122
- de Wolff, S. 800
- decision rationality 1077
- decision theory 1077–9
- definition(s) of
 ad hoc innovation 639
 economic development 59, 287
 economic sociology 60
 firm as pool of resources 290
 incremental product innovation
 901
 innovation 22, 877–8
 major product innovation 901
 modern biotechnology 608
 neo-Schumpeterian economics
 1162
 science as tooled knowledge 57–8
 sociotechnical core 119
- Delaney, J.T. 658
- Delooze, M.A. 617
- Demsetz, H. 163, 174
- den Hertog, P. 636, 638
- Depew, D. 160, 176
- Dertoutzos, M.L. 878
- Descartes, R. 31, 32
- Deutsch, M. 1023
- development 12–13, 743–853 *see also
 individual subject entries*
 economic growth as central task of
 economic analysis 840–53
 finance and technical change (and)
 775–99
 innovation and demand (and)
 754–65
 long waves, the pulsation of modern
 capitalism 766–74 *see also* long
 waves (and)
 long waves: conceptual, empirical
 and modelling issues (and)
 800–819
 mechanisms of economic evolution
 (and) 745–53
 qualitative change and economic
 development 820–39
- Dewey, J. 52
- Dickinson, F.G. 102
- ‘Die sozialen Klassen in ethnisch
 homogenen Milieu’ (1927) 60
- Die Theory der wirtschaftlichen
 Entwicklung* 297
- Diebolt, C. 815
- Dierickx, I. 188
- Dierkes, M. 119
- Diewert, W.E. 496
- Diffusion of Innovations* 130
- Dinopoulos, E. 12, 690, 692, 694, 697,
 700, 702, 810–11, 812
- DiMaggio, P. 196, 228
- disequilibrium economics,
 Austrian-Wicksellian influence of
 1065
- Distribution of Wealth, The* 93, 391
- Dixit, A.K. 825
- Dixon, R. 735
- Dobbs, I.M. 720
- Dodgson, M. 193, 195, 197, 198
- Doms, M. 451
- Dopfer, K. 1, 4, 7, 39, 69, 72
- Dore, R. 194, 600

- Dosi, G. 9, 94, 108, 113, 114, 117, 160, 162, 166, 169, 170, 175, 220, 235, 267, 268, 276, 279, 280, 281, 316, 331, 334, 337, 338, 339, 340, 351, 352, 355, 356, 367, 368, 374, 390, 398, 399, 405, 409, 412, 413–14, 415–17, 418, 431, 440, 454, 469, 470, 475, 479, 516, 525, 557, 558, 559, 658, 706, 723, 796, 808, 822, 828, 850, 876, 931, 980 *see also* models (of)
- Dow, S. 35
- Dowie, M. 104
- Downie, J. 390, 394–5
- Doz, Y. 201, 203, 205
- Drejer, I. 636, 639–40, 641
- Driffill, J. 1088
- Duchin, F. 726
- Duheim, P.M. 47
- Dumais, G. 557, 558, 560
- Dunn, P. 152
- Dunning, J.H. 6, 862, 934
- Durlauf, S.N. 1106
- Dusche, S. 176
- Dussauge, P. 204
- Dustmann, Ch. 1095
- Dyer, J. 204, 205
- dynamic capabilities 268–9, 270, 274–6, 277–80
- dynamic competition 302–6
- Dynamics of Market Economies, The* 1069
- dynamics of technology, growth and trade 705–18
- reflections on 714–15
- and Schumpeterian renaissance 705–8
- synthetic framework and growth model for 708–14
- dysfunctionality 1016
- Easton, G. 201, 205, 206
- Eaton, B.C. 825
- Ebeling, W. 399, 407
- Ebersberger, B. 371, 373, 473
- Ebner, A. 133
- Eccles, R. 201, 1023
- Econometric Society 40–41, 137
- Economic Cooperation and Development, Organization for *see* OECD
- economic development, analyses of 290
- Economic Doctrine and Method (EDM)* 27, 29, 37–8, 78
- economic dynamics 59–60
- Economic Dynamics of Modern Biotechnology, The* 607
- economic evolution *see* mechanisms of economic evolution (and)
- economic growth 1058–9, 1067–78, 1070
- economic growth as central task of economic analysis 840–53
- evolutionary growth theory and diminishing returns 842–5
- new directions for 845–52
- Economic Journal* 80, 130
- Economic Literature, Journal of* 130
- economic methodology 56
- statics 59
- theory, neo-Schumpeterian 934
- thought 62
- Economic Perspectives, Journal of* 685
- Economic Research, National Bureau of 102
- Economic Theory, Journal of* 999
- Economica* 80
- economics, neoclassical 70
- Economics and Information Theory* 544
- Economics and Statistics, Review of* 674
- Economics of Institutions and Markets, The* 1070
- Economist, The* 101, 103, 213
- Economy and Society* 84
- Economy of Machinery* 301
- Edge, D. 111, 121, 125
- Edison, T. 790
- Edmonds, B. 481
- Edquist, C. 113, 721, 867, 874, 928, 929, 936, 937, 959, 964
- Ehrhart, K.-M. 1090, 1092–3
- Eichengreen, B. 797
- Eigen, M. 1141
- Eisenhardt, K.M. 171, 188, 194, 276
- electronics industry 900, 901, 903, 906–9
- Eliasson, G. 2, 14, 155, 172, 305, 368, 964, 1057, 1060, 1064, 1065, 1066–7, 1069, 1070, 1071, 1072

- Ellison, G. 556, 557, 558, 559, 560, 561
- emergent hierarchical organization (EHO) 401
- empirical analysis method 565–8
- empirics: neo-Schumpeterian meso dynamics 10
- employees/labor force 216
 as source of innovative ideas 912
 controlling and motivating 223
 and interpersonal relationships 223
- Engels, F. 132, 767
- Englander, A.S. 585
- Englmann, F.C. 399
- Enlightenment, the 32
- Enright, M. 203
- Entorf, H. 722
- entrepreneur in economic literature 148–51
 early economics 148–9
 heterodox economics and Schumpeterian entrepreneur 149–51
 neoclassical economics 149
- Entrepreneurial Activity and the Development of Swedish Industry, 1919–39* 1063
- entrepreneurs/entrepreneurship 150, 289–90, 318, 749–51, 981
- entrepreneurship, firms and networks (and) 8, 145–231 *see also individual subject entries*
- entrepreneurship research: neo-Schumpeterian perspectives 147–58
- evolutionary theory of the firm 159–81
- inter-firm partnerships and networks 201–10
- managed and entrepreneurial economy models (and) 211–31
- new venture creation 182–92
- technological collaboration 193–200
- entrepreneurship research 541
- entrepreneurship research: neo-Schumpeterian perspectives 147–58
 basic knowledge requirements 153–4
 building blocks 151–6
 financial capital and entrepreneurship 155–6
 knowledge 153
 knowledge and entrepreneurship: corporate level 154–5
 knowledge dynamics, modern aspects of 154
 knowledge dynamics, traditional aspects of 154
 psychology, sociology and culture 152–3
 social networks, social capital 153
- entropy statistics and information theory 544–55
 and applications 549–54
 corporate diversification and profitability 550–51
 income inequality 553
 industrial concentration 549–50
 organization theory 553–4
 regional industrial diversification 551–2
 technological evolution 552–3
 and decomposition theorem 546–7
 and entropy formula 544–7
 and multidimensional extensions 547–9
- Epstein, J.M. 88, 94, 478, 479
- Epstein, S.R. 244
- Erdmann, G. 14, 117
- Erixon, L. 1068
- Ermoliev, Y.M. 407
- Ernst, D. 204, 205, 609, 1035
- Essays in Positive Economics* 34
- Essence and Principal Contents of Economic Theory, The 27, 29, 57, 78*
- Euclidean measure/distance 530–34, 541
- European Central Bank 1164
- European Communities, Commission of 609
- European Patent Office (EPO) 356, 586, 609
 EP-CESPRI data base on patents applications 353, 356
- European SME financing 228
- European Union (EU) 752, 896, 932, 937, 1164, 1165
 Commission 872
 Directorate for Research 263
- Eurostat 633, 635

- Evangelista, R. 527, 635, 636, 726
 Evans, D.S. 157, 211, 214, 216
 Evenson, R.E. 586, 590
 Everett, M. 94
 evolumetrics 493–502
 kernel density estimation 497–8
 nonparametric productivity measurement 494–7
 quantile regression 498–501
 technology–productivity dynamics 496–7
 evolutionary dynamics 85–7
Evolutionary Economics, Journal of 309
 evolutionary games 1005–6 *see also*
 game theory *and* games
 behavioural learning 1005
 epistemic learning 1005
 evolutionary process 318–20, 1006
 evolutionary theory 934, 1083
Evolutionary Theory of Economic Change, An 842, 843
 evolutionary theory of the firm
 159–81, 272–3 *see also* firm,
 theories/views of the
 evolution in nature and society
 159–62
 evolutionary approach to theory of
 the firm 166–75
 experimental economics (and)
 1077–1101
 airwave auctions 1093–6
 alternating offer bargaining 1085–6
 characteristic function experiments
 1086–8
 experimental results in strategic
 games 1080–85
 experiments on coordination games
 1091–3
 future of 1096–7
 macroeconomic experiments
 1088
 one-person decision making 1077–80
 wage bargaining experiments
 1088–91
Experimentally Organized Economy
 1069
 Ewijk, C.v. 804
 Faber, M. 374
 Fabiani, S. 416
 Fagerberg, J. 138, 613, 705, 707, 708,
 710, 712, 713, 714, 715, 820, 821,
 823, 834, 835, 877
 Fagiolo, G. 10, 334, 390, 468, 471, 475,
 477, 479, 557, 558, 559
 Faillo, M. 337
 Falk, A. 658
 Färe, R. 496
 Farmer, D. 202
 Faxén, K.-O. 1065–6, 1072
 Fehr, E. 1090, 1097
 Feldman, M.P. 219, 228
 Fellner, G. 1083
 Fellner, W.J. 673
 Felsenthal, D.S. 1085
 Fernie, S. 658
 Festinger, L. 1084
 Fetter, F. 82
 Fieller, N. 1133
 finance and technical change (and)
 775–99
 entrepreneur and the banker 776
 finance and paradigm shifts 794–5
 financial bubbles 791–4
 and financial power backing
 paradigm shift 791–2
 and leadership change 793–4
 making of 792–3
 financiers and credit creation 795
 future research 795–6
 production and financial capital
 782–3
 routines as obstacles and guides for
 innovation 776–8
 sequence of diffusion of
 technological revolutions 784–6
 technical change and revolutions
 (and) 786–90 *see also main entry*
 techno-economic paradigms 778–82
 technological revolutions and
 development surges 783
 financial bubbles 785, 791–4, 1169
 financial capital 789
 Finkelstein, M.O. 549
 firm, boundaries of the 1027–30
 firm, theories/views of the 162–8,
 268–73, 337
 and behavioral rules 396
 behavioral 166–8, 270–72
 efficiency-based 165–6

- evolutionary 272–3
- institutional 164–5
- knowledge-based 172–5
- resource-based 168–72, 175, 270, 312–13
- technological 163–4
- firm organization 287–95
 - and new combinations 287, 289, 291
- firms and learning 1126–7
- Firms in the Market Economy, The* 1070
- Fischer, M.M. 1156
- Fisher, F.M. 479
- Fisher, I. 82
- Fisher, J.C. 809
- Fisher, R.A. 406, 447, 554
- Fisher/Price accounting 451
- Fisher's Law/Fundamental Theorem of natural selection 406–7, 447, 831
- Fisher's Principle 447, 449
- Fitzroy, F.R. 228
- Flaschel, P. 999
- Fleck, J. 118, 162
- Fleissner, P. 75
- Fleming, L. 176
- flexibility and reduced average costs 224
- flexible labour markets and labour productivity growth 647–65
 - and hampering of innovation and productivity growth 653–61
 - and market failure 657–61
 - and wages, labour productivity and innovation 653–7
- and new economy/New Economy 648–53
- policy implications of 661–2
- Flynn, K.H. 217
- Fogarty, M.S. 580, 582
- Foley, D.K. 479, 655, 999
- Foray, D. 8, 161, 173, 239, 240, 243, 245, 246, 365, 366, 374, 420, 427, 470, 947
- Ford/Fordism 213, 723, 751, 768, 770, 789, 792
- Forester, J. 811
- Forni, M. 471
- Fortune* 104
- Foss, N. 162, 164, 165, 166, 172, 174, 175, 176, 337, 658
- Foster, J. 1, 12, 75, 167, 194, 450, 735, 737, 739, 993, 999
- Foundations of Economic Analysis* 34, 44
- Fourastier Hypothesis 2
- Frame, J.D. 513
- Frank, S.A. 440, 446, 757
- Franke, R. 810, 813
- Fransman, M. 622, 625
- Freeman, C. 8, 133, 135, 136, 137, 195, 197, 339, 340, 341, 348, 470, 503, 519, 721, 722, 755, 766, 777, 796, 800, 802, 806, 822, 851, 857, 858, 859, 862, 864, 865, 873, 874, 877, 878, 880, 882, 931, 959, 1058
- Freeman, J. 206, 219, 228, 739
- Frenken, K. 5, 11, 332, 481, 551, 552, 553, 828, 832
- Frey, B.S. 1018
- Frickey, E. 803
- Fridh, A.-C. 1971
- Friedberg, R.M. 549
- Friedman, M. 34, 282, 288
- Frisch, R. 39, 40, 41, 137, 1062
- Frischtak, C.R. 137, 797
- Frost, C.O. 517
- Fuchs, V.R. 638
- Fudenberg, D. 1005
- Fujimoto, T. 601–2
- Fujita, M. 558, 560
- Fundenberg, D. 406
- funding grants and awards 919–23
- Funk, J. 906
- Furman, J.L. 932
- Gächter, S. 658
- Gadrey, J. 636
- Gaffard, J.-L. 14, 1045, 1046, 1049, 1052, 1165
- Galaskiewicz, J. 205
- Galbraith, J.K. 213
- Galli, R. 935
- Gallouj, F. 636, 639, 827
- Gälweiler, A. 190
- game theory, Schumpeter's influence on (and) 1003–9
 - evolutionary game theory 1005–6
 - evolutionary games/evolutionary microeconomics 1006–7
 - future potentials 1007–8

- oligopoly theory 1004–5
- von Neumann player 1003–4
- game theory 364–5, 996, 1081, 1093, 1097, 1109 *see also* complexity and the economy
- games *see also* experimental economics
 - coordination 1091–3
 - Folk Theorem 1064
 - impunity 1083
- Gårdlund, T. 1061, 1072
- Garrette, B. 204
- Garrone, P. 1030
- Garrouste, P. 163, 176
- Gartner, W.B. 157
- Gaston, R.J. 226
- GDP/GDP growth 647–51, 661–2, 712, 714, 728, 967–9, 971, 973–4, 976, 993
 - in OECD countries 649
 - in USA 650–51
- Geels, F.W. 122
- General Theory of Employment, Interest and Prices* 38
- General Theory of Employment Interest and Money* 990
- George, K.D. 549–50
- Georgescu-Roegen, N. 640, 1047
- Georghiou, L. 833, 954
- German Historical School 57
- Germany 641, 727, 728, 771, 773, 848, 905, 916, 968, 970–73, 1089, 1095, 1169 *see also* local industrial clusters, identifying: application to Germany
 - and *Hausbanken* 970
 - and national innovation system 889–92
 - and patents 513
 - and wind power industry 982
- Geroski, P. 382, 521, 655
- Gerschenkron, A. 38, 707
- Ghoshal, S. 157
- Gibbons, M. 194, 521, 945
- Gigerenzer, G. 291
- Gilbert, N. 468
- Gilles, B. 338
- Gintis, H. 440, 446
- Gittelman, M. 614
- Glaeser, E.L. 219, 556, 557, 558, 559, 560, 561
- Glance, N.S. 1209
- globalization 212, 216, 226–7, 797, 897, 1166
- Glyn, A. 728
- Goldstein, J.S. 802, 804, 815
- Golec, J. 686
- Gomes-Casseres, B. 201, 206, 207, 212, 224
- Gompers, P. 226
- Goodwin, R.M. 38, 811, 999
- Goody, J. 240
- Gordon, A.D. 536, 541
- Gordon, D.M. 802
- Gordon, R. 650
- Gort, M. 5, 345, 347
- Gosh, S. 885
- Gossen, H. 68
- Goto, A. 587
- Gould, S.J. 1141
- Gourieroux, C. 479
- Grabher, G. 201, 206
- Grabowski, H.G. 436
- Grandstrand, D. 964
- Granger, C.W.J. 804
- Granovetter, M.S. 107, 157, 206, 217, 601
- Granstrand, O. 170, 197, 470
- Grant, R. 173, 174
- Gratton, L. 656
- Grebel, T. 3, 8, 94, 157, 478
- Green, K. 121, 964
- Greenan, N. 725
- Greenfield, H.I. 641
- Greenstein, S. 381
- Gregori, T. 886
- Greiner, L. 183, 189
- Gribbin, J. 436
- Griffiths, W.E. 735
- Griliches, Z. 259, 511, 519, 521, 576, 577, 579, 590, 824, 964
- Grossman, G.M. 217, 692, 697, 700, 702, 714, 882
- Growing Artificial Societies: Social Science from the Bottom Up* 88
- growth analysis 1067
- growth (and) 12, 669–742 *see also individual subject entries and economic growth*
 - dynamics of technology, growth and trade 705–18
 - innovation and employment (and) 719–32

- macro-econometrics 733–42
 micro-foundations of endogenous growth 671–87
 new directions in Schumpeterian growth theory (and) 688–704
 growth and development:
 neo-Schumpeterian macro dynamics 11–12
 growth policy (and) 967–77
 capital accumulation 968–9
 competition, relying on 976–7
 conducive conditions for innovation 969–70
 demand policy 975
 equity and efficiency, conflict between 976
 government, role of 973–4
 human capital 970–71
 labor supply, increasing 967–8
 long-run constraints 974–5
 monetary and financial stability 975–6
 stability of institutional conditions/removing growth impediments 971–3
 Gruber, M. 8, 184, 185, 189
 Grübler, A. 809
 Grupp, H. 10, 503, 504, 507, 512, 513, 515, 516, 517, 520, 521, 551, 591
 Guellec, D. 725
 Gulati, R. 201, 202, 206, 207
 Güth, W. 14, 1078, 1082, 1083, 1084, 1085, 1089

 Hackbart, M.W. 551–2
 Haddon, L. 121
 Hagedoorn, J. 8, 193, 201, 202, 206, 207, 363
 Hakansson, H. 206, 207
 Haken, H. 112
 Hall, P.H. 194, 341, 720, 930
 hallmarks of neo-Schumpeterian economics 6–7
 Hallock, K.F. 499
 Hamel, G. 201, 203, 204, 205, 280, 1010, 1029
 Hamer, J.H. 100
 Hamilton, J. 214
 Hamilton, K.S. 582
 Hammerskjöld, D. 1055, 1065

Handbook of Innovation, The 613
 Hanappi, H. 14, 993
 Hannan, M.T. 219, 228, 739
 Hansen, A. 67
 Hansen, L.P. 500
 Hanusch, H. 2, 3, 4, 7, 13, 25, 36, 47, 48, 50, 66, 94, 451, 478, 502, 510, 621, 936
 Harabi, N. 519, 520
 Harary, F. 887
 Harberger, A.C. 640
 Hargreaves, D. 240
 Harhoff, D. 185, 189, 511, 513, 521, 808
 Harrigan, K. 201, 203, 204
 Harrison, G.W. 1079
 Harrod growth model 1067
 Hart, D. 99
 Hart, O. 1022
Harvard Business Review 130
 Harvey, M. 612, 615, 617, 962
 Hatchuel, A. 238
 Haustein, H.D. 804
 Hayek, F.A. 43, 85, 175, 273, 274, 396, 306, 767, 970, 1018, 1045, 1049, 1051, 1057, 1060, 1061
 healthcare industry 899–900
 Hébert, R.F. 99, 151, 157
 Heenan, D. 203
 Heertje, A. 68, 621
 Heffernan, S.A. 720
 Hegel, G. 33
 Heiner, R.A. 367
 Hellmann, T. 157
 Helmstädter, E. 9, 296, 302, 307
 Helpman, E. 217, 585, 692, 700, 702, 714, 810, 882, 1049, 1105
 Hemmings, Ph. 228
 Henderson, R. 346, 356, 520, 580, 582
 Hendry, J. 204
 Henkin, G.M. 810
 Henreksen, M. 104
 Henriksson, R. 1058, 1063, 1067, 1072
 Herfindahl index 346, 550, 551, 552
 Herreiner, D. 407, 409
 Herrigel, G. 207
 Herrmann-Pillat, C. 161
 Hickman, L.A. 98
 Hicks, D. 953

- Hicks, J.R. 252, 655, 673, 720, 721, 722, 1045, 1046, 1049
- Hildenbrand, W. 549
- Hilferding, R. 33
- Hill, C.W.L. 1039
- Hill, M.B. 720
- Hill, P. 637
- Hinze, S. 517
- Hirsch, S. 706
- Hirschman, A.O. 218, 1023
- Hirshleifer, J. 824
- History of Economic Analysis* (HEA) 20, 27, 38, 51, 55, 297, 300, 301, 1061, 1067
- History of Economic Reasoning, A* 31
- Hitt, L.M. 282
- Hobbes, T. 32
- Hobsbawm, E.J. 135, 719
- Hodgson, G.M. 4, 21, 93, 94, 107, 162, 164, 165, 166, 176, 317, 319, 340, 389, 527, 929
- Hofbauer, J. 406, 436
- Hoffmann, U. 119
- Högselius, P. 937
- Holbrook, J.A. 862
- Holland, J. 406
- Holland, J.H. 1108
- Hollander, H. 650
- Hollander, S. 136
- Hollenstein, H. 528
- Hollingsworth, J.R. 341
- Holmstrom, B. 164, 360
- Holtz-Eakin, D. 157
- Hommen, L. 721, 936
- Hoogma, R. 120, 121
- Höök, E. 1068
- Hoover, H. 797
- Horan, B.L. 442
- Horowitz, A. 550
- Horowitz, I. 550
- Hoskisson, R.E. 550
- Hotelling, H. 825
- Houthakker, H. 824
- Howells, J. 1151, 1156
- Howitt, P. 377, 692, 694, 695–6, 701–2, 714, 762, 810, 812, 834, 1049
- Howlett, M. 987
- Hu, A.G.Z. 521
- Huberman, B.A. 1109
- Huck, S. 1083
- Hufbauer, G.C. 134
- Hughes, A. 228, 636, 638
- Hughes, T.P. 110, 112, 114, 115, 338, 340, 860
- Hull, D. 441
- human behavior 321, 999, 1119, 1150
- human capital 154, 169, 170, 211, 217, 252, 260, 282, 313, 536, 559, 561, 609, 702, 912, 967, 970–71, 983, 1152–4
- human cognition 288–9, 290–91, 321
- human resources and innovation 169, 313, 604, 640, 912, 914–15 in the ‘new economy’ 536–40
- Huselid, M.A. 656, 658
- Hybels, R. 206
- Hymer, S. 202
- ICT (information and communication technology) 135, 241, 245–6, 340, 341, 536–40, 634, 635, 638–9, 641, 724–5, 728, 729, 768, 996, 1010, 1021, 1034
- equipment for 662
- and internet 872, 1030
- and IT labour industry classification 538
- skills 915
- software routine: *Swarm* 94
- upswing in 649
- idea-creating spillovers 579–82 *see also* knowledge spillovers
- Imai, K.-I. 11, 374, 605
- industrial dynamics 849–50
- industrial evolution: history-friendly models (HFM) 453–66
- computer industry 456–61 *see also main entry*
- methodology of 453–6
- pharmaceutical industry 461–4
- industrial property rights 917–18
- Industriens Utredningsinstitut* (IUI) 1055, 1064, 1068–70
- industry life cycle 318, 760
- information spillovers *see* knowledge spillovers
- information–planning–control (IPC) system 746–7
- innovation, barriers to 914–16

- innovation, conducive conditions for 969–70
- innovation 1–4, 107–29, 130, 150, 216, 290, 292, 296 *see also* regional innovation systems research *and* Schumpeterian renaissance
- dynamics 318
- and learning 1015–17
- and neo-Schumpeterian economies 5
- and production, national systems of 338–40
- races 326
- and reclassification 294
- and Schumpeter's journals 131
- scientific 898–9
- sociological analysis of *see* sociological analysis of innovation (and)
- innovation and demand (and) 754–65
- changing relationships between 758–60
- debate on 754–6
- macro-evolutionary transformation and satiation of demand 762
- product innovation and endogenous preferences 760–62
- selection and innovation, effects of 756–8
- innovation and employment (and) 719–32
- compensation theory 719–22 *see also* compensation mechanism (via) critique 722–4
- empirical evidence 724–9
- innovation and technological regimes, Schumpeterian patterns of 344–59
- innovation patterns, Schumpeterian: Mark I and II models 345–7
- relationship between (and) 350–55
- concentration of innovative activities (CONC) 351–2, 354
- empirical analysis 353–5
- Schumpeter Mark I 345–7, 353
- Schumpeter Mark II 345–7, 353
- stability in ranking of innovators (STAB) 352, 354
- technological entry and exit (ENTRY) 351, 354
- theoretical relationships 350–51
- technological regimes, Schumpeterian *see main entry*
- innovation in services 633–46
- and assimilation, demarcation and synthesis 634–7
- key features of 637–42
- and looking forward/summary 642–5
- innovation networks 360–76
- incentive-based approaches 362–5
- new industrial economics 364–5
- transaction costs analysis 362–4, 373
- knowledge-based approaches 365–70, 374
- criticism of traditional theories 365–7
- innovation processes 367–70, 374
- new approaches in analysis of 370–73
- innovation policy (and) 943–66 *see also* time strategies in innovation policy
- attributes of innovation process 944–8
- increasing returns, roundabout knowledge production and innovation systems 956–60
- innovation systems and competitive process 954–6
- innovation systems failure, policy for 960–63
- market failure, limits to 948–54
- innovation processes, essentials of 145–385 *see also individual subject entries*
- entrepreneurship, firms and networks 145–231
- innovation processes and patterns 329–85
- knowledge and competencies 233–328
- innovation processes and patterns 9, 329–85 *see also individual subject entries*
- innovation and technological regimes, Schumpeterian patterns of 344–59
- innovation networks 360–76

- technological diffusion: aspects of self-propagation 377–85
 technological paradigms and trajectories 331–43
 innovation systems 857–71 *see also*
 national innovation systems and data sources 867–8
 and methodology 868–70
 other 862
 and overview of topics and themes 863–6
 reasons for studying 858–9
 regional (RIS) 861
 research on 866–7
 sectoral (SIS) 861, 862, 863, 865, 869
 statistical survey of studies on 859–62
 technological (TIS) 861–2
 instability phases/windows of opportunity 978
 instability situations 984–7
 institutional economics and action–information loop 60–61
 instrumentalism 30
 Intarakummerd, P. 937
 intellectual property rights (IPRs)
 714–15, 864
 legal frameworks for 194
 protection for 949
 intellectual roots of
 neo-Schumpeterian economics 4–6
 inter-firm partnerships and networks 201–10
 interorganizational perspective of 205–7
 strategic management view of 202–5
 International Joseph Alois Schumpeter Society 25
 interorganizational relationships (IORs) 1010–11, 1014, 1026–30, 1039
 Inventory–Order–Backlog–Price Adjustment (IOPA) 748–9
 Ioannides, Y.M. 1109
 Ironmonger, D.S. 824
Irrational Exuberance 798
 Isaksen, A. 556, 557
 IT *see* ICT (information and communication technology)
 Itami, H. 374
 IUI *see* *Industriens Utredningsinstitut* (IUI)
 Iwai, K. 351, 390, 399, 810, 813
 Izraeli, O. 552

 Jackman, R. 721
 Jacobides, M.G. 282
 Jacobs, B. 585
 Jacobs, J. 218, 219
 Jacobsson, S. 113, 878
 Jacquemin, A. 364, 550, 551
 Jaffe, A.B. 219, 515, 521, 580, 582, 587, 588
 Jakonsson, U. 104
 Janeway, W.H. 797
 Janne, O.E.M. 6, 934
 Japan (and) 641, 728, 729, 773, 872, 874, 1032, 1169
 automobile industry 603
 companies in Wales 904, 905, 909
 Nano-Bio-Info (NBI) convergence 603, 605
 Nikkei Venture Business Survey 603
 patents 520
 traditional hierarchical system of 604
 zaibatsu 598, 603
 Japanese system from
 neo-Schumpeterian perspective (and) 597–606
 evolution of innovations 601–2
 Japan's industrial cluster 602–4
 Japan's transformation and entrepreneurship 597
 path dependence of Japanese entrepreneurship 597–9
 path for new development 604–5
 rigidity in system 600–601
 transformation ignited by crisis 599–600
 Jarillo, J. 201, 206
 Jennings, N.R. 482
 Jensen, R. 617
 Jevons, W.S. 20, 34, 51, 68, 992, 1056
 Jewkes, J. 130, 806
 Jiménez Montaña, M.A. 399, 407
 Johansson, D. 1069, 1070, 1071, 1072

- Johansson, J. 206, 207
 Johansson–Karlson growth school
 1055
 John, A. 1091
 John Hopkins non-profit sector project
 102
 Johnson, A. 113
 Johnson, B. 867, 876, 876
 Johnson, D. 586, 590
 Johnson-Laird, P.N. 1018
 Jonard, N. 371, 373, 398
 Jonason, A. 1071
 Jones, C. 689, 690, 692, 693, 701–2, 703
 Jones, M.C. 487, 498
 Jordan, W.K. 99, 101
 Jorgenson, D.W. 650
 Jouffaian, D. 157
 Jovanovic, B. 5, 351, 352, 355, 464, 821
 Judd, K. 479
 Juglar cycles 23, 800
 Juma, C. 369, 374
 Justman, M. 369
- Kagel, J.H. 470, 1093
 Kahneman, D. 251, 1018
 Kakati, M. 157
 Kalai, E. 1086
 Kaldor, N. 338, 436, 655, 707–8, 714,
 716
 Kaldor paradox 714
 Kaldorian virtuous circle 723
 Kale, P. 206, 207
 Kalmbach, P. 726–7
 Kamecke, U. 1082
 Kamien, M.I. 130, 346, 356
 Kaniovski, Y.M. 398, 407, 412, 413
 Kant, E. 33, 85, 93, 310
 Kanter, R. 204, 205
 Kao, J.J. 184
 Kapuria-Foreman, V. 41
 Karakaya, F. 188
 Karlson, N. 1057
 Karlsson, C. 104
 Karshenas, M. 382
 Katsoulacos, Y.S. 364, 724
 Katz, J.A. 182
 Katz, M. 113
 Kaufer, E. 506, 519
 Kauffman, S.A. 1109
 Kaufmann, L. 529, 531, 533
- Kavassalis, P. 626
 Kawasaki, S. 205
 Kay, N. 163, 166
 Keilbach, M. 212, 216, 558
 Keirstead, B.S. 777, 796
 Keller, W. 883
 Kelm, M. 389, 702
 Kemp, R. 117, 121, 122, 126
 Kennedy, C. 130, 655
 Kepler, J. 801
 Keser, C. 1089, 1090
 Kettering, C. 281
 Keynes, J.M. 25, 34, 38, 55, 75, 273,
 722, 723, 762, 815, 951, 990–93,
 999, 1060
 General Theory 75
 Keynes, J.N. 34
 Keynesian
 and Kaldorian tradition 721
 approach 707
 macro analysis 1063
 macro economics 1055
 macro-economic policy 994–6, 999
 model 1067
 Khalil, E.L. 327
 Kindleberger, C.P. 220, 814
 Kirman, A.P. 1109
 Kirstein, A. 1090
 Kirzner, I.M. 149–50, 597, 1056, 1057,
 1072
 Kitchen cycles 23
 Klein, B. 195
 Klein Woolthuis, R. 1040
 Kleinknecht, A. 11, 653, 656–7,
 659–60, 663, 655, 722, 806
 Klemperer, P. 624
 Klepper, S. 5, 219, 323, 324, 345, 347,
 355, 356, 464, 821, 850
 Kline, J. 931
 Kline, S. 113, 613
 Klos, T. 1041
 Knapp, G.F. 51
 Knight, F.H. 39, 149, 176, 223, 276,
 283, 289, 293–4, 408, 1056
*Knowledge, Institutions and Evolution in
 Economics* 309
 knowledge *see also* tacit and codified
 knowledge (and)
 -based approaches 365–70, 374
 creation 310

- division of (DK) 306–8
- endogenous 307–8
- exogenous new 308
- factors 217
- frameworks 292, 309, 311
- intensive business services (KIBS) 641–2, 643
- measurement 211
- sharing 308–309
- spillover 212, 218, 219–20, 222, 228
see also knowledge spillovers
- transmission of 217
- workers 307
- knowledge and competencies 8–9, 233–328 *see also individual subject entries*
 - competencies, capabilities and neo-Schumpeterian tradition 267–86
 - firm organization 287–95 *see also* firm, theories/views of the knowledge in the Schumpeterian economy 296–315
 - localized technological change 248–66
 - selection, learning and Schumpeterian dynamics 316–28
 - tacit and codified knowledge 235–47
- Knowledge Based Information Economy* 1070
- knowledge in the Schumpeterian economy (and) 296–315
 - applied novelty 298, 299
 - Barone curve 302–5
 - combining institutional and evolutionary scenario 311–12
 - division of knowledge (DK) 306–8
 - division of labor (DL) 306–8
 - dynamic competition 302–6
 - knowledge growth framework and restless capitalism 309, 311
 - knowledge-creation approach 310–11
 - knowledge-sharing 308–9
 - New Institutional Economics (NIE) 306, 308, 314
 - original inventions 298
 - resource-based view 312–13
 - Schumpeter's monographs 297–302
 - knowledge spillovers 212, 218, 219–20, 222, 228, 575, 577–9, 581, 727, 913, 949–50, 1026–7 *see also* technology spillovers
 - knowledge systems 957
 - knowledge-based economies 1169
 - knowledge-intensive business services (KIBS) 641–2, 643
 - knowledge/knowledge dynamics 153–5
see also tacit and codified knowledge
 - Knudsen, C. 163, 166, 174
 - Knudsen, T. 162, 317, 318–19
 - Kodama, F. 368, 518
 - Koenker, R.W. 499, 500, 501
 - Kogut, B. 171, 174, 341, 614, 617
 - Kohlberg, E. 1093
 - Kollman, K. 1109
 - Kolmogorov–Smirnov test 563, 568
 - Komorita, S.S. 1087
 - Kondratieff, N. 137, 766, 800, 801, 803–804, 809, 812, 814, 815
 - Kondratieff
 - cycles 13, 23, 137, 302, 649, 804 *see also* long wave theory
 - upswings 740
 - waves 737, 764, 770
 - Kong, P. 720, 727
 - Konrad, K. 242
 - Koput, K. 206, 617
 - Kortum, S. 157, 693
 - Krafft, J. 11, 626, 833
 - Kreig, W. 186, 190
 - Kreislaufwirtschaft 301
 - Kreps, D. 1081
 - Kruger, A.C. 321
 - Krüger, J. 10
 - Krugman, P. 211, 558, 560, 706, 773, 1105
 - Krupp, H. 859
 - Kubon-Gilke, G. 311
 - Kuhlmann, S. 122
 - Kuhn, T. 35, 94, 108, 276, 436, 796
 - Kukies, J. 808
 - Kumps, A.-M. 550
 - Küppers, G. 122–3, 360
 - Kurz, H.D. 726–7
 - Kuznets, S. 5, 38, 39, 41, 42, 137, 649, 775, 786, 795, 797, 804, 831, 880
 - Kwasnicka, H. 399, 412, 413

- Kwasnicki, W. 9, 317, 398, 399, 412, 413, 468, 471
 Kwasnicki–Kwasnicka model 413
 Kwoka, J.E. 227
- Laage-Hellman, J. 607, 618
 labour markets *see* flexible labour
 markets and labour productivity
 growth
- Lach, S. 351, 352
 Lachmann, L. 1046, 1047, 1048
 Laffont, J.J. 235
 Lam, A. 243, 244
 Lamarck model 161
 Lamarckian evolution 391
 Lambertson, D. 256
 Lambooy, J.G. 1150, 1154, 1155
 Lancaster, K. 260, 340, 430, 760, 824, 825, 826
 Landes, D. 135, 814
 Lane, C. 1024
 Lane, D. 390, 473, 479
 Langlois, R. 94, 174, 281, 283, 1019, 1033
 Langton, C. 399, 400
 Larson, A. 206
 Lastres, H.M. 937
 Latour, B. 110, 115
 Laursen, K. 658
 Law, J. 115
 Lawrence, P. 227
 Layard, R. 721, 727
 Lazaric, N. 317, 1039
 Lazerson, M. 207
 Lazonick, W. 341
 learning by interacting 638
 LeBaron, B. 1108
 LeBas, C. 581
 Lee, K. 206
 Lehnert, D. 399, 413, 806, 807, 810, 812, 813, 815
 Leibowitz, S.J. 427
 Leighton, L. 157
 Leijonhufvud, A. 1109
 Lemarie, S. 617
 Leonard-Barton, D. 188
 Leontief, W. 706, 715, 726
 Leontief inverse 893
 Leontieff production function 1092
 Lerner, J. 157
- Leseure, M. 1133
 Lesourne, J. 14, 1005, 1006, 1007, 1008
Leviathan, The 32
 Levin, R.C. 347, 348, 349, 357, 521, 578, 815
 Levin, S. 623
 Levine, D.K. 406
 Levinthal, D.A. 155, 173, 197, 218, 267, 351, 352, 368, 618, 1017
 Lewicki, R.J. 1024, 1041
 Lewin, A. 223
 Lewin, R. 173
 Lewis, J. 201, 204
 Lewis, M.J. 773
 Lewis, V.L. 183
 Lewontin, R. 326
 Leydesdorff, L. 551
 Li, C.W. 812
 Lie, M. 121
 Liikainen, J. 381
 Lilien, G.L. 190
 Lindahl, E. 1065
 Lindberg, T. 1069, 1070
 Lindgren, K. 1103–4, 1109
 Link, A.N. 99, 151, 157
 Lioukas, S. 171
 Lippi, M. 471
 Lippitt, R. 223
 Lippman, S. 1011
 Lipsey, R.G. 810, 825
 Lisbon Agenda 937
 Lissoni, F. 913, 1152
 List, F. 68, 873, 934
 Littlechild, S. 955
 Llerena, P. 278
 Lloyd-Jones, R. 773
 Loasby, B. 9, 73, 235, 256, 282, 309, 310, 951
 local industrial clusters, identifying:
 application to Germany 556–73
 and firm distribution among regions 561–65
 application of method to Germany 568–72
 choice of distribution 569–71
 data 569
 existence of local clusters 571–2
 modelling, adequacy of 569
 empirical analysis method for 565–8

- checking fit:
 - Kolmogorov–Smirnov test 567–8
- fitting/comparison of the two distributions 566–7
- theory and predictions for 557–65
- localized technological change 248–66
 - see also* technological change, dynamics of
 - basic ingredients of 251–7
 - and complex system dynamics and path dependence 261–2
 - multidimensional scope of 257–61
 - process of 249–51
- Lonergan, P. 280
- long wave theory 13, 23, 137–8, 139, 649, 845, 849–51
- long waves (and) 766–74, 783, 796, 849
 - recurrence of
 - exceptional super-profits of innovative entrepreneurship 767–9
 - pervasive constellations technical and organization innovations 769–70
 - waves of organizational and management changes in enterprises 770
- recurrent changes in regulatory regime 771–2
- recurrent crises of structural adjustment 771
- social, political and cultural changes in the 772–4
- long waves: conceptual, empirical and modelling issues (and) 800–819
 - Schumpeter's conceptual framework: 805–13
 - clustering of innovations 805–8
 - leading sectors and creative destruction 808–11
 - macroeconomics and aggregate fluctuations 811–13
 - moral and conclusions 813–14
 - theory-free econometrics 803–5
- Lorange, P. 201, 202, 205, 206
- Lorenz, E. 658, 1039
- Lorenzoni, G. 206
- Lorsch, J. 227
- Los, B. 11, 584, 585, 588, 882
- 'lost' seventh chapter *see* *Theory of Economic Development*: lost chapter
- Lotka, A.J. 380
- Lotka–Volterra predator–prey equation 400, 436
- Louçã, F. 13, 133, 135, 137, 339, 766, 800, 802, 851
- Loveman, G. 214
- Lucas, R.E. Jr. 211, 212, 217, 702, 858, 1107
- Luckmann, T. 1018
- Luna, F. 88
- Lundberg, E. 1055, 1060, 1065, 1067
- Lundvall, B.-Å. 6, 13, 113, 121, 132, 136, 194, 341, 470, 638, 862, 865, 874, 875, 876, 877, 882, 931, 934, 936, 958, 959, 1058, 1154
- Luther, M. 31
- Lyles, M. 206, 207
- Lyman, K. 188
- McAllister, D.J. 1024, 1041
- McCain, R.A. 253
- McCann, C.R. 33, 65, 75
- McCarthy, I. 1133
- McClelland, D.C. 157, 325
- McCloskey, D. 35
- McCombie, J.S.L. 715
- McDonald, G. 5
- MacDonald, G.M. 464, 821
- Macdonald, R.J. 189
- MacDonald, S. 203, 204
- McDonald, S. 75
- McEvily, B. 207
- McGrath, R.G. 182
- McGregor, D. 223
- Mach, E. 47, 57, 58
 - and phenomenology 58
- Machado, J.A.F. 501
- Machin, S. 655
- Machlup, F. 29, 35, 39–40, 43–4, 46–7, 51, 52, 272, 506
 - and methodology essay 39–44
 - historical aspect 41–2
 - mathematics–statistics–economics aspect 40–41
 - outline of 39–40
 - psychological switch 42–4

- McKelvey, B. 1133
 McKelvey, M. 11, 161, 607, 611, 612, 614, 615, 617, 618, 721, 936
 McKelvy, R.D. 1086
 MacKenzie, D. 109, 126, 409
 Mackinnon, D. 897
 McKnight, L. 623
 McLoughlin, I. 115
 McMackin, J.F. 1012, 1017, 1023
 McMeekin, A. 756, 761
 MacMillan, I.C. 182
 MacMillan, J. 205
 MacMillan, K. 202
 MacMullen, R. 99
 macro-econometrics 733–42
 evolutionary macro-econometric modeling 734–7
 evolutionary: using highly aggregated data 737–40
 macroeconomic policy 990–1000
 emergency of concept of 990–93
 evolutionary modeling strategies for 993–8
 outlook for 998–9
 Madden, G. 623
 Maddison, A. 802, 814
 Madhok, A. 170
 Madison, J. 40
 Maggioni, M. 558, 560
 Magstim Company 901–2, 910, 911, 912, 913
 Maguire, S. 1022
 Mahajan, V. 380
 Mahnke, V. 337
 Mahoney, J. 171, 282
 Makadog, R. 168
 Mäki, U. 481
 Malecki, E.J. 1151, 1152, 1155
 Malerba, F. 6, 9, 113, 121, 172, 339, 346, 348, 350, 353, 355, 356, 357, 368, 420, 429–30, 432, 436, 405, 433, 435, 451, 456, 459, 460, 461, 525, 527, 541, 621, 759, 850, 878, 882, 934, 960, 1153
 Malmberg, A. 878, 913
 Malmquist, S. 496
 Malmquist index 496–7
 Malouf, M.W.K. 1086
 Malthus, T. 67, 81, 93, 722, 991–2, 993
 managed and entrepreneurial economy models (and) 211–31
 contrasting the models 219–26
 external environment 221–2
 firm behavior – how firms function 222–4
 government policy 224–6
 underlying forces 220–21
 era of managed economy 213–14
 emergence of entrepreneurial economy 214–19
Managerial and Decision Economics 199
 Mandel, E. 767–8
 Mandelbrot, B.B. 815
 Mandeville's ship designs 842, 846–7
 Mangano, S. 528
 Mangematin, V. 614, 617
 Mangolte, P.A. 237
 Mani, G.S. 399
 Mankin, D. 203, 204
 Mansfield, E. 380, 516, 520, 521, 678, 680
 March, J.G. 167, 171, 251, 267, 268, 271, 272, 273, 274, 276, 278, 280, 291, 317, 337, 378, 843, 846
 Marengo, L. 162, 166, 278, 281, 334, 337, 468, 475, 883, 892
 Marget, A.W. 38
 Margolis, S.E. 427
 Marimon, R. 1109
 market failure 282, 948–54, 960 *see also* innovation, policy for (and)
 market self-organization 1123–31
 Darwinist strategies 1123–5
 diverse learning strategies 1129–31
 firms and learning 1126–7
 loser imitating winner 1127–8
 losers imitating winners 1128–9
 marginal learning strategy 1125–6
 market(s)/marketing 287–8, 364, 958
 activities 421
 emergence/development of 276
 marketing 364
 Marshak, J. 1079
 Marshall, A. 34, 36, 43, 44, 50, 70–71, 81, 159, 272, 282, 290, 292, 295, 361, 674, 720, 741, 824, 841, 1062, 1105

- and classical/Marshallian economics 30, 70–71
- and marginal costs 1058
- Principles* 282, 841, 1105
- Marshall–Lerner condition 712, 715
- Marsili, O. 339, 355, 416, 527
- Martin, J.A. 171, 276
- Marx, K. 24–5, 56, 78, 82, 132, 252, 287, 391, 671, 674, 720, 721, 722, 723, 767, 801, 813, 991–2, 999, 1058–9
 - compensation theory 720
 - Grundsätze* 1056
 - social theory 56–7
- März, E. 36
- Marz, L. 119
- Maskell, P. 878, 913
- Mathews, J.A. 99, 309, 312–13
- Mattsson, L. 206, 207
- Maurseth, P.-B. 581
- Mayntz, R. 107–8, 110, 115, 860
- Mayr, E. 160, 176, 318, 325, 326
- Mazzucato, M. 797
- Meacci, M. 416
- Mead, G.H. 880, 1018
- Meager, N. 908
- measuring industry dynamics 10–11, 491–593 *see also individual subject entries*
 - analysis of technological heterogeneity and change 493–502 *see also* evoumetrics
 - entropy statistics and information theory 544–55
 - local industrial clusters, identifying: application to Germany 556–73
 - sectoral taxonomies: identifying competitive regimes 525–43
 - technology spillovers and impact on productivity *see* technology spillovers
 - science and technology indicators, typology of 503–24
- mechanisms of economic evolution (and) 745–53
 - adaptive economizing out-of-equilibrium 746–8
 - coordination 748–9
 - institutions and development 751–3
 - money, credit and entrepreneurship 749–51
- Medoff, J. 214
- Meliciani, V. 712, 714
- Mendel and law of genetics 85
- Menger, C. 20, 28–9, 30, 33, 36, 37, 42, 50, 68, 132, 992, 1018, 1045, 1046, 1049, 1056, 1057–8, 1061, 1072 *see also* models (of)
- Menger, K. 1056, 1061, 1072
- Menger–Austrian School tradition 43
- Mengerian entrepreneur 1065
- Mengerism/Mengerian analysis 30, 33, 46
- Menger–Schmoller *Methodenstreit* 29, 36, 58, 67, 132
- Menger–Viennese view of method 43
- Mensch, G.O. 786, 797, 806, 807, 993
- mergers/acquisitions (MA) 1030–36
- Merges, R.P. 950
- Mertens, J.-F. 1093
- Merton, R. 108, 333
- Metcalf, D. 658
- Metcalf, J.S. 10, 13, 94, 161, 162, 167, 168, 194, 305, 309, 311–12, 336, 380, 398, 399, 406–7, 440, 447, 450, 621, 636, 640–41, 756, 827, 831, 845, 862, 954, 957, 964, 1146, 1150
- methodological individualism 65
- Methodology of Economics or How Economists Explain, The* 35
- methodology: source and evolution of Schumpeter's views (and) 27–54
 - locus of Schumpeter's thinking 36–9
 - Machlup's essay (1951) 39–44 *see also* Machlup's methodology essay
 - meanings of methodology 29–35
 - Shionoya's version 46–9 *see also* Shionoya, Y.
 - Swedberg's view 44–6 *see also* Swedberg, R.
- Metz, R. 663, 803, 804
- Meyer, B. 157
- Meyes-Krahmer, F. 195, 727, 947, 958, 964
- Michalacci, C. 815
- Michie, J. 680, 656, 659
- Michl, T.R. 655, 999

- micro, meso, macro: pillars of
 Schumpeter's economics 65–77
 conclusion and acknowledgements
 75
 coordination and change 66
 generic architecture of the economy
 73–5
 meso economics 69–70
 meso trajectory (Schumpeter) 71–3
 methodological individualism 68–9
 proto-meso: classical economics and
 Alfred Marshall 70–71
 received doctrines 67–8
- micro technologies 338–40
- microeconomics and macroeconomics
 75
- micro-foundations of endogenous
 growth 671–87
 basic dynamic model of 674–6
 and early builders on Schumpeterian
 vision 673–4
 and market dynamics and structure
 676–8
 Schumpeter's pioneering role in
 671–2
 and uncertainty and social welfare
 maximization 678–85
 and dartboard experiment 682–5
- micro-level analyses 195–7
- Mikula, G. 1087
- Miles, I. 121, 634, 638, 862
- Miles, R. 206
- Milgrom, P. 1022, 1081, 1097
- Mill, J.S. 34, 81, 671, 722
- Mind and Society* 45
- Minkiw, N.G. 971
- Miozzo, M. 635
- Misa, T. 122
- Mitchell, W.C. 41, 45, 51, 204, 1062
- Mitchener, K. 797
- Mitford, K. 50
- modelling, Schumpeterian 389–404 *see*
also models (of)
 and agent-based computational
 economics 399–401
 and economic development 390–93
 and Nelson and Winter (NW) model
 396–7
 pilgrims/founding fathers of 393–8
 and proliferated simulation 398–9
- modelling industry dynamics 9–10,
 387–487 *see also* models (of)
 agent-based modelling 467–87 *see*
also main entry
 industrial evolution: history-friendly
 models (HFM) 453–66 *see also*
main entry
 replicator dynamics 440–52 *see also*
main entry
 Schumpeterian modelling 389–404
see also modelling,
 Schumpeterian
 simulation models,
 neo-Schumpeterian 405–39 *see*
also main entry
- models (of) *see also* simulation models,
 neo-Schumpeterian
 Cass–Koopmans–Ramsey variation
 of growth 699
 computer industry 456–61
 Dosi *et al.* 378, 380, 399, 405,
 416–17, 418
 ecosystem 1115
 endogenous growth 211
 entrepreneurial economy 220
 epidemic 379–80
 Forrester's National long wave 811
 Harrod growth 1067
 Kwasnicki–Kwasnicka 413
 managed economy 220, 223
 Menger–Wicksell Stockholm school
 1066
 Nelson and Winter 405, 410–19, 425,
 434, 759, 762, 1058
 Pasinetti 762–4
 pharmaceutical industry 461–4
 process innovation 759, 762
 Silverberg–Verspagen (SV) 398–9,
 405, 413–15, 418
 Solow one-growth 410
 stability and managed economy 221
 Types 1 and 2 409–10
 with Schumpeterian flavour 399
 Walras–Arrow–Debreu (WAD)
 1056, 1066–7, 1070
 Watts–Strogatz 372
 Windrum–Birchenhall 405–6, 429,
 433, 435
- Modelski, G. 802
- Modigliani, F. 1072

- Mohnen, P. 590
 Mokyr, J. 119, 160, 368, 845–6
 Molina, A. 110, 120
 Momigliano, F. 254
Monetary Equilibrium 1065
 Monfort, A. 479
 Monteverde, K. 270
 Montgomery, C.A. 166, 337, 551
 Montobbio, F. 1153
 Moore's Law 409
 Morgan, J.P. 789–90, 1163
 Morgan, K. 194, 1156
 Morgenstern, O. 280, 1003
 Mosekilde, E. 811
 Moss, S. 481
 Mouton, J.S. 223
 Mowery, D.C. 134, 136, 196, 207, 347, 374, 613, 755, 759, 850, 877, 953
 multi-factor productivity (MFP) 650
 multi-level governance (MLG) 896, 897
 Murmann, P. 848
 Murphy, K.J. 552
 Murphy, K.M. 1078, 1091
 Musgrave, R. 1166
 Musso, P. 1052
 Myers, G. 101
 Myrdal, G. 1055, 1060, 1065
 Mytelka, L. 207, 364
- Naastepad, C.W.M. 653, 656–7, 659, 660, 663
 Nabseth, L. 1068
 Nadiri, M.I. 583, 584, 589, 590
 Nahapiet, J. 157
 Nakicenovic, N. 809
 Narasimhan, C. 188
 Narin, F. 582, 964
 Narver, J.C. 190
 Nash, J.F. 1065, 1086
 Nash bargaining solution 1090
 Nash demand game 1086
 Nash equilibria 996–7, 1004, 1007
 Nasierowski, W. 936
 national innovation systems (NIS) 13, 860, 862, 860–61, 864, 872–939, 1058
 national innovation systems (NIS):
 from List to Freeman 872–81
 common characteristics of
 approaches 876–7
 definitions of 877–8
 other concepts 878–9
 and Schumpeter's theoretical
 testament 879–80
 national innovation systems (NIS):
 fundamentals of the concept
 926–39
 abstract and introduction to
 926–7
 and development lines of NIS
 concept 931–4
 key features of 927–30
 national innovation systems (NIS):
 input–output approach (and)
 882–95
 Germany's system 889–92
 subsystem approach 884–5
 subsystem MFA 885–9
 symbols and sector names 894–5
 Neary, J.P. 720, 721
 Nelson, R.R. 6, 11, 13, 87, 88, 93, 94, 112, 113, 117, 136, 159, 160, 161, 166, 167, 168, 169, 221, 228, 235, 243, 267, 276, 268, 272, 273, 280, 282, 290, 305, 309, 311–12, 316, 317, 319, 331, 334, 337, 340, 341, 346, 347, 348, 350, 351, 352, 355, 356, 374, 380, 390, 394, 396, 397, 398, 399, 405, 410–18, 440, 462, 470, 475–6, 477, 483, 519, 525, 527, 613, 673, 681, 710, 754, 758, 760, 796, 804, 809, 810, 822, 841, 844, 846, 850, 862, 864, 874, 882, 931, 948, 950, 959, 1017–18, 1027, 1048, 1058, 1150, 1153, 1167
 Nelson–Winter evolutionary model
 1058 *see also* models (of)
 Nelson–Winter model of process
 innovation 759, 762 *see also*
 models (of)
 neo-Schumpeterian approach 326
 to services innovation 636–7
 neo-Schumpeterian economics and
 systemic view 13, 855–939
 innovation systems *see main entry*
 national innovation systems *see main entry*
 regional innovation systems
 research, lessons from rise of
 see main entry

- neo-Schumpeterian meso dynamics:
 empirics 489–665
- neo-Schumpeterian meso dynamics:
 theory 143–487
- neo-Schumpeterian thinking on
 different fields, impact of 14,
 1001–1170 *see also individual
 subject entries*
- Austrian economics and innovation
 (and) 1045–54
- Austrian-Schumpeterian economics
 and Swedish growth school
 1055–76
- complexity and the economy (and)
 1102–10
- comprehensive neo-Schumpeterian
 economics 1160–70
- experimental economics (and)
 1077–1101
- game theory, Schumpeter's influence
 on (and) 1003–1009
- regional economics and economic
 geography 1149–59
- self-organization in economic
 systems (and) 1111–48
- transaction costs, innovation and
 learning (and) 1010–44
- Netherlands 641, 651–3 *see also flexible
 labour markets and labour
 productivity growth
 and Wassenaar social contract
 651–2*
- Neuwirth, E. 804
- new directions in Schumpeterian
 growth theory (and) 688–704
 anatomy of scale effects 690–98
 assessment of scale-variant growth
 models 699–701
- 'New Growth Theory' 685
- new venture creation 182–92 *see also
 new venture management
 and entrepreneurship: business
 creation and management style
 182*
- integrative framework for 183–9
- new venture management 183–90
 characteristics and challenges of
 184, 187
 and influential growth models 183,
 185
- normative level of 185, 186, 189
 operational level of 186, 189
 strategic level of 185–6, 188
- Newton, I. 32
 and 'Crucial Test' 32
- Nguyen, P. 832
- Nietzsche, F. 21, 33, 45, 85, 93
- Nickell, S. 720, 721, 727
- Nicolis, G. 836, 1112
- Nightingale, J. 394, 521
- Nill, J. 14
- Niman, N. 160
- Nishiguchi, T. 204
- Noda, T. 171
- Nohria, N. 201
- Nonaka, I. 107, 174
- Nooteboom, B. 14, 222, 224, 364,
 1011, 1012, 1015, 1018, 1019,
 1020, 1022, 1024, 1025, 1026,
 1027, 1028, 1031, 1032, 1041
- Nordhaus, W.D. 253
- Norman, R.Z. 887
- Normann, H.-T. 1082
- North, D.C. 928, 1109
- Novulari, A. 553
- Noyons, E.C.M. 518
- O'Brien, D. 164
- Occam's Razor 46
- Ockenfels, A. 1083, 1085, 1090,
 1097
- OECD 415, 520, 608, 609, 616, 633,
 635, 651, 773, 867, 872, 873, 876,
 880, 898, 901, 932, 933, 937
 and Eurostat 635
 countries 211, 215–16, 221, 227, 654,
 660, 713, 728, 977
Oslo Manual 635
 Science Technology and
 Competitiveness group 873
- Ohlin, B. 1055
- Ohmae, K. 204
- Olivastro, D. 582
- Olofsson, C. 228
- Olsen, T. 381
- Oostendorp, R.H. 655, 659
- Openshaw, S. 556
- Organization Studies* 1022
- organizational design 292–3
- Origin of the Species* 316

- Orsenigo, L. 10, 112, 331, 339, 346, 348, 350, 353, 409, 413–14, 426, 420, 461, 469, 525, 527, 541, 614, 617, 618, 621, 850, 1153
- Orléan, A. 1005, 1007
- Osborn, R. 201, 202, 206
- Ouchi, W. 204, 205
- overlapping cycles 23–4
- Owen, D. 99
- Owen-Smith, J. 617
- Oxley, J.E. 207, 877
- Padalino, S. 728
- Page, S.E. 478
- Pakes, A. 520
- Palander, T. 1065
- Palepu, K. 550
- Palfrey, T. 1086
- Palmer, R. 1108
- Pålsson-Syll, L. 1062
- Pammolli, F. 614, 618
- Pandian, R. 282
- Paniccia, I. 556, 557
- Panzar, J.C. 833
- Pareto, V. 44, 45, 68
- Pareto efficiency 972
- Pareto optimality 949, 954
- Park, W.G. 587
- Parker, G.F. 100
- Parkhe, A. 204
- Parsons, T. 45
- Parvus, A. 800
- Paschen, H. 549
- Pasinetti, L.L. 721, 724, 762–3, 808, 823, 831, 834, 884
 framework 816
 model 762–4
- Patel, P. 197, 339, 341, 520, 581, 882
- Patent Offices
 American 511, 513
 Canadian 591
 European (EPO) 512
- patent(s) 506–12, 514–15, 517–18, 586–8, 609, 697, 706, 864, 949 *see also* science and technology indicators, typology of
 OTAF-SPRU data on 356
 races 364
- Patents Classification, International (IPC) 356, 521
- path-dependence 262
- Pavitt, K. 132, 197, 337, 339, 340, 341, 344, 345, 355, 520, 527–8, 579, 581, 634, 706, 882
- Peabody, G. 100
- Peabody Education Fund 100
- Peck, M.J. 678, 686
- Pelikan, P. 1070
- Peneder, M. 10, 526, 527, 532, 537–8, 541, 641
- Penrose, E. 155, 166, 169, 171, 196, 255, 260, 272, 273, 274, 280, 282, 290, 292, 326, 361, 368, 390, 393, 1011
- Peres, W. 937
- Peretto, P. 694
- Perez, C. 13, 139, 339, 796, 797, 798, 802, 805, 814, 851
- perfect decision rationality 1077
- performance evaluation 933
- Perlman, M. 7, 33, 35, 37, 42, 44, 51, 65
- Perlmutter, H. 203, 206
- Perriault, J. 238
- Peteraf, M. 170, 173
- Petersson, J. 1065, 1066
- Petit, P. 720, 930
- Pettit, Ph. 1024
- Pfeffer, J. 201, 202, 656
- pharmaceutical/biotechnology industry 420, 461–3
 new biotechnology firms (NBFs) 463
- philanthropy, American 98–104
 and Carnegie Foundation 100–101
 and George Peabody 100
 and John D. Rockefeller 98, 100, 102
 and John Winthrop 99
 Puritan principles of 99–100
 Rockefeller Foundation 103
- Phillips curve 414, 724
- Phillips, A. 356
- Phillips, R.J. 104
- Piancentini, P. 728
- Pianta, M. 720, 721, 725–6, 875
- Pierce, J. 167
- Pigou, A. 34, 44, 720, 721
- Pigou taxes 982
- Pinch, T. 110, 118, 860
- Pini, P. 728
- Piore, M.J. 213, 227, 643–4

- Pisano, G. 163, 165, 171, 188, 267, 274, 337
- Piva, M. 719, 725
- Plant, A. 685
- Platonic solids theory (Kepler) 802
- Plosser, C.I. 804
- Plotkin, H. 93
- Plott, C.R. 470
- Pohlmeier, W. 722
- Poincaré, H. 47
- Poisson process 806, 812
- Policy Appropriability and Competitiveness for European Enterprises (PACE) 353–4
- Polanyi, M. 236, 521, 574, 946, 947, 1024
- Polterovich, V.M. 810
- Popp, D. 685
- Popper, K. 176, 334
- Porter, M. 104, 132, 162, 163, 165, 176, 183, 201, 203, 204, 218, 269, 278, 283, 865, 874–5
- Portes, A. 157
- Posner, M.V. 706
- Potts, J. 1, 69, 75
- Powell, W. 196, 206, 207, 228, 371, 373, 617
- Pradhan, M.P. 655, 659
- Prahalad, C. 203, 204, 280, 1010, 1029
- Pratten, C.F. 214
- Preissl, B. 636, 638
- Prevezer, M. 614
- Pribram, K. 30, 31
- Price, G.R. 320, 446
equation 446
formula for decomposing
evolutionary change 757–8
- Prigogine, I. 554, 1112
- Prigogine, K. 836
- Principles of Economics* 34, 36, 43
- Principles of Political Economy* 34
- Principles of Political Economy and Taxation* 12
- Principles of Science* 34
- Proops, J.L.R. 374
- property rights and contract law, changes in 24
- Pruitt, D.G. 1080
- Pry, R.H. 809
- Puri, M. 157
- Pyka, A. 2, 3, 7, 9, 10, 66, 75, 94, 107, 113, 122–3, 126, 173, 317, 323, 360, 365, 368, 371, 373, 468, 477, 478, 829, 833, 835, 933, 937
- qualitative change 6–7
- qualitative change and economic development 820–39
analytical and modelling implications for 826–36
aggregation 828–9
competition 832–3
demand 833–4
economic growth and development models 834–6
measures of variety 832
representation of product technology 826–8
variety 830–32
- conceptual background of 821–6
and quality change 823–6
and related concepts 821–3
underlying theoretical foundations of 836–7
- Quesnay, F. 148
- Quilley, S. 612
- Radner, R. 1112
- Radosevic, S. 937
- Radun Control 900–902, 908, 913, 916
- Raffa, M. 186
- Raffaelli, T. 290
- Rahmeyer, F. 8
- Raines, F. 587
- Rammert, W. 115
- Ramstad, Y. 161
- Rantisi, N.M. 1155
- Rapoport, A. 1085
- Rappert, B. 122
- Rathe, K. 162
- Rawl, J. 1165
- Ray, T. 400
- Raybaut, A. 317
- Reati, A. 816
- regional economics and economic geography 1149–59
agglomeration and deglomeration factors in 1151–4
driving forces of innovation and technological change 1152–3

- infrastructure and production 1151–2
- regional supply and regional demand 1153–4
- neo-Schumpeterian approaches in 1154–7
- industrial districts 1155
- innovative milieus 1155
- learning regions 1155
- regional clusters 1155
- regional economic growth theory 1157
- regional innovation systems and networks 1156
- neo-Schumpeterian perspective on 1150
- regional innovation systems (RIS) 860, 861, 862, 863, 868–9
- regional innovation systems research 896–925
 - barriers to innovation 914–18
 - firms and regional innovation system 918–23
 - in Wales 897–9
 - innovation: nature, sources and co-operation patterns 898–904
 - methodological approach 897–8
 - motivation for innovating and inter-firm co-operation patterns 905–10
 - automotive and electronics industries 906–9
 - healthcare industry 909–10
 - sources of innovation and co-operation patterns 910–14
- Reich, R. 203, 204
- Reid, G.C. 228
- Reijnders, J.P.G. 137, 663, 800, 804
- Reijnen, J.O.N. 722
- Reinert, E. 85, 93, 132
- Reinganum, J. 326, 378, 379
- Reiss, P.C. 357
- Reka, A. 837
- renaissance *see* Schumpeterian renaissance
- Rent Protection Activities (RPAs) 697, 699, 701
- rent spillovers 576–7
- Rentrup, K. 300
- replicator dynamics 406, 440–52
 - accounting for evolutionary change 442–7
 - as population method 440–42
 - and economic example 448–50
 - and Fisher's fundamental theorem 447–8
 - and wider issues 450–51
- reputation approach 1081
 - crazy perturbation/gang of four 1081
- reputation equilibria 1081
- research and development (R&D) 4, 9, 131, 134, 136, 193, 197, 199, 211, 212, 217, 222, 243, 256, 317, 345, 348, 354, 356, 357, 360, 361, 363–4, 368, 397, 408–9, 412, 414–16, 421–5, 457–9, 460, 461, 463, 464, 613, 625, 626, 633, 635, 655, 658, 659, 689, 690, 692, 693–9, 701–2, 725, 727, 759, 796, 800, 812–13, 815, 834, 846, 859, 864, 877, 878, 903, 904, 905, 907–8, 910, 911, 913, 914, 917, 920, 943, 944, 947, 951, 957, 962, 963, 970, 983, 1020, 1033, 1058, 1151–2, 1166, 1170 *see also* micro-foundations of endogenous growth; science and technology indicators, typology of *and* technology spillovers
 - employees 578–9
 - investment in 220
 - partnerships 204
 - spillovers 576–80
- research and technology policy 941–1000 *see also individual subject entries*
 - growth policy (and) 967–77
 - macroeconomic policy 990–1000
 - policy for innovation 943–66 *see also* innovation policy (and)
 - time strategies in innovation policy 978–89
- Research Policy* 199
- restless capitalism 309, 311, 1146
- Rhodes, E. 495
- Ricardo, D. 12, 34, 67, 81, 93, 157, 170, 188, 267, 269, 719, 720
- Riccaboni, M. 618

- Richardson, G.B. 194, 274, 275, 280, 294, 367, 951, 956, 1047, 1051
- Richardson, M. 75
- Rickne, M. A. 607, 618, 611
- Ridgeway, K. 1133
- Riesman, D. 227
- Ring, P. 206, 207
- Rip, A. 114, 117, 121, 122, 126
- Rivise, C.W. 520
- Robbins, L. 288
- Roberts, E.B. 186
- Roberts, J. 1022, 1081
- Robertson, P.L. 1019, 1033
- Robinson, J. 254
- Robson, M. 586
- Rockefeller, John D. 98, 100 *see also* philanthropy, American
- Rogers, E.M. 130
- Rohracher, H. 109, 115, 126
- Roijakker, N. 8
- Romesburg, H.C. 532
- Romer, P. 693, 700, 702, 714, 834, 858, 877, 882, 971
- Roos, J. 201
- Roscher, W. 520
- Rosen, H.S. 157
- Rosenberg, N. 122, 133, 134, 137, 340, 348, 352, 470, 613, 723, 755, 759, 797, 864, 931, 947, 953, 964
- Rosenbloom, R. 131, 278, 346
- Ross, D. 467, 685, 686
- Roth, A.E. 470, 1080, 1082, 1085, 1086, 1090,
- Rothwell, R. 136, 193, 195
- Rotmans, J. 122
- Rousseuw, P.J. 529, 531, 533
- routine-based to knowledge-based view *see* evolutionary theory of the firm
- Rowtow, W.W. 811, 814
- Roy, J. 886
- Rubinstein, A. 1085
- Rudé, G. 719
- Rumelt, R. 164, 170, 220, 267, 268, 274, 280, 1011
- Russell, S. 109, 114, 115, 121, 124, 126
- Ruttan, V.W. 252, 253, 655, 685
- S-shaped curve diffusion patterns 417
- S-shaped curves 454
- S-shaped diffusion/growth curve 379, 382
- Sabatier, P. 987
- Sabel, C.F. 213, 227, 643–4
- Sach, J. 103
- Sacks, J. 103
- Sahal, D. 113, 114, 332, 805, 822
- Sahlman, W.A. 182
- Sakakibara, M. 193, 196
- Sako, M. 194
- Sakurai, N. 584
- Salamon, L.M. 104
- Salancik, G. 201, 202
- Salomon, J. 626
- Salop, S.C. 825
- Salter, W.E.G. 253, 823, 834
- Salter curve 1068
- Salvatore, R. 416
- Sampat, B. 844
- Samuels, W.J. 4
- Samuelson, G. 406
- Samuelson, L. 999
- Samuelson, P. 34, 44, 50, 75, 296
- Santa Fe/complexity approach 1103
- Sapienza, A. 204, 206
- Sargent, T.J. 469, 471, 996
- Sarkar, J. 735
- Sartorius, C. 14, 117
- Sauermann, H. 1087
- Saussier, S. 163, 176
- Saviotti, P.P. 2, 4, 13, 161, 173, 323, 332, 336, 340, 398, 399, 440, 468, 552, 553, 760, 826, 827, 828, 829, 833, 834, 835, 833, 859
- Savona, M. 726
- Sawers, D. 806
- Sawyer, D. 130
- Sawyer, M. 999
- Saxenian, A. 216, 217, 580
- Saxton, T. 207
- Say, J.-B. 148, 720, 721
- Say's law 722, 1060
- Scale and Scope* 848
- Scarpetta, S. 227, 228
- Schachter, G. 886
- Schäffle, A. 82, 93
- Schakenraad, J. 363
- Schall, N. 13
- Schankerman, M. 520
- Scharnhorst, A. 399, 407

- Scharpf, F.W. 107–8, 110
 Schein, E.H. 183, 1019
 Scherer, F. 12, 214, 254, 467, 514, 575, 585, 588–9, 590, 591, 674, 678, 679, 681, 685, 686
 Schmoch, U. 195, 507, 512, 516, 519, 520, 521
 Schmoller, G. 28, 38, 42, 132, 133
 Schelling, T. 365
 Schendel, D. 164, 280
 Scherer, F.M. 808
 Schettkat, R. 724
 Schmidt, C. 1083
 Schmidt, K.M. 1090, 1097
 Schmidt, S. 120
 Schmittberger, R. 1082
 Schmookler, J. 133, 134, 254, 585, 588, 655, 673–4, 755, 758, 760, 761, 807, 1153
 Schmooklerian innovation 761
 Schnabl, H. 13, 883, 885–6, 889–90, 892, 934
 Schneider, D. 162, 169
 Schoemaker, P.J.H. 188
 Schon, D.A. 136, 197
 Schön, L. 1062
 Schoonhoven, C.B. 188, 194
 Schot, J. 117, 121, 122, 126
 Schrader, S. 365
 Schultz, T.W. 154
 Schumann, J. 300
 Schumpeter, E.B. 51
 Schumpeter, J.A. (and) 19–25, 325–6
 100th anniversary of birth 1069
 Adam Smith 66, 67–8, 300
 agent-based modelling 87–9
 aim of comprehensive sociology 57
 Åkerman 1063
 as Austrian Minister of Financial Affairs 19
 as Minister of Finance 79
 as student in economics 28
 at University of Graz 19
 at University of Vienna 19, 28, 33
 bandwagon effects theory 130–31
 bankruptcy of 19
 birth of 19, 78
 business cycles 83–4, 136–7
 Carl Menger tradition 28, 29
 classical neoclassical economics 67
 clustering hypothesis 807
 competition hypothesis 317
 conception of ideology 63
 conceptual framework 805–13
 creative destruction 280–81, 299, 392, 987, 1056, 1165 *see also main entry*
 cyclical behaviour 23
 death of 20, 705
 death of wife 19, 51
 definition of innovation 22
 dynamics 318
 early life/career of 19–20, 78–80
 economic development 21, 74, 805
 economic evolution 161, 166
 economic growth/growth theory 857–9, 863–4, 866–7
 economic methodology 56
 economic sociology 50
 econometric methodology 733–4
 enthusiasm for Walras 29
 entrepreneurship 82–3, 597, 969, 1003, 1019
 evolutionary dynamics 85–7
 evolution of methodology 29
 family and background 19, 28
 firm organization 287–93
 five dimensions of innovation 641
 fundamental ideas 57–61
 growth cycle analysis 1061
 growth theory *see* new directions in Schumpeterian growth theory (and)
 Gustav Schmoller empirical pattern 28
 Harvard University 20, 29, 50
 heritage of 25
 history of economics 55
 hypotheses 346
 hypothesis re industrial organizations 541
 ideas on competition 74
 identification with German and European scholarship 85
 impact on modern economics 21–5
 in Stockholm 1067

- in Vienna 19
 innovations 761
 innovations and markets 22
 innovator/entrepreneur 1056, 1066
 Juglar cycles 23
 lack of national identity 49, 85
 law of population 160
 logic 714
 long wave theory 802, 845, 849
 march into socialism 1167
 Mark I/Mark II firms 879
 markets, development and functions
 of 22–3
 Marxist thought 24
 meso economics 70–73
 methodological and
 economic–historical work 20
 methodology 29–30, 44–9
 micro-foundations of endogenous
 growth 671–87 *see also main
 entry*
 modern economics 21
 new combinations 22–3, 360, 600,
 625, 924, 1017–18
 new-Darwinian theory of evolution
 160, 161, 162
 oeuvre of 20–21
 opinion of human accomplishments
 20
 overlapping cycles 24
 perceptions of economic sociology
 29
 periodograms 815
 political economy 21
 population thinking 160
 political economy 21
 received doctrines 67–8
 religiosity 51
 renaissance of 705–8
 rhetoric 63
 social and institutional change 20
 technological regimes 526, 879
Theory of Economic Development:
 lost chapter *see main entry*
 unified social science 89–92
 visionary abilities of 20–21
 Wicksell 1061–2
 work of J.B. Clark 82
 writings of 27, 78–80, 390, 688,
 1102
- Schumpeter, J.A.: work cited 135, 136,
 150, 159, 166, 182, 213, 267, 272,
 278, 280, 287 *passim*, 316, 317,
 323 *passim*, 345 *passim*, 360, 378,
 391, 621, 631, 649, 672, 684,
 737–8, 745–64, 769, 800 *passim*,
 816, 820–21, 826, 831, 840–41,
 845, 879–80, 963, 969, 992, 999,
 1045, 1059, 1067–8
*Schumpeter and the Idea of Social
 Science* 48
 Schumpeterian capitalism *see* capitalist
 development and Schumpeterian
 capitalism
 Schumpeterian dynamics *see* selection,
 learning and Schumpeterian
 dynamics
 Schumpeterian renaissance 130–41
 early work on innovation 130–33
 influential features of 133–7
 outcome 137–9
 Schumpeterian rivalry 253, 254
 Schumpeterian universal social science
 55–64
 evolution of mind and society 55–7
 fundamental ideas 57–61
 rhetoric, vision and ideology 61–3
 ‘Science and Ideology’ 63
 Schumpeter II approach 1058
 Schumpeter and varieties of
 innovation *see* regional innovation
 systems research
 ‘Schumpeter’s Economic
 Methodology’ (Machlup) 39–40
 Schumpeter–Schmookler controversy
 755, 758–60
 Schuster, P. 1141
 Schwaninger, M. 75, 186, 190
 Schwartz, J. 1093, 1094
 Schwartz, N.L. 130, 346, 356
 Schwarze, B. 1082
 Schweber, D. 160
 Schwerin, J. 1156
 science and technology indicators,
 typology of 503–24
 bibliometrics: statistics for science
 output 516–17
 classification systems 518
 external patenting and patent
 families 511–12

- home advantage and specialization 514
- innovation indicators: resources, R&D results and technical progress 504–5
- key patents 512–13
- measuring science base of technology 515–16
- papers *vis-à-vis* patents 517–18
- patent application *vis-à-vis* patent grant 510–11
- patent claims and citations 513–14
- patent stocks 514–15
- patenting and innovative behaviour of competitors 510
- patenting history 506–7
- patents as latent public good 507–8
- substitutive measurement 505–6
- technological spillovers, indicators for 515
- triad technology production 512
- validity of patent statistics 508–9
- Science Policy Research Unit (SPRU) 199, 706–7
- Scope and Method of Political Economy, The* 34
- Scott, A. 107
- Scott, D.W. 497, 498
- Scott, J.T. 317
- Scott, M. 183, 738
- Segerstrom, P. 692, 693, 697, 699, 700, 702
- selection, learning and Schumpeterian dynamics 316–28
- cognitive underpinnings of industrial dynamics 323–5
- selection and evolutionary process 318–20
- social-cognitive learning, coordination and firm growth 320–23
- sectoral taxonomies: identifying competitive regimes 525–43
- entrepreneurial v. routinized regimes 526–7
- human resources in the ‘new economy’ 536–40
- Pavitt taxonomy of innovation types 527–8
- sectoral classifications, method of 528–36
- statistical cluster analysis 529–36
- Seifert, S. 1095
- self-organization in economic systems (and) 1111–48
- automobile manufacturing 1133–40
- economic and social 1140–43
- evolution 1112–18
- evolution in economics 1118–23
- evolutionary multi-agent economic models 1131–40
- market self-organization 1123–31 *see also main entry*
- Selten, R. 291, 1004, 1087
- Selznick, P. 280
- Şener, F. 12, 700
- Sengenberger, W. 107, 214
- Senker, J. 614
- Sforzi, F. 556, 557
- Shackle, G.L.S. 43, 950
- Shan, W. 617
- Shane, S. 541
- Shannon, C.E. 544, 830, 832
- Shapiro, C. 113
- Shapiro, E.G. 1087
- Sheehan, M. 656, 659
- Shiller, R.J. 797, 798
- Shionoya, Y. 7, 29, 35, 44, 46–9, 50, 55, 57, 60, 63, 65, 89, 93, 94, 133 and writings on Schumpeter’s methodology 46–9
- Shleifer, A. 1091
- Short, L. 152
- Shubik, M. 1109
- Shuen, A. 163, 165, 171, 176, 188, 337
- Sichel, D.E. 650
- Siebert, H. 13, 968, 975, 976
- Sierra, C. 581
- Sigmund, K. 406, 436
- Silverberg, G. 4, 13, 137, 374, 390, 398, 399, 405, 409, 413–14, 415, 431, 436, 477, 805, 806, 807, 808, 810, 812–13, 815
- Silverberg–Verspagen model 405, 413–16, 418
- Silverman, B. 206, 207, 617
- Simon, H.A. 166, 239, 251, 268, 271, 272, 273, 275, 276, 278, 290, 291, 292, 317, 337, 828, 843, 1024–5

- Simonetti, R. 728
simulation models,
 neo-Schumpeterian 405–39 *see*
 also models (of)
Dosi *et al.* sector 416–17
and limitations of early models
 417–19
Malerba *et al.* and Windrum and
 Birchenhall 419–33
Nelson and Winter growth model
 410–13, 433, 434, 435–6
and replicator dynamics 406 *see also*
 replicator dynamics
Silverberg–Verspagen vintage capital
 framework 413–15
 Types 1 and 2 408–10
Sinclair, P.J.N. 721, 727
Singer, W. 321
Singh, H. 206
Sirilli, G. 636
Sismondi, J.C.L. 722
Slater, S.F. 190
Slaughter, M.M. 241
Sleeper, S.B. 323 2002
Sloan, A.P. 281
Small Business Economics 228
Small Firms Merit Award for Research
 and Technology (SMART) 916,
 919, 922–3, 924
small firms/businesses/SMEs 211–12,
 213, 214–15, 216, 617, 898, 922,
 905, 915, 1022, 1026
 employment share in 215
 and entrepreneurship 213–14
 and role in entrepreneurial economy
 model 212–14
 and role in postwar economies 214
Smith, A. 34, 66, 67–8, 74, 157, 290,
 291, 300, 673, 824, 840, 843, 848,
 873, 948, 956, 1010, 1041, 1066,
 1118
 ‘invisible hand’ 66, 68, 1118
Smith, H. 617
Smith, I. 228
Smith, J.M. 1005
Smith, K. 611, 613
Smith, V.I. 470
Smith-Doerr, L. 206
Smithies, A. 41
Smolny, W. 720
Smorodinsky, M. 1086
Snow, C. 206
Sober, E.S. 440, 441
Social Shaping of Technology, The 109
Social Science Citation Index 867
social science(s) *see also*
 Schumpeterian universal social
 science
 Darwinian/evolutionary approaches
 to 92
social studies of technology (SST) *see*
 technology, social studies of (SST)
social-cognitive learning 321
sociological analysis of innovation
 (and) 107–29 *see also* technology
 actor constellations 113
 dynamics of technological change
 see technological change,
 dynamics of
 innovation, localized character of
 113
 joint contribution of SST and neo-
 Schumpeterian economics
 123–6
 sociology of scientific knowledge
 (SSK) 103–4
 systemic/configurational character
 of technology and society
 115–16
 technology, social studies of (SST)
 109–15 *see also main entry*
Södersten, J. 1070
Soete, J.G. 520
Soete, L. 340, 407, 635, 706, 721, 722,
 796, 806, 810, 822
Solomou, S. 137, 806
Solow, R. 211, 220, 410, 583, 834, 841,
 844, 882
 one-growth model 410
Sombart, W. 85, 93
Sorensen, K.H. 120, 121
Sornette, D. 808
Soskice, D. 194, 341, 930
Spanos, Y. 171
Spiethoff, A. 19, 78
spillovers/spillover risk 380, 859,
 1026–7, 1036–9 *see also*
 knowledge spillovers
Spulber, D. 163, 174
Sraffa, P. 884

- Staber, U. 207
 Stability and Growth Pact 974
 Stackelberg 1003
 Stahl, M.J. 188
Stalemate in Technology 786
 Stalker, G.M. 293
 Stankiewicz, R. 865, 934
Statistical Decomposition Analysis 544
 Steinmueller, W.E. 235, 236, 242, 245, 246
 Stengers, I. 554
 Stephan, P. 614
 Sterlacchini, A. 586, 883, 892
 Serman, J.D. 811
 Steuart, J. 720
 Stigler, G. 673
 Stiglitz, J. 255, 258, 333, 346, 825, 953
 Stillerman, J. 130
 Stillerman, R. 806
 Stinchcombe, A.L. 156
 Stirling, A. 830, 832
 Stiroh, K.L. 650
 Stockholm
 International Joseph A. Schumpeter conference (1996) 1071
 School economic model 1064–8
 School of Economics 1055
 Schumpeter in 1067
 Stolper, W. 25, 36, 49, 65, 297
 Stoneman, P. 377, 378, 381, 382, 470, 720
 Storey, D.J. 226, 228
 Storm, S. 660
 Storper, M. 107
 Stout, D. 614
 Strange, S. 797
 strategic bargaining 1082
 strategic management 267–9
 niche management 120
 Streeck, W. 104, 341
 Streissler, E. 298, 314, 1056
 Strogatz, S. 372, 373
Structure of Scientific Revolutions, The 35
 Structure–Conduct–Performance approach 364
 Stutz, J. 937
 Suleiman, R. 1083
 Summerton, J. 110, 115
 Sundbo, J. 636, 638
 Sutter, M. 1083
 Sutton, J. 356
 Suzuki, K. 587
 Sveikauskas, L. 584
 Svernilson, I. 880, 1055, 1063, 1065, 1067, 1068, 1072
 Swann, P. 614
 Swedberg, R. 19, 29, 35, 36, 44–6, 65, 92, 107, 157, 297, 601, 1058, 1061–2
 and view of Schumpeter's methodology 44–6
 Sweezy, P. 38
 Sylos Labini, M. 9, 108, 117, 331
 Sylos Labini, P. 723
 Syropoulos, C. 697
System of Logic 34
 systems framework 859
 systems model: Brusselator 1112, 1116, 1117
 systems theory 5–6
 Szulanski, G. 188
 tacit and codified knowledge (and) 235–47, 1027, 1152
 codification 238–43
 and advent of knowledge-based economies 246
 direct and indirect costs of 242–3
 facets of 242
 and invisible function 241–42
 systems of 239–40
 and visible function 240–41
 knowledge reproduction, economics of 243–6
 current transformations in codification 245–6
 evolution of reproduction by demonstration 243–4
 facsimile reproduction, advantages/disadvantages of 244–5
 reproduction of tacit knowledge 236–37
 modes of 237–8
 Täger, U. 520
 Takeuchi, H. 107, 174
 Tamarkin, M. 686
 Tasse, G. 953, 959
 Tausend, C. 185

- Taylor, K. 728
 Taylor, M.C. 262, 264
 Taylor, P. 1108
 Taymaz, E. 223–4, 1069
 technical change and revolutions (and)
 786–90
 as endogenous process with specific
 rhythm 790
 embedded paradigms as
 inclusion–exclusion
 mechanisms 786–8
 exhaustion of opportunity
 trajectories and idle money
 788–9
 role of finance fostering new
 paradigm 789–90
 technical innovation systems (TIS) 865,
 869
 technological diffusion: aspects of self-
 propagation 377–85
 empirical evidence 382–3
 policy issues 383
 self-propagating mechanisms 378–82
 epidemic models 379–80
 network externalities 381
 Schumpeterian approach 378–9
 self-selection processes 380
 supply-side learning 381–2
 technological bottlenecks 340
 technological change, dynamics of
 116–23 *see also* localized
 technological change
 alignment, stabilization and closure
 119–20
 appropriation and use 121
 descriptive technology and
 innovation dynamics 116–18
 early creation and negotiation
 118–19
 leitbilder 119
 multi-level and policy-oriented
 approaches 121–3
 technological change 216, 331, 333,
 1046–7, 1048
 technological collaboration 193–200
 anti-competitive 198–9
 and learning and trust 197–8
 and macro-level analyses 194–5
 and micro-level analyses 195–7
 technological innovation 898–9
 technological paradigms and
 trajectories 331–43, 980
 basic features of 332–3
 core ideas in 333
 and micro technologies 338–40
 and national systems of innovation
 and production 338–40
 and patterns of technological
 discovery 334
 and technoeconomic paradigms
 338–40
 and technology, capabilities and
 theory of the firm 337
 and theory of production 335–7
 technological regimes, Schumpeterian
 347–55
 cumulativeness sources 349–50
 innovation dimensions 349
 opportunity dimensions 348
 technological shock 1049–50
 technological systems 1058
 technology, social studies of (SST)
 109–18
 and actor network theory (ANT)
 110, 115
 and large technical systems
 approach (LTS) 110, 116
 and neo-Schumpeterian economics
 123–6
 and social construction of
 technology (SCOT) 109–10
 technology 107–14 *see also* dynamics
 of technology, growth and trade
 and change 107–8, 111–13
 and embeddedness in local/historic
 contexts 113–14
 socially shaped character of 113
*Technology Analysis and Strategic
 Management* 199
 technology spillovers 365, 574–93
 patent citations indicators of
 idea-creating spillovers
 579–82
 R&D/R&D spillovers: concepts and
 definitions 575–9
 knowledge spillovers 577–9
 rent spillovers 576–7
 spillovers in productivity studies
 582–90 *see also* unit weights
 (based on)

- telecommunications, the Internet and Schumpeter (and) 621–32
 competition, process of 628–30
 economic development 621–3
 efficient allocation vs creative destruction 623–4
 entrepreneurship and market process 626–7
 invention and innovation 630–31
 large companies and innovation 624–6
 old and new: lessons for industry dynamics 627–8
- Teece, D.J. 9, 163, 164, 165, 167, 169, 170, 171, 175, 176, 188, 205, 206, 211, 220, 224, 267, 268, 269, 270, 272, 274, 276, 277, 280, 281, 282, 337, 349, 370, 374, 1041
- Teixeira, P. 721
- Temple, J. 699–700
- Tendi, P. 203
- Teng, B.S. 1040
- ter Weel, B. 650
- Terleckyj, N.E. 584
- Tesfatsion, L. 473, 474, 478, 479, 1109
- Tether, B. 640–41, 962, 964
- Teubal, M. 936, 959
- Theil, H. 544–6, 547, 548, 549, 553, 824
- Theorie der Weirst* 1058
- ‘Theory, method and mode of Keynes’s *General Theory*’ 35
- Theory of Economic Development* 4, 7, 21, 55, 59, 60, 74, 78, 80, 89, 97, 98, 99, 104, 289, 316, 345, 390, 526, 786, 841, 857, 858, 864, 1162
- Theory of Economic Development: lost chapter* 78–96
 abandonment of seventh chapter 84–5
 background and Schumpeter’s early career 78–80
 business cycles 83–4
 economy as part of complex social order 84
 entrepreneurship and the role of credit 82–3
 evolutionary dimensions to Schumpeterian schema 85–7
 internal development v. external shock 81–2
 Schumpeter – Austrian or German 85
 Schumpeter and modern agent-based modelling 87–9
 Schumpeter’s scheme and a unified social science 89–92
 statics v. dynamics 81
Theory of Games and Economic Behaviour 1003
Theory of Justice 1165
- Thirlwall, A.P. 130, 707–8, 712, 713, 715
 and model 713
- Thirtle, C.G. 685
- Thisse, J.-F. 558, 560
- Thompson, P. 228, 690, 694, 697
- Thompson, W.R. 802, 811
- Thorelli, H. 206, 207
- Thorton, P.H. 217
- Thum, M. 242
- Thurik, A.R. 8, 211, 212, 213, 216, 227, 228
- Tidd, J. 132
- Tietz, R. 1088
 and KRESKO game 1088
- Tijssen, R.J.W. 516, 521
- time strategies in innovation policy 978–89
 identification and anticipation of instability situations 984–7
 innovation strategies in inhomogeneous time 981–84
 systems analysis in terms of non-homogeneous time 979–81
- Timmons, J.A. 190
- Tinbergen, J. 39, 40, 137
- Tirole, J. 164, 360, 1005
- Tocqueville, A. de 100
- Toivanen, O. 381, 382
- Tomasello, M. 321, 326
- Tomlinson, M. 641
- Tong, X. 513
- Tool, M.R. 4
- total quality control (TQC) 909
- tournament studies 1082
- ‘Towards a Neoschumpeterian Theory of the Firm’ 282

- training agencies (TECs) 918–20
 Trajtenberg, M. 341, 513, 577, 580, 582, 810, 1049
 transaction cost economics (TCE) 1011–17, 1021, 1023, 1025–33
 transaction costs, innovation and learning (and) 1010–44
 boundaries of the firm 1027–30
 cognitive distance and organizational focus 1017–21
 further extensions 1025–7
 governance 1036–41
 innovation and learning 1015–17
 mergers/acquisitions or alliances 1030–36
 transaction cost economics 1012–15
 see also main entry
 trust 1021–5
 transaction costs/analysis 269–70, 362–4, 373
Treatise on Money, A 38
 Tressel, T. 228
 Troitzsch, K. 468
 Trommetter, M. 332
 Truffer, B. 126
 trust 1021–25
 ‘Trust and control in organizational relations’ 1022
 Turner, R. 407, 810
 Tushman, M.L. 227
 Tversky, A. 251, 768, 815, 1018

 U-shaped curve 973, 976
 Uhlaner, L.M. 213
 Uhlich, G.R. 1087
 Ulam, S. 399–400
 Ulrich, H. 186, 190
 unemployment
 Keynesian 1050
 Ricardian 1050
 unit weights (based on) 584–90
 patent and innovation output shares 585–6
 patent information output shares 586–7
 technological proximity 587–8
 and towards a taxonomy 588–90
 transaction input and output shares 584–5

 United Kingdom (UK) 641, 771, 772
 Corn Laws and Tariff Reform 773
 Labour Force Survey 437
 United Nations (UN) 752, 932
 United States of America (USA) 661, 772, 773, 872, 874, 975, 1032, 1089, 1169, 1170 *see also* flexible labour markets
 American Economic Association 20, 38
 antitrust legislation 199
 Bayh–Dole Act 582
 BIO USA 608
 Current Population Survey 437
 economy 650–51
 Made in America MIT study 878
 National Cooperative Research Act (1984) 199
 Patent and Trademark Office (SPTO) 520, 609
 patents company-specific 520
 University of Bonn 19
 University of Chicago 102–3
 University of Sussex and SPRU 874
 universities 971
 and innovation 920
 Utterback, J. 5, 195, 324, 345, 356, 382, 552, 822, 828, 1021
 Uusitalo, O. 643

 Valente, M. 482
 Valentin, F. 617
 van Ark, B. 540, 653
 van Damme, E. 1083
 van de Ven, A. 206, 207
 van Duijn, J.J. 815
 Van Engen, M. 223
 van Gelderen, J. 800
 Van Huyck, J. 1092, 1093
 van Lente, H. 119, 409
 Van Meijl, H. 576
 Van Pottelsberghe de la Potterie, B. 590
 van Raan, A.F.J. 521
 van Reenen, J. 655, 721, 725
 van Schaik, A.B.T.M. 653
 van Stel, A.J. 215, 227
 Vanberg, V.172
 Varga, A. 964, 1156
 Veblen, T. 49, 73, 992, 1062

- vector error correction modeling (VECM) 733–4, 737, 740, 741
- Vega, M. 581
- Vega-Redondo, F. 440, 477, 478
- Venables, A.J. 721
- Verdoorn, P.J. 655
- Verdoorn's law 716, 1067
- Verheul, I. 211, 212, 215, 223, 227
- Vermeulen, F. 1032
- Vernon, J.M. 436
- Vernon, R. 211, 706, 1154
- Verspagen, B. 11, 390, 398, 399, 413–14, 415, 431, 436, 477, 581, 584, 585, 586–7, 710, 714, 715, 763, 805, 806, 808, 810, 812–13, 815, 823, 834, 835, 882, 883, 1157
- Verstehen* 1057, 1066
- Veugelers, R. 953
- Vico, G. 55
- Vincenti, W.G. 333, 340
- Viner, J. 45, 51
- Vishny, R. 1091
- Vivarelli, M. 12, 719, 720, 721, 725, 728
- Voßkamp, R. 1153
- Volterra, V. 380
- von Böhm Bawerk, E. 27, 28, 33, 36–7, 43, 50, 51, 83, 313, 436, 1045, 1049, 1056, 1057–9, 1060
and theory of interest and capital 414
- von Bortkiewicz, L. 51
- von Haberler, G. 38, 51
- Von Hippel, E. 237, 365, 579, 911
- von Mises, L. 83, 85, 93, 1018, 1057, 1061
- von Neumann, J. 399–400, 1003
- von Neumann–Morgenstern game: theoretical maths 1065
- von Schmoller, G. 20, 51, 57
- von Storch, H. 300–301
- von Tunzelmann, N. 613
- von Wieser, F. 28, 33, 50, 51, 298, 314, 1049, 1056
- Vrba, E. 1141
- Vromen, J. 94, 168
- Wadman, W.M. 824
- wage bargaining 1088–91
- Wajcman, J. 109, 126
- Wagner, A. 1167–8
- Wagner's Law* 1167
- Wakelin, K. 715
- Wales 897–923 *see also* innovation in services
as Institutional RIS (IRIS) 897
funding grants and awards 919–23
R-Tek 904
REGIS survey in Wales 897–9
Source Wales 921
Technology Growth Fund 922
Welsh Development Agency (WDA) 919, 920–21, 922
- Walker, G. 282, 617
- Walker, W. 954, 963
- Wallander, J. 1068
- Wallenberg, M. 1064
- Walliser, B. 1005, 1007
- Walras, L. 20, 21–2, 29, 36, 43, 57, 58, 68, 74, 288, 749, 992, 1005, 1056, 1062
general theory 74
and equilibrium theory 75, 133, 1071
and economics 30
and neo-Walrasian reasoning 288
auctioneer 1006
- Walras–Arrow–Debreu (WAD) economists 1064
model 1056, 1066–7, 1070
theory 1058
- Walrasian system 50
- Wand, M.P. 497, 498
- Wanger-Döbler, R. 521
- Warren, R. 202
- Waterson, M. 720
- Watts, D. 372, 373
- Watts–Strogatz model 372
- Wealth of Nations* 74, 840
- Weaver, W. 830, 832
- Weber, B. 160, 176
- Weber, D. 282
- Weber, H.J. 1088
- Weber, K.M. 119, 120, 121, 122, 126
- Weber, M. 7–8, 37, 38, 42, 44, 45, 50, 58, 84, 85, 93, 157
- Webster, A. 122
- Weg, E. 1085
- Weibull, J. 406, 1005

- Weick, K.F. 1018
 Weil, B. 238
 Weil, D.N. 971
 Weinstein, O. 636, 639, 827
 Weisbuch, G. 407, 409
 Weiss, L.W. 214
 Weitzman, M.L. 832
 Weizenbaum, J. 237
 Weizsäcker, C.C. von 519
 Weldon, J.C. 254
 Wells, D. 771
 Wendel, M. 1085
 Wennekers, A.R.M. 212, 213, 227
 Werker, C. 14, 481, 1153
 Werle, R. 120
 Wernerfelt, B. 282
 'What is Economic Philosophy: Its Scope and Tasks' 49
What is History? 427
 Wheelwright, S.C. 223
 White, L.H. 50
 White, L.J. 227
 Whitley, J.D. 726
 Whitley, R. 875, 934
 Whinston, M.D. 1094
 Whyte, W.H. 227
 Wicksell, K. 721, 824, 1049, 1055–62, 1070, 1072
 and Austrian-Schumpeterian heritage 1058–62
 Geldzins and Güterpreise 1059
 Lectures 1059, 1060
 Wild, P. 735, 737, 739
 Williams, B.R. 948
 Williams, R. 109, 111, 114, 115, 121, 124, 125, 126
 Williamson, O.E. 163, 164, 165, 166, 170, 176, 205, 213, 223, 269, 270, 272, 274–5, 281, 307, 361, 362–3, 1011, 1012, 1013–14, 1015–17, 1021–4, 1030, 1033
 Willig, R.D. 833
 Willinger, M. 468, 475
 Wilson, R.A. 726, 1081
 Wind, Y. 380
 Windrum, P. 11, 113, 399, 405, 407, 420, 430, 432–3, 435, 468, 481, 638, 641
 Windrum–Birchenhall succession model 405–6, 429, 433, 435
 Winter, S.G. 11, 87, 88, 93, 94, 112, 117, 159, 161, 163, 167, 168, 169, 171, 172, 176, 188, 220, 221, 235, 243, 267, 268, 269, 271, 272, 273, 276, 277, 280, 283, 290, 305, 316, 317, 319, 334, 337, 340, 346, 347, 350, 351, 352, 355, 356, 357, 361, 374, 380, 389, 390, 394, 396, 397, 398, 410–18, 440, 454, 475–6, 477, 483, 525, 527, 710, 754, 758, 760, 809, 822, 842–3, 850, 882, 897, 1017, 1018, 1027, 1048, 1058, 1150, 1153, 1157
 Winthrop, J. 99
 Witt, U. 4, 9, 12, 73, 75, 86, 94, 161, 162, 167, 168, 176, 316, 321, 322, 325, 326, 374, 389, 761, 999
 Wolff, E.N. 399, 584, 883
 Woo, J. 228
 Wood, E. 636, 638
 Wooldridge, M. 482
 World Bank 872
 World Trade Organization (WTO) trade barriers round (Seattle) 773
 Wright, D.M. 51
 Wrona, T. 170
 Wuyts, S. 1020
 Wyatt, S. 520
 Wymer, C. 556
 Yamamamura, K. 104
 Yildizoglu, M. 398, 412, 436
 Yli-Renko, H. 206
 Yoon, E. 190
 Young, A. 295, 338, 694, 695, 956
 Young, H.P. 1005, 1109
 Zadjenweber, D. 546
 Zaffaroni, P. 815
 Zaheer, A. 201, 205, 207
 Zajdenweber, D. 808
 Zander, U. 171, 174
 Zeuthen, F. 1088
 Zhang, J.Z. 188
 Ziman, J. 326, 327, 340
 Zimmer, C. 157
 Zollo, G. 186
 Zollo, M. 171, 267
 Zucker, L. 612, 614
 Zundel, S. 14, 117
 Zuscovitch, E. 369
 Zwick, R. 1083

