

---

# Index

---

- Activity Analysis* (Koopmans) 24  
adjusted net saving (genuine saving)  
    115  
Ahmad, N. 151  
Aldermashian, H. 474  
Allan, G.J. 338–40, 350  
Almon, Clopper 7, 16, 24–6, 160  
almost ideal demand system (AIDS)  
    362  
*The American Economy to 1975* 25  
Amores, A.F. 168, 391, 430  
Andrew, R. 409  
Antràs, P. 306, 314  
Arbel, A. 470  
Armington, P.S. 367  
Armstrong, A.G. 159, 166, 167  
Aulin-Ahmavaara, P. 231  
average propagation lengths (APLs)  
    305  
Azevedo, I.L. 346, 348
- Baboulet, O. 207  
Bacharach, M. 99  
balance of payments (BoP) 63  
balancing supply and use table 97–108  
    automatic procedures 107  
    basic identities 106  
    error-search procedures 107  
    plausibility and credibility, of data  
        106–7  
    sequential balancing 107–8  
    simultaneous balancing 107–8  
Balassa, B. 299  
Baldwin, Richard E. 278, 286, 300,  
    305, 313  
Baldwin, Robert 308, 309  
Balk, B.M. 238  
Basu, S. 375  
Bems, R. 320  
Bernard, A.B. 284  
bill of goods 9  
Black, M. 237  
Blair, P.D. 408
- Bouwmeester, M.C. 107, 196, 409  
Bowen, H.P. 310, 311  
Braschler, C. 429  
Briggs, F.E.A. 427  
Brown, D.M. 428  
Bullard, C.W. 425, 444, 454  
Bureau of Economic Analysis (BEA)  
    11  
Bureau of Labor Statistics (BLS) 15,  
    17, 29  
Burnside, C. 375  
Bussière, M. 320  
Byron, R.P. 99
- Campa, J. 281  
Canadian economy 396, 397  
carbon footprints 184–5  
Carroll, C.D. 367  
Carter, Anne 7, 16  
Carvalho, V.M. 320  
Cas, A. 231  
causal indeterminacy, instability  
    470–72  
Caves, D.W. 238  
Cella, G. 390  
Central Product Classification (CPC)  
    46, 49  
Champernowne, D.G. 99  
Chen, X. 281, 286  
Chiang, A.C. 476–8  
Christ, C.F. 423–5, 433, 453  
closed dynamic input–output system  
    468–9  
Ćmiel, A. 451  
Cobb–Douglas utility function 362  
Coelli, T. 238  
COICOP (Classification of Individual  
    Consumption According to  
    Purpose) 72, 73  
commodity-flow method 69–71, 129  
    *see also* product flow method  
commodity technology 29  
complementarity problem 387, 388

- computable general equilibrium (CGE)  
   model 27, 349, 355–70, 473  
   full-fledged CGE model 362–5  
   household consumption in 367–9  
   production and trade in 365–7  
   SAM multiplier model 361–2  
   static input–output approach 357–61  
 Conference on Research in Income  
   and Wealth (CRIW) 10  
 constant elasticity of substitution  
   (CES) model 363  
 COPNI (Classifications of the  
   Purposes of Non-Profit  
   Institutions Serving Households)  
   72, 73  
 Costinot, A. 313, 315  
 cost, insurance, freight (CIF) price  
   56, 66, 74  
 Cruz, J.B. Jr 474  
 cultural values 267–8  
  
 Daly, H.E. 342, 343  
 Danilov, D. 448  
 data envelopment analysis (DEA)  
   237–8, 381  
 Davis, D.R. 310–11  
 DEA 239, 398  
 De Backer, K. 295, 307  
 Debreu, G. 372, 382  
 Dedrick, J. 279  
 De la Cruz, J. 286  
 demand-driven environmental IO  
   model  
   footprint accounting 334–7  
   interregional input–output  
   framework 334–7  
   materials balance principle 341–3  
   polluting externalities, cleansing  
   industries 337–40  
   pollution generation and 332–43  
   single region/country framework  
   332–4  
 demand-side models 253  
 descriptive indicators 286–307  
   global economic structure,  
   perspectives 287–91  
   global value chain indicators  
   296–300  
   value-added exports indicators  
   301–7  
   vertical specialization indicators  
   291–6  
 De Vries, G.J. 282, 293  
 Dietzenbacher, E. 284, 286, 293, 297,  
   305, 426, 435–7, 445  
 Diewert, W.E. 237, 239, 382  
 Di Giovanni, J. 321  
 direct material consumption (DMC)  
   186  
 Dixon, P. 356  
 Doeksen, G.A. 409  
 Domar aggregation approach 234, 394  
 Domar decomposition 395–6  
 domestic commodity price 359  
 domestic extraction (DE) 186  
 Drivers-Pressure-State-Impact-  
   Response (DPSIR) framework  
   181, 191  
 Druckman, A. 345  
 dual price set 379–80  
 Duchin, F. 470  
 Dwyer, P.S. 422–3  
 dynamic inoperability input–output  
   model 477  
 dynamic input–output model  
   closed dynamic input–output system  
   468–9  
   dynamic Leontief models 469–72  
   extended models, environmental  
   account 474–5  
   growth model, integration 473  
   Leontief's 465–9  
   open dynamic input–output system  
   465–7  
 dynamic interaction effect 246  
 dynamic Leontief models 469–72  
   capital matrix, singularity of 470  
   causal indeterminacy, instability  
   470–72  
 dynamic variable input–output models  
   478  
  
 Ebiefung, A.A. 349  
 ecological footprint 181–4  
*Economic Census* 10, 14, 30  
 economic–environmental interaction  
   329, 330  
*Economic Systems Research* 6  
 economies, system of 386–8  
 economy–environment nexus 330–32

- Edmonston, J.H. 157
- efficiency change 233–6  
input–output framework 238–9
- emissions embodied in bilateral trade (EEBT) 203
- employees, compensation 46, 72
- employment sponge 245
- endogenous variables 410
- Engel's Law effect 251
- environmental accounting, history of 178–80
- environmental-economic accounting system 108–17  
accounts and tables 110  
monetary supply and use tables (SUTs) 110–16  
parts of 116–17  
physical supply and use tables (PSUTs) 110–16
- environmental economics 329–52
- environmental footprints 175–216  
aggregation error 196, 197  
bilateral trade methods 194–5  
business 206–7  
carbon footprints 184–5  
case studies 196, 198–216  
countries 198–202  
ecological footprint 181–4  
embodiment approach 178  
environmental impacts,  
environmental pressures 191  
goals and scope of 177–8  
historic analysis *versus* modeling 195  
households 207–8, 211  
indicators used in 181–8  
input–output framework,  
environmental extension 189–90  
land footprints 187–8  
life-cycle approaches 190–91  
link to policy 210, 212–16  
material footprints 185–7  
methodological frameworks 188–96  
multiregional input–output analysis 191–4  
of population 183  
production and trade coefficients 195  
product level 208–9  
subnational studies 203–4, 206  
trade 203  
trade, impacts 194  
water footprints 187
- environmental policies extension 398–402  
empirical applications 400–402  
theory 399–400
- equation nomenclature 188
- Ethier, W.J. 312
- European Emissions Trading System 336
- European System of Integrated Economic Accounts method 165
- Eurostat 151
- Eurostat Manual of Supply, Use and Input–Output Tables* 43, 48
- Evans, W.D. 422–4, 433, 453
- Extended dynamic Leontief models 472
- factor contents 224–8  
consolidated coefficients and 242–3
- Fally, T. 306, 314
- Färe, R. 238, 398
- Farrell, M.J. 372
- feasibility constraints 376–9
- Feenstra, R.C. 281–2
- Fernald, J. 375
- Fernández-Vázquez, E. 449, 450
- financial balance axiom 148
- First Law of Thermodynamics 111
- First Welfare Theorem 4
- Fisher, I. 234
- fixed capital, consumption of 72
- fixed industry sales structure assumption 139
- fixed product sales structure model 140
- Flâm, S.D. 434
- Foran, B. 207
- Ford, D. 350
- Forssell, O. 342
- FORTTRAN model 25
- Foster-McGregor, N. 293
- Foundations* (Samuelson) 24
- Fox, G. 439, 452
- free-on-board (FOB) price 56, 63, 66, 74
- F*-test 153
- full-fledged CGE model 362–5
- The Future of the World Economy* 23

- Gale, L.R. 350  
 Garhart, R. Jr 444  
 Gauss-Seidel solution algorithm 358  
 General Business Register 44, 67  
 general equilibrium analysis 355–70  
 generalized RAS method (GRAS) 107  
 Georgescu-Roegen, Nicolas 24  
 Gerking, S.D. 427, 428  
 Giarratani, F. 428  
 Gigantes, T. 159, 166  
 global economic structure 287–91  
 Global Trade Analysis Project (GTAP) 311  
 global value chains (GVCs) 286, 289, 295, 316, 319  
   indicators 296–300  
 Goicoechea, A. 433  
 Goldberg, L.S. 281  
 goods and services account 94, 96  
 greenhouse gas (GHG) emissions 184, 331  
 Greenhouse Gas Protocol Corporate Standard 184  
 gross domestic product (GDP) 43, 46, 47, 54, 125, 128, 278, 291, 360  
 Grosskopf, S. 238  
 gross national income (GNI) 116  
 gross value added (GVA) 45, 64, 71–2  
 Guan, D.B. 337  
 Guerra, A.I. 346, 348  
 Gurgul, H. 409, 451  
 Gustafson, E.F. 428
- Haimes, Y.Y. 477  
*Handbook of Input–Output Table  
 Compilation and Analysis* 27, 48  
 Hanseman, D.J. 428  
 Hansen, D.R. 433  
 Hanson, G.H. 281, 282  
 Harvard Economic Research Project (HERP) 7  
   beginning of 18–20  
   International Conferences 22–3  
   International Input–Output Association 22–3  
   Leontief and 15–17  
   1583 Massachusetts Avenue, offices 21–2  
   post-Harvard era 23  
   postscript 27
- Hawdon, D. 350  
 Heckscher–Ohlin models 277, 286, 308–12  
 Heckscher–Ohlin–Samuelson (HOS) model 308  
 Heckscher–Ohlin–Vanek (HOV) model 296, 310  
 Henderson, A. 424  
 Hertwich, E.G. 206, 207  
 Hewings, G.J.D. 409, 426, 479  
 Hillberry, R. 314  
 Hoekstra, R. 474  
 Hoen, A.R. 297  
 Hoffenberg, Marvin 10  
 household final consumption expenditure 47  
 Huang, Y.A. 206  
 Hubacek, K. 337  
 Hulten, C.R. 230, 232  
 Hummels, D. 288, 291, 294
- income account 94, 96  
 income–expenditure identity 378  
 index numbers 236–7  
 industry-by-industry input–output tables 125, 126, 139–40, 147–51  
   analytical potential 143  
   comparability 143  
   transparency 143  
 industry profits 377–8  
 industry technology assumption 152  
 industry technology model 138  
 inforum model 24–6  
 Inomata, S. 283  
 input–output accounting framework 135  
 input–output coefficients 1, 2, 5  
   construction of 133–71  
   *see also* input–output (IO) tables  
 input–output efficiency measures 486  
 input–output (IO) methods  
   energy rebound effects 344–8  
   physical waste and 344  
   price effects 348–50  
   problems of implementation 350–51  
   supply constraints 348–50  
   technology change 348–50  
   water and 343  
 input–output (IO) tables 7–37, 41–3  
   of Andalusia 154

- assumptions, testing 151–6  
 axiom fulfillment by 145  
 beginnings 7–15  
 choice of type of 141–3  
 consistency over time 31  
 constant price tables 31–3  
 construction, generalized forms  
   135–41  
 development of 1947 10  
 empirical evidence 154–6  
 EU practice 140–41  
 factual basis 30  
 industry-by-industry 139–40, 147–51  
 internal consistency 31  
 measurement problems 248–54  
 myths of 27–34  
 NAICS 14–15  
 prices, and income 248–54  
 product-by-product 137–9, 144–7,  
   152–4  
 purchasers' prices 156  
 purity 33–4  
 service industries,  
   interconnectedness 245–71  
 structural change 248–54  
   1958 table 11–12  
   1972 table 12–13  
   1963 and 1967 tables 12  
   1977, 1982, 1987 and 1992 tables  
   13–14  
   1997, 2002 and 2007 tables 14–15  
 technical coefficients 240–41  
 theoretical properties of 144–51  
   US Bureau of Labor Statistics 9–10  
 institutional factors 265–8  
 interindustry productivity differentials  
   248  
 Internal Revenue Service (IRS) 13  
 international fragmentation,  
   production process 316  
 International Input–Output  
   Association 22–3  
 International Merchandise Trade  
   Statistics (IMTS) 63  
 international trade 378–9  
   input–output analysis of 277–323  
   intersectoral inefficiency spillover 391  
   investment irreversibility 465  
 IO-based general equilibrium analysis  
   372–404  
 allocative efficiency 390  
 behavioral assumptions 375–6  
 competitive pressure and welfare  
   distribution 392–3  
 complementarity analysis 382–8  
 constant returns to scale (CRS) 375  
 data and fundamentals 374  
 of efficiency 373–82  
 efficiency decompositions 389–90  
 efficiency types 388–93  
 environmental policies 398–402  
 feasibility constraints 376–9  
 free trade gains 388–9  
 frontier analysis, distance functions  
   and efficiency 379–82  
 industrial organization efficiency  
   391–2  
 industrial specialization efficiency  
   391–2  
 industry efficiency and spillovers  
   390–91  
 linear programming 382–8  
   technology 375  
   TFP growth 393–8  
   trade efficiency 390  
   welfare effects 388–93  
   X-efficiency 390  
 Isard, W. 282, 342, 343  
 Ishii, J. 288  
  
 Jackson, R.W. 411, 441, 452  
 Jackson, W.R. 409  
 Janssen, M.A. 474  
 Jensen, R.C. 444, 453  
 Johansen, L. 356  
 Johnson, R.C. 301–2, 304, 320, 321  
 Jorgenson, D.W. 356, 469  
  
 Kagawa, S. 379, 400, 401  
 Karstensen, J. 446  
 Keynes, J.M. 365  
 Kiedrowski, R. 471  
 Kockläuner, G. 428  
 Konijn, P.J.A. 161, 163, 166, 169  
 Koopman, R. 286, 293, 295, 296, 299,  
   305  
 Kop Jansen, P.S.M. 144–5, 151, 161,  
   169, 409, 436–8, 453  
 Kostreva, M.M. 349  
 Kratena, K. 356

- Krugman, P.R. 312  
 Kurz, H.D. 473  
 Kymn, K.O. 409  
 Kyoto Protocol 398, 400
- labor market institutions 266–7  
 labor productivity 228  
 Lahiri, S. 434–5  
 Lahr, M.L. 409  
 land footprints 187–8  
 Lange, G.-M. 350  
 Lantner, R. 475  
 Larsen, H.N. 206, 207  
 Leamer, E.E. 310  
 Lecca, P. 345, 346  
 Lennox, J. 409  
 Lenzen, M. 141, 196, 206, 207, 331, 350, 409, 445, 446  
 Leontief-Duchin-Szyld model 473  
 Leontief inverse 3, 5, 190, 193, 223, 225–7, 232, 242, 243, 256, 277, 358, 431, 432, 439  
 Leontief, W. 1, 2, 15–17, 133, 180, 242, 279, 286, 308–10, 320, 332, 337, 339, 340, 350, 465–9  
 Levchenko, A.A. 321  
 Levine, S.H. 475–6  
 Lian, C. 477  
 Liew, C.J. 478, 480  
 Liew, C.K. 478  
 life-cycle assessment (LCA) 176, 190, 409  
 linear expenditure system (LES) 356, 370  
 Little, C.H. 409  
 Lopez-Gonzalez, J. 300, 305  
 Los, B. 282, 293, 297, 300, 320, 473  
 Lowe, I. 183  
 Luenberger, D.G. 470  
 Luengo-Prado, M.J. 367, 369  
 Lugovoy, O. 449
- Machado, A.C. 180  
 Magnus, J.R. 448  
 Mangasarian, O.L. 163  
 Maskus, K.E. 310  
 material footprints 185–7  
 materials balance principle (MBP) 341–3  
 Matthey, J. 169, 430
- McCamley, F. 432, 438, 453  
 Meade, D.S. 2  
 Meade, J.E. 99  
 Melitz, M.J. 284, 312, 317  
 Meng, B. 283  
 Mickle, M.H. 474  
 micro-based national accounting 485  
 Miernyk, W.H. 407, 428  
 Miller, R.E. 107, 180, 408, 446  
 Minx, J. 336  
 Miroudot, S. 295, 307  
 Mohnen, P. 239, 242, 309, 389, 396  
 Monte Carlo analysis 411, 443–7  
 Morimoto, Y. 409  
 Morrison, C.J. 239  
 Morrison, W.J. 422  
 Mules, T.J. 475  
 multipliers 224–8  
 multiregional input–output (MRIO) analysis 3, 191–4, 203  
 multiregional IO studies 20  
 multiregional variable input–output (MRVIO) model 478  
 Munksgaard, J. 336  
*mutatis mutandis* 261
- national accounts 1, 5  
 input–output tables 43–50  
 supply and use 43–50  
 supply and use framework of 41–129  
 supply tables 56–64  
 tables, types of 45  
 use table 64–74  
 valuation matrices 75–87  
 National Accounts Review (NAR) 11  
 National Bureau of Economic Research (NBER) 8, 9  
 National Income and Product Accounts (NIPA) 15  
 negative product technology coefficients 157–63  
 activity technology model 161  
 Almon procedure 160  
 Armstrong procedure 159–60  
 non-negativity conditions 163  
 Rainer procedure 160–61  
 rectangular matrices 163  
 Stahmer procedure 161–2  
 Steenge procedure 161  
 United States procedure 162–3

- Nestor, D.V. 340  
net operating surplus 72  
Neumann expansion, differential operator 26  
Nijkamp, P. 451  
Noguera, G. 301, 302, 304  
Nomaler, Ö. 307  
non-profit institutions serving households (NPISHs) 47, 64, 73  
North American Industry Classification System (NAICS) 14–15
- Office of Business Economics (OBE) 11  
offshoring 268  
Okuyama, Y. 476  
Oosterhaven, J. 196, 305, 409  
open dynamic input–output system 465–7  
ordinary least squares (OLS) 427  
Organisation for Economic Co-operation and Development (OECD) 151, 284
- Pan, H. 349, 377, 392  
Park, S.-H. 424, 425, 444  
Pasinetti, L. 297  
Pasarurka, C.A. 340  
Pearson, P. 350  
Pedersen, K.A. 336  
Pei, J. 286  
Perkins, D.H. 282  
Peters, G.M. 207  
Peters, G.P. 214, 409  
Petroeschovsky, A. 183  
Pica, G. 390  
polar decompositions 262, 263  
polarization condition 266  
Polenske, K.R. 342  
price differentiation 359  
probability density function (PDF) 411, 439–43  
product-by-product input–output tables 122–4, 137–9, 144–7, 151, 152–4, 485  
input structure 143  
product flow method 129  
production account 94, 96  
production factors 377  
production matrix 58–60  
production possibility set 379  
productivity 224  
input–output framework for 254–8  
input–output framework of 229–33  
observed prices 241–2  
shadow prices 241–2  
productivity growth 225, 228  
product market competition 267  
product price invariance 148  
product technology assumption 152, 153  
product technology model 138, 147  
resources and timeliness 143  
product-to-product (PTP) algorithm 33  
Pyatt, G. 355, 357, 369
- Quandt, R.E. 431, 432, 443  
quantity equation 133, 144  
Quirk, J. 439, 452
- Rainer, N. 160  
Rao, D.S.P. 238  
raw material consumption (RMC) 186  
raw material equivalents (RME) 186  
rebound value 344  
Rees, W.E. 183  
regional purchase coefficients (RPCs) 444  
Reimer, J.J. 311  
relative standard deviations (RSDs) 446  
residual sum of squares (RSS) 153, 154  
Rey, S.J. 447  
Richter, J. 160  
Rickman, D.S. 449  
Robinson, S. 364, 365  
Rodrigues, J.F.D. 449  
Rodriguez-Clare, A. 315  
Roland-Holst, D. 445  
Romanoff, E. 475–6  
Romero, I. 305  
Rose, Adam 486  
Rueda-Cantuche, J.M. 141, 144, 147, 151, 154–5, 157, 168–9, 430, 445, 450  
Rymes, T.K. 231

- Sahoo, A. 393  
 Salvadori, N. 473  
 Sancho, F. 346, 348  
 Satchell, S. 434, 435  
 scale invariance 149  
 Schäfer, D. 340  
 Schilderink, J.H.F. 283  
 Schumpeter, J. 241  
 SCOP (Scientific Computation of Optimum Programs) 10  
 Sebal, A.V. 425, 444, 454  
 secondary outputs treatment  
   approaches 163–7  
   inputs and outputs transfer,  
     methods 166–7  
   transfer of outputs, methods 165  
 Second Law of Thermodynamics 111  
 Second Welfare Theorem 4  
 sector accounts 89–97  
 sector-by-industry table (cross-table)  
   97  
*SEEA Applications and Extensions* 116  
 Selden, Richard 24  
 service industries interconnectedness  
   245–71  
 service industries, value added 248–54  
   incomes and tertiarization 251–3  
   price and income elasticities 249–50  
   price changes and interindustry  
     productivity differentials  
     250–51  
   service growth and measurement  
     issues 248–9  
   structural change and long-run  
     growth 253–4  
 Sherman, J. 422  
 Shestalova, V. 233, 239, 350, 373, 377,  
   379, 396, 397, 401, 447  
 shift effect 246  
 shift-share analysis 246  
 Sikdar, C. 389  
 Simonovits, A. 433, 434  
 Simpson, R.W. 183  
 single closed economy 383–5  
 small open economy 385–6  
 social accounting matrix (SAM) 348,  
   355, 369, 370, 374  
   multiplier model 361–2  
 social metabolism 185  
 Solow residual 394  
 Solow, R.M. 230, 236, 464, 469, 471  
 Sonis, M. 426, 479  
 Sorrell, S. 344  
 Sraffa, P. 8, 348  
 Stadler, K. 196  
 Stahmer, C. 161, 162, 340  
 Statistical Office of the United Nations  
   42  
 Steel, M.F.J. 436  
 Steenge, A.E. 161, 163, 166, 169,  
   471–2, 478  
 Steen-Olsen, K. 196, 207  
 Stehrer, R. 293  
 Stevens, B.H. 409  
 Stone method 167  
 Stone, Richard 5, 42, 99  
 Streicher, G. 356  
*The Structure of American Economy* 9  
*Studies in the Structure of the American  
 Economy* 19  
 supplementary tables 14  
 supply and use tables (SUTs) 48–55,  
   357, 430  
   balancing 97–108  
   for domestic output and imports  
     88, 90  
   fixed industry sales structure  
     assumption 119, 122  
   fixed product sales structure  
     assumption 119, 122  
   industry technology assumption 119  
 IO tables in practice, use of 128–9  
 product technology assumption 119,  
   122  
 sector accounts 89–97  
 symmetric input–output tables  
   transformation 117–29  
 transformation, database for 117–19  
 transformation models, (IO)  
   framework 119–27  
 supply-side accounts 250  
 supply tables 56–64  
   compilation of 58  
   goods and services imports,  
     compilation 60–63  
   production matrix, compilation  
     58–60  
   and valuation matrices 83, 84  
   valuation matrix, compilation 63–4  
   *see also* supply and use tables



- supply-use-based econometric (SUBE) approach 430
- Sveikauskas, L. 310
- Swan, T.W. 464
- symmetric input–output tables 49, 50
- System of Environmental-Economic Accounting 2012 – Central Framework* (SEEA Central Framework) 108–10, 116
- System of National Accounts (SNA) 109
  - balancing process 99
  - brief history of 41–3
- System of National Accounts 2008 (SNA 2008) 41
- Szyld, D.B. 470, 471
- Takayama, A. 468, 470, 471
- Tamba, M. 346
- taxes less subsidies 72
  - products 79–83
- technical change 233–6
- temporal decomposition technique 479
- Temurshoev, U. 107, 446, 450
- Ten Raa, T. 144, 145, 147, 151, 154–5, 157, 160–61, 167–9, 225, 233, 239, 240, 242, 243, 308, 309, 350, 373, 376, 377, 379, 382, 389–93, 396, 401, 429–30, 436–8, 447, 450, 453, 470, 475
- terms-of-trade effect 394–6, 398
- tertiarization 258–65
  - Baumol disease 264
  - employment analysis and vertical integration 261–4
  - productivity gains, industries 260–61
  - service productivity 264
  - servitization, goods and services 265
- Thage, B. 151
- Thissen, M.J.P.M. 471, 472, 478
- Thomas, B.A. 346, 348
- Thorlund-Petersen, L. 434
- time lag production model 476
- Timmer, M.P. 282, 293, 297, 299, 300
- Törnqvist, L. 234
- total factor productivity (TFP) growth 229–34, 248, 257, 258, 261, 311, 366, 393–8
  - behavioral assumptions 235
  - data 235
  - data envelopment analysis 237–8
  - defined 395
  - definition of 235–6
  - empirical applications 396–8
  - index numbers 236–7
  - mainstream approaches to 236–8
  - Solow’s residual 236
  - technology 235
  - theory 394–6
- total material requirements (TMR) 186
- Trade in Value-Added (TiVA) database 284, 286
- trade issues
  - global input–output tables 282–6
  - increasing, in intermediate inputs 279–82
  - input–output data 279–86
- trade margins 76–8
- trade, offshoring and 268
- trade theories, testing 308–16
  - Heckscher–Ohlin models 308–12
  - inter-industry trade and producer heterogeneity 312–13
  - internationally fragmented production 313–16
- transport margins 78–9
- Trefler, D. 296, 310–12
- Tukker, A. 284
- Turner, K. 336, 337, 344
- two-earner households 267–8
- two-stage least squares (2SLS) estimators 427, 428
- uncertainty treatment 407–56
  - Bayesian and entropy approaches 447–50
  - deterministic error analysis 420–26
  - econometric statistical approaches 426–31
  - input–output uncertainty 407–10
  - literature, roadmap and macro-overview 410–12
  - Monte Carlo analysis 443–7
  - non-Bayesian/cross entropy statistical approaches 426–31
  - probabilistic approach 431–9
  - probability density function 439–43

- random error analysis 431–9
- scope of survey 407–10
- sources and solutions, notations and details 412–20
- UN *Handbook of Input–Output Compilation and Analysis* 141
- United Nations Intergovernmental Panel on Climate Change (UNIPCC) 175
- United Nations Statistical Commission (UNSC) 42
- United Nations System of National Accounts 1
- UNIVAC I 24–6
- UN Revised System of National Accounts 157
- use tables 64–74
  - compilation of 67
  - exports, goods and services 74
  - final consumptions expenditure 72–3
  - gross capital formation 73–4
  - gross value added 71–2
  - input approach 67–9
  - intermediate consumption 71
  - matrices 64
  - objectives 64
  - output approach 69–71
  - and valuation matrices 83, 85–7
  - see also* supply and use tables
- valuation matrices 63–4, 75–87
  - and supply table 83, 84
  - taxes less subsidies 79–83
  - trade margins 76–8
  - transport margins 78–9
  - and use table 83, 85–7
- value-added exports (VAX) indicators 286, 289, 301–7
- value change 100
- value of output 100
- value of supply 100
- Van der Linden, J.A. 305
- Van der Ploeg, R. 161, 429
- Vanek, J. 310
- Van Tongeren, J.W. 448
- variable input–output (VIO) model 478
- Venables, A.J. 313
- Verspagen, B. 307
- vertical specialization (VS) indicators 286, 291–6
- Victor, P.A. 341, 342
- virtual water 343
- Vogel, J. 313
- Vogt, W.G. 474
- Von Bortkiewicz, L. 8
- Wackernagel, M. 183
- Wainwright, K. 476–8
- Walras, Leon 8
- Wang, S. 313
- Wang, Z. 286, 293
- Watanabe, T. 283
- water footprints 187
- Waugh, F.V. 422, 423
- Weinstein, D.E. 310, 311
- Wei, S.-J. 286, 293
- welfare state 266–7
- West, G.R. 355, 356, 409, 425, 435, 436, 444, 452
- Wiedmann, T. 336
- Wilting, H.C. 446
- within-industry effect 246
- Wolff, E.N. 230, 242, 243, 297
- Woodbury, M.A. 422
- Wood, R. 196, 207
- World Bank 116
- World Input–Output Database (WIOD) 281, 293, 294, 300, 307, 317, 351
- Wurtele, Z.S. 472
- Yamano, N. 151
- Yang, C. 286
- Yi, K.-M. 288, 315
- Young, A. 162
- Zhang, J.S. 473
- Zhang, Y. 283
- Zhu, K. 293
- Zhu, S.C. 296, 311, 312



