



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

AGRICULTURAL COMPETITIVENESS: MARKET FORCES AND POLICY CHOICE

PROCEEDINGS
OF THE
TWENTY-SECOND
INTERNATIONAL CONFERENCE
OF AGRICULTURAL ECONOMISTS

*Held at Harare, Zimbabwe
22–29 August 1994*

Edited by
G.H. Peters, International Development Centre,
Queen Elizabeth House, University of Oxford, England
and
Douglas D. Hedley, Agriculture and Agri-Food, Canada

INTERNATIONAL ASSOCIATION OF
AGRICULTURAL ECONOMISTS
QUEEN ELIZABETH HOUSE
UNIVERSITY OF OXFORD

1995

Dartmouth

INDEX

N.B. Page references to tables are in bold

- Abidogun, A. 547
Abler, D.G. 277, 513
Acharya, S. 397
Ackello-Ogutu, C. 591, 632
Adams, G. 267
adjusting and transition economies 176–80
Africa
 Adjustment Study (AAS) 227, 228, 246–7
 agricultural development and human capital 540–52
 CFA (Communauté financière d’Afrique) 229, 231
 compared with Asia 409–10
 compared with China 65–7, 201–7, 243–5
 decline 228–9
 domestic macroeconomic and sectoral policies 70–1
 ‘green revolution’: prospects 64–7, 408–9
 growth 62–3, 69–74
 human capital and agricultural development 540–52, 623–7
 International Livestock Centre for 446
 international trade policies 71–2
 irrigation 364
 land tenure 351
 MVs 63–4, 75
 new technologies 63–4, 364, 364–5, 370–5
 policy environment 545–6
 positive influences 543–4
 recovery 61–75
 reforms 131–2
 regional markets and trade policies 72–4
 sexual division of labour 388
 technological challenges 63–9, 143–4
 transformations: promotion strategies 204–6
 underdevelopment: root causes 542
 women 388, 397, 631
 see also Africa, humid and sub-humid tropics; Central Africa; Eastern and Southern; North Africa; sub-Saharan Africa; West Africa; *individual countries*
Africa, humid and sub-humid tropics (HST) 140, 447–8
 infrastructure 64–7, **65**
 population 66–7
 technologies needed 67–9
African Development Indicators 454
Agarwal, B. 391
agricultural development and competitiveness 738–41
agricultural development, sources of, and shifters of comparative advantage 741–3
agriculture, global, in transition 737–8
Ahmed, I. 389
Aho, C.M. 54
Ahsan, S.M. 246
Ainsworth, M. 537
Alam, M.D. 475
Albania 26, **28, 31**, 32, 177
 and reform **379**, 380, 381, **381**, 382, **382**
Alderman, H. 339, 353, 577
Alesina, A. 279, 281, 282, 321
Ali, M. 555, 556, 557, **559**, 560, 561, 567, 687, 688, 692, 693
allocative policy patterns 278–9
Alston, J.M. 283, 639, 645, 646, 650, 726, 727

- Alston, L.J. 277
 Alvarado, F. 466
 Anbar, D. 264
 Andean Pact 53
 Anderson, J.R. 64, 69, 639, 647, 649, 650, 687, 726, 727
 Anderson, J.R., *et al.* 688
 Anderson, K. 10, 12, 72, 111, 114, 119–21, 123–4, 148–9, 150–1, 275–6, 310, 328, 377, 404
 Anderson, T.L. 186
 Antholt, C.H. 696
 Anthony, K. 364, 371
 Antle, J.M. 561, 574, 649
 Arab countries *see* North Africa and the Middle East
 Argentina 49, 122, 133
 adjustment 217, 220, 221
 ARGRE 197
 Aristotle 159, 174
 Armenia 27, 29
 Arnade, C.A. 356
 Arrow, K.J. 272, 419
 ASEAN countries 53, 355–63, 361–3, 362
 Asia
 adjustment 246
 compared with Africa 409–10
 crop diversification 370
 education and farm productivity 554–67, 628–9
 ‘green revolution’ 365–70
 growth 622
 MVs 364
 NARS (national agricultural research systems) 685–98, 732–3
 new technologies 364–71, 364–73, 375
 price and output changes 309
 research, present and future 687–8, 694–6
 rice industry 182–3, 365–70, 366, 368, 369
 technical change: phases 686–7
 technical inefficiency: causes 558–9
 transforming socialist economies 121
 women 388, 389, 389, 391, 393
 see also individual countries
 Aube, T. 58
 Australia 49, 309, 310, 312–13, 639, 649
 Avery, D.T. 492
 Aw, E. 397
 Axelrod, R. 166, 168, 170
 Azerbaijan 27
 Azhar, R.A. 561, 562
 Bacha, C.J.C. 477, 479, 480
 Bacon, F. 621
 Badiane, O. 61, 71, 73, 74, 75, 140, 143–4, 409
 Baker, D.C. 364, 371, 630
 Balassa, B. 73, 84, 91
 Balasubramanyan, V. 81, 85
 Baldock, D. 424
 Baldwin, R.E. 277
 Bale, M.D. 72
 Ball, V.E. 358, 652, 653, 727, 742
 Baltic states 28, 30, 378, 442
 environmental policy 436–42
 transition to market economy 439–42
 see also Estonia; Latvia; Lithuania
 Bangladesh 368, 369, 408, 562, 566, 579
 women 389, 390, 391, 393, 394, 398
 Bardhan, P.K. 278, 281, 283, 289, 329, 332, 349, 403–4, 686
 bargaining models 261–71
 see also game-theoretical approaches
 Barker, R. 697
 Barney, J. 99, 100, 101
 Barro, R.J. 281, 292, 300, 301
 Barros, A.A.A. de 477
 Barrows, R. 456
 Bartelheimmer, P. 420
 Bateman, J. 417, 418
 Bates, R. 220
 Battese, G.E. 560, 567
 Baumol, W.J. 172
 Bautista, R. 70, 112
 Bauwens, L. 84, 91
 Beard, D.W. 108
 Beard, N. 421
 Beaufoy, G. 424
 Becker, G.A. 537
 Becker, G.S. 317, 175, 256, 274–5, 276, 283, 543
 Beckerman, W. 419
 Beghin, J.C. 282, 287, 290, 318, 319, 320, 321
 Behnke, R.H. 452, 456
 Behrman, J.R. 536, 570, 578, 585, 586
 Beilock, R. 174
 Belarus/Belorussia 26, 27, 36, 439
 and reform 379, 381, 384
 Belbase, K. 559
 Belgium 276, 423
 Belgium and Luxembourg
 research and development 666

- TFPs 653, **654**, 655, 657, **658**, **659**,
660, 661, **661–2**, 729
- Belize 388
- Bell, C. 293
- Benin 62, **65**, 218, 617
- Benjamin, D. 578
- Berg, E.J. 216, 611, 614, 615
- Berg Report 228
- Berger, M. 397
- Berndt, E.R. 676
- Besley, T. 349, 350, 352
- Bhaduri, A. 331
- Bhagwati, J. 126, 132, 133, 137, 274
- Bhalla, A.S. 188, 245
- Bhargava, A. 657
- Bhat, M.G. 516–17
- Bhati, U.N. 562
- Bheenick, R. 217
- Binmore, K. 265
- Binswanger, H.P. 10, 63, 75, 293, 337,
350, 695
- Bishop, K.D. 429, 430
- Bishop, R.L. 272
- black market 292–3
- Blaine, T.W. 419
- Bliss, C. 538, 588
- Block, S. 68
- Bobiliev, S. 439
- Bohn, A. 690, 691
- Bohr, N. 165
- Bolivia 133, 246, 395
adjustment 213, 214, 217
- Bonnieux, F. 424
- Borner, S. 288, 290, 292, 293
- Boserup, E. **168**, 387, 444, 450
- Bossuyt, J. 610, 614, 617
- Botswana 62, 213–14, 392, **592**
- Bottomley, P. 652, 656
- Bouchet, F.C. 656, 673
- Bouis, H. 578, 580
- Boulding, K. 158, 175
- Bourgeois, L.J. 106
- Boussard, J.–M. 147–8
- Bowes, M.D. 417
- Braun, J. von 398, 629, 631
- Brautigam, D. 288
- Braverman, A. 385, 496, 518
- Brazil **49**, **389**
adjustment 220, 221
forests and reforestation 477–84, 492,
515–16
health and productivity 572–4, **573**,
580, 585, 586, 630, 631
- Bredahl, M.E. 79
- Breman, H. 451
- Brezis, E. 297
- Britain *see* UK
- Bromley, D.W. 180, 431, 455
- Brooks, K. 32, 34, 377, 385
- Buckley, J. 293
- Bulgaria **23**, 26, **28**, **31**, **36**
and reform **379**, 380, **381**, **382**
- Bullock, B. 79
- Bullock, D.S. 277
- Bumb, B. 188
- Bureau, J.–C. 652, 653, 727, 742
- Burkina Faso 62, 172, 372, 374, 460
adjustment 217, 218, 221, 222
crops 607, 612
education and training 611, 617
women **394**, 395
- Burundi 62, 179, 231–7, 388
- bush fallow systems 449
- Bush, President G. 134, 155
- Butt, M.S. 561, 562
- Buvinić, M. 394, 395, 397
- Buyck, B. 608
- Byerlee, D. 63–4, 74, 370, 554–7, 559–
61, 566–7, 628, 685–7, 689–93,
698, 731–2
- Calkins, P.H. 155–72, 208, 224, 743
- Cambodia 121
- Cameroon **65**, 550, 617
adjustment 217, 231
women 388, **389**, 390, **394**, 398–9
- Canada **49**, 172, 620
Agriculture Canada (report) 98, 105,
306
food industry 98, 105, 108
grain sectors 311–13
land degradation 639
price and output changes **309**, 310
'supply management' 306, **306**, **307**,
311–13
trade 53, 133
- Cano, G. 706
- Cantwell, J. 83, 90
- CAP (Common Agricultural Policy) *see*
under European Community/Union
- Capalbo, S. 652
- Cape Verde 617
- Capule, C. 689
- CAR (Central African Republic) **65**,
389
- Cardwell, V.B. 649

- Caribbean
 trade **51**, 127, 129, 134
see also Jamaica; Latin America and Caribbean
- Carlson, G.A. 561
- Carr, M. 398
- Carr, S.J. 68
- Carson, R.T. 419
- Carter, C. 283
- Carter, M. 456
- cassava production 717–24, **719**, **722**
- Cassman, K.G. 692
- Castles, F.G. **300**, 302
- Castrogiovanni, G.J. 104, 105
- Cavallo, D. 11
- Caves, D.W. 652
- Central Africa 445, **446**
- Central African Republic (CAR) **65**, **389**
- Central America 134, 182, 390, 622
see also Belize; Costa Rica; Guatemala; Honduras
- Central Asia 26
- Central and Eastern Europe **49**, 50, 122
 and EC/EU 119–21
 farm restructuring 30–2
 future prospects 22–40, 36–40
 GDP growth rates **379**
 global role **23**
 land privatization 25–6, **27–9**, **28–9**,
 30–6, **32**, **34**
 macroeconomic transformation 378–82
 output **381**, **382**
 reforms and reform stages **23**, 378
 restructuring 382–3
 rural areas and economic change 377–
 86
 trade **51**, 54–5
 transforming economy 176, 383–6
see also individual countries
- CFA (Communauté financière d’Afrique)
 229, 231
- CGE (computable general equilibrium)
 model 465, 468–75
- CGIAR (Consultative Group on International Agricultural Research) 703
- Chad 62, 155, 161
 crops 607, 612
- Chainuvat, C. 717, 719, 720, 723
- Chalfant, J. 347
- Chao, E.C. 561
- Chaudri, D.P. 543
- Chenery, H. 210
- Chibbaro, A. 127
- Chile **49**, 122, 133, 246, 390
 adjustment 212–15, 217, 220–3
 trade 55–6, 134, 217
- China 65, **112**, 159–60, **164**, 172, 181
 and capitalism 167
 compared with Africa 65–7, 201–7,
 243–5
 compared with India 186–9
 crop–breeding research 689, 690, 691,
 694, 696
 education 562
 growth 181, **540**, 622
 life expectancy 620
 political upheavals 180
 post–green revolution 697
 success 282
 trade 48, **49**, 50, **51**
 transformation 121, 122, 123, 176,
 177, 193–7
- Chisholm, A.H. 649
- Christian, D. 312
- CILSS 617
- CIS/former USSR 27, **49**, 50, 120–1,
 179, 439
 and capitalism 167
 exports **51**
 land ownership 26, **27**, 30, 31, 38
 and reform 378, 380, 381, **382**, 383,
 384
 trade 54–5
see also individual countries
- Clark, C.W. 491
- Cleaver, K.M. 66, 444, 453, 454, 455,
 460, 612
- Cloud, K. 388
- CMEA (Council for Mutual Economic Assistance) 54
- Coase, R.H. 99, 429, 431
- Cobb, S.L. 561
- Cocks, D. 649
- Coe, D.T. 656
- Coelli, T.J. 560
- Coeymans, J.E. 224
- Coffin, H.G. 98
- Cohen, J.M. 610, 614
- Colman, D. 425, 429, 430, 509
- Colombia
 growth 133
 research and development 704, **705**,
 706–8, **708**, 710–11, 713–15
 trade 134
 women 389
- Commander, S. 212, 214

- Commons, J.R. 99
 compensation principle 313
 competitive markets as non-optimal 16–17
 competitiveness 130–1, 142–3
 and advanced economies 110–24
 aggregation and 106–7, **106**
 complexities 145–6
 concepts 79–81
 data availability and 107–8
 determinants 111, **112**, 113, 346–7
 firm level, public policy and 105
 government intervention and 349–53
 indices 83–5
 influence of past policy trends 113–14
 and market failure 346–7
 new agreements 110–24, 148–9
 new strategic management approach to 98–108
 policy reforms, recently announced, and 114–17, **116**, **118**, 119–22
 in presence of transaction costs 344–6
 regimes of **345**
 resource-based theory 99–107
 vis-à-vis welfare 343, 347–9, **348**
 Congo 64, **65**
 Conner, K.R. 99, 102
 Coombe, T. 593
 Cooper, A. 655
 Corbo, V. 212, 213, 214, 220
 Costa Rica 161, 513–14
 adjustment 217
 computable general equilibrium (CGE) model 468–75, **470–4**, 514
 deforestation 466–8
 environmental issues 465–8
 tariffs 467, 471–2
 trade 134, **471**
 women **389**, 390
 Côte d'Ivoire 62, **65**, 70, 455, 372
 adjustment 215, 221, 231, 232, 233, 235, 236, 237, 248, 249
 education and training 611, 617
 human capital stocks 526–38, 619–20
 women 390, 398
 Cotlear, D. 557
 credit interventions 15
 Croci–Angelini, E. 407
 Croize, J.C. 419
 Cropper, M.L. 419, 491
 Crosson, P. 647, 649
 Crouch, G.I. 419
 Cruz, M.C. 467, 468
 Csaki, C. 22, 31
 culture-based transactions costs variables 291
 Cyclor, D. 201
 Czech Republic 26, **28**, 36
 and EU 119–20
 and reform 378, **379**, 380, **381**, **382**, 384
 as state 179
 Czechoslovakia/Czechoslovak Federal Republic **23**, **31**, **382**
 see also Czech Republic; Slovak Republic
 Dahl, R.A. 257
 Dalrymple, D. 689
 Daly, H. 467
 Dasgupta, P. 570
 David, C.C. 364–9, 375, 629, 689, 697
 Davies, S. 85, 92
 Dawson, P.J. 560
 Deardorff, A.V. 111, 355
 Deaton, A. 339
 DeCanio, S.J. 185
 Deere, C.D. 392
 deficiency payments 10, 20
 Deininger, K. 727
 Delgado, C.L. 62, 70, 364, 371, 372, 408, 451, 457, 608, 610, 617
 Della Pappa, F. 420, **421**
 Demsetz, H. 102
 Denizet, J. 172
 Denmark **421**, **423**, **666**, 667
 TFPs **654**, 655, **658**, **659**, 660, 661, **661–2**, 665, 729
 Deolalikar, A. 578, 584, 585, 586
 Dess, G.G., 108
 developing countries, trade relations 126–37
 the future 132–3
 Dey, J. 388, 391
 Diarra, S. 216
 Diewert, W.E. 653, 672
 Dioné, J. 219, 605, 606, 607, 633
 Diouf, M. 73
 discussants, taxonomy of 141–2
 disruption–distortion locus 268, **268**
 distributive policy patterns 275–8, 278, 279
 Dixit, P.M. 309, 310
 Dixon–Mueller, R. 388, 389
 Dominiquez, J.I. 281
 Dornbusch, R. 472

- Dovring, F. 210
 Downs, A. 256, 275, 276
 Dowrick, S. **300**, 302
 Drake, L. **421**, 422
 Drori, S. 496
 Dubgaard, A. **421**
 Due, J.M. 390
 Dumsday, R.G. 649
 Dunning, J.H. 81, 82, 85, 90, 91, 97, 146
 Duraisamy, P. 543, 544, 561, 562
 Duvick, D.N. 690
 Duzinkas, R. 436, 509, 510
- EAI (Enterprise for the Americas Initiative) 134–5
 East Asia 133, 182
 education 563, **564**, 565, 566
 exports **51**
 growth 62, 133
 land reform 185
 medical personnel **542**
 reforms 121–2
 trade 129
 see also individual countries
 Easterly, W. 337
 Eastern Europe *see* Central and Eastern Europe
 Eastern and Southern Africa (ESA) 63, 74, 364
 agroecological zones **446**
 and Asia 373
 economists' training 591–603, 632–3
 infrastructure 75
 settler economy 220
 universities 591–3, **592**
 see also South Africa; Southern Africa
 Eberstadt, N. **170**
 EC *see* European Community/Union
 ECE (Economic Commission for Europe) 378, 383
 Echeverría, R. 652, 664, 709
 Eckstein, Z. 519
 economic performance, institutions/
 public policies and 280–2
 Economist Intelligence Unit *see* EIU
Economist, The 380
 economists, agricultural, challenges
 confronting 736–7
 Ecuador, research and development 704, **705**, 706, **708**, 710, 712–15
 education, global comparisons **541**, **564**
 Edwards, S. 212, 213, 221, 223, 298, 302
 EFTA (European Free Trade Area) 117, **118**, 119
 Eggertson, T. 283
 Egypt 391
 Ehui, S.K. 444, 455, 512, 649
 Eicher, C.K. 364, 371, 551, 606, 608, 611, 612, 613, 614, 617, 630
 Eire **423**, **666**, 667
 TFPs **654**, 655, 657, **658**, **659**, 660, 661, **661–2**, 668
 Eisenhardt, K.M. 99
 EIU (Economist Intelligence Unit) 213, 214, 216, 293
 1993a: 213, 214
 1993b: 213
 1993c: 214, 216
 El-Farhan H. 228
 Elabour–Idemudia, P. 396
 elasticities of resources 13–14
 Elbadawi, I. 633
 Elliott, H. 701, 733
 Emel'ianov, A. 384
 Emerson, R. 174
 empirical cross-country studies, theoretical underpinnings 296–8
 empirical methodologies 298–9, **300**, 301–2
 English, J. 460
 Equatorial Guinea **65**
 ERS USDA 383, 384
 Estonia
 environmental policies 437, 441
 and reform **379**, **381**
 Eswaran, M. 349
 Ethiopia 457
 university **592**, 597–8, **598**, 602–3
 EU *see* European Community/Union
 Europe
 amenity 728
 Economic Commission for (ECE) 378, 383
 food and agricultural production **382**
 medical personnel **542**
 'new' 54
 productivity 652–68
 trade 128
 'United States of' 664–5
 European Community/Union (EC/EU) **49**, 282, 380, 668
 and agriculture 327
 CAP (Common Agricultural Policy) 117, 119, 149–50, 282, 328
 and Central and Eastern Europe 119–21

- cointegration tests **658, 659**
 countryside stewardship 419–20, **421**,
 422, **423**
 expansion 55
 exports **51**
 food industries 79–97
 grain sector 312–13
 market distortion by 312
 multilateral productivity comparisons
 653, **654**, 655
 and new membership 117, **118**, 119–20
 price and output changes **309**, 310
 productivity 652–68
 TFPs **654**, 655
 Evenson, R.E. 17, 622, 652, 655, 671,
 685–6, 688–90, 695, 715, 732
 Eyzaguirre, P. 704

 Fafchamps, M. 287, 315, 319, 320, 321,
 343, 347, 406
 Faini, R. 336, 337
 Fajnzylber, F. 129
 Falconi, C. 701, 705, 706, 708, 733
 Fan, S. 689, 694
 FAO (Food and Agriculture Organiza-
 tion) 49, 378, 381, 382
 1991: 444
 1993: 717
 1994: 52
 exports from less developed countries
 50
 and World Bank, 1992: 66
 Farrell, M.J. 555
 Faruquee, R. 227
 Feder, E. **169**
 Feder, G. 297, 352, 561, 562, 719, 721,
 723, 733
 Fei, J.C.H. **169, 170**
 Ferro, O. 415
 Findlay, R. 356
 Fine, J.C. 591, 592, 600
 Finkelshtain, I. 347
 First World, characteristics 161
 first-mover advantages 100
 Fisher, I. 543
 Fisher, S. 212, 213, 214
 Flinn, J.C. **558, 559**, 561, 562
 Flint, M. 492
 Fogel, R.W. 537, 629
 Food and Agriculture Organization *see* FAO
 Foster, A. 538, 577, 585, 586
 Foster, W.E. 290
 France **49, 666**, 667

 countryside stewardship **423**, 427, 428
 TFPs **654**, 655, 657, **658, 659**, 661,
661–2, 665
 trade 85, **86**, 90, 93, **94–7**
 François, J.F. 116
 Franklin, B. 166–7
 free trade 310–11, 464–75
 Freebairn, J.W. 274, 296, 321, 322
 Freeman, C. 355
 Fujisaka, S. 692
 Fuller, R.A. 562
 Fuss, M.A. 525, 537, 676

 Gabon 62, **65**, 231
 Gadbaw, R.M. 487
 Gambia 71, 75, 617
 adjustment 215, 218, 231
 women 392, 398
 game–theoretical approaches 316–18
 Gandhi, M. **169**
 Garcia, J.G. 70
 Gardiner, J.J. 424
 Gardner, B.L. 10, 253, 275
 Garnaut, R. 124
 Garrod, G.D. **421**, 422
 Gasson, R. 424
 Gastil, R. 292
 GATT (General Agreement on Trade and
 Tariffs) 123, 133, 134, 305–8, 311,
 312, 313
 aims 53
 and intellectual property rights 485
 issues for future 135–6
see also Uruguay Round
 Gavian, S. 456
 Gaza Strip 500, **500**, 518–19
 Gehler, M.J. 128
 Gemmell, N. **300**
 George Morris Centre 108
 Georgescu-Roegen, N. **168**
 Georghiu, L. 80, 91
 Georgia (ex USSR) 159, **164**
 Germany 277, **423, 666**
 East **23, 28, 31**, 179, 383
 TFPs **654**, 655, **658, 659**, 660, 661,
661–2, 665
 trade **87**, 90, **94–7**
 Ghana
 adjustment 213–18, 221, 222, 231–7,
 248, 249
 equilibrium elasticities **334–5**
 human resources 526–38, 613–14,
 615, 619–20

- infrastructure **65**
 training 608
 Gladwin, C.H. 390
 Glentworth, G. 605
 global trade
 competitiveness and 45–60
 environment 48, **49**, 50, **51**, 52–5
 gearing up for 55–8
 Gnaegy, S. 45, 139, 142, 143
 Goetz, S. 345
 Goheen, M. 390
 Goldin, I. 75, 212, 328
 Goldman, R.H. 68
 Gollin, D. 689–90
 Gollop, F.M. 111
 Goma, L.K.H. 593
 Gorbachev, M. 156
 Gore, Vice-President A. 156
 Gorter, H. de 274, 275, 276, 277, 278,
 279, 283, 318, 320, 321
 Gottret, M.V. 717, 719, 724
 governance 288–90
 see also institutions
 government
 action needed from 16–19
 actor or enabler? 58–60
 endogenous policy: new theory 274–5,
 279, 280
 interference from, and rural areas 327–
 40, 403–5
 and productivity 298
 role 175, 184–6
 Grabowski, R. 185, **559**
 Gray, R. 290, 310, 313
 Greece **423**, **666**, 667
 TFPs **654**, 655, 657, **658**, **659**, 660,
 661, **661–2**, 664, 668
 ‘green revolution’
 African prospects 64–7, 409–10
 Asia 364–70, **366**, **368**, 408, 408–9
 and crop-breeding research 689–91
 Greenland, D.J. 64
 Grennes, T. 134
 Grier, K.B. **300**
 Griliches, Z. 530, 537, 640, 641, 644,
 648, 649, 709
 Groenewald, J.A. 670
 Grohs, F. 727
 Grossman, G. 297
 growth
 balanced 165
 explanatory variables **300**
 institutions and political economy *vis-à-vis* 296–303
 public interventions to increase 337–8
 rates: global comparisons **540**
 Gruber, W. 356
 Guatemala 389–90, 398, 631
 Guinea **65**
 Guinea-Bissau 62, **65**, 617
 Gujarati, D.N. 478, 724
 Gupta, D.K. 292
 Gutkauskas, A. 440
 Gwynn, R.E. 487
 Gyekye, A. 512

 Haddad, L. 578, 580, 584
 Haggard, S. 217
 Haggblade, S. 62–3
 Hallman, K. 383
 Halmai, P. 377, 410
 Hamilton, C. 120
 Handy, C.R. 81, 85
 Harrington, L. 695
 Harrison, S. 467
 Harsanyi, J.C. 255, 257, 264, 266
 Harsanyi–Zeuthen bargaining procedure
 264–5
 Hartmann, M. 516
 Hartshorn, G.L. 466
 Hassid, N. 496
 Hatton, T.J. 277
 Hausman, J.A. 531
 Hayami, Y. 10, 123, **168**, **169**, 275, 277,
 337, 365, 370, 375, 540, 685
 Hazell, P.B. 67, 351, 456
 health
 Côte d’Ivoire and Ghana 527–33
 and labour outcomes 570–89, **573**,
 621, 629–32
 and labour outcomes: empirical
 evidence 575–88, **581**, **582**, **587**
 measurement 570–2
 Heckscher–Ohlin model 355, 362, 407
 Heggie, I. 65
 Heisey, P. 63, 64, 74
 Heller, P.S. 73
 Helpman, E. **169**, 279, 297, 656
 Henderson, D.R. 81, 85
 Henn, J.K. 388, 399
 Henry, G. 717, 718, 719, 720, 734
 Herbst, J. 240
 Herdt, R.W. 561, 649, 689, 697, 698
 Hernández–Estrada, J. 129, 134, 149, 151
 Heston, A. 296, 298, 299, 300

- Heyneman, S.P. 562
 Hill, C.B. 214
 Hill, P.J. 186, 424
 Hillman, A.L. 283, 290
 Hodge, I. 417, 431
 Hoisington, C.G. 411
 Holden, D. 339
 Holla-Bhar, R. 487, 488, 491
 Holly, S. 166
 Holt, R.T. 282
 Honduras 389, 390
 Hong Kong 361
 Honma, M. 277
 Hopkins, L. 441
 Horenstein, N. 392
 Hosmer, D.W. 720, 721
 Hossain, M. 375, 686, 692
 Howard, J.A. 74
 HST *see* Africa, humid and sub-humid tropics
 Huber, E. 298
 Huffman, W.E. 557, 561, 619, 672
 Hughes Hallett, A. 166
 human capital
 and African agricultural development 540–52, 623–7
 Côte d'Ivoire and Ghana 526–36
 and economic development 523–36, 619–23
 endogenous demands for inputs 531–4, **531, 533**
 interactions between: estimates 534, **535, 536**
 Humana, C. 293
 humanity
 five rural worlds of 159–61, 164
 nine economic worlds of **160**
 Hungary 26, **28, 31, 33, 36**
 and EU 119–20
 global role **23**
 and reform 378, **379, 380, 381, 382**
 Huntington, S.P. 281
 Huntley, B. 670
 Husain, I. 227, 230, 245, 246
 Hussain, S.S. 554, **559, 561, 562, 563, 567, 628, 687**
 Hyden, G. 220

 Idachaba, F.S. 180, 540, 542, 544, 623
 IITA (International Institute of Tropical Agriculture) 63, 458
 IMF (International Monetary Fund) 209, 246, 378, 592–3

 incomes and returns, low 9
 India **49, 50, 65, 174, 408**
 compared with Africa 65–7
 compared with China 186–9
 crop-breeding research 689, 690, 691, 694, 695
 education 561, 563
 free press 180
 growth **540, 622**
 health and productivity 585, 586
 infrastructure 75
 multiple crops 686
 and *neem* 488
 ‘post-green revolution’ 686, 697
 rice industry 365, 366, **366, 367, 368, 368, 369**
 trade 181, 182
 women 388, 389, **389, 391, 396, 397–8**
 Indonesia 122, 361, 362, 408, 492
 education 561, 563
 health and productivity 577, 586
 ‘post-green revolution’ 686, 692
 rice industry 365–6, **366, 368, 368, 409**
 women 389, **389, 394, 398**
 infrastructure, rural 17
 institutions
 defined 283
 and governance: debate 288–90
 and policy formation 258–9
 political economy and growth *vis-à-vis* 296–303
 public policies and economic performance 280–2
 variables 290–3
 intellectual property rights (IPRs) 486–7, 516–18, 622, 691
 trade-related (TRIPS) 485, 487–94, 516–18
 see also trade-related
 international performance, empirical analysis 85, 90
 intertemporal meta-production function 643–4
 Inuit 160, **164**
 IPRs *see* intellectual property rights
 Ireland *see* Eire
 IRRI (International Rice Research Institute) 182, 183, 365
 Islam, I.Z. 388, 389
 ISNAR (International Service for National Agricultural Research) 613

- Israel, water problem 496–9, 502, 503, 505, 518–19
- Isvilanonda, S. 375
- Italy
 countryside stewardship **423**, 425, 427, 428
 research and development **666**
 TFPs **654**, 655, 657, **658**, **659**, 660, 661, **661–2**, **665**
 trade **88**, 90, **94–7**
- Ito, J. 683
- Ivory Coast *see* Côte d'Ivoire
- Jacobson, G.C. 277
- Jaeger, W.K. 453
- Jaffee, S. 57
- Jain, K.B.L. 691
- Jamaica 704, **705**, 706, **708**, 710–14
- Jamison, D.T. 555, 557, 561, 562, 565
- Jammeh, S. 371
- Jansen, D. 70
- Jansen, H.G.P. 689
- Janvry, A. de 185, 220, 343, 345, 346, 349, 406
- Japan **49**, **112**, 313, 328, 620
 price and output changes **309**, 310
 trade **51**, 128
 transition 218
- Jarvis, L.S. 55, 217
- Jatileksono, T. 365, 368, 375, 689
- Jaycox, E.V.K. 591, 606, 610, 614
- Jayne, T.S. 217, 673
- Jazairy, I. 391, 392, 393
- Jefferson, T. **168**
- Jenkins, R.O. 82
- Jensen, R. 356
- Jiggins, J. 394
- Jimenez, E. 338
- Jodice, D. 292
- Johansen, S. 657
- Johda, N.S. 339
- Johnson, D.G. 8, 9, 10, 12, 13, 14
- Johnson, H.G. 113
- Johnson, L.B. 188
- Johnson, R.W.M. 139
- Johnston, B.F. 62
- Jones, C.W. 398
- Jones, R.W. 355
- Jordan, Kingdom of 388, 497, 505
- Jorgensen, D.W. 111, 652
- Josling, T. 115
- Kabou, A. 220
- Kajubi, W.S. 592, 593
- Kakazu, H. 356
- Kalai, E. 264
- Kalirajan, K.P. **558**, 562
- Kamien, M.I. 356
- Kang, B.T. 458–9
- Kapoor, K. 246
- Karpowicz, Z. 441
- Kassier, W.E. 670
- Kazakhstan **27**
- Kazlauskiene, N. 438
- Kennedy, E. 631
- Kennedy, P.L. 322
- Kenya 62, 75, 372, 460, 617
 adjustment 215, 217–18, 231, 233, 235–7, 245, 249
 trade 57–8, 131
 universities 592, **592**, 593, 595–7, **596**, 600, 633
 women 390, 391, 392, 396, 397, 398, 399
- Keulen, H. van 451
- Keynes, J.M. 147, **169**
- Khan, A.S. 481
- Khatri, Y.J. 670, 672, 673, 731
- Kherallah, M. 282, 287
- Kimenye, L. 632
- Kinteh, S. 71
- Kislev, Yoav 518
- Kjølholt, J. 439
- Klakhaeng, K. 717
- Knudsen, O. 75, 328, 338
- Koester, U. 55, 72, 385
- Koita, T. 216
- Kojima, K. 135
- Kola, J. 316
- Kolm, S.–C. 158–9, **168**, **170**
- Korea 219, 246, 361, 622
- Kormendi, R.C. **300**
- Kornai, J. 166, **169**, **170**
- Kossoudji, S. 392
- Kothari, A. 487
- Kotwal, A. 349
- Kozlov, M. 384
- Kravis, I.B. 91
- Krestowski, V.G. 384
- Krishna, V. 265
- Krueger, A.O. 11, 15, 71, 111, 275, 350
- Krugman, P. 46, 130, 343, 355
- Krutilla, V. 417
- Kumar, S. 630
- Kuznetz, S. 210, 297
- Kyrgyzstan **27**

- labour productivity
and health 570–89, **573**, 621, 629–32
in inter-country wage differentials
329–30, **331**, 332
- Lal, D. 686
- Lal, R. 444, 458, 459
- land distribution 183–6
- land use, appropriate, factors and policies
encouraging 457–60
- land use, detrimental practices 444–61,
512–13
- land use, detrimental practices in, factors
and policies encouraging 453, 455–
7
- Laos 121
- Lappé, F.M. **168**, **169**
- Lardinois, P. 14, 20
- Larivière, S. 208
- Larson, B.A. 455
- Larson, B.K. 391
- Lass, D.A. 672
- Latin America **112**, **564**
adjustment 208–23, 246
growth 62, 133, 182
land distribution and reform 177, 185–
6
trade and trading blocs **51**, 127, 129,
134, 356
transition success 212–21
women 389, **389**
see also Central America; Latin
America and the Caribbean;
individual countries
- Latin America and the Caribbean **179**
growth 540
research and development 701–4, **705**,
706–15, 733–4
women **391**, **393**
- Latvia **379**, **381**, 437, 440
- Lau, L.J. 555, 561, 565, 671
- Laval group 161
- Lawry, S.W. 456
- Leamer, E.E. 112, 113
- Lecomte, B.J. 617
- Lee, S.M. 219
- Lee, T.H. 219
- Leftwich, A. 289
- Leibenstein, H. 570
- Lele, U.J. 174, 185, 188, 189, 245, 364,
372, 456, 551
- Lemeshow, S. 720, 721
- Leon, P. 425
- Lerman, Z. 31, 32, 34
- Leslie, J. 536, 537
- Lesotho 456
- Levine, R. 284
- Levy, S. 53
- Lewis, W.A. 62, 329
- Liberia **65**
- Libert, B. 439
- life expectancy 620
- Limongi, F. 297, 301
- Lin, J.Y. 177, 193, 543, 561, 688, 694
- Lindert, P.H. 275
- Lingard, J. **558**, 560
- Lipsey, R.E. 91
- Lipton, M. 631, 690
- Lithuania
agriculture 436–9
environmental policies 436–42, 509,
510
and reform **379**, **381**, 382
- Lockheed, M.E. 540, 561, 563
- Lokken, J.S. 639, 649
- Longhurst, R. 690
- Lopez-Pereira, M. 691
- Lorenz, E.N. 216
- low income economies, transformation
from 192–207
- Low, P. 475
- LRS *see* Lyons, R.F.
- Lucas, R.E., Jr. 337, 621
- Luce, R.D. 264
- Lukes, S. 257
- Lutz, E. 466, 467, 468
- Luxembourg *see* Belgium and Luxem-
bourg
- Lynam, J.K. 649, 717
- Lyons, R.F. 267, 269, 270
- Ma, G. 124
- McCalla, A.F. 308, 310
- McClatchy, D. 243
- McCorriston, S. 80
- McDonald, B. 116
- McFadden, D. 526, 537
- McGee, J. 102, 106
- McGuckin, T. 649
- McIntire, J. 444, 445, 447, 448, 450, 451
- McKinsey, J.W. 689
- MacLennan, A. 265
- McMillan, J. 281, 284
- MacSharry proposals 116, 117, 119
- Madagascar 65
adjustment 217, 221
equilibrium elasticities **334–5**

- infrastructure **65**, 66
 Madison, J. 166–7
 Magee, S.P. 256, 283
 Mahmud, S. 389, 391
 Mahmud, W. 389, 391
 Mahoney, J.T. 99, 102
 Makin, J.H. 274
 Malawi 244–5, **592**
 adjustment 215, 218
 equilibrium elasticities **334–5**
 soil degradation 726
 Malaysia 361
 health and employment 587–8, **587**
 Second Family Life Survey 587
 Mali 75, 200, 372, 374, **389**, 409
 adjustment 216, 219, 221
 crops 607, 612
 Malthus **168**, 742
 Mandac, A.M. 561
 Manguelle, D.E. 220
 Mansfield, E. 486
 March, J.G. 257
 Maredia, M. 691
 Margolis, H. 546
 market economies, emerging 54–5
 market information 18
 Marothia, D.K. 389
 Martin, F. 208, 220, 245
 Martin, L.J. 107
 Martin, W. 646
 Martorell, R. 631
 Martos, B. 166
 Marx, K. 165, **169**, **170**
 Matlon, P.J. 63, 74, 445, 453
 Matthews, A. 71
 Mauritania 216, 231
 Mauritius 70, 217
 Mazankowski, D. 98
 Mbanefoh, G.F. 547
 Mead, D.C. 199
 medical provision, global comparisons **542**
 Meguire, P.G. **300**
 Mehra, R. 387, 394, 395, 397, 411
 Meilke, K.D. 306, 307
 Mellor, J.W. 62, **169**, **170**, 185, 219, 224, 364, 371, 457
 MERCOSUR 53
 Merlo, M. 415, 420, **421**, 509
 Metcalf, J.S. 80, 91
 Mexico **49**, 50, 53, 180, 289, 352, **389**
 adjustment 220
 corn producers 345–6, **345**
 ejito sector 345, **345**
 growth 133, 622
 trade 133, 134
 women **389**
 Meyers, W.H. 438
 Michaely, M. 73
 Middle East
 exports **51**
 water problem 496–508
 see also North Africa and Middle East
 Milgrom, P. 288
 Miller, P.J. 717
 Miller, T.C. 10, 275
 Mingat, A. 565, 566, 567
 Mintzberg, H. 100
 Mitchell, Sir P. 592
 mixed crop–livestock systems 450–1
 modern high–yielding varieties *see* MVs
 Mokgethi, D.N. 214
 Moldova 26, **27**, **29**
 monopolies 18
 Moock, P.R. 391, 536, 537, 557, 561, 562, 565
 Morales, J.A. 213
 Morasse, J.A. 217
 Morduch, J. 352
 Moris, J.R. 66
 Morocco 221, **389**
 trade 56–7, 151
 Morris, M. 216, 370, 698
 Morrison, C.J. 676
 Mortimore, M. 451
 Moschini, G. 306, 307
 Mosley, P. 212, 223
 Moulin, H. 265
 Moya, P. 689
 Mozambique 62, **65**, 217, 231
 Mudimu, G.D. 623
 Mueller, D.C. 275, 277
 Mueller, E. 392
 Mugabe, President R.G. 3–7, 140
 Mukras, M.S. 591, 602
 Mulongoy, K. 449
 multilateral bargaining (MB) model 266–71, 272
 Mundlak, Y. 11, 70, 224
 Munoz, J. 537
 Mutahaba, G. 617
 MVs (modern high–yielding varieties) 685, 686, 689
 Africa 63–4, 75
 Asia 364
 Mwangi, W.A. 591, 632

- Myint, H. **170**, 406
- NAFTA (North American Free Trade Agreement) 53, 134
- Nagel, J.H. 257
- Nagib, L. 389
- Narain, D. 15
- NARS (national agricultural research systems) *see under* Asia
- Nash, J.F. 261, 262, 264
- Nash bargaining model 261–4, 265, 266, 272, 315
- nationality of production problem 148
- Navrud, S. 420
- Naylor, R. 178, 686
- neem* 488
- Nelson, R.R. 99
- Nepal 159, 161, **164**, 172
education 561, 562, 566
rice industry 366, **366**, 367, 368, **368**, **369**
women 388, 389, 391, **394**
- Netherlands **49**, **423**, **666**
TFPs 653, **654**, 655, 657, **658**, **659**, 660, 661, **661–2**, 665, **665**
trade 85, **94–7**
- Neumann, von: balanced growth 165
- new world order
transition to 155–72, **156**, **157**, **162–3**, **164**, **168–70**
goals 167, **168–70**
indicators 161, **162–3**
paradigms 164–7
theories and strategies 171
- New York Times Index* 292
- New Zealand **49**, **309**
- Newby, H. 415, 424
- Nguyen, D. **300**
- Ni Dhubhain, A. 424
- Nicholson, C.F. 388
- Niger 62, 393, 456, 612, 617
- Nigeria 62, 64, 70, 180, 228, 547, 608, 649
adjustment 216, 231, 232, 233, 235, 236, 237, 249
education 547–8, **548**
Federal Ministry of Budget and Planning 548
infrastructure **65**, 66
MVs 63–4, 75
Northern 372
women 391, 396
- Nishimizu, M. 652
- Nordstrom, H. 116
- Norgaard, R.B. 64
- North Africa, exports **51**
- North Africa and Middle East **112**, 179, **389**, **540**, **542**, **564**
women **391**, **393**
- North, D.C. 139, 175, 180, 186, 189, 275, 280, 282, 283, 288, 290, 291, 298
- Nweke, F.I. 64
- Nye, P.H. 64
- Oates, W.E. 419
- Odedokun, M.O. 70
- OECD (Organization for Economic Cooperation and Development) 12, 378, 379, 381, 383
countries of 328, **542**
on product decline 36
see also individual countries
- Oehmke, J. 731
- Okedara, J.T. 547
- Okhawa, K. 218
- Okyere, W.A. 216
- Olson, A. 388
- Olson, M. 274–5, 276, 283, 297, 311, 312, 317
- openness, political and economic 292–3
- Orden, D. 287
- Ortega, E. 186
- Oskam, A. 649
- Osti, G. 419
- Otsuka, K. 364–70, 375, 408, 628, 629, 689, 697
- Ouali, K. 73
- Ouchi, W.G. 99
- 'overabstraction' problem 104–5
- Oyejide, T.A. 70
- Pacific area 135, 388, **542**
- Pakistan 389, 393, 408, 688
education 561, 563, 566, 567
- Palmer, I. 395
- Panayotou, T. 392
- Pandian, J.R. 99, 102
- Pardey, P.G. 617, 639, 688, 689, 694, 697, 726, 727
- Parthasarthy, V. 695
- pastoralism 451–3
- patents 488–9, 710
- Patkar, P. 397
- Patrick, A. 492
- Paxson, C. 339, 353

- Payne, P. 631
 Pearson, Scott 141
 Peltzman, S. 256, 283, 311
 Perotti, R. 279, 281
 Persson, T. 279, 321
 Peru
 growth 133
 women 389, 390, 391, **394**
 Peteraf, M.A. 102
 Peters, H.J.M. 272
 Petit, M. 45, 139, 142, 143
 Petrikov, A. 384
 Peuker, A. 467
 Phelps's golden rule 165
 Philippines 361, 561, 697
 health and productivity 584, 585, 586
 rice industry 365–6, **366**, 367, 368,
 368, **369**, 560
 Philips, A.C. 429, 430
 philosophy of economics 174–5
 Pickett, J. 228
 Pingali, P.L. 63, 75, 444, 561, 574, 685–
 7, 692–3, 695–6, 731, 732
 Pinstrop–Andersen, P. 387, 444
 Pischke, J.D. von 20
 Pitt, M. 561, 575, 577, 579, 586, 589
 Place, F. 67, 351, 456
 planned economy, replacement of 22
 Platteau, J. 71, 339
 Poland **23**, **31**, **33**, **36**
 and EU 119–20
 and reform 377, 378, **379**, 380, 381,
 381, 382, **382**
 policies, empirical content of farm 287–
 94
 Policy Preference Function (PPF) 261–3,
 271
 political economy 318–20
 analysis 305–13
 growth and institutions *vis-à-vis* 296–
 303
 institution and governance debate
 288–90
 modelling the 254
 models: central axiom 262–6
 political power, chief determinants 257–
 8
 political–economic equilibrium 258
 political–economic processes 261–71
 politician–voter model 275–6
 Polopolus, L.C. 307
 population increase, global 178
 Porter, C.P. 73
 Porter, M.E. 59, 80, 81, 83, 90, 96, 99,
 106
 Portugal 93, **94–7**, **423**
 Posner, M.V. 355
 'post–green revolution'
 Asia 686–7, 692–3
 defined 697
 Potter, C. 424
 Povellato, A. 415
 Power, J. 394
 Prado, A.C. 480
 Pray, C.E. 655, 685, 688, 691, 694, 695,
 697, 709
 Prebisch, R. **169**
 prices
 global: changes **309**
 optimized 15–16
 policy 9
 stability 12
 producer price and output changes,
 global **309**
 productivity
 and fruitfulness/rationalization 639–
 50, 726–7
 and growth, public interventions to
 increase 337–8
 growth of: identifying sources 670–82
 improvements in, *versus* structural
 adjustment 332–3, **334**, **335**, 336
 perceived 640–1, **642**, 643
 practical perspectives 648
 research returns revisited 645–7, **645**,
 646
 property rights 18
 protection policies 45–6, 311–13
 for agriculture 11–12, 14, 275
 Przeworski, A. 297, 301
 Psacharopoulos, G. 525
 public goods, provision of 16
 public policy 743–4
 for agriculture 253–9
 institutional determinants 274–84
 Pudasaini, S.P. 561
 quasi–rents 101–2
 Quiroz, R. 127
 Quisumbing, A. 389, 390, 391, 392, 393,
 398, 399
 Radulovich, R. 467
 Raiffa, H. 264
 Ram, R. **300**, 534, 557
 Ramasamy, C. 375

- Ranade, C. 371
 Randall, A. 417
 Ranis, G. **169, 170**
 Ranmanujam, V. 100
 Rao, C.H.H. 187, 188
 Rausser, G.C. 254, 259, 261–2, 266–7, 274, 278, 280–1, 281, 283, 287, 315–18, 320
 Rausser–Simon multilateral bargaining (MB) model 266–71, 272
 Rawls, J. 158, **168**
 Ray, P. 272
 Ray, S.K. 188
 Reardon, T. 372, 374
 reciprocity 132, 158–9
 Reed, M. 355, 407
 Reich, R. 98
 relative indices 358–9
 Renelt, D. 284, 337
 Rensburg, J. van 670
 research
 international centres 610
 support of 17
 research and development, returns to 655–67
 resources: extractable/non-extractable/potential 490–3
 Reynolds, L.G. 210
 Ricardo **169**
 rice
 and ‘green revolution’ 364–8, **366, 368, 370**
 production and consumption 182–3
 varieties 689–90
 Riera, P. **421**
 risk reduction, government role in 338–40
 Riverson, J. 64
 Roberts, J. 288
 Robertson, D. 155
 Robiati, G. 164, 165, **168, 169, 170, 171**
 Robson, P. 73
 Rodriguez, A. 466, 469, 474
 Rodrik, D. 279, 282, 321
 Rodrik, S. 129, 130
 Rohrbach, D.D. 726
 Rola, A.C. 692
 Romania **23, 26, 28, 31, 32, 36**
 and reform **379, 380, 381, 381, 382, 382**
 Romer, P.M. 297, 337, 621
 Romero, C. 419
 Roningen, V.O. 309, 310
 Rosaasen, K.A. 639, 649
 Rose, B. 697
 Roseboom, J. 617
 Rosegrant, M.W. 685, 688, 692, 693, 695, 696
 Rosenzweig, M. 349, 350, 525, 526, 538, 575, 577, 585, 586, 588, 589
 Ross, D. 174
 Roth, M. 456
 Roumasset, J.A. 339
 Rubinstein, A., bargaining model 265–6
 Rukuni, M. 217
 Runge, C.F. 282
 Russia 26, **29, 32, 33, 34, 36, 112, 439**
 Federation **27**
 and reform **379, 380, 381, 382, 383, 384**
 Ruthenberg, H. 450
 Ruttan, V.W. **168, 169, 278, 281, 337, 540, 632, 685, 688, 704, 732**
 Rutten, H. 652
 Rwanda 62, 179, 207
 Sabot, R.H. 565, 567
 Sachs, L. **168, 169, 170, 171**
 Sadoulet, E. 185, 343, 406
 Sahai, S. 490
 Sahelian zone 607, 609, 610
 drought control committee (CILSS) 617
 human capital 606, 633
 water supplies 455–6
 Sahn, D. 577
 Saint, W.S. 592, 593, 601
 Saito, K.A. 395
 Salaman, L.M. 175
 Salvacruz, J. 355, 407
 Samuelson, P.A. 126, 175
 Sanderson, F.H. 305–6
 Sandford, S. 452
 Sandmo, A. 346
 Santana, A.C. de 477, 481, 515
 Sargan, J.D. 657
 Sarris, A.H. 327, 339, 403, 404, 405
 SAS Institute, Inc. 720
 Saunders, C. 424, 425, 429
 Scandizzo, P.L. 10
 Schaffer, J.D. 192, 223
 Schiff, M. 10, 11–12, 13, 328
 Schiller, C. 613
 Schimmelpfennig, D. 657, 664
 Schmid, A.A. 223

- Schmitz, A. 305, 308, 310, 311, 312, 313, 322
 Schmitz, P.M. 403
 Schmitz, T.G. 311
 Schucking, H. 492
 Schuh, G.E. 11, 20
 Schultz, T.P. 523, 525, 526, 533, 534, 536, 537, 619–21
 Schultz, T.W. 8, 10, 17, 168, **170**, 221, 276, 406, 534, 540, 543, 554, 555, 557, 621, 628, 640, 641, 644, 648, 649
 Schumpeter, J.A. 99, 100, 102, **103**, 165, **169**, **170**, 356, 362
 Schwartz, N.L. 356
 Scoones, I. 452
 Scott, B.R. 46
 Scott, G.L. 398
 Scully, G. 280, **300**
 Seager, J. 388
 Seckler, D. 211, 608, 610, 611
 Sedjo, R.A. 494
 Sen, A. **169**, 174, 175, 177, 180
 Sen, S.R. 486, 490
 Senegal 71, 75, 345, 371, 612
 adjustment 216, 218, 221, 232, 233, 235, 236, 237
 Serghini, H. 151
 Serrano, R. 265
 Shaffer, J.D. 192, 243, 244, 245
 Shapiro, M.O. 217
 Sharma, S.K. 389
 Shaw, R.N. 419
 Sheldon, I. 80
 Shiva, V. 487, 488, 491
 Shleifer, A. 289
 Siddiq, A. 693
 Sidhu, D.S. 686
 Sierra Leone
 adjustment 231
 health and productivity 577, 584
 infrastructure **65**, 66
 MVs 63–4
 Silva, J.G. Da 79, 144–5, 147, 148, 742
 SIM 216
 Simon, H.A. 99
 Simon, L.K. 261, 262, 266, 267, 272
 see also Rausser–Simon
 Simpson, R.D. 494
 Sims, H. 563
 Singapore 246, 361
 Singh, I. 343
 Sioui, G.E. **168**
 Slade, R. 562
 Slangen, L.H.G. 430
 Slovak Republic/Slovakia 26, **28**, **36**, 179
 and EU 119–20
 and reform 378, **379**, 380, **381**
 Smith, A. *Wealth of Nations* 157–8
 Smith, J. 75
 Smith, L. 212, 223
 Solow, R. 296, 648, 649
 Somalia 179, 617
 South Africa 177, 179, 186
 adjustment 219
 competitiveness 670–82, 670–84, **675**, **676**, **677**, **678**, **679**, **681**, 731
 South America
 growth 622
 see also Latin America; *individual countries*
 South Asia **51**, 133, **542**
 education 563, **564**, 566
 growth 62, 133, **540**, 541
 rice industry 628–9
 see also individual countries
 South Korea 219, 246, 361, 622
 South–East Asia
 education 563, **564**, 565, 566
 rice industry 628–9
 see also individual countries
 Southern Africa
 agroecological zones 177, **446**
 see also Eastern and Southern Africa
 Southgate, D. 444
 Soviet Union, *see* USSR
 Soviet Union, former *see* CIS
 Spain **421**, **423**
 ENDEF 573
 Spencer, D.S.C. 61, 63, 75, 140, 142, 143–4, 409, 445, 449, 453, 649
 Spitze, R.G.F. 318
 Sri Lanka 245, 388, 563, 565
 SSA *see* sub-Saharan Africa
 SSAPs (stabilization and structural adjustment programmes) 332, 333, 336
 SSB 197
 Staatz, J.M. 208, 209, 210, 223
 stabilization 209, 212–14
 see also SSAPs
 Staiger, D. 576
 state, competitiveness and the 343–53, 406
 Staudt, K. 390, 396, 397
 Steinbarger, D.M. 456

- Stern, E. 181
 Stern, M. 538
 Stern, N. 588
 stewardship of countryside 415–33, 509–12
 concept 415–17, **416**, **417**, **418**, 419
 demand for 419–22
 policy tools to induce 426–32, **427**, **430**
 supply of 422, **423**, 424–6, **426**
 Stigler, G.J. 310, 311, 544
 Stiglitz, J.E. 183–4, 185, 350, 352
 Stock, J. 576
 Stoevener, H.H. 513
 Stokes, B. 54
 Strauss, J. 525, 536, 537, 570, 577, 584, 586, 629, 630, 631
 structural adjustment 209–10, 214–18
 versus productivity improvements 332–3, **334**, **335**, 336
 structural transformation 174–89, 209, 210–11, 218–21
 sub-Saharan Africa (SSA) **112**, 327
 adjustment 208–23, 227–42, 245, 246–9
 agroecological zones 445, **446**, 447–9
 brain drain 613–15
 crop substitutability 372
 education **564**
 food consumption **340**
 governance systems: improvement 70
 growth **179**, **340**, 540–3, **540**, 622
 human capital 540–2, 549–50, 623–5, 630, 633
 land use: detrimental practices 444–61, 512–13
 life expectancy 620
 medical personnel **542**
 policy analysis 624
 policy reforms: extent and results 229–37, **232**, **233**, **234**
 poor people 236–7, 249
 production systems 449–53
 trade **51**, 182
 transformed economy 198–201
 transition success 212–21
 underperformance 540–2, **540**, **541**
 universities 624
 unresolved issues 239–41
 women 388, 389, 390, **391**, 392, 393, **393**
 zones 447–9, 512–13
 see also Africa, humid and sub-humid tropics; *individual countries*
 Subbarao, K. 188
 subsidies 15
 Sudan 70, 71, 179
 Sukume, C. 320
 Summers, R. 296, 298, 299, 300
 Sumodiningrat, G. 561
 Svedberg, P. 228
 Swallow, B.M. 444, 455, 456, 512
 Sweden **421**, 439
 Swinnen, J.F.M. 10, 274, 275, 276, 277, 278, 282, 283, 318, 320, 321
 Switzerland, countryside stewardship **423**
 Tabellini, G. 279, 321
 Tabor, S.R. 611, 614, 615
 Taiwan 14, 177, 361
 Tajikistan **27**
 Talik, J.B.G. 561, 562, 563, 565
 Tan, J.P. 565, 566, 567
 Tangermann, S. 115
 Tansel, A. 534
 Tanzania
 adjustment 231, 232–3, 234, 235, 236, 237, 249
 equilibrium elasticities **334–5**
 infrastructure **65**
 universities 592, **592**, 602
 Tao-Zhang, D. 562
 tapioca *see under* Thailand
 Tarditi, S. 148
 tariffs *see* GATT
 taxes 11–13
 Taylor, C. 292
 technology
 endogenizing 356–61, **359**, **361**
 progress in, and trade 355–63, 407–8
 Teixeira, E.C. 477
 Temple, D. **168**
 ter Kuile, C.H.H. 447
 Terluin, I.J. 652
 TFP (total factor productivity) 652–3, **654**, 655–7, **658**, **659**, 660–1, **662–3**, 664–7, 728–31
 Thailand 122, 361, 375, 492
 cassava technology transfer 717–24, **722**
 rice industry 365, 366, **366**, 367, 368, **368**, **369**
 Tapioca Trade Association (TTTA) 717, 718

- women 389, **389**
- Thampapillai, J. 649
- Thapa, G.B. 375
- Thiébaud, L. 425
- Thiele, H. 383
- Thimm, H.U. 595
- Thiombiano, T. 608
- Thirtle, C. 652, 656, 657, 664, 670, 672–4, 677, 727, 731, 742
- Thom, D.J. 66
- Thomas, D. 525, 536, 537, 570, 584, 586, 629, 630, 631
- Thomas, H. 102, 106
- Thompson, G.D. 452
- Thompson, R.L. 736
- Thrupp, L.A. 467
- Thursby, M. 356
- Tilak, J.B.G. 540, 543, 544
- Timmer, C.P. 178, 183, 210, 332, 338, 339
- Tinbergen, J. 254
- Titapiwatanakun, B. 717, 724
- Todaro, M. **169**
- Togo 62, **65**, 215
- Tomer, J.F. 100
- Tonguthai, P. 389
- total factor productivity *see* TFP
- tourism 425–6, **426**
- Townsend, R. 652, 742
- Tracy, M. 277
- trade
- international, technological progress and 355–63, 407–8
 - liberalization of *see* free trade
 - technological progress and 355–63
- trade and foreign production, motivations for 81–3
- trade-related intellectual property rights (TRIPS) 485, 487–94
- policy recommendations 493–4
- trading blocs
- formation of 133–5
 - regional 53–4
- Trall, B. 79, 144–5, 147, 148, 742
- transactions costs 291–2
- transformation process 192
- transition
- defined 208–11
 - basis for successful 222–3
 - economies in 176–80
 - successful 212–221
- Traxler, G. 689, 690
- TRIPS (trade-related intellectual property rights) 485, 487–94, 516–18
- Tropical Agriculture, International Institute of (IITA) 63, 458
- Tshibaka, T.B. 70
- Tsur, Y. 275, 276, 277, 283
- Tulloch, G. **300**
- Tunisia 390
- Turkey **389**, 502
- Turkmenistan 27
- Turner, J.E. 282
- Tyers, R. 12, 72, 114, 119, 120, 121, 123, 310, 377
- Tyson, L. d'A. 46, 347–8
- Udry, C. 352
- Uganda 231, 632
- university 591–2, **592**, 598–9, **599**, 600, 603, 633
- UK (United Kingdom) 94, 277, 282
- and CAP 150
 - countryside stewardship **421**, **423**, 428
 - research and development **666**, 667
 - TFPs **654**, 655, 657, **658**, **659**, 660, 661, **661–2**, **665**
 - trade 81, 85, **89**, 90, 93, **94–7**
- Ukraine 26, **27**, **29**, 32, **32**, 33, **36**, 121
- and reform **379**, **381**
- Ul Haque, I. 46, 139
- Umali, D. 733
- UN (United Nations)
- 1989a: 388, 390, 393
 - 1989b: 396
 - International Trade Statistics Yearbook* 95
- UNDP 454, 564, 610
- UNESCO 592
- unknown, fear of, and national advantage 46–8
- Upadhyaya, H.K. 375
- Uruguay **49**
- Uruguay Round 50, 114–17, 122, 126, 134, 136, 137, 305, 327, 485, 487, 516
- key elements 125
 - outcome 52, 127–32
 - see also* GATT
- USA (United States) **49**, 161, **164**, 276, 277, 282, 291
- and agriculture 327
 - Central Intelligence Agency (CIA) 291
 - Civil War 185, 186
 - crops 357–9, **358**, 690
 - Department of Agriculture 378

- Department of Commerce 94
 farmer wealth 328
 grain sector 313
 land degradation 649
 life expectancy 620
 multilateral productivity comparisons
 653, **654**, 655
 NRC (National Research Council,
 Washington, D.C.) 456
 output changes **309**, 310
 prices 19, **309**, 310
 sugar 307–8, 312
 TFPs **654**, 655–6, 661, 665, **665**
 trade **51**, 53–4, 59, 85, 91, **94–7**, 128,
 133, 134
 USSR (Union of Soviet Socialist
 Republics) **23**, **31**
 see also CIS
 Uzbekistan **27**
- Valdés, A. 10, 11–12, 13, 70, 112, 328,
 406
 Vanek, J. 158, **168**, **169**, **170**
 Vanhanen, T. 292
 Vanzetti, D. 136
 Varadarajan, P. 100
 Vargas, J.R. 126
 Velasco, L.E. 688, 693
 Veld, K.T. van't 261
 Venezuela 134
 Vercammen, J. 311
 Vernon, R. 46
 Vietnam 121, 122, 123, 176
 Vijberberg, W. 534
 Viner, J. 9
 Vishny, R. 289
 Volker, K. 424
- wage–productivity function 524–6, 528,
 529, 530, **530**
 Wakker, P.P. 272
 Walker, T.S. 339
 Walras 158, **168**, **169**, 172
 Walsh, R.G. 422
 Warnken, P.F. 388
 water problems *see under* Middle East
 Wattanuchariya, S. 375
 Webb, A.J. 12
 Webb, P.J.R. 398, 457
 Webb, S. 217
 Weidemann, C.J. 395
 Weijenberg, J. 607, 609, 610, 612, 617
 Weingast, B. 280, 281–2
- Weinschenck, G. 419
 Welch, F. 543, 557
 Wen, S. 192, 193, 243, 244, 245
 Werner, R. 420
 West Africa
 defined 617
 adjustment 217
 agroecological zones **446**
 cotton and maize 460
 human capital investment 605–17,
 633–4
 investment for local capacities stock
 609–13
 research 609–10
 scientific, technical and managerial
 skills 613–16
 training 608, 609, 611–13
 transformation, human capital gap for
 606–9
 see also Sahelian zone; sub-Saharan
 Africa; *individual countries*
 West Bank 500, 518–19
 water supplies 499, 500–1, 502, 505,
 506
 Western Europe **112**, 277
 integration of, and CAP reform 117,
 119
 non–EC: price and output changes
 309, 310
 Westgren, R.E. 98, 144, 146–7
 Whitby, M. 422, 424, 425, 429, 430
 White, R. 649
 Wievelt, M. 515
 Wijnbergen, S. van 53
 Wilkinson, R.G. **168**, **170**
 Williams, T.O. 444, 451, 455, 512
 Williamson, J. 212, 213, 217
 Williamson, O. 280, 283
 Willis, K.G. **421**, 422
 Wilson, E.O. 493
 Wilson, G.F. 458
 Wilson, P.N. 452
 Winrock International 364, 447, 448,
 459, 736
 Winter, S.G. 99
 Winters, L.A. 120, 212
 Witzke, H. von 282
 Wolf, H. 292
 Wolpin, K. 349, 589
 women
 inequality 391
 patterns of production 387–90
 realizing the potential of 399–400

- role 387–400, **389**, **391**, **393**, **394**, 411–12
- share in labour force (selected examples) **389**
- and technological change 397–9
- value of work of 390–1
- Wong, J. 193
- World, food and agricultural production **382**
- World Bank 32, 34, 49, 59, 246
 - 1981: 541
 - 1984: 541
 - 1988: 331
 - 1989: 62, 75, 389, 541, 605, 606, 610, 612, 613, 614, 617
 - 1989a: 212, 215, 221
 - 1989b: 212, 215, 221
 - 1990: 56, 393
 - 1991: 475, 565
 - 1992: 217, 454, 527, 540, 541, 542
 - 1993: 49, 57, 62, 112, 179, 611, 632
 - 1994: 48, 50, 71, 131, 132, 133, 134, 212, 214, 293, 552, 633
- and education 592–3, 601
- governmental policies study 11, 13, 16
- IEC 49, 51
- world order
 - defined 155–7, **156**
 - see also* new world order
- World Tables 1993* (Washington, DC) 49
- WRI (World Resources Institute) 65
- Wu, D.M. 531
- Wylie, A. 56
- Yemen 388
- Young, L. 135, 310
- Yudelman, S. 388, 390
- Yugoslavia 161, 179
- Zachariasse, V. 408
- Zaire **65**, 70
- Zamagni, S. 431
- Zambia 70, 75, 231, 392, **592**
- Zegar, J.S. 377, 410
- Zeuthen, F. 264, 272
- Zhang, Y.H. 193
- Zilberman, D. 278
- Zimbabwe 75, 131, 460, 617, 679, 726
 - adjustment 216–17, 219
 - land reform 177, 186
 - university **592**, 594–5, **594**
- Zusman, G. 316, 317, 320
- Zusman, P. 253, 254, 255, 259, 261, 272, 287, 315
 - bargaining model 266, 269
- Zyl, J. van 670, 680, 731
- Zysman, J. 46