

## Index

Aggarwal, Suresh 25-26 BRICs economic growth projections 12-13, 14 aggregate convergence see convergence sources of 9 aggregate labor input 288 aggregate output per capita, and productivity 29-30 Canberra II Expert Group 18–19 aggregate productivity growth 53-58 capital input 2-3, 6, 9, 29 alternative investment deflators 298 constant quality index of 16 APPF (aggregate production possibility growth 4 frontier) framework measurement 3-4, 5-6, 17, 26, 158-162, 205, 206 204-209, 215-218 Arevena, Claudio 23, 158 US structure changes 38-42, 58-59 ASI (Annual Survey of Industries) capital measurement 285 244, 246 capital output 2-3, 6, 9, 37 Asia KLEMS Conferences 24 capital rental price 386 Asian Tigers capital services 17, 39–40, 118–119 CES (Current Employment Statistics) economic growth 3 see also Hong Kong; Singapore; 383 South Korea; Taiwan China aggregate labor productivity growth asset deflators 298 Balance of Labour Inputs 291-292 aggregate TFP growth 217-218, Bank of Japan 78, 471, 484, 496 225-226 Barro-Lee dataset 451, 454, 457-458 industry origin of 218-223 Base Case scenario, for world economic APPF framework growth 204-209, growth 10-15 215-218 BEA (Bureau of Economic Analysis) and Asian Financial Crisis (1997-1998) 200 36-38, 381, 383-384, 386 BEC (Broad Economic Classification) capital input 9 system 518 capital reallocation 223-224 BFA (Balance of Fixed Assets) 295-296 capital stock 226 BLF (Balance of Labour Force) current account surplus 76 291-292 Domar-weighted TPF growth BLS (Bureau of Labor Statistics) 383 221-222, 223 Blyde, J. 156-157 economic growth 1, 3, 9, 12-13, BPO (business process outsourcing) 100 14, 25 Brazil, economic growth 1 factor reallocation effects 221-223, BRICs 22.5 Five Year Plan (9th 1996-2000) 200 economies 1, 3 see also Brazil; China; extended Five Year Plan (10th 2001–2005) 200 BRICs; India; Russia foreign exchange 14



More Information

Index 565

GDP growth 25 Conference Board 3-4 constant quality index GDP per capita 14–15 government intervention role of capital input 16 199-201 of labor input 16 industry perspective 200-204 convergence 508-530 periodization 211-212 agriculture 518-519, 521-522 and productivity growth 201-204 capital relative price 519 subsidies 201-204, 222-223 competition variable 509 and Great Recession cross-country income differences, (2007-2009) 2, 9 and industry productivity 508-509 gross output growth by industry data 516-519, 529 group 212-215 growth sources, measurement of determinants 523-528 204–209, 212–215 FDI (foreign direct investment) growth tournament 199 variable 509, 510, 529 GVC income 560 GDP per capita 508 industrial classification/grouping human capital variable 509 203-204, 209-210, import/export prices 518 212-215, 226-228 imports variable 509, 529 industry productivity 508-509 industrial productivity 25 input-output accounts 225-226 investment prices 519 labor data 210 market economy productivity labor productivity 25, 218 dispersion 519–520 labor rellocation 223-224 methodology 511-516 aggregation 515-516 market role 200 net capital stock 210-211 industry inputs 514–515, 516–517 nominal accounts 210 industry output 512-514, 517-518, 522 productivity growth in sectors 201-204 measurement quality issues 510-511, 522 TFP by industry groups 203-204, 213, 224-225, 228-229 productivity growth 516 TFP growth 207-209, 212-215, multifactor productivity growth 217-223, 224-225, rates 510 228-229 PPP (purchasing power parity) TFP productivity 217–218 512-513, 515 value added growth 210, 216 productivity dispersion 519-523 value added, industry contributions sectoral 521, 528-529 228-229 productivity estimates 509-510, 516, WTO entry 211-212, 222 522-523 China KLEMS 225, 226-228 productivity growth Christian, Michael 28, 443 determinants 523-528 Chun, Hyunbao 26, 27 regression results 526-528, Cimoli, Mario 23 529-530 CIP (China Industrial Productivity) R&D variable 509, 510, 529 database 25, 201, 206, services industries 518 209-212, 225, 226-228 structural change **COINVEST 320, 353** and aggregate incomes 508-509 and aggregate productivity 509, Cole, H.L. 156 college premium 45–46 521 Corrado, Carol 26-27, 347-350 communist capital 295-296



More Information

566 Index

CPI (consumer price index) 210 growth accounting by country/ CPS (Current Population Survey) industry 327-333 383-384, 385-386 **ICT** CSIC (Chinese Standard Industrial and knowledge based capital Classification) 209-210 333-334 CSO (Central Statistical Organization) and productivity growth 334 ICT capital 118-119, 128, 2.44 319-344 Das, Deb Kusum 25-26 ICT elasticities, and intangibles 334 ICT industry 319-344 De Gregorio, J. 156 de Vries, Gaaitzen J. 29-30 intangibles 103, 319-344 Dean, Edwin 18 augmented production function demographic dividend 218 340-341 capital 319-344 Deng Xiaoping 25, 211 Domar, Evsey 53, 204-209 capital assets, marginal effect on Dutch disease 172 productivity growth 342-343 ECLAC (Economic Commission for correlations between 338 Latin America and the data 324-326 Caribbean) 23 econometric approach 335-336 Economic Growth in Europe: estimation results 339-343 A Comparative Industry ICT complementarity 333-343 input/output payment flows with/ Perspective 22 The Economics of Productivity 16 without capitalization 321-323 efficiency concept 386 Eisner, R. 437 inputs/outputs 323-324 Elias, V.J. 156, 159 investment intensity 326-327 equilibrium real exchange rate investment/gross output ratio 356 75-76 investments 113-114, 131-138, equilibrium real interest rate 75-76 319-344 Erumban, Abdul A. 25-26 by country/industry sector ESRI (Economic and Social Research 326-327, 349-350 Institute) 474 and labor productivity 343 EU (European Union) see Europe national accounts 325 **EU KLEMS** non-R&D 326-327, 338 conferences 21, 24 purchased 325 database 71, 101 R&D 326-327, 338 framework 292 sectoral accounting 321-324 Growth and Productivity Accounts and service sector productivity 343 112–113, 120 theoretical framework 321–324 industry data 321 training investment expenditure 326 project 21-23, 26 investment effect, ICT industries 128 Europe labor force skills 113-114, aggregate sources of growth 112, 131-138 114-120 data by sector/countries 132, capital services 118-119, 323-324 133-134 economic growth 21–23 labor input 323-324

employment productivity

GDP growth rate 115–118

performance 115-118

labor productivity data, by country

143-149

139-140, 141-142,



More Information

Index 567

labor productivity growth sources G7 group 3, 4-5 economic growth 6, 8 327-332 labor productivity performance and Great Recession (2007-2009) 115-118, 120, 139-140, 8-9 total factor productivity 8 long-term productivity growth G20 group 3, 4-5 114, 138 economic growth 6 GDP 3, 6 output productivity performance 115-118 growth projection 11, 12-13 productivity in goods sector GFCF (gross fixed capital formation) 163, 165–166, 296–298 (excluding ICT) 124–125 productivity growth global value chains see GVC (global and ICT 112–113, 119, 127–131, value chains) 319-344 globalization, and economic growth 3 industry 319-344 gold standard 76-77 Gollop, Frank M. 15–16, 34–35 overview 111-114 rates by sector/countries 120 goods produced exchange rates 11 Great Recession (2007-2009) productivity in market services sector (excluding ICT) 125-126 and collapse of global trade 2 productivity network effects, ICT recovery from 2, 8-9, 19-21 129-131 see also United States productivity slowdown, industry growth accounting 158, 204-209, perspective 112-113, 242-243, 285, 293-294, 120-126 311, 347-348, 360-364 sources-of-growth analysis 118-120 by country/industry 327-333 structural weakness of economy 111 and intangibles 361-364 technology effect in ICT sector 127 GVC (global value chains) 30, 516-517, 536-537 TPF performance 111–113, 119, 126, 129-131, 323, 332 accounting framework 540 EUS (Employment and Unemployment accounting for value added 537-543 Surveys) 246-248 extended BRICs 3 global production by country see also Brazil; China; India; 542-543 GVC income 536 Indonesia; Mexico; Russia; South Korea in advanced countries 552 by capital/labor factors 557-559 FAO (Food and Agriculture by production factor/region 537, Organization) 518-519 559 FC (Full Circle) 291-292 definition 543, 550 Federal Reserve 471 in emerging countries 552 Fernandes-Arias, E. 156-157 in manufactures production 553 Fernández de Guevara, Juan 23 regional shares 554 final demand deficit 104, 105 sectoral shares by country

trends 537, 550-557 and US dollar value 554-555 Measured) 246 Fraumeni, Barbara M. 15-16, 28, international production 34-35, 437, 443, 457-458 fragmentation 537, 546 Fuentes, J.A. 158 internationally fragmented value Fukao, Kyoji 20-21 chain 538

555-557

FISIM (Financial Intermediation

Services Indirectly



More Information

568 Index

GVC (global value chains) (cont.) income-based approach 432-434, 437-443, 452-453, 460, value added automotive output shares 541 by capital/labor factors 557-559 national studies data 438, 454 capital income analysis by country international initiatives 449-458 lifetime income approach 433, 438, decomposition framework 443, 453, 460, 462 540-542 market consumption 445-446 distribution by country market labor outlay 447-448 547-550 measurement 429-462 domestic share 547-550 education sector 432-434 WIOD (World Input-Output incorrect measurement issues Database) 536, 543-546 42.9-430 WIOT (World Input-Output Tables) indicators-based approach 430, 543-546 449-451, 454 internationally comparable Harper, Michael 35 indicators 451 Haskel, Jonathan 26-27 methodology classification 434 monetary measures 430, 432-434, HDI (Human Development Index) 449 461 Ho, Mun S. 16, 19-20, 34-35, methodological difficulties 459-460 51-52, 223-224, 284, multi-factor productivity growth 449 383-385 non-human investment 445-446 Hofman, Andre 23 non-market consumption 445–446 Holdren, Alyssa E. 36-37 non-market labor 444-449 Hong Kong, economic growth 3 production account comparisons Hulten, Charles 347-350 443-448 human capital investment 28 residual approach 453-454 average nominal shares 447-448 concept/definition of 431-434, 460 ICP (International Comparison cost-based approach 436–437, Program) 513-514. 460, 461 517-518, 519 country experiences 436–448 **ICT** capital services 40-41 country measures comparison 453 data issues 458-459 share in total capital 41-42 earnings data 458, 459 and economic growth 6, 9 and economic growth 3, 22-23 Europe see Europe education data 444-459 and intangibles 333-343, see also full factor outlay 447-448 Europe intensity and TFP growth 42 full gross private domestic product investment in 15-16, 19-20, average nominal shares/growth rate 445-446 96-101 economic growth with human major developed economies 96 capital 435 and management practices 99 economic growth without human Japan see Japan capital 432 and labor market problems 103 future challenges 458-460 prices 38-39 growth rates 445-446, 447-448 productivity growth 22-23, 53-58 human capital per capita/education service output 40-41 attainment 444-458 stock shares 40-41



More Information

Index 569

United States see United States non-manufacturing sector 257-259, value added 52 275 - 276ICT capital, and intangible capital non-market sector 236-237, 319-344 257-259, 275-276 Ikeuchi, Kenta 20-21 policy aspects 235, 273-274 IMF International Financial Statistics policy regimes, and productivity 519 266-272 Index of Industrial Production 61 productivity analysis, sectoral India 236-237, 244-245, 251–257, 266–270 aggregate productivity growth, sectoral contributions productivity growth overview 257–259, 269–270 234-237 agriculture sector 252-254, productivity measurement 243 257-259, 275-276 services sector 240-242, 245, analysis methodology 242-243 257-259, 275-276 capital input 9 sources of economic growth results data/variables 244-251 251-259 capital income shares 251 agriculture productivity 252-254 capital services 248-249 manufacturing productivity employment/labor composition 254-256 246-248 services productivity 256-257 GO (gross output) 244-245 tariff rates 238 GVA (gross value added) 246 TFP (total factor productivity) intermediate inputs 245-246, 251 growth 236-237, 242-243, 256–257, 263–264, labor income 249-251 269-270, 273 economic growth 1, 3, 25–26 and structural change 237-242 aggregate production function 259-266 economic structure, sectoral 240-241 Harberger diagrams 263-266 energy availability 271-272 pattern of aggregate economy energy efficiency 273-274 263-266 future policies 274 value added sectoral 263-264 GDP 25-26, 238-239 trade barriers 235, 238 industry sectoral classification trade liberalization 235, 239 275-276 India KLEMS database 25-26, informal sector 271-272 236-237, 244-251, 272-273, 275-276 infrastructure weakness 271-272, 273-274 Industrial Productivity in Europe: investment liberalization 235 Growth and Crisis 21–23 labor market reform 273-274 industry-level inputs 17-18 labor market rigidities 271-272 industry-level outputs 17-18 labor productivity growth 239 industry-level production account labor skills/education 270-271 19 - 20labor wage inequality 271 US see United States License and Permit Raj 237–238 industry-level productivity 15-18 manufacturing sector 236-237, measurement 16 240-241, 242, 257-259, statistics 19 273-274, 275-276 Information Technology and the American Growth market services sector 236–237, 257-259, 263, 275-276 Resurgence 51-52



More Information

570 Index

Inklaar, Robert 21-23, 29-30 brand equity 353-354 **INNODRIVE 320, 353** capital accumulation 102-103, 104 innovation, and economic growth 2-3, capital assets classification/measurement 5,35 351-354 INTAN-Invest 320, 321, 324, 325, 326, composition by industry 359-360 349-350 intangibles capital coefficient increase 85-89 capital assets classification/ capital input gap, Japan/US 488-491 measurement 351-354 capital input growth 347-348 capital and ICT capital 319-344 capital productivity 491 CHS group 347-350 capital rate of return decline 85-89 classification of 350 capital stock 359, 371 complementarity with ICT 333-343 copyright/license costs 353 correlations between 338 current account surplus 76 and economic growth 348-349 economic growth 1 Europe see Europe economic stagnation 70-71 and growth accounting 361-364 conclusions 101-105 ICT investment measurement 352 demand perspective 71-82 supply perspective 82-93 intangible assets, and productivity employee working hours 91 improvement 360-364 investments 22-23, 26-27, 28, 103 equilibrium exchange rate 75-78 measurement 347-350 excess saving 72-75, 78-82, by industry 349-350 101-102, 105 Japan see Japan executive expenditures 354 Korea see South Korea final demand deficit 104, 105 non-ICT tangibles investment GDP growth 84, 93, 472–473, 500 measurement 352 GDP per capita 14-15 non-R&D intangibles measurement and Great Recession (2007–2009) 2, 352-354 20 - 21R&D investment 352, 356 growth accounting 347-348, 361-364, 371-372 US see United States intermediate goods double-counting 29 household and corporate saving/ international capital movements 76–77 nominal GDP 81 international trade/investment, and human capital, firm specific 353–354 economic growth 28-29 **ICT** investment price relative to GDP and business process outsourcing deflator 38 IO (input-output) accounts 378 fixed costs for introduction 99-100 investment in 96-101, 104-105 IP (intellectual property) 36–37 investment measurement 352 IPP (intellectual property products) investment 40-41 non-R&D correlation 364-366 ISCED (International Standard R&D correlation 364–366, 371 Classification of Education) retail sector 100 292-293, 557 sector growth 95-96 IT see ICT software engineers 100 IWR (Inclusive Wealth Report) 452 industry classification 373 industry-level production accounts (Japan/US) 474-476 aggregate value added growth/source inflation rate 72 489-490 input per capita 485-488



More Information

Index 571

intangible assets and productivity for elementary products (Japan/ improvement 350, 360-364 US) 476-478 intangible investment 27, 104-105, for factor inputs 481-485 350, 354-360 industry level aggregation 503-504 for intermediate inputs 481–485 by industry/component 355 and gross output ratio 356 for labor input 480-481 and GVA ratio 357, 371 for outputs/intermediate outputs measurement 347-350 (Japan/US) 478-479, by industry sector 349-350 481-485 non-ICT measurement 352 purchasing power per GDP unit 470 R&D 352, 356, 362-366 intangibles and growth accounting 361-364, real estate price collapse 473 371 - 372real GDP gap 72 and ICT assets 372 real interest rates 104 and productivity growth 350, saving-investment balance 72-75, 360-364 78-82, 101-102, 105 intangibles measurement, non-R&D service sector growth 347-348, 362 TFP growth 70, 73-74, 84, 85, 88, 352-354 93, 102, 347-348, international capital movements 76-77 362-364, 472-473 investment decline 72-75 by sector 94-96 labor input decline 89-92 compared to US 95-96, 485-488 since 1990s 93-101 labor market problems 103 labor market reform 103 TFP level indices 488, 496-499 labor productivity 85, 365, 491 TFP in manufacturing/nonlabor quality 90-92 manufacturing sectors 94 Lost Decade (1990s) 473 trade friction 21, 75-78 Maekawa Report 80 Trans-Pacific Partnership/ man-hour growth 89-92 competition see Transmanufacturing growth 347-348, 362 Pacific Partnership/ market economy growth 347-348, competition and United States see Trans-Pacific 362 monetary easing 78 Partnership/competition negative GDP gap 101 volume level indices 485–488, 491 output per capita 485-488 working age population growth per capita gross prefectural product/ rate 73 social capital stock per yen valuation/dollar exchange rate man-hour labor input 78 77-78, 470-471, 481-484, 495-496, 500 PLIs (price level indices) 481-485 potential GDP 72 JIP (Japan Industrial Productivity) price level indices 469-471, 473, database 20-21, 27, 71, 481-499, 500 101, 349, 353-354, 371 product development 353 Jona-Lasinio, Cecilia 26-27 productivity gap, Japan/US 28-29, Jorgenson, Dale W. 3-5, 16-17, 18, 485–488, 500 19–20, 28–29, 34–35, 51-52, 153, 204-205, productivity growth 20-21 productivity level indices 504-506 223-224, 284, 383-385, productivity policy implications 372 437, 443, 457-458 purchasing power parities (PPPs) JSNA (Japan's System of National for capital inputs 479-480, 488-491 Accounts) 474



572 Index

Kangasniemi, Mari 21–23 Kendrick, J. 437	tangibles investment measurement, non-ICT 352
Kim, Donald D. 36–37	TFP growth 347–348, 362–364
Kim, YoungGak 20–21	training costs, employer provided
KIP (Korea Industrial Productivity)	354
database 27, 349, 353–354,	Krugman, Paul 80
371	Kuznets, Simon 19–20, 35
KLEMS methodology 510, 511	Kwon, HyuogUg 20–21
Korea	
brand equity 353–354	LA see Latin America
capital assets	LA KLEMS
classification/measurement	capital accounts module 165–166
351–354	labor accounts module 164–165
composition by industry 359–360	production accounts by industries
capital input growth 347–348	module 164
capital stock 359, 371	see also Latin America
consulting costs 354	LA KLEMS Conference 23, 24
copyright/license costs 353	LA KLEMS database 153–155,
economic growth 3	162–167, 191–192
growth accounting 347–348,	asset types 174–176
361–364, 371–372	GFCF (gross fixed capital formation)
human capital, firm specific 353-354	163, 174
ICT	distribution by asset type 175
non-R&D correlation 364-366,	distribution by industry 176, 177
371	growth accounting results 180-187,
R&D correlation 364–366	192
ICT investment measurement 352	labor characteristics, by industry
industry classification 373	(United States) 46
intangibles	labor force skills, Europe 113–114,
assets and productivity	131–138
improvement 360–364	labor input 29, 37, 289–294
and growth accounting 361-364,	constant quality index of 16
371–372	measurement 3-4, 17, 158-162
and ICT assets 372	US structure changes 43–51
investment 27, 350, 354–360	labor productivity, Japan 85
by industry/component 355	labor productivity growth 12–13, 25,
and gross output ratio 356	365
and GVA ratio 357, 371	labor productivity measurement 4–5,
measurement 347-350	158–162
by industry sector 349–350	labor quality
non-R&D 352-354	and age 46–51
and productivity growth 350	contribution of education, age and
labor productivity 365	gender 43–45
manufacturing growth 347–348, 362	education distribution 44–45
market economy growth 347-348,	growth 36
362	Labor Standards Act (Japan) 89
product development 353	Landefeld, J. Steven 16–17
productivity policy implications 372	Latin America
R&D 352, 356, 362–366	capital contributions 180–187
service sector growth 347–348, 362	capital/labor ratio growth 188–191



More Information

Index 573

employment and education levels locomotive theory 76 178 - 180Los, Bart 29-30 GFCF (gross fixed capital formation) 163, 165–166, 170–172, McCulla, Stefanie H. 36-37 192-193 Maddison, Angus 1, 3-4 growth accounting 180-187 Maekawa Report 80 Makino, Tatsuji 20-21 growth shift-share decomposition 188-191, 193-194 Mas, Matilde 21-23 human capital 156-157 Mayerhauser, Nicole M. 36-38 ICT capital formation 166–167, Metcalfe's law 130 174-176 Mexico KLEMS seminar 23-24 ICT capital/labor growth 188-191 MFP (multi-factor productivity) growth industries in 163 282-283, 288, 377-379, industry specialization changes 387-389, 449 187-191 Miyagawa, Tsutomu 26, 27 investment effort 174, 192-193 Moore's Law 61 in ICT 176-178, 192-193 Moulton, Brent R. 35 investment levels 173, 174-176 MPS (Material Product System) KLEMS see LA KLEMS 209-210, 289-291, 292 labor contributions 180-187 Mulder, Nanno 23 labor force characteristics 164-165 NACE Rev2 classification 325 labor productivity 158, 167-172, NAICS industry classification 52 188-191 NAS (National Accounts Statistics) labor/employee hours worked 244, 246, 249, 289-291, 178, 193 296-298, 311 non-ICT capital/labor growth natural resources curse 172 188-191 negative productivity growth 8 new economic order (2022) 13-14, 15 productivity NIPAs (National Income and Product background 155-158 GDP per capita, by country Accounts)(US) 16-17. 167-170 27-28, 34-35, 36-38, 377, main trends 167 378, 381, 383–384, 388-389 manufacturing sector 157 Nomura, Koji 28-29 output per capita 156 sectoral 157-158 non-human capital investment, and theoretical framework 158-162 economic growth 3 Sources of Growth (Growth non-information technology, and Accounting) methodology economic growth 6, 9 Nordhaus, William D. 16-17 156 structural change 187-191 NSSO (National Sample Survey TFP contributions 180-187 Organizations) 244, 246 TFP growth 156-158, 173, 187-191, NSTAC (National Statistics Center) 193-194 474 value added growth 158, 170-172, 180 - 187OECD Capital Manual (2009) 3-4, determinants 180-181 5-6, 17, 18-19 by industry/country 181-187 OECD Productivity Manual (2001) 3-4, 15-16, 17, 18, 34-35 volatility and growth 170–173, 192 O'Mahony, Mary 21-23, 111, 112, 301 Liu, Gang 28



More Information

574 Index

O'Neill, Jim 1 replication and economic growth 2-3 Optimistic Case scenario, for world United States 35 economic growth 10-15 output growth measurement 5-6, Restuccia, D. 157 205-206, 289-294 RIETI (Research Institute for Economy, Trade, and Industry) 25 Rivero, R. 157-158 paradox of plenty 172 Pessimistic Case scenario, for world Rosenthal, Steven 27-28, 35, 37-38 Rosstat 289-291, 293, 298, 311 economic growth 10-15 PIAAC project 450 routinization hypothesis 558 PIM (Perpetual Inventory Method) 242, Russell, Matthew 27-28, 35, 37-38 294–298, 436–437 Russia PISA project 450 aggregate economy growth Planting, Mark 37-38 accounting alternatives Plaza Agreement/Accord (1985) 76, 300-301 470, 484 aggregate input, sectoral 304–310 PPI (producer price index) 210 capital input 294-300, 304-307, 310-311 PPPs (purchasing power parities) 304 capital stock 294-298 see also Japan; Trans-Pacific Partnership; United States capital in value added 293-294 prices/quantities duality 159 changing structure of economy productivity 3, 6 301-303 communist capital 295-296 and aggregate output per capita 29-30 data sources 289-300 aggregate productivity growth 53-58 economic downturn 26 at industry level 15-18 economic growth 1, 9, 281-284 contribution of industry groups economic shocks 284, 300 53-58 employment growth 291–292 Europe see Europe gas 283, 309 and international competition GDP per capita growth 281-284, 28 - 29310-311 GDP per sector 301, 303 Japan see Japan Latin America see LA global financial crisis (2008) 302 measurement 4-6, 21-23 growth accounting method 284-288 Metcalfe's law 130 growth accounting results 300-310 US see United States industries by sector 301, 303, 312-313 productivity growth 4-5, 8, 20-21, 26 industry level growth 283 contribution of industry groups 61 input growth 284 labor composition 292-293, 301 labor productivity projections 62 labor costs 293-294 Pyo, Hak Kil 26, 27 labor input 289-294, 304-307, QCEW (Quarterly Census of 310-311 Employment and Wages) labor in value added 293-294 383-384 manufacturing 302 as market economy 282 R&D, investment in 22-23 market services 302 RAS method 384 MFP (multi-factor productivity) rate of return measurement 286-288 growth 282-284, 287, real interest rates 104 300-301, 304-307, regional value chains 30 310-311



More Information

Index 575

Harberger diagrams 307-310 Strassner, Erich 27-28, 35, 36-38 Stuivenwold, Edwin 21-23 sectoral 307-310 mining sector 283-284, 302, 306, SUTs (supply and use tables) 516-517 309, 310 Szirmai, A. 157 MPS (Material Product System) 209-210, 289-291, 292 Taiwan, economic growth 3 non-market services 302, 303 Takizawa, Miho 20-21 non-wage payments 293-294 TED (Total Economy Database) 3-4, oil 283, 309 5-6 output 289-294 TFP (total factor productivity) 8, 70 productivity growth 26 aggregate growth 207-209 sectoral 304-310 China see China retailing 284 Europe see Europe services sector 303 growth by sector/country 97 tradable natural resources 283 growth and IT intensity 42 value added decomposition, market Japan see Japan economy growth 299 Latin America see Latin America value added sectoral shares 303 US see United States Third World KLEMS Conference 24, value-added in NAS 311 Russia KLEMS 26, 289, 291, 2.6 300, 311 Timmer, Marcel P. 18, 21-23, 26, 29-30, 111, 112 Samuels, Jon D. 19–20, 27–29, 35, Tonogi, Konomi 26, 27 37-38, 443 Trans-Pacific Partnership/competition 469-506 Schramm, Carl 19 Schreyer, Paul 3-4, 15-16, 17, 18, asset depreciation 475 34-35 capital input gap 488-491 conclusions 499-502 SEA (Socio-Economic Accounts) 510, data sources 473, 474-481 516-517 future implications 473, 499-502 Second World KLEMS Conference 23 Sengupta, Sreerupa 25-26 industry-level production accounts service flow concept 386 474-476 SIC (Standard Industrial Classification) introduction/overview 469-473 labor services estimates 474 385-386 Sichel, Daniel 347-350 PLIs, industry level 484-485 Singapore, economic growth 3 price level indices 469-471, 473, Smith, Shelly 36-37 481-499, 500, 502-503 SNA (System of National Accounts) productivity gap (Japan/US) 28-29, 3-4, 5-6, 16-17, 18-19, 471, 473, 481-499, 500 39-40, 154, 209-210, 289, industry origins of 492-499 311, 432, 433-434, 438 productivity level indices 504-506 Solow, Robert M. 19-20, 35 public sector classification 475-476 Sources of Growth (Growth purchasing power parities (PPPs) Accounting) methodology for capital inputs 479-480, 156 488-491 sources-of-growth analysis 320 for elementary products 476-478, South Korea see Korea 502-503 Stehrer, Robert 21-23 for factor inputs 481-485 Stiroh, Kevin J. 16, 34-35, 51-52, GDP 481 223-224, 284, 383-385 for intermediate inputs 481–485



More Information

576 Index

Trans-Pacific (cont.) human capital investment, for KLEMS 483 production account for labor input 480-481 comparisons 443-448 for outputs/intermediate outputs ICT 38-42, 51-60, 64, 95-96, 103, 478–479, 481–485 381-382 purchasing power per GDP unit 470 productivity 379 industry accounts benchmark R&D investment 475 revision 27-28 SUT (supply and use tables) 475 TFP (total factor productivity) 471, industry growth future 422 485-488 industry growth sources 388-408 aggregate capital contribution 419 agriculture, forestry, and fishery aggregate integrated MFP 493-494, 501 gaps in manufacturing/noncontribution 421 aggregate labor contribution 420 manufacturing 491 manufacturing sector 494-495 aggregate value added 409-410, medical care 493, 501 415-417 TFP (total factor productivity) gaps, capital contribution sources 396-401 industry origins 492–493 volume level indices 485-488 integrated industry MFP growth see also Japan; United States 389-395, 421 labor contribution sources 402 output growth differences UN HDI see HDI UN IWR see IWR 395-408 UN SNA see SNA sectoral aggregate integrated MPF UN Statistical Commission 18-19 412-413 sectoral value-added 411 United States accounting framework changes industry-level production account 1947-2012 period 36-51 381-383 aggregate value added growth/source aggregate GDP growth 489-490 decomposition 377-378, capital input gap, Japan/US 488-491 408-422 capital input 385-387 capital input structure changes 38-42, 58-59, 86, 380-381 integrated MFP 378-379, capital productivity 491 387-388 labor input 383-385 current account deficit 76 economic growth 8-9, 19-20, 34-67 overview of framework 381-383 conclusions summary 63-64 industry level production accounts future growth 60-63 (Japan/US) 474-476 future projections 34–35, 64–67 innovation 35 sources of 51-60 input per capita 485-488 economic structural change 379 intangible investments 137-138, fixed asset investment 385-386 381-382 GDP per capita 14-15 integrated MFP/official US MFP Great Recession period (2007-2009) comparison 424-427 2, 8–9, 19–20, 35–36, intellectual property 385–387 Investment Boom period 35-36, 43-45, 60, 61-62, 63-64, 379 58-59, 64 Growth and Recession (1995–2012) IO (input-output) accounts 378 period 35-36, 43-45, and Japan see Trans-Pacific 58-59 Partnership



More Information

Index 577

Jobless Recovery period 35-36, replication 35 53-59, 64 size of economy 1 TFP growth 28, 42, 95-96, 103, KLEMS-type research 19 labor 472-473, 485-488 TFP level indices 488, 496-499 characteristics by industry 46 self-employed 382 Trans-Pacific Partnership/ labor input competition see Transindustry level production account Pacific Partnership/ 383-385 competition structure changes 43-51 volume level indices 485-488, 491 labor productivity 365, 491 ven/dollar exchange rate 77–78, labor quality 470-471, 481-484, and age/wages 46-51 495-496, 500 growth 36 UPS (usual principal status) 246-248 Long Slump (1973-1975) period UPSS (usual principal and subsidiary 35-36, 58-59, 61-62 status) 246-248 Usher, Lisa 27-28, 35, 37-38 MFP (multi-factor productivity) growth 377-378, 387-395, 409-410, 412-413, value added growth 52-53, 207, 216, 284, 299 424-427 output per capita 485-488 van Ark, Bart 18, 21-23, 111, Postwar Recovery (1947–1973) 112, 301 period 35–36, 43–45, van Moergastel, Ton 21-23 53-59 Vergara, R. 157-158 potential productivity growth Voskoboynikov, Ilya 26 projections 62 Vu, Khuong Minh 3–5 price level indices 469-471, 473, Wasshausen, David B. 35, 36-37 481-499, 500, 502-503 productivity gap, Japan/US 28-29, WIOD (World Input–Output Database) 485-488, 500 17–18, 24, 29–30, 510, productivity growth by sector 120, 516-519, 543-546 424-427 WIOT (World Input-Output Tables) productivity level indices 504-506 543-546 World Bank purchasing power parities (PPPs) for capital inputs 479-480, International Comparison 488-491 Program 2005 (ICP 2005) 1 for elementary products (Japan/ International Comparison US) 476-478, 502-503 Program 2011 (ICP 2011) 1 for factor inputs 480-485 world economic growth 6-9 industry level aggregation 503-504 projections 10-15 for intermediate inputs 481–485 sources of 6, 7 World KLEMS Initiative 6, 18-30, for labor input 480-481 for outputs/intermediate outputs 63, 378 (Japan/US) 478-479, world productivity growth projections 481-485 10, 11 purchasing power per GDP unit 470 Wu, Harry 25 R&D 377, 380-382, 385-387, 388-389, 422 Ypma, Gerard 21–23