Index

Abernathy, W. 150
Adjerad, S. 87, 88–9
Afonso, A. 72–3, 74
Aigner, D. 20
Anderson, R. 52
Arrow, K. 126
Asai, S. 76
Ashaye, T. 69, 70
Australia
  benchmarking strategies 181
  financial services evolution 51
  productivity and efficiency in universities 73
  public sector efficiency and performance 74
  public sector performance 74
  public services output indicators 69
Austria, productivity of insurance services 51, 52
banking industry
  assimilation and differentiation strategies 167
  DEA productivity measurement 73
  efficiency 51, 52
  industrialization of services 169
  and technological innovation (ATMs) 150
  value as 'net banking income' 46, 49, 51, 55, 57–8
Barras, R. 148, 150, 180
Barraud-Didier, V. 129
Barro, R. 127
Barros, C. 52, 76
Barros, C. 51
Bartelsman, E. 124
Bassanini, A. 123
Batley, R. 179
Battese, G. 20
Bauer, P. 13
Baumol, W. xiii, 25, 28, 34, 144–6, 172
Baxter, M. 69, 70
Bélanger, J. 133
Belgium
  performance measurement in Post Offices 73
  public sector efficiency 74
Bell, D. 152, 153–4, 157
benchmarking
  inter-organizational comparisons 29
  productivity, traditional factors influencing 138
  public services, productivity factors 181
Bernatchez, J. 7
Berry, M. 211
Billaudot, B. 24
Blandin, O. 6
Bluestone, B. 152
Boltanski, L. 52, 77
Bonneville, L. 26, 30, 152
Boorsma, P. 137
Boulouane, N. 133, 134, 135
Boyer, R. 24
Broussolle, D. 37
Burchell, B. 127
business incubators, output and performance 82–5
Canada
  organizational changes in social affairs sector 175
  police service productivity 75
  private-sector management principles in civil service 178
  productivity in Ministerial Administrative Services, integrated approach 183–4, 212
  Statistics Canada workplace and employee survey 133, 134
Caplan, D. 65, 70
Castagnos, J. xii
Caves, D. 17
Chaffai, M. 13
Index

Charnes, A. 16, 18
Chu, S. 51
Clark, C. xi
Coe, D. 124
Coelli, T. 76
Cohen, M. 127
Cohen, S. 152
collective consumption and productivity measurement 65–6, 69

competition
‘European competitiveness report’ 176
lack of, and public services 63–4, 73
and productivity, link between 25
consultancy services 102, 103–4, 106, 108, 110, 111, 112, 206, 211–12
productivity factors 164–5

consumers, direct and indirect 66–7
Cora, G. 20
Cully, M. 135
Cunéo, P. 123, 124
customer influence
and public services, productivity factors 197
service challenge 37–8, 39–40, 41, 46, 54, 55, 57
see also self-service society

Czech Republic, education system
output indicators 75

Danjou, B. 200, 201
data envelopment analysis (DEA)
and efficiency 16–17
and public services 72–5
service challenge 48, 51, 52

Debreu, G. 13
decentralization
health services 203
and public services, productivity factors 179, 185, 203, 207, 215


Delaunay, J.-C. 159
Delfini, C. 77, 80–1
Denison, E. 23
Dewatripont, M. 138
Dixit, A. 138, 182
Dolton, P. 182
Donthu, N. 51
Dopuch, N. 51, 52

Drake, L. 51, 73, 76
Drucker, P. 152
Du Tertre, C. 6
Dumez, H. 180
e-government proposals
ADELE plan, France 188
European Commission 180–1
public services, productivity factors 180–1, 185, 188
US 180–1
economic crises, positive effects of 139
economic growth and living standards, link between 21–4
economic theory, and public services 63–4
education system
collective consumption and productivity measurement 66
DEA productivity measurement 72, 73
econometric productivity measurement 76
governance structures and agency theory 182
output indicators 35, 74–5
output measurement and collective consumption 66
output and outcome indicators 62, 70
output quality measurement 71
performance problems 64
and self-service society 159
service sector, productivity factors 162

efficiency
and data envelopment analysis (DEA) 16
definition 5
and effectiveness, link between 5–6
in European banking 52
of labour 8
and performance, distinction between 72–3
productivity 34–5
public sector 63, 74
public services and productivity factors 173, 182, 183, 185
scaling problem 6
technical, and data envelopment analysis (DEA) 16–17
technical, and production frontier 14–16, 20
in urban public transport, France 76
employment services
outputs and performance in France 77
production worlds 80–1
and productivity, link between 25–6
energy services
econometric productivity
measurement of electricity 76
performance problems 64
Englander, A. 124
equality of treatment, public services 64, 67
Europe
banking efficiency 52
European Council, stability and growth pact 27
European Foundation for the Improvement of Living and Working Conditions survey 135
European Quality Prize 179
European Work Organization survey 134
policies for productivity improvement 176–81
public sector performance 74
European Commission
e-government proposals 180–1
ESA (European System of Accounts) output indicators for public services 68
‘European competitiveness report’ 176
Handbook on Price and Volume Measures in National Accounts 27
Eurostat
output measurement proposals 68
and quality variations 71
family welfare offices
production worlds 87
productivity and performance 85–90
and relational bureaucracy 87–9
Färe, R. 17
Farrell, M. 13, 14, 15, 16, 18
Farsi, M. 76
Fernandez, C. 52
Finland
education system output indicators 75
public services output indicators 69
fire service
econometric productivity
measurement 76
output and outcome indicators 35, 62, 70
Fisk, D. 69
Fleck, J. 127
Fordism 132–3, 162, 168
Forte, D. 69
Fox, K. 173
France
budgetary reform 186–8
civil service recruitment flexibility 174
Department of Health and Social Affairs, model application 100–2, 103–4, 105
Department of Health and Social Affairs model of organizational levels 95–8, 103
Department of Health and Social Affairs, output and productivity of planning and steering functions 111–17
e-government (ADELE plan) 188
efficiency in urban public transport 76
evolution of manual and management employment in manufacturing and services 154, 156
government department outsourcing 199–202
human resource management 188
Ministry of Health and Public Affairs, intensive productivity strategies 209–10
Ministry of Health and Public Affairs, productivity in 202–15
Ministry of Health and Public Affairs, recent productivity developments 202–4
Ministry of Health and Public Affairs, reforms and...
Index

diminishing returns for concept of productivity 206–15
Organic Law on the Finance Acts (LOLF) 184, 186–8, 200
outputs and performance in National Employment Service 77, 80–1
Post Office performance tree 189–99
Post Office performance tree, improving 198–9
Post Office performance tree, limitations 196–7
Post Office productivity and performance 77, 78–9
productivity and French regulationist school 23–4
productivity in public services improvement strategy 184–8
productivity and R&D 123, 124
public sector efficiency 74
public-private partnerships (PPPs) 188
retail and distribution, industrialization of services 168
and self-service society 159
‘Solidarity and integration’ objective 187
total quality management (TQM) and European Quality Prize 179
Freeman, C. 25
Fuchs, V. xiii
Fuentes, H. 52
Gadrey, J. 21, 26, 30, 34, 39–40, 41, 43–4, 46, 47, 55, 56, 102, 154, 156, 157, 159, 160, 163, 166, 168, 170, 199, 211–12, 215
Gaebler, T. 173
Gamache, R. 8, 21, 121, 140
Germany
R&D elasticity of output 124
work organization and performance 135
Gershuny, J. 157–9
Gilbert, R. 73
Giles, A. 25
Goldman, E. 54
Gollac, M. 127
Gordon, R. 123
Gorz, A. 152
government administrative services collective consumption and productivity measurement 66
DEA productivity measurement 73
e-government proposals see e-government proposals
tax offices, econometric productivity measurement 76
see also local government
Green, F. 127, 128
Greene, W. 52
Greiner, J. 66, 173
Griliches, Z. xiii, 123, 124
Gueret-Talon, L. 179
Halachmi, A. 137
Hall, B. 124
Hall, M. 51
Hammond, C. 73
Handler, H. 69, 70
Harris, G. 21, 121, 139, 140, 141
Harrison, B. 152
He, Y. et al 52
health services assimilation and differentiation strategies 167
cost reduction and saving on resources 213, 214
DEA productivity measurement 72, 73
decentralization 203
econometric productivity measurement 76
evaluation of output and performance 63
French Department of Health and Social Affairs model of organizational levels 95–8, 103
governance structures and agency theory 182
industrialization of professional services 165–6
informational asymmetries between producers and consumers 63
IT and regulatory changes and productivity 76
output definition difficulties 60–1
output indicators 74
output measurement and collective consumption 66
ICTs and productivity 52
and public services productivity factors 165-6, 167-8, 169
and productivity 178-18, 197-20, 211
and agency theory 137, 8
and public services productivity factors 132, 134
and productivity factors 145, 162, 3
industrialization services applied to 41, 44
individual competency levels 152, 154
as pure public good product 64
Justice system and criminality 35
output and outcome indicators 62, 70
DEF productivity measurement 73
and productivity factors 176-8, 203, 211
and public services productivity factors 160-1, 183, 192, 201, 211
and productivity factors 145, 162-3
and public services productivity factors 145, 162, 3

Index
Index

learning phenomena and productivity, traditional factors influencing 126–7
knowledge economy
  knowledge-intensive services 104–7
  knowledge-intensive services, consequences of cognitive nature of 107–9
  knowledge-intensive services, horizontal relationships 112
  and productivity 28–9, 30
  and service sector, productivity factors 152–3, 165
Knox Lovell, C. 172, 173
Koopmans, T. 13
Kopel, S. 178
Kubr, M. 109

Lakshmanan, T. 148
Lawrence, D. et al. 181
Lay, G. 135
Le Duff, R. 173
Le Maître, D. 7, 213
Le Pen, C. xii, 65, 75
Lee, B. 73, 76
Leibenstein, H. 127, 129–30
leisure industry
  and self-service society 157–8
  travel agencies, assimilation and differentiation strategies 167
  travel agency and hotel industry efficiency, Portugal 51, 52
Levinthal, D. 127
Levitt, T. 160
Lewin, A. et al. 73
Lichtenberg, F. 124
Lindsay, C. 173
Lindsay, W. and J. Petrick 179
local government
  DEA productivity measurement 73
  econometric productivity measurement 76
  see also government administrative services
Lovelock, C. 160
Lowe, G. 30
Lucas, R. 126
Lundvall, B. 127
Luxembourg, public sector performance 74
Mahar, M. 152
Mahlberg, B. 51, 52
Mairesse, J. 123, 124
Malaysia, productivity improvement recommendations 176, 177
Malerba, F. 127
Mallaret, V. 111, 112
Malmquist, S. 17–19
Maniadakis, N. 73
Mansfield, E. 123, 124
Massa, E. 200, 201
McCarthy, P. 76
Meckling, W. 137
Meeusen, W. 20
Meisenheimer, J. 154
Menon, N. 76
Miles, I. 157–59
Milgram, P. 138
Mintzberg’s model of organizational levels and productivity 92–9, 100, 101, 105, 202, 203, 214
Mittelstädt, A. 124
Mohnen, P. 123
Murillo-Zamorano, L. 13
Mutter, R. 76
Nachum, L. 51, 110
Nadiri, M. 124
national defence
  collective consumption and productivity measurement 66, 69
  as ‘pure public good’ product 64
Nemoto, J. 76
Netherlands
  public services output indicators 69
  R&D elasticity of output 124
  TNO survey on work organization and performance 135
Nonaka, S. 106
Northwood, K. 69
Norway, productivity and efficiency in vehicle inspection services 73
Noyelle, T. 154
Odeck, J. 73
OECD
Index

handbook on measurement of prices and volumes in national accounts 47–8
and knowledge-based economy studies 148
output and productivity measurement proposals 68, 69
PISA (Programme for International Student Assessment) survey 74
Statistics Directorate and Committee for Public Management (PUMA) 68
survey of methods of measuring value added 46–7
Oi, W. 37
Olson, M. 65
opportunism 137, 138
organizational and intra-organizational levels, public services, productivity factors 188–215, 206, 208–11
Osborne, D. 173
Ouellette, P. 73
Oum, T. 76
outsourcing, productivity, traditional factors influencing 136

Papillon, J. 173
Parienty, A. 21
Patel, P. 124
patent applications and productivity growth 123
Pavitt, K. 148
pay levels
incentives see incentive systems public services, productivity factors 176–8
wages and prices, service challenge and deflation of value produced by 47, 49
see also prices
Perret, B. 29, 152–3
Petit, P. 25, 147–8
Pilat, D. 8
Poland, education system output indicators 75
police
DEA productivity measurement 73
ecometric productivity measurement 75, 76
output definition difficulties 60, 61–2
output and outcome indicators 62, 70
quality and outcome indicators 71–2
see also justice system
Porat, M. 152
Portugal, travel agency and hotel industry efficiency 51, 52
postal services
DEA productivity measurement 73
input reduction problems and unit costs 174
outputs, 'families of criteria' for defining 78–9, 193–4
performance problems 64
performance tree in France see under France
productivity and performance in France 77, 78–9
prices
productivity measurement, gross output and value added (net output), reservation prices for new products 11–12
variations, allowing for 9, 10–11, 15
and wages, service challenge and deflation of value produced by 47, 49
see also pay levels
Pritchard, A. 36, 69, 70
productivity
absolutism, doubt on 30–1
and competitiveness, link between 25
concept of, in economic theory 21–6
concept of, questioning 26–31
conceptual invalidity and abandonment of notion of productivity 28–9
confusion with related notions 4–6
and cost efficiency 34–5
definition 3–7
definition, and service output 33–4
and demand regime 24
and economic growth and living standards, heterodox growth theories 23–4
and economic growth and living standards, link between 21–4

Faridah Djellal and Faiz Gallouj - 9781848444966
Downloaded from PubFactory at 09/17/2023 11:51:34PM
via free access
and economic growth and living standards, measurement of 21–3
and economic well-being, measurement of 30–1
efficiency 34–5
and employment, link between 25–6
evaluation 51–5
and French regulationist school 23–4
and ICTs 52
improving strategy and cost-cutting 36
individual level of analysis 6–7
and innovation 26
and inter-organizational comparisons 29
intra-organizational level of analysis 6–7, 31
and knowledge economy 28–9, 30
labour, and capital availability 8–9, 22, 24
labour and capital, defining and measuring 12
macroeconomic level of analysis 30
meso and macroeconomic level of analysis 6
microeconomic level of analysis 6, 30
multi-criteria evaluation, need for 29–31
and neoclassical view of workforce 31
physical, value and volume terms 9
and price variations, allowing for 9, 10–11, 15
ratios, problem with too many 138
regime 23
service challenge see service challenge
and service quality 28
service sector see service sector, productivity factors
and uncertainty 29
and unit labour costs 25
and value 31, 41
productivity measurement
analysis levels of 6–7
and definition of output 10–12
deterministic frontier techniques 19–20
econometric approach, advantages of 20
error and correction argument 26–8
frontier techniques 13–20
gross output and value added 10, 11–12
index-based methods 8–13, 20, 68–72
Malmquist index 17–19
monofactorial and multifactorial indicators 8–9
non-parametric methods 16–19
non-parametric methods, data
envelopment analysis (DEA) 16, 18, 19
non-parametric methods, and decision-making units (DMUs) 16, 17
problems with 9–13
public services 67–76
and quality and innovation life cycles 9–10
and service output 33–4
stochastic frontier analysis (SFA) 20
productivity in public services see public services, productivity factors
productivity, traditional factors
influencing 121–42
benchmarking 138
competency improvement 126–7
economic crisis, positive effects of 139
economic factors 138–40
education and training 126
equipment investment 123
exchange rates 139
human factors 125–30
incentive systems and agency theory 137–8
international investment and trade 139–40
and learning phenomena 126–7
opportunism 137, 138
organization of production process 131–6
organization of production process and HRM practices 135–6
organization of production process and worker participation 133–4
organizational factors 130–8
outsourcing 136
patent applications and productivity growth 123
political and institutional factors 140–1
R&D investment 123, 124, 125, 134
social factors 140
technical factors 123–5
technological innovation 123, 124–5
technological innovation and rejection of change 125
technological innovation and time lag 124–5
trade unions 140
unemployment 139
work effort and intensity 127–30
work effort and mobilization practices 129
and X-efficiency theory 127, 129–30
public libraries, DEA productivity measurement 73
public services
Atkinson Report 70–1
business incubators, output and performance 82–5
challenges of 58–90
characteristics and productivity consequences 64–7
collective consumption and productivity measurement 65–6
competition, lack of 63–4, 73
continuity of service 67
and data envelopment analysis (DEA) 72–5
direct and indirect consumers 66–7
econometric methods of productivity measurement 75–6
and economic theory 63–4
and effective output 62
efficiency in 63
equality of treatment 64, 67
fairness and social justice equity 64, 67
financial consistency 67
input quality measurement 71
international comparisons 72–5
market price, lack of 65
mediate and immediate output, distinction between 62
output consistent with principles of 67
output definition difficulties 60–2, 65
output measurement in terms of activities 68–71
output measurement in terms of input (and cost deflation) 68
output and outcome indicators 62
output and time horizon 62–3
performance and efficiency, distinction between 72–3
production or consumption externalities 64
productivity factors see public services, productivity factors
public dimension of 63–7
‘pure public good’ product 64
quality and outcome indicators 71–2, 86
quality and productivity measurement difficulties 65
and quality variations 71–2
regulatory institutions 60, 61
as services 59–63
specificities and consequences 58–67
and value systems 63, 67
see also service challenge; service sector, productivity factors
public services, internal steering, planning and design departments 91–118
consultancy services 102, 103–4, 106, 108, 110, 111, 112, 206, 211–12
delegated levels 96–7
direct and indirect clients, distinction between 112
French Department of Health and Social Affairs model 95–8, 103
French Department of Health and Social Affairs model application 100–2, 103–4, 105
French Department of Health and Social Affairs, output and productivity of planning and steering functions 111–17
French Department of Health and Social Affairs, units within 113–16
innovative solutions, ad hoc 107–8, 110
intellectual functions 102–4  
intra-organizational levels 92–8  
knowledge circulation, modalities linked to 106–7  
knowledge source, effect of 109  
knowledge-intensive service providers, price considerations 110, 111  
knowledge-intensive services 104–7  
knowledge-intensive services, consequences of cognitive nature of 107–9  
knowledge-intensive services, horizontal relationships 112  
labour input structure 112  
middle line 92–3, 95, 99, 100, 101  
Mintzberg’s model of organizational levels and productivity 92–9, 100, 101, 105, 202, 203, 214  
operating core 92, 96, 98, 99, 101  
operational support functions 102  
performance evaluation of internal intellectual functions 111  
productivity for any given level 99–100  
productivity at intra-organizational level 98–102  
productivity, defining and measuring 102–17  
productivity input measurement 110–11  
productivity output measurement 110  
productivity and strategic steering functions 112  
quality of input 108–9  
strategic apex (top management) 92, 95, 96, 98, 99, 208–9  
support staff 94–5, 96, 99, 100, 101, 102–3, 105, 106, 113–16, 206  
technostructure 93–4, 95–6, 98, 99, 100, 101, 103, 112–16, 160, 204, 206, 215  
public services, productivity factors 171–216  
agency relationships 172  
benchmarking strategies 181  
cost reduction and saving on resources 213–14  
and customer structure 197  
and decentralization 179, 185, 203, 207, 215  
deconcentration 203, 207, 215  
delegation 202–3, 207, 214  
demand variations, responding to 173  
and demotivation 213  
e-government 180–1, 185, 188  
earlier studies and debate 183–4  
efficiency 173, 182, 183, 185  
environmental specificities 196–7  
exploitation of sources 207–8  
extensive productivity strategies 207–8  
flexibility 173  
French strategy 184–8  
general policies for productivity improvement 175–88  
governance structures and agency theory 182–3  
government budgetary reform 186–8  
human competency levels 212–13  
human resource management 176–8, 188, 204–6, 210  
ICTs 180–1, 183–4, 202, 207, 211  
incentive mechanisms 178, 182–3, 197, 210, 211  
induced performance strategies 206  
information reliability 183  
input reduction problems and unit costs 174, 189–91  
institutional factor 175, 186  
integrated approach, Canada 183–4, 212  
intensive productivity strategies 208–13  
internal performance strategies 204–6, 214  
internal steering departments see public services, internal steering, planning and design departments  
knowledge processing 211  
looking beyond 76–90  
management objectives 172–3, 174  
management reforms 176–9, 180  
measurement 67–76  
measurement, index-based approach 68–72  
organizational and intra-
organizational levels 188–215, 206, 208–11
output control problems 173–4
pay differentiation 176–8
performance goals, exploitation of other 213–15
performance tree, French Post Office see under France
policy reform 214–15
private-sector management principles 178–9
privatization and outsourcing 179–80, 185, 199–202, 204, 207
productivity in French Ministry of Health and Public Affairs 202–15
productivity levers 174
productivity sources, depletion of 207
property rights 172
protected status 172
public service performance improvement strategy, UK 181–3
public-private partnerships (PPPs) 179–80, 188
reasons for renewed interest xii-xiii
recommendations for productivity improvement 175–6
relational operations 211–12
resource substitution problems 173, 191
risk management 200, 201, 215
specificities and productivity levers 172–5
statistics, problems with 215
total quality management (TQM) 178–9, 197, 211
see also service sector, productivity factors
public-private partnerships (PPPs) 179–80, 188
quality
European Quality Prize 179
gross output and value added, quality and new product variation 11–12
improvements, and service challenge 34, 46
of input, public services, internal steering, planning and design departments 108–9
input quality measurement in public services 71
and outcome indicators, police 71–2
and outcome indicators, public services 71–2, 86
and productivity measurement difficulties, public services 65
variations, and public services 71–2

R&D
elasticity of output 124
investment, and productivity 123, 124, 125, 134
and new productivity paradox, service sector 150–2
Ratchford, B. 52
Rees, R. 172
resource substitution problems, public services 173, 191
retail services and distribution, industrialization of services 168
production value 46, 49, 52
Reynolds, D. 51
risk management 200, 201, 215
Rochet, C. 203
Romer, P. 23, 126
Rosenberg, N. 127
Rosko, M. 76
Rothwell, M. 181
Rouillard, L. 178, 181
Rouse, P. 51
Roy, W. 76
Rubalcaba, L. 154
Sala-i-Martin, X. 127
Salais, R. 85, 86, 87
Santos, C. 151
Sarkis, J. 73
Sassenou, M. 124
Schreyer, P. 123
Schreyer, P. 8
Schwartz, Y. 6
Scicluna, E. 75
Segal, D. 52
self-service society and service sector, productivity factors 157–9, 160
see also customer influence
service challenge
banking industry, value as ‘net banking income’ 46, 49, 51, 55, 57–8
cognitive operations 45
contractual operations 45, 56
customer influence 37–8, 39–40, 41, 46, 54, 55, 57
data envelopment methods (DEA) 48, 51, 52
deflation of value produced by price and wages 47, 49
distinction between ‘worlds’ of production 52–3, 63
econometric methods of measurement 48, 52
functional decomposition of services and productivity 44–5
immediate and mediate output 34–5
immediateness of services 38
index-based methods for measuring productivity 45–8, 49–50
and industrialization 38–9
informational operations 44
and innovation 34, 54
intellectual services and organized productive knowledge 41, 42, 43, 44
interactive (co-produced) output 37–8
internal organizational and management services 43–4
internal steering and planning services 44
and labour factor 38
measuring productivity in services 45–55
multi-criteria framework for evaluating 53–5, 57
and output effect over time 34–6
output fuzziness 33–4
output and interactive nature of production 37
output and value systems in public services 36–7
performance and outcome in public services 36
productivity evaluation 51–5
public services, implied deflator (cost per unit of output) 36, 46
and quality improvements 34, 46
retail services production, value of 46, 49, 52
service definition 39
service mediums and productivity analysis 40, 41, 42
service mediums, technical 41
service outcome and performance 35
service triangle 39–40, 59–60
services applied to individuals’ knowledge and capabilities 41–3, 44
specifics and consequences for productivity 38–45
tangible operations 44
technical specificities of services and their consequences 32–8
typology of services for productivity analysis 40–4
see also public services
service sector, productivity factors 143–70
assimilation strategies 155–63, 166–7, 168
Baumol’s model 25, 28, 34, 144–6, 172
blueprint of discount brokerage service 160–2
cognitive rationalization 164–5
consultancy activities 164–5
and costs 145
differentiation strategies 163–6, 166–7, 168
education and training 162
and employment opportunities 153–5, 158, 159
human levers 152–5
and ICTs 145–8, 162–3
individual competency levels 152, 154
industrial rationalization 156, 157, 159–60
industrialization of professional services 165–6, 167–8, 169
integration strategies 166–9
and knowledge economy 152–3, 165
loyalty and credit cards 169
and network firms 149
performance assessment criteria 163
personal interactive services 148, 149
productivity levers 143–55
productivity strategies 155–69
professional rationalization 156, 163–5
R&D and new productivity paradox 150–2
and self-service society 157–9, 160
service dispensing activities 148, 149
specialized suppliers and technological innovation 149–50
and standardization, formalization and routines 164
task-interactive services 14, 148
technical levers 144–52
technological trajectory approaches 148–50
see also public services, productivity factors
Sharle, P. 180
Shostack, G. 160
Shu, W. 52
Simper, R. 73, 76
Smith, A. 131, 132
Smith, P. 182
social services
  collective consumption and productivity measurement 66
  output indicators 70
  policy reform 214
Soete, L. 25, 124, 148
Solow, R. 22–3, 124, 147, 152, 211
Spain, productivity in insurance services 52
Srinivasan, S. 124
Stankiewicz, F. 30–1
Stevens, P. 73, 76
Storper, M. 85, 86, 87
Strassman, P. 52
strategic apex (top management) 92, 95, 96, 98, 99, 208–9
Sundbo, J. 167
support staff 94–5, 96, 99, 100, 101, 102–3, 105, 106, 113–16, 206
Sweden
  DEA methods 19
  education system output indicators 75
  management consultancy productivity 51
  NUTEK survey on work organization and performance 135
  public sector efficiency 74
Switzerland, public sector efficiency and performance 74
Taylorism 132, 133, 146, 162, 167
technological innovation
  and productivity 123, 124–5
  and rejection of change 125
  and time lag 124–5
see also innovation
technostructure 93–4, 95–6, 98, 99, 100, 101, 103, 112–16, 160, 204, 206, 215
telecommunications
econometric productivity measurement 76
performance problems 64
Theorell, T. 30
Thévenot, L. 52, 77
Thompson, G. 51
Thurow, L. 152
Tirole, J. 138
total quality management (TQM)
  178–9, 197, 211
Toyotism 133
transport services
  airports, DEA productivity measurement 73
  airports, econometric productivity measurement 76
econometric productivity measurement 76
input reduction problems and unit costs 174
performance problems 64
productivity and efficiency in vehicle inspection services, Norway 73
railway privatization 179
and self-service society 157, 159
vehicle inspection services, DEA
productivity measurement 73
Tulkens, H. 73

UK
cost-weighted activity index (CWAI) 69
efficiency in public library system 73
efficiency in universities 76
governance structures and agency theory 182–3
public service performance improvement strategy 181–3
public services output indicators 69
public-private partnerships (PPPs) 179
R&D elasticity of output 124
research performance of economic departments 73
work organization and performance 135
unemployment, and productivity 139
Url, T. 51, 52
US
airport productivity and efficiency 73
Boskin Commission Report 26–7
e-government proposals 180–1
hospital inefficiency studies 76
life insurance industry efficiency 52
productivity at American Federal Reserve 73
public sector management objectives 173
public sector performance 74
public services output indicators 69
R&D elasticity of output 124
retail and distribution, industrialization of services 168
Utterback, J. 150
Valeyre, A. 127, 128
value
  deflation of, produced by price and wages 47, 49
  as ‘net banking income’ 46, 49, 51, 55, 57–8
  and productivity 31, 41
retail services production 46, 49, 52
systems, and public services 36–7, 63, 67
value added measurement of 10, 12, 46–7
Van den Broeck, J. 20
Verspagen, B. 124
Vierstraete, V. 73
Vivarelli, M. 25
Völkoff, S. 127
Von Hippel, E. 127
wages see pay levels
Williams, J. and E. Gardener 52
Worthington, A. 51, 73
X-efficiency theory, and productivity 127, 129–30
Yaisawarng, S. 73
Yoo, B. 51
Young-Yong, L. 73
Yu, K. 60
Yvrande-Billon, A. 76
Zyman, J. 152