accessibility concept and knowledge diffusion 232
accessibility to R&D and patent production, Sweden 234–57
accumulation of knowledge capital 206
Acosta, M. 308
Acs, Z. 232, 233, 299, 361
age of firm, and R&D investment 307
agency control mechanisms 294, 296–9, 301–4
and innovative effort 294, 305–18
agency problems 296
agency theory 295–6
agglomeration economies and firm growth 346–7
and ICT industries 274–80
agglomeration indicators 350–53, 358–61
agglomeration shadow-effect 22, 25, 33
agro-food biotechnology bioregions 140, 159–63, 164
locational clustering 140
Andersson, M. 21, 233
Anselin, L. 355
Arrow, K. 352
Asheim, B. 143
asset specific investment 215–16
attraction and cooperation 385–93
Atzema, O.A.L.C. 361
Audretsch, D.B. 142, 231, 232, 233, 244, 351
Autant-Bernard, C. 232
automotive industry, research outsourcing 146
autonomy and regional self-governance 342
Azofra, V. 297, 298, 311
Barr, J. 199
Basel 155, 159–60, 163
Bassett, G. 243
Beardsell, M. 351
Beckmann, M.J. 199, 232–3, 261–2
Berle, A.A. 67
bioregional innovation systems, global network specificities 155–63
bioregions 149–65
agro-food bioscience 164
biopharmaceutical 152, 161–3
collaborative publications 147–9, 149–52
bioscientific industries 138–65
collaborative publication 149–52
global nodes and networks 149–55
regional innovation systems 143–5, 155–63
research outsourcing 145–9
BioValley 155, 161
Black, D. 351
Bottazzi, L. 232
Breschi, S. 142, 232
Bretschger, L. 199
Buesa, M. 312
business attitudes
policy recommendations, Trento province 341
and regional strategy-building 342–3
business knowledge networks 141
business R&D expenditure
EU regions 189–90
Trento province 335
Busom, I. 308
Cameron, C. 258
Caniëls, M. 142
Capello, R. 79
capital concentration see ownership concentration
Capozza, D.R. 123
Casson, M. 349
Innovation, agglomeration and regional competition

Cavailhes, J. 123
Central Place Systems (CPS) 20–21
centre–periphery relationships 170–71
Cheshire, P.C. 116, 121, 122
Christaller effect 22, 25, 33
cities
  inertia 108
  land use planning 119–27
  office space costs 125–7
  urban competitiveness 110–13
  urban planning 106–10
  urban policy effects 113–19, 128–31
co-publishing 147–9, 149–52
cohesion costs, telecommunications policies 82, 95–101
cohesion policy scenario 86
  impact on cohesion 95
  impact on efficiency 93–4
Cohesion reports, EC 172–3, 177
collaboration and competition, urban jurisdictions 375–93
collaborative publication, biotechnology 147–9, 149–52
collective action and governance 327
collective vision-building, Trento province 337–40
Combes, P. 360
Communities of Practice (CoPs) 198–9
competition
  as agglomeration indicator 360
  and cooperation, urban jurisdictions 375–93
  regional governments 211–29
    full liability 217–21, 226–8
    limited liability 221–5, 226–8
  competitiveness, urban 110–13
  effects of urban policies 113–19
  concentration as agglomeration indicator 360
  concentration measures, ICT industries 277
consumer service diversity and market size 19–36
containment policy, London planning 109–10
corruption hypothesis, managerial ownership 297
Cooke, P. 326
cooperation
  and attraction 385–93
  and competition, urban jurisdictions 375–93
  measurement 385–6
network paradigm 80
CoPs (Communities of Practice) 198–9
Coronado, D. 308
cross-border collaboration, Ireland 38–53
cross-border trade, micro-enterprises, Ireland 47–9
cross-sectoral technologies, Trento province 337
Cuadrado-Roura, J.R. 195
De La Fuente, J.M. 299
debt financing 298, 302
  impact on R&D 311–12, 316, 318
decision-making
  inclusion of owners 301–2
  slowness, London planning policy 110
Dicken, P. 22
discontinuities in land value surface 122–7
distance-sensitivity and industry location 261–2, 265–7
diversification and innovation 142
diversity
  as agglomeration indicator 360–61
  and firm growth 351
  and industry location 284–6, 286–7
  and market accessibility 19–36
  measurement of 30–31
Dixon, A.J. 299
durable goods market diversity 20, 31–2, 34–5
Duranton, G. 20
dynamic capabilities 141
EC Cohesion reports 172–3, 177
economic activity distribution, EU 171–3
economic cohesion, EU regions 181–4
economic diversity see diversity
economic theory of organizations 295
economy
  national, and urban competitiveness 115
  regional size, and industry location 280–84, 286–7
Index

expenditure on R&D
EU regions 188–90
Trento province 335
export activity, micro-enterprises, Ireland 45–51
export barriers 39–40

Feldman, M.P. 142, 231, 232, 233, 351
Fingleton, B. 361, 371
firm concentration 61–7
and ownership transfer 75
firm growth
and agglomeration economies 348–53
spatial effects 349–50
firm size
ICT industries 274–6
and innovation 312
and R&D effort 316
and R&D investment 307
firm-specific investment 215–16
foreign ownership as control mechanism 298, 303–4
foresight, regional 329–30, 343
foresight workshop, Trento province 337–40
Francis, J. 299
Fujita, M. 262, 263
full liability, regional competition 217–21
compared with limited liability 226–8
funding research, Trento province 333

Galende, J. 299

Garden Cities of Tomorrow 107

GDP per capita
EU regions 178–81
as urban competitiveness measure 111–13
and urban policies 113–19
Genentech 145

Genomics Institute of the Novartis Research Foundation (GNF) 156
geographical extent of market, and R&D investment 308, 313
geographical proximity see spatial proximity
Glaeser, E. 142, 351, 360, 362

European Union
future investment in telecommunications 88–90
telecommunications policy, impact on regional disparities 78–102
and urban competitiveness 108–9
European Union regions 170–96
economic and social cohesion 181–4
education 184–5
employment 185–7
GDP per capita 178–81
patent applications 190–91
peripherality indicators 173–5
peripherality study 175–91
R&D expenditure 188–90

ESEE (Survey of Entrepreneurial Strategies, Spain) 299–300
Eskelinen, H. 173–4
European Innovation Scoreboard (EIS) 177
European Spatial Development Perspective (ESDP) 172

Feldman, M.P. 142, 231, 232, 233, 351
Fingleton, B. 361, 371
firm concentration 61–7
and ownership transfer 75
firm growth
and agglomeration economies 348–53
spatial effects 349–50
firm size
ICT industries 274–6
and innovation 312
and R&D effort 316
and R&D investment 307
firm-specific investment 215–16
foreign ownership as control mechanism 298, 303–4
foresight, regional 329–30, 343
foresight workshop, Trento province 337–40
Francis, J. 299
Fujita, M. 262, 263
full liability, regional competition 217–21
compared with limited liability 226–8
funding research, Trento province 333

Galende, J. 299

Garden Cities of Tomorrow 107

GDP per capita
EU regions 178–81
as urban competitiveness measure 111–13
and urban policies 113–19
Genentech 145

Genomics Institute of the Novartis Research Foundation (GNF) 156
geographical extent of market, and R&D investment 308, 313
geographical proximity see spatial proximity
Glaeser, E. 142, 351, 360, 362

European Union
telecommunications 88–90
telecommunications policy, impact on regional disparities 78–102
and urban competitiveness 108–9
European Union regions 170–96
economic and social cohesion 181–4
education 184–5
employment 185–7
GDP per capita 178–81
patent applications 190–91
peripherality indicators 173–5
peripherality study 175–91
R&D expenditure 188–90
global competition, national pay-offs
221, 225, 227
global nodes and networks in
biosciences 149–55
globalization and urban
competitiveness 108–9
Globerman, S. 351
Gordon, I.R. 270
governance issues and regional
strategy-building 327, 342
policy recommendation, Trento
province 341
government region size and urban
growth rate 117
Grabher, G. 144
Griliches, Z. 142, 234
growth, effect of urban policies
113–19, 128–31
growth mechanisms, firms 349
Hall, B. 316
Haynes, KE. 199
Helsley, R.W. 123
Henderson, V. 142, 347, 351, 360
Herfindahl–Hirschman Index (HHI)
61–4
hierarchical bureaucracy theory 296
high-tech manufacturing
EU regions 185–6
Trento province 335
high-tech patent applications, EU
regions 190–91
high-tech services, EU regions 187
Hoffman-La Roch (Roche) 157
Hogg, T. 199
home market effect 21
housing market, space as attribute
119–22
Howard, E. 107
Huberman, B.A. 199
ICT industries
and agglomeration economies
274–80
characteristics 274–6
concentration 277
firm growth and agglomeration
economies 361–9
location 265–73
location probabilities 280–87
National Capital Region 379–80
the Netherlands 353–5
and rise of regional economies 1–2
incentives for economic development
211–12
indiscriminate telecommunications
policy scenario 84–5
and cohesion 95
and efficiency 92
industry location see location
inertia of cities 108
information and communication
technology see ICT industries
innovation
and agency control 294, 305–18
and knowledge management 141–3
open innovation strategy 145–9
and ownership structure 299
and regional development 174–5,
194–6
regional governance 326–44
Trento province 331–42
regional innovation systems 143–5,
152–63
and sectoral diversity 141–2
innovation indicators 233
EU regions 184–91
input-demand externality, industry
location 262–3, 269–71
integration and urban competitiveness
108–9
internationalization
barriers to 39–40
cross-border collaboration, Ireland
38–53
and urban competitiveness 108–9
Internet-working adoption phase 81
investment in telecommunications, EU
88–90
Ireland, micro-enterprises and cross-
border collaboration 38–53
Isaksen, A. 143
Isberg, S. 299
Italy, Trento province 330–42
Jacobs, J. 142, 352
Jaffe, A.B. 231, 232, 233
Jensen, M.C. 68, 296
Johansson, B. 231, 235
<table>
<thead>
<tr>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karlsson, C. 232, 233</td>
</tr>
<tr>
<td>Keeble, D. 171</td>
</tr>
<tr>
<td>Klaesson, J. 21</td>
</tr>
<tr>
<td>Kleinknecht, A. 233</td>
</tr>
<tr>
<td>Knaap, G. 119</td>
</tr>
<tr>
<td>knowledge-based economy and Lisbon Strategy 78</td>
</tr>
<tr>
<td>knowledge-based theories of endogenous development 352</td>
</tr>
<tr>
<td>knowledge capital accumulation 206</td>
</tr>
<tr>
<td>knowledge flows 231</td>
</tr>
<tr>
<td>knowledge management 141–3</td>
</tr>
<tr>
<td>knowledge network learning model 198–207</td>
</tr>
<tr>
<td>knowledge networks 141</td>
</tr>
<tr>
<td>knowledge spillovers 142–3, 231 and firm growth 351–2</td>
</tr>
<tr>
<td>Koenker, R. 243</td>
</tr>
<tr>
<td>Krugman, P. 262, 264</td>
</tr>
<tr>
<td>Kuhlmann, S. 327</td>
</tr>
<tr>
<td>Kulkarni, R. 199</td>
</tr>
</tbody>
</table>

labour force quality, and innovation 174
Lafuente, A. 307
land market, space as attribute 119–22
land use planning 119–27
land values
  Reading 124–5
  surface discontinuities 122–7
  as urban competitiveness measure 111
lifelong learning
  EU regions 184–5
  Trento province 334
limited liability, regional competition 221–5, 226–8
Lisbon strategy and knowledge-based economy 78
Lissoni, F. 142, 232
listed firms 60
  and municipal dependence 66–7
  profitability 67–70
listing on Stock Exchange as control mechanism 298, 303
effect on R&D investment 312
literature-based innovation output measures 233
Lloyd, P. 22
local company R&D accessibility, and patent production 247
local government competition, welfare effects 211–29
local paradigm as production organization model 79
local policy effects on urban competitiveness 116
localized knowledge spillovers 142–3
location
  ICT industries 261–89
  and regional diversity 284–6, 286–7
  and size of regional economy 280–84
location quotient 277
London
  economic growth factors 117–18
  planning decision slowness 110, 128
  planning policy 109–10
  urban land prices 123–5
Love, J.H. 299
Lucas, R.E. 199, 346
Lund-Jensen, R. 165
Magrini, S. 116
managerial company theory 295
managerial labour markets 297–8
managerial ownership 297
Manduchi, A. 232
manufacturing, medium/high-tech
  EU regions 185–6
  Trento province 335
market perspective, regional innovation systems 143
market size
  definition 27–8
  and diversity 19–36
markets, micro-enterprises, Ireland 47
Marshall, A. 352
Mayntz, R. 327
McCann, P. 270
McConnell, J.J. 298
McFadden pseudo R-square 280–82
Means, G.C. 67
Meckling, W.H. 68, 296
medium and high-tech manufacturing
  EU regions 185–6
  Trento province 335
micro-enterprises, Ireland 38–53
  barriers to internationalization 40
Innovation, agglomeration and regional competition

characteristics 42–4
and cross-border trade 47–9, 51–3
export activity 45–9
Molero, J. 312
Moran’s I 252
multi-actor regional governance 327–8
multi-level governance 327
municipalities
classification, Sweden 28–30
firm concentration 61–7
Mushinski, D. 20
Myers, S. 316

National Capital Region, advanced technology sector 379–80
jurisdiction competition and cooperation 380–93
national economy, effect on urban competitiveness 115
national pay-offs
global competition 221, 225, 227
regional competition 212, 216, 220, 221, 227
Netherlands Genomics Initiative 159
Netherlands, ICT industry agglomeration indicators 358–61
firm growth in agglomeration economies 361–71
ICT firms 353–5
spatial regimes 355–8
network dynamics, interactive-knowledge network model 205
network paradigm 80
Nightingale, P. 146
node dynamics, interactive-knowledge network model 205
non-listed firms, Sweden
ownership transfer problem 59–60, 61, 70–71
profitability 67–70
Novartis 139, 155–9, 160, 163
Noviant 159

office space, international price comparisons 125–7
Ohlin, B. 261
Olson, M. 116
organizational learning 198
output-demand externality, industry location 262–3, 267–9
Owen-Smith, J. 143
owner inclusion in decision-making
impact on R&D activity 309–11, 317–8
ownership concentration 297, 302
and innovation 299, 311
and R&D effort 315
and R&D investment decision 311
ownership transfer 57–76
and industry structure 61–7
Paelinck, J.H.P. 390
patent applications
EU regions 190–91
as innovation indicator 233, 236
Trento province 335–6
Penrose, E. 139, 141
per capita GDP see GDP per capita
Peri, G. 232
peripherality 170–96
EU regions 175–91
and innovation 174–5
pharmaceutical industry
co-publishing 147–8
research outsourcing 146–52
planning, urban 106–10
land use 119–27
London 109–10, 130–31
policy capacity 116–17, 118–19, 136–7
population accessibility and patent production 250–51
population distribution, EU 171–3
Porter, M. 352
Powell, J.L. 244
Powell, W. 143
product cycle models 262–3
public ownership as control mechanism 298, 303–4
public R&D expenditure
EU regions 188–9
Trento province 335
publication activity, Trento province 336
Puga, D. 20
Puu, T. 261–2
quantile regression 242–9
Quigley, J. 19
Index

R&D access, effect on patent production 234–57
R&D activity, Trento province 332–3
R&D, business expenditure, EU regions 189–90
R&D effort 308–9
and agency control mechanisms 313–16
as innovation indicator 233
R&D investment decision 305–8
and agency control mechanisms 309–13
R&D outsourcing
automotive industry 146
bioscientific industries 138–65
R&D, public expenditure
EU regions 188–9
Trento province 335
random effects probit model 306
Reading, urban land prices 124–5
real GDP per capita as urban competitiveness measurement 111–13
region size and urban growth rate 117
regional competition, welfare effects 211–29
with full liability 217–21, 226–8
with limited liability 221–5, 226–8
regional development
and innovation 174–5, 194–6
science-based strategy 325–44
regional disparities, and telecommunications policy 77–102
regional foresight 329–30, 343
regional governance of innovation 326–31
Trento province 331–42
regional innovation systems 143–5, 155–63
regional interaction and economic diversity 19–36
regional knowledge capabilities approach 140–45
regional policy and peripherality 194–6
research see R&D
resource abundance and industry location 261
resources and regional strategy-building 341
retail market diversity 20, 31–4
Richardson, G. 144
Roche 157
Rodriguez, J.A. 311
Rogers, W.H. 243
Romer, P.M. 199, 346, 352
Romijn, H. 142
Rosen, S. 119
Rosenthal, S.S. 347, 360
Saraceno, F. 199
Saskatoon bioscience cluster 154–5
Saxenian, A. 233
Schamp, E. 146
Schumpeter, J. 307, 312
science-based regional development 325–44
Science Citation index as scientific output indicator 336
Scripps Research Institute 156
Sedighi, H.R. 299
separation of ownership and control 296
Servaes, M. 298
Sheppard, S. 121, 122
simple agglomeration hypothesis 351
simultaneous regression 390–92
size of economy, and industry location 280–84, 286–7
size of firm see firm size
size of market see market size
small firms see micro-enterprises
Smith, A. 299
Smith, K. 145
Snickars, F. 174
social cohesion, EU regions 181–4
social perspective, regional innovation systems 143
Song, Y. 119
space as attribute in housing and land markets 119–22
Spain, agency control mechanisms, manufacturing industries 299–304
and innovative activity 305–18
spatial autocorrelation 251–2
spatial externalities and firm growth 346–71
Innovation, agglomeration and regional competition

spatial perspectives on entrepreneurship 348–50
spatial proximity
  access to R&D, effect on patent production 234–57
  and knowledge diffusion 231–3
spatial regimes, the Netherlands 355–8
Spatial Telecommunications Impact Assessment (STIMA) 82
specialization
  and firm growth 351
  and innovation 141–2
  and R&D investment 317–18
spillover losses, urban regions 116–17
  see also knowledge spillovers
Stankiewicz, R. 146
STIMA (Spatial Telecommunications Impact Assessment) 82
Stock Exchange listing as control mechanism 298, 303
  and R&D investment decision 312
  see also listed firms
Strange, W.C. 347, 360
strategy-building, Trento province 337–40
  policy recommendation 340–42
succession problems 57–76
Sweden
  accessibility to R&D, and patent production 231–57
  SMEs 58–9
  SME ownership transfer 59–76
Syngenta 161
tacit knowledge exchange costs 355
technological opportunity of sector
  and R&D investment 312–13, 316
technological and scientific specialization, Trento province 335–7
technology policy, regional 328–30
telecommunications policy and regional disparities, EU 77–102
  adoption strategies 80–82
  cohesion policy scenario 86
  efficiency policy scenario 85–6
  indiscriminate policy scenario 84–5
  policy options 82–6
  territorial impact 86–101
territorial competition 109
  policies, EU 129
tertiary education
  EU regions 184
  Trento province 335
Theil, M. 30
Thisse, J.-F. 262, 263
time distance, and knowledge diffusion 232–3
transaction cost theory 296
transaction costs
  functional urban regions 116–17
  and location probabilities 263
transition of ownership see ownership transfer
transport infrastructure and peripherality 171, 172, 173–4
Trento competence triangle 2014 339–40
Trento plus 10 (foresight workshop) 337–40
Trento province, Italy 330–42
  industrial sector 331–2
  innovative performance 333–5
  science sector 332–3
  strategy-building 337–42
Trevedi, P.K. 258
universities, co-publication with industry 147–9
university R&D accessibility, effect on patent production 242, 249
urban competitiveness 106–31
  measurement 110–13
  urban growth sources 113–19
urban land price
  Reading 124–5
  as urban competitiveness measurement 111
urban planning 106–10
urban policies, effect on growth 113–19, 128–31
urbanization, Netherlands 358
  and ICT firm growth 369
Valentin, F. 165
Van Oort, F.G. 361
Varga, A. 237
Vernon, R. 262
von Thünen, J.H. 261, 262
<table>
<thead>
<tr>
<th>Index</th>
<th>405</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wageningen Food Valley</td>
<td>welfare effects of regional competition</td>
</tr>
<tr>
<td>Wallsten, S.J.</td>
<td>White, H.</td>
</tr>
<tr>
<td>Weber, A.</td>
<td>White, H.</td>
</tr>
<tr>
<td>Weibull, J.</td>
<td>Wooldridge, J.M.</td>
</tr>
<tr>
<td>Weiler, S.</td>
<td>Zucker, L.</td>
</tr>
</tbody>
</table>