accessibility approach 54–60
accessibility value calculation 55–8
achievement, trait of entrepreneurs 148
advanced education
  help to services and KIB firms 217
advanced service economies, Denmark 86
ageing population 2, 70, 88
agglomeration economies 203, 207, 217–18, 234
  importance for entrepreneurs 169
agglomerations 52, 73, 86
agricultural sector 116
  convergence 122
agriculture, forestry, manufacturing
  decline in rural areas 9
air connections 1
airplane development
  Linköping 145
  SAAB AB Linköping 145
ambition, career consciousness 150
Amsterdam, new firms in
  life durations of 12
Amsterdam Research and Statistics
  Department (O&S) 228
analysis
  aggregate and disaggregate level 97
analytical industries 337
analytical knowledge base 342
‘angel investors’ paucity, Vienna region 428
applied spatial economics 57
artistic occupations 362
Asia, China, R&D 1
Association of University Technology
  Managers (AUTM) 414
automobile industry 19
autonomy, trait of entrepreneurs 148
average values 313
balanced regional development 89
‘Barca report’, European commission 71
barriers, institutional, lack of support 419
barriers questionnaire
to generating university spin-off
  companies
  Vienna region 436–8
  Vienna university 426–7
barriers to spin-offs
  lack of business skills 427
  low tolerance for risk 427
  paucity of private funding, Vienna 427–8
beliefs
  ‘financial pay-off’ 139
  ‘social status’ 139
beta-convergence hypothesis 97, 104–5
big five model, hierarchical in nature 359
biotechnology industry 411
bohemians 366–8, 374
cultural sector 370
  high share of self-employment 356
  insecure working conditions 356
  lower wages 356–7
  in region 387–8
border region benefits
  access to dense population 54
  cooperation partners in EU
    countries 346
differences in wages and
  unemployment rate 54
  in economic theory 50–54
low level of border impediments 54
border regions 330
densely populated 53
  interface of domestic and foreign
  markets 48
Sweden and Norway, municipals in 63
British automobile producers 208
broadband
business possibilities 11
establishment of new firms 11–12
new firm dynamics 165
broadband Internet infrastructure 166
broadband provision 171, 198
budgetary process
for autonomy, Vienna university 423
Bureau of Economic Analysis (BEA) 171
Bureau of Labor Statistics (BLS) 171
business
climate 361
closure identification 27
Swedish, large-scale 19–20
community and university cooperation 152
cycle unemployment rates 30
dynamics 3, 11
and industry, adaption need 77
business or consumer services 241
business possibilities of Internet 166
Cambridge Econometrics (2012) 111
Campus Norrköping, 1997 155
entrepreneurial activities 156
capital and labor as growth drivers 89
career opportunities 260
Catholic cathedral, 12th century Linköping 145
causality checks 318
causality direction 386, 390
Census Bureau (CB) 170
characteristics of firms and business premises 241
Chinese firms’ imports increasingly upstream 281
CIS, see Community Innovation Survey
city diversity for new firm survival 208
closure of manufacturing in Norrköping 147
closure process, definitions 28
coefficients of firm size
influence on cooperation decisions 344
commercialization, Vienna university 426
common characteristics 137
communication technology, Norrköping 148
Community Innovation Survey (CIS)
Denmark 331
Community Innovation Survey (European Commission 2012) 80
commuting time 61–2, 66
competence profile of immigrants 53
competitiveness, regional and national 78
competitors, horizontal cooperation 332
computer industries 362
conditional convergence 104–5
conflicts between and within regions 357
conformity/heterogeneity norms entrepreneurship 149–50
conformity restrictions 139–40
conscientiousness 359
conservative government 2006
emphasis on entrepreneurship 202
construction sector 117–18
speed of convergence 116–17
construction start-ups 241
consumption, trade and growth 2
convergence between EU states, weakened 73
conditional 98–9
core area of research 96–7
debate in Europe 11
industry level 116
meta-analysis study 103
questions 121–2
speed 100, 116–18
stochastic (panel unit root) 103
studies on 99
cooperation in innovation creation 330
cooperation links between innovation actors 303
cooperation partners choice, determination of 332
cooperation with suppliers, (vertical) 332
country sectoral level study shift-share technique 102
county administration
Linköping 145
creative class 354
concept 366
debate, five-factor model 355–63
definition 356
economic value through creativity 356
effects in Europe 360
high regional wage levels 360
literature four variables 374
members 368–9
two subgroups 356
vagueness of definition 388
versus individual creativity 354–91
‘creative destruction’ 21
‘creative graduates and bohemians’ 362
creative individuals 354, 386
comparison with rest of workforce 380
higher in GDP per capita regions 366
urban, amenity-rich, open environment 366
creative industries 354
creative professionals
in knowledge-intensive industries, etc. 356
crime 5
critical mass of urban regions
creativity, public ad private R&D 8
cross-border accessibility measures 48, 64, 66
to human capital 48–67
cross-border innovation cooperation
patterns of firms 337
cross-border innovation, Denmark 12–13, 330–49
cross-border interaction barriers 51–2
cross-border market integration,
benefits 50–51
cross-border mobility 337
cross-border study
between Sweden and Norway 11
cross-case analysis 148–57
cross-sectional regression approach 107
cultural attractions of urban regions 6
cultural diversity
positive link with firm birth 168
cultural heritage 6
Danish 2010 CIS questionnaire
six categories 339
Danish firms
cross border innovation cooperation 336, 346
firms investing in R&D 336
Danish Global Entrepreneurship Monitor survey 81
data and descriptive statistics 61
data and empirical strategy 27–9
data and estimation strategy 208–10
data and variables 109–13
databases
firms, employees, international trade 310
data in empirical analysis 2010 CIS
Denmark 342–3
data items, relevant
cost of assembly, labour, materials 268
data on business functions 268
dataset, ‘ideal’
information at product level’, 268
debt crisis in European Union 70
definition of human capital
‘people with a bachelor’s degree or higher’ 359
demographic and employment perspectives 87
demographic development, Denmark 73
favouring larger cities 87
four principal types of city locations 82–3
dense population 366
Department Research and Statistics (O&S)
property database
(Vastgoedbestand) 236
dependent variables 310–11
location of innovation partners 338–9
descriptive statistics 312–13
developing countries
Mexico and China in global value chain 267
development drivers 73
digital connections 1
dismissals, mass, Sweden 24
displaced workers 19
definitions 28
men more than women 25
number of 31
re-employment rates 35
regional movement 20
Sweden 24–5

displacement definitions, Sweden 44
displacement rates 33
displacements, definitions 27
distance and transaction costs 53
distance-sensitivity of industry
and position in global value chain 291
divergence, increased
between Northern and Southern European countries 71
diversity
human capital, firm growth rates 360
share of same sex couple households 359
domestic and foreign markets interface 48
domestic economic system alterations, Europe 77
domestic labor force 53
domestic or foreign partner 333
double counting 265
in trade data 275–6
downstream measures, highest
wood, electrical equipment, transport equipment 279
downstream measures, location near final consumer 278
duration for immigrant and native entrepreneurs 226–61
Dutch manufacturing firms 208
Dutch National Information System on Jobs and Business Establishments (LISA) 228
Dutch regions, creative class concentration 360
Eastern European countries
divergence then convergence 99
economic base erosion, visible in Denmark 86
economic convergence trend
among EU member states 71
economic crisis, current, Europe 77
economic environment, external
effect on self-employment 206
economic geography literature 354–5
economic institutions, reforms’ need 78
economic productivity in border regions 11
education, advanced 214, 215, 217
education as investment 206
electronic communication for information 8
electronic design, Norrköping 148
emotional stability 358
empirical evidence in Europe 72–3
empirical model for hypotheses 60–61
empirical strategy 313
employees (55–64)
lower incidence of employment 25
employers, concentrations of similar 26
employment and wage rises
in border regions 52
employment growth rates, Germany 361
employment in service sector
Denmark 87
endogenous growth models 21
energy and manufacturing sector
convergence 122
entrepreneur characteristics 230–31
male overrepresentation 238
entrepreneur ethnicity 235–6, 257
survival chances 247
entrepreneurial activities 366, 372–3
strong barriers in some places 159
entrepreneurial pioneers
encouragement in Linköping 158
entrepreneurial skills, lack
Vienna university 424–6
entrepreneurs
economic growth and development
165
in Linköping 158
entrepreneurship 5
analysis of collected data 142–3
case studies 141
cross-case analysis 143
necessity-driven 82
new firm foundation 136
index 447

opportunity-driven 82
qualitative approach 140–41
within-case analysis 143
entrepreneurship and informal institutions
local perspective 135
entrepreneurship-oriented policies 202
entrepreneurship research, embeddedness 135
Ericsson plant, 1997, closure effects 26
estimation issue with traditional approach 106–7
ethnicity, ‘liability of foreignness’ 230
European austerity policy 89
European context 70
European debt crisis 2010 72
European regions, creative class members 360
Eurostat Regio database 111
evolutionary theory415
explanatory variables 311–12
export aggregate 310
export participation rate 266
export products, new 306
average unit price 304
Sweden 300
export sales 322
exports of new products 300
external experts 425–6
external knowledge potential 316, 322
extraversion (energy, enthusiasm) 358
sociability, activity, assertiveness, positive emotionality 359

factors inhibiting university spin-offs, Vienna 430–31
faculty researcher 419
‘family’ norms, entrepreneurism 149
farming, fishing, forestry 62
fashion in Paris 387
Federal Communications Commission (FCC) 170
female founders 212
exits likely 217
female founders, minority 206
financial capital
savings, social contacts, venture capital, banks 168
financial crises 20

financial education, role of 259–60
financial incentives, Norrköping 155
firm age, ‘liability of newness’ 231
Firm and Establishment Dynamics database 208
firm characteristics 230, 231–3
export sales, ownership type 281
firm-level characteristics 334
firm-level evidence 279–81
firm location and knowledge sources 303–4
firm locations and partners 330
firm sector, market environment 232
firm size, ‘liability of smallness’, 232
firm success 204
in the Netherlands 226–7, 235
firm survival chances, explanations 205, 229–31
firm survival in Munich 235
firms, exiting, tracking of, for motivations 261
fiscal consolidation of Euro countries effect on Denmark 88–9
five basic dimensions
extraversion, agreeableness, conscientiousness, neuroticism, openness to experience 358
five-factor model
concept from psychology 354
Flextronics, Norrköping 154
Florida, R.
‘The Economic Geography of Talent’ 359
food industry 334
foreign direct investment (FDI) 51–2
foreign firms
lack of knowledge and experience 230
foreign innovation partners 330
foreign labour markets 48
foreign markets, proximity 52
foreign migrants in ethnic clusters 2
foreign value-added
intermediate value-added 277
foreign versus domestic value-added 270
foreigners 366, 388
foreigners’ choice
place choice where foreigners are 367
founder of firm, development influence 205
French food industry, greater knowledge 299
gay or lesbian choices 367
GDP per capita 378, 386
gender role, mortality rate of firms 206
general purpose technology (GPT) 165
generation of university spin-offs barriers, to, Vienna case study 411–32
gentrification effect 357
geographical proximity 337
geographic extension, local labor market area 26
geographic proximity need for tacit knowledge transmission 333–4
Geographically Weighted Regression, see GWR
geography of creativity 355
geography of cultural change, employment and productivity 10
geography of entrepreneurship 11 and business dynamics 3, 10
geography of innovations 12
coopetition and growth 3, 10
geography of structural change employment and productivity 2
geography of the creative class and creativity empirical results 359–63
German Socio-Economic Panel (SOEP)
micro-data for Germany 363
Germany
urbanity, diversity, public provision, health care supply 360–61
ghost towns in United States 86
global financial crisis 2008 72
global financial crisis, Swedish economy shrunk 30
global knowledge networks 336–7
global value chain 267
in bilateral trade 12
evidence for Sweden 265–91
globalization 70
GMM or instrument variable estimation 106–7
GMM procedure 114, 116
Goodyear tyre manufacturing, closure Norrköping 147
government contracts 168
government investment 168
government spending 174
mixed effects 168
graphical analysis 111–13
gravity equation, estimation technique 281
gross pay 61, 66–7
dependent variable 65
earned by foreign labour 60
gross pay generation 64
gross-pay in municipality 59
group specific informal institutions 137
growth drivers, non-linear 78, 89–90
growth model, Solow–Swan 104
growth rates of productivity 111
GVA per capita 108
GWR models 166, 170
heterogeneity 139
high-performance urban regions 7
high school in Linköping 145
high-tech industries 70, 116
high-tech manufacturing 370, 386
Hollywood film industry 387
home-based businesses 233
homogeneous model results 114–16
horizontal versus vertical policies 9–10
hospitals, relocation of, to largest cities 87
human and social capital effect on business success 231
human capital 51, 123
depreciation 24
development 71
experience and education 205–6
focus 85
increase 301
in municipality 59
people with university schooling 59
persons with further education than high school 61
for regional productivity 58
school, tertiary education, worker experience 302
human capital, accessibility to positive impact on productivity 60
human capital measures
  high regional income levels 360
  ‘human capital theory’ 231
  on survival chances 205
human capital (university degree) 367
human resources
  most important factor for change 79
  hypotheses 60
  and empirical models for sub-population 59–61

ICT, see information and communication technology
identification numbers
  of individuals or establishments 27
immigrant entrepreneurs 206
  Amsterdam, high 228
  less work experience 238
  younger than Dutch counterparts 238
immigrant firms
  Netherlands or Portugal, Italy 230
immigrant founders
  capital and knowledge, worse off 217
  language barriers, financial restrictions 214
immigrants
  higher, entering self-employment 25
imports for upstream industries
  and downstream industries 288–9
income growth and new firm births 167
increased demand for products or services 234
incubator hypothesis 207
independent variables 339–42
individual characteristics
  gender, age, educational level 24
  and regional agglomeration 202–19
industrial city of Norrköping, clothes production 146
industrial towns, low share of highly educated 157
industry-based definitions 354
industry heterogeneity 212
industry level analysis 281
industry level convergence of labour productivity 101–3
industry specific 116, 334, 354
industry-specific competence
  difficulty of re-employment 38
inference problems, creative class literature 365
informal institutions 266
  differences across nations 136
  local differences 11
  social interaction, unwritten 137
informal institutions and movements 137–8
information and communication technologies (ICT) 77–9
  access to 79
  developments 234
  Vienna 422
information networks 166
information on text messages, transferable 333–4
infrastructure, location factor 51
infrastructure provision 78, 165
initial level of productivity 111
innovation
  cooperation 332
  core priority 71
  ecosystems, weakness in Vienna 430
  entrepreneurship 81
  focus 85
  higher education 8
  knowledge creation 71
  performance 80–91
innovation and growth 3
innovation ecosystem, Vienna
  strength in scientific talent 431
innovation partners in Denmark
  independent from choosing a partner abroad 347
innovation processes of firms 336
innovative ecosystems, definition 416–18
innovative entry 21
input–output structure
  of global production 268, 273
Institute of Technology, Linköping 145
institutional foundations 138
  and entrepreneurship 139–41
institutional reforms 77
institutional set up role 81
integration partners 51
intellectual property 414
intellectual property protection 419
inter- and intra-regional balance 70–92
change and development drivers of economic growth 71
in Europe 11
interaction 5, 24
interconnected industries 203
inter-firm relationships across borders 268
inter-industry knowledge spillover 207
intermediate regions 86
internal and external knowledge conjunction for new export products 304–5
internal knowledge developing and exploiting 301
effect on absorptive capacity 302
internal knowledge fund of a firm 302
internal knowledge, importance 301
internal knowledge of firm 299, 321
international airports, closeness to 348
international cooperation on R&D and innovation 333
international disparities between metropolitan and less urbanized parts 71
international financial crisis 72 in OECD 70
international innovation cooperation 334
international migration role 2
international mobility via airports 337
international outsourcing 266, 274 evidence for Sweden 265–91
international production fragmentation 288
international production system 70 alterations 71
international specialization 86
international trade 265 total share of firms 266
Internet, important infrastructure 165
inter-regional accessibility weak positive effect 59–60
inter-regional convergence 72
inter-regional interaction extra-regional interaction 56–7
inter-university cooperation lack of for spin-offs 426
interview conducting, entrepreneurship 141–2
intra-industry knowledge spillovers 208
intra-mediate inputs 265
intra-national development 82, 88
intra-regional accessibility 59, 64
intra-regional convergence 72
invention with commercialization potential 419
iPhone 4 Chinese value-added overstatement 266
factory gate price 266
production in China 266
value of assembly in China 266
IT bubble, 2001 30
IT increasing importance 157
IT sector emerging companies related to 153
Jacobs’ externalities 207–8
job availability 357
job displacement 19
job provision by SAAB 145
joblessness 20
key variables and methods firm survival, ethnicity 237
KIBS, see Knowledge-Intensive Business Service
knowledge codified 333
creation 303
dynamic 81
external 302
internal of firms 299, 302
learning and dissemination central factor of regional development 79
potential 311, 313–14
production 2
sources 321
specialized in urban regions 5
spillovers 23–4, 332
supply 299
transfers 5
knowledge absorption capacities of firms 12–13, 300, 313
Index

in development of export products 299
knowledge accumulation factor sustainable growth 49
knowledge and regions 50
knowledge assets institutional conditions of Vienna 420–22
knowledge bases 333–6, 342, 349, 361
knowledge commercialization, activities 411–12
knowledge-driven and innovative production systems 71
knowledge-driven and innovative products 88
knowledge environment for firm 300
knowledge flows partly invisible 303 spatial bounded 64
knowledge inputs 203
knowledge intensity 311, 316 in manufacturing firms 306
knowledge-intensive business focus 85
Knowledge-Intensive Business Service (KIBS) 334, 216, 299 activities 304 industries 215 sector 216–17
knowledge-intensive services 70
knowledge mechanisms new export products 299–323 knowledge spillovers and economic growth 49–50 within-industry 207
labor demand, decreasing 2
labor market (LM) 52 characteristics 24 development in border regions 51 effects of integration 53 Statistics Sweden 29
labor mobility 21–2 and industrial dynamics 21–2 in receiving region 53 wage and unemployment differentials 53 labor mobility, positive effects 23 labor movement becoming caretakers 151

family loyalty and conformity 158 in industrial towns 138
labor productivity convergence process 96–7, 101 aggregate and sectoral labor 102–3 country, regional, national levels 11 data sets 109–11 EU KLEMS 103 in region 61 for European regions 101 growth 102 and structural changes 96–124
labor union strong connection with social democrats, Norrköping 155
labor union members, Norrköping 157 lack of interest in commercialization potential 419 ‘liability of adolescence’ 226, 229, 231, 257 ‘liability of foreignness’ for immigrants 227 ‘liability of newness’ 226, 229, 250
vulnerability 228 liberal norms, Western world freedom, right to vote 138–9
life duration of firms 226 life science industry case study 336–7 limitations and sensitivity 347
Linköping airplane development 145 economic and population growth 158
Norrköping campus of 148
Linköping University (LiU) ties between private industry and university 145–6
Lisbon agenda, European Union, 2000 202
Lisbon goal, of European Union 412
local centres, determination of 54
local employment, America 23
local institutions in economic activities 136 localized density 203 local labor market regions Norway and Sweden 55, 61
local norms
  encouraging ambition 148
  encouraging conformity/
    heterogeneity 148
  encouraging loyalty 148
local or regional market size 234
locational factors 348
location choice, importance 260
location in Denmark, categories for
  other EU countries USA, China/
    India (Asia) 339
locations, new
  and labor force 72
location theories, traditional 51
lock-in problem 23
London, weak position
  innovation performance 81
long distance cooperation 338
longitudinal analysis of new firms 229
longitudinal research format 237
long-term economic growth
  roles of 165
low socio-economic status
  of new firms 241
loyalty in Linköping 150–51
loyalty norm groups 150
  social networks 148–9
LSDV (least square dummy variable) 98
LSDV estimator 106

macroeconomic conditions 420
macro economy, Europe 77
macro-level information
  at neighbourhood level 236
manufacturing companies
  closure in Norrköping 154
manufacturing firms
  new export products 306, 308
manufacturing industries in
  Norrköping
  river location near Baltic Sea 146–7
manufacturing industry, outdated
  visions 158
manufacturing sector 116, 117–18
  exits 212
manufacturing sector in US 23
market context 234
market structure 233
Marshallian externalities 208, 215
matching procedure
  Utrecht University data set (UU
data set) 236
media industry, southern Sweden 336
media technology, Norrköping 148
meetings in urban regions 8
metal and paper industry, Norrköping
  146
micro-level information on firms
  (2005–08) 236
migration 50, 52
migration patterns across regions 38
migration theory 51
mining, basic metals, electronics
  greatest share of foreign value-added
  274
Ministry of Science, Vienna university
  423
Missouri Census Data Center
  (MCDC) 171
‘mixed embeddedness’
  immigrant entrepreneurs 235
movements, definition 138
movements, informal institutions and
  location 138
multi-disciplinary approach 257
multi-level approach
to geography of creativity 354–91
multilevel governance 77
multi-level logistic regression 364–6
multi-level perspective 366
multi-level regression analysis 365
multi-level regression models 380–86
multi-location firm 310
multinational company 321
multinational firms 1
multiple regression model 169
multivariate analysis
  role of entrepreneur ethnicity 250
multivariate probit model 347
municipal areas
  Norway and Sweden 64
Municipality of Amsterdam Research
  and Statistics Department 228

NACE codes 209
National Board for Industrial
  and Technical Development
  (NUTEK)
  Sweden, 1991 202
Index

national borders and knowledge bases 330–49
national cultural values 136
national frontiers, impediments 54
national government, support from 147
National Information System of Employment register (Landelijk Informatiesysteem Arbeidsmarkt (LISA)) 236
National Police Board 147
native entrepreneurs, more survivors 247
NEG, see New Economic Geography negative emotionality 359
negative impact of age 217
negative influence of ethnicity 258
neighbourhood context
  immigrant entrepreneurship 260
  neighbourhood effects’ role
  immigrant firms 227
neighbourhood features 233–4
network creation 152
networks 136
neuroticism 358, 359
new Amsterdam firms
  life duration of firms 227
new economic geography 77
New Economic Geography (NEG)
  location theory 51
  models 50, 52
new economic growth theory 71, 73
New Economic Growth theory
  innovation, entrepreneurship 77–8
new export products 300
  increase with knowledge intensity 315
new export varieties 300
new firm formation
  broadband in US 165
new firm life, variations in 226–61
negative effects 257
new firms, composition, Amsterdam 238
new Greek manufacturing firms 234
new market economies after 1989 72
new native and immigrant firms
  comparison, Amsterdam 238
newness
  for firms and entrepreneurs 7–8
new urban–rural divide, Denmark 83–4
Nokia case 272
Nokia mobile phones
  international outsourcing 268
Nomenclature of Units for Territorial Statistics (NUTS) 97
non-metropolitan regions
  implications for 70
non-urban areas, decline of 70
non-western immigrant start-ups
  relatively poor performance 257
non-western immigrants
  survival chances, negative effect 259
Nordic countries
  support for soft location factors 360
  norms encouraging compliance 143
  norms encouraging conformity 143
  norms encouraging loyalty 143
Norrköping
  industrial town 147–8, 154
  no entrepreneurial interest 158
  typical industrial town 158
Norrköping-Package
  two years’ education 157
  year’s salary 157
North America Free Trade Agreement (NAFTA) 273
North American Industry Classification System (NAICS) 170
North–South growth divide, Europe 72
Norwegian and Swedish border regions 48
novelties, monitoring in market
  imitating and adopting 301
  ‘nursery cities’ model 207, 215
NUTS2 level, 1991–2009 115
occupational level specializations 8
occupation-based definitions 354
occupation characteristics 354
offshoring 86
  government investment 168
Ohio negative relationship
  unemployment rate and new firm births 175
older founders, greater exits 212
openness 354–5
Geographies of growth

liberal values 362
three questions 363
to experience 359
opportunity generation 9
Organisation for Economic Co-operation and Development (OECD)
cross-country comparison 19
rise in urbanization level 4
outsourcing 86
ownership objectives 204

panel data model
correlation of economies 99–100
panel data techniques 98–9
panel unit root testing 107–8
results of convergence 98, 120–21
paper and pulp industry, 1969 closure 25–6
partner selection 330, 330–49
Denmark 12–13
partners, choice of 337–8
partners, types of
customers versus suppliers 349
passenger and freight transport accessibility 8
patent-citation frequencies
influence of distance 303
patenting of recombinant DNA 411
path dependence 32, 33
patriarchal culture in Norrköping in 1850s 151, 152
‘people climate’, not ‘business climate’ 357
personal identification of entrepreneurs 236–7
Personality, the big five model
five-factor model 358
personality descriptions, five basic 354
personality features of entrepreneurs (traits) 260
personality profiles, distinct 362–3
personality questionnaires 358
personality theory 358
personality traits 358
Pharamacia plant, Uppsala, 1995 closure effects 26
physical and virtual networks
influence of, for entrepreneurs 166–7
physical capital holdings 316
physical distance, trade barrier 267
‘PIIGS’ states
Portugal, Italy Ireland, Greece, Spain 73
‘plug and play community’ 149
policymakers’ focus, support creation 218
political science 77
pollution 5
population decline, income decline 9
population density 53
population density, regional 234, 375
population development
stagnation in Norrköping 151
population growth
influence of, for entrepreneurs 167
percentage change 171
population of Norway 62
positive and negative externalities of urban regions 6
positive rations 212
potential barriers
to university spin-offs 418–19
potential heterogeneity
in innovation cooperation 330
‘power houses’ international 2
private motives as reason to move 357
private venture capital
Vienna university 426
process and product innovation 80
product codes
Combined Nomenclature (CN), 2000–08 306
production, innovation renewal and growth 1
production for a single product
i-Phone 4 266
production fragmentation
measurement 268, 270
trade costs magnified 266
productivity 48, 103
gross pay per employee 59
in Swedish/Norwegian border regions 59
productivity, positive impact on 65
productivity convergence 97
profit
‘the criteria of natural selection’ 204–5
psycho-lexical studies 358
public organizations 136
public sector
   as framework setter 78
purchasing power 51
   lower 2
push or pull motives
   for entrepreneurs 229

qualitative research 390
qualitative research designs 141
quality, high, for competition 7
questionnaire results
   Vienna university 439–41

R&D (research and development)
expenditure, Vienna university 421
institutions 79
   intensity 339
      coefficients 344
      positive impact on innovation
         cooperation 334
investments
   regional economic growth 58
random growth theory 204
re-employment 22
   American studies 22–3
re-employment ability 29
re-employment conditions 20
re-employment of Swedish displaced
   workers 25
re-employment rates
   persistently high 35
   persistently low 35
region growth
   knowledge, technology, organization
      and location 49
regional and municipality reforms
   Denmark 88
regional characteristics 355, 362
regional convergence 116
regional definition, importance 29
regional differences
   absorbing displacements 19–40
   regional differences in displacements 29
regional disparities in Europe 77
regional displacements 22–4
regional diversity 207
regional economic development
   concentration of creative class 357
   entrepreneurship 378
regional effects of business closures
   20–21
regional entrepreneurial activities 371
   creative class members 387
regional environment of university
   source of resources 420
regional growth model 106
regional growth rates
   freelance artists, Germany 361
regional income differences 52
regional innovation
   new exports 12
regional labor demand 24
regional labor mobility 21
regional level 100–101
regional number of displacements
   calculation of 29
regional polarization 71
regional population density 234
regional productivity 66
regional prosperity
   of creative individuals 366
regional resilience 20
regional size and density
   importance for knowledge flows 50
regional specialization 204
regional trade agreements increase
   EU countries 287
regional wage sum data 61
regions in knowledge creation
   importance 203–4
register data
   Algemeen Bedrijven Register (ABR) 236
regression analysis
   agriculture, industry, services
      101–2
regression results 63–5, 316
   and analysis 314–15
remaining municipalities,
   determination of 54
rent or owner occupied
   home-based businesses 233
research and specializations
   Vienna university 421
research and specializations, life
   sciences 421
research cooperation 332
research design and data 169
research gaps and hypotheses 366–7
research institutes 81
research on entrepreneurialism 160
research on personalities across countries 362
research universities
   basic research 411
   human capital development (teaching) 411
researcher networks 1
resource base
   industrial structure 9
   labour skills 9
   natural resources 9
resource-based view (RBV)
   firm-level resources 205
   from management science field 415
resource-dependency theories 415
‘revolving door regimes’
‘last in–first out’ 229
risk and uncertainty of entrepreneurship 135
risk sharing 332
risk-taking
   trait of entrepreneurs 148
rural Denmark 83
rural small town, Linköping 145
rural–urban continuum
   United States Department of Agriculture (USDA) 171
SAAB, Sweden
   technological company 145
same-sex marriages, tolerance 366, 388
same-sex relationship 386
Scandinavian Housing and Planning Research 1992
move to Norrköping 147
Science Park, Sweden 154
scientific and engineering industries 349
scientific and medical research
   Vienna 421–2
scientific personnel
   of Vienna university 421
sectoral analyses 172
sectoral dummies
   high-tech manufacturing 364
security threats 5
seedbed conditions, diversity of 8
self-driven people, Linköping 156
self-employed firms 12
   survival of 202
self-employed individuals 371
self-employment 25
   importance for immigrants 206
service providers
   in each zip code 171
service sector industries
   high displacement rates 33
services sectors
   market services, financial services,
      non-market services 117–18
shipyard closure, Oskarshamn, 1960s 26
shipyard industry 19
shop closures
   aging communities 86
sick leave data 62
Silicon Valley example 357
single establishments 310
single industry domination 26
skill abundance 291
skill intensity 291
small and medium-sized regions (SMRs)
   opportunities, challenges 9–10
small firms
   close vicinity partners 334
small into large firms 146
social aspects, family and friends 136
social degradation 5
social democratic party
   Norrköping 152
social dimension
   of entrepreneurship 135
social inequality in developing world 70
social science
   ‘institutional turn’ 136
Social Security Insurance for Artists and Writers
   share of bohemians 364
social ties, forming 207
socialist parties for workers, Sweden 151
socio-economic and political environments 258
socio-economic status of members of three Ts 356
soft location factors 357, 374
openness and tolerance 389
software industry in Great Beijing (China) and Pune (India) 337
Southern Denmark growth drivers 85, 86
spatial autocorrelation 57
spatial discounting procedure accessibility 57
spatial heterogeneity 169
broadband Internet 195
GWR models 175
spatial levels
local, intra-regional, inter-regional 61
spatial proximity 5, 57
to national border 51–2
spatial specialization 73
spatial structure of knowledge flows 50
spatial structures, important role 168
specializations, different among firms 8
specific coaching
and information exchange for immigrant entrepreneurs 260
specific entry barriers 233
speed of convergence 115, 122
spillover effects 21
spillovers 5
spin-off process
formation of firm 413
sports clubs, theatre clubs 137
start-up cohorts 237
start-up location
type of neighbourhood 241
start-ups of entrepreneurs
beginning in homes 241
Statistics Netherlands (CBS) 228, 236
Statistics Sweden (SCB) 208
data on firm’s imports and export 273
Micro Data Online Access (MONA) database 27
stochastic convergence approach 107–8
Strand Interconnect, Norrköping 154
strategic management perspective 204
Structural Business Statistics
Statistics Sweden 202
structural change
labour productivity at macro (country), regional and industry levels 121
structural change and measurement 108–9
structural change, role of 122
structural changes 102
important role in convergence process 97
student entrepreneurs in Norrköping 155–6
studies in different languages Japanese, Chinese, German 358
success of immigrants’ firms 234–6
Super-Creative Core scientists, engineers, etc. 356
surgency 358
survival analysis methodology 203
for firm failure 209
survival capabilities internal and external factors 217
survival chances of new firms different ethnic groups 259
survival of Milanese entrepreneurs 235
survival rate factors
age, gender, immigration status, education 203
survival rates of firms 226
synthetic knowledge base 342
Sweden
research on displacements 24–6
Sweden and UK, comparison capitalist regimes differences 360
Swedish aviation capital Linköping 141, 145
Swedish exports and imports at firm level 291
Swedish exports’ share international outsourcing 274
Swedish exports’ value imports from abroad, 30 per cent 267
Swedish Industrial Classification (SNI) 305
Swedish industries downstream in global value chain 267, 276, 277
Swedish manufacturing industry 306 agglomeration advantage 299
Swedish Meteorological and Hydrological Institute 147
Swedish Railroad Shop (ASJ) 145
Swedish Social Insurance Agency 147
Swedish SPIN classification data recording 273
Swedish trade evolution using inter-country input–output tables 290
in value-added 290
Swedish Transport Agency 147 symbolic knowledge base 342
tacit knowledge 333
team start-ups advantage over solo ventures 232
technological and organizational innovations temporary monopolies 301
technological complexity 233
technological innovation 80
technological innovativeness 348
technological knowledge 208
technological progress 116
technology high-tech companies 356
technology development 423
technology enhancement 96
technology gap 99
technology innovation 412
technology transfer office (TTO) Directors no active supporting, Vienna 422–3
Vienna underfunded 425
telecom industry 19
territorial policy, Europe 77
textile and paper industries decline Norrköping 151
textile industry crisis 1950s, 1960s 147
move to Finland, Portugal, then Asia 147
textile production mechanization of 146
TFP convergence 102–3 country level 99–100 three or more countries
value-added trade 272
time distances 57
time frame, flexible for closure process 27–8
time-series datasets with CIS data 347
tolerance urban and tolerant climate 356
tolerance, talents and technology three Ts 356
trade internationalization of labor markets 52
trade and growth 50
trade costs, effect of on pattern of trade in global value chains 291
trade costs, falling growth in production fragmentation 291
trade flow measurement 265
trade theory 51
trade theory, classical 52–3
traditional businesses Walmart, Toys R Us, Walgreens 166
traditional convergence approach 104–7
transaction costs 204
transaction costs analysis 332
transport and communications systems 6
transport costs 54 inter-regional 52
transport links improvement 58
transport, Norrköping 148
transportation infrastructure 167
trike breakers, Norrköping 155–6
TTO, see technology transfer office two-country case
goods for consumer demand 270–72
unemployment conversion into jobs or self-employment 202
unemployment durations in the Netherlands 24
unemployment effect higher firm births 167–8
unemployment increase Norrköping 147
unemployment rates 19, 171, 234
union density in Sweden 151
union membership expectation 151
United Kingdom creative class concentration 360
tolerance and openness 360
unit root tests 107
universities, local 3
university Linköping 145
university employee active role in spin-off 414
university environment entrepreneur-friendly 154
university partnering high technology industries 333
research facilities 333
university role in Linköping 152
university schooling 48
university spin-off creation entrepreneurial activities 414
university spin-off definitions 412–14
university spin-offs 3–4
barriers and challenges 3, 10, 13
European Union recognition 412
investor in new firm 413
Linköping 146
perceived barriers, Vienna 422
university start-ups reasons for generating 415–16
university technology 414
upgrading 8
upstream in value chain location in global South 276
upstream input 275, 277
upstream measures food, beverage and textile industries 278
urban growth negative externalities 5
urbanity influence 387
urbanization 204, 215
externalities, size of region 207
or size of market 207
rapid in Europe, challenge 11
urbanized areas, most innovative 88
urban regions growth engines 4–5
high-performance 7, 8
importance 1
removal to 4
successful 7–9
under-performing 7
urban–rural divide, Denmark 82–8
urban–rural divide, increase 71
urban/rural divide, intensification 73
United States metropolitan standard areas (MSA) 359
Utrecht University dataset year-on-year comparisons on businesses 236
‘valley of death’ 226
first years of firm 229
value-added trade 272–3
value chain position 274
and participation 276, 288
trade costs 281
value creation 332
values ‘need for achievement’ 139
‘need for autonomy’ 139
Van Ark Procedure (1997) 108
variables, explanatory size of labor, physical capital 321
variation of displaced workers in business cycle 30
venture capital scarcity Norrköping 152
Vienna university 431
venture money, Vienna university 425
vertical specialization 268–70
vice-rectors for research Vienna 423–4
Vienna local innovation ecosystem 13
Vienna, Austria case study 412, 418
Vienna’s population 420
virtual presence strategic necessity 166
voluntary sharing of knowledge 332
### Geographies of growth

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>wage sum</td>
<td>62</td>
</tr>
<tr>
<td>web-based strategies for sales and services</td>
<td>166</td>
</tr>
<tr>
<td>welfare payments</td>
<td>168</td>
</tr>
<tr>
<td>welfare securing challenge</td>
<td>70</td>
</tr>
<tr>
<td>Western market economies</td>
<td>70</td>
</tr>
<tr>
<td>West German start-ups 1983 to 2000 on impact of regional features</td>
<td>234</td>
</tr>
<tr>
<td>women decreases in earnings</td>
<td>25</td>
</tr>
<tr>
<td>leaving labor force</td>
<td>25</td>
</tr>
<tr>
<td>work experience, limited</td>
<td>257–8</td>
</tr>
<tr>
<td>work experience, limited, non-western immigrants</td>
<td></td>
</tr>
<tr>
<td>business failure</td>
<td>250</td>
</tr>
<tr>
<td>worker pooling from both sides of border</td>
<td>48</td>
</tr>
<tr>
<td>workers, older, female, less educated</td>
<td>20</td>
</tr>
<tr>
<td>workers, younger, American</td>
<td>23</td>
</tr>
<tr>
<td>working population</td>
<td>70</td>
</tr>
<tr>
<td>world economy transformation</td>
<td>1, 4</td>
</tr>
<tr>
<td>World Input–Output Database (WIOD)</td>
<td>268</td>
</tr>
<tr>
<td>40 countries</td>
<td>273</td>
</tr>
<tr>
<td>data on national income, labour compensation</td>
<td></td>
</tr>
<tr>
<td>capital compensation</td>
<td>273</td>
</tr>
<tr>
<td>younger employees</td>
<td></td>
</tr>
<tr>
<td>high incidence of displacement</td>
<td>25</td>
</tr>
<tr>
<td>younger generation challenge for entrepreneurial activities</td>
<td>159</td>
</tr>
<tr>
<td>youth, non-western immigrants business failure</td>
<td>250</td>
</tr>
<tr>
<td>Zip Code Tabulation Area (ZCTA)</td>
<td>171</td>
</tr>
</tbody>
</table>