Subject Index

absorptive capacity 158, 209
  and national system of innovation
  211–12
Achieving Excellence: Investing in
  People, Knowledge and
  Opportunity 25, 30, 36
adaptable
  data sources 108
  role in business growth 93–4
advanced manufacturing technologies
  and growth 100–101
Advanced Technology in Canadian
  Manufacturing 1998, survey of
  (AMT98) 48–9, 85–6
Advanced Technology Program (ATP),
  US 192
agent-centred approach to regional
  innovation 142
archetypes see business archetypes
associational state 140–41
Australia, national innovation strategy
  25

Backing Australia’s Ability – An
  Innovation Action Plan for the
  Future 25
benchmarking innovation
  performance, Canada 30–35, 56–8
BERD (business enterprise R&D),
  Canada 39–42
government support 42–6
  reasons for low level 46–50
biotechnology
  innovation indicator development
  187
  as platform technology 225
Blue Sky conference 169, 170
boundaries, innovation systems 223–4
business advice
  data sources 108
  role in business growth 91–2
business alliances
  data sources 107
  role in business growth 89–90
business archetypes 95–7
  classification criteria 108–9
business enterprise R&D see BERD
business growth, Canada 84–110
  barriers to growth 94–5
  data sources 107–9

Canada
  business enterprise R&D 39–50
  commercialization gap 32–4, 50–52
  economic performance 26–8
  firm growth survey 84–110
  high-tech exports 33–4
  human resources, skills shortages
    34–5, 159
  innovation environment 35
  innovation performance
    benchmarking 30–35
  innovation policy
    incentives 42–6
    targets 36–42
  innovation strategy 25, 36–9
  industrial clusters 143–6
  productivity 28
  R&D as growth factor 88–91,
    98–100
  R&D expenditure 32, 36, 41
  R&D intensity 39
  standard of living 27–8
Canada Foundation for Innovation
  (CFI) 44–5
Canadian Space Program (CSP) 44
  catching up 208–9
  city-regions 133–50
  Canada 143–6
  and civic engagement 140–43, 149
  economic significance 133–4
  and talent attraction 139–40, 148–9
  civic engagement and cities’ economic
    success 140–43, 149

235
clusters 137–43
Canada 143–6
and research infrastructure 145–6
software firms 119
see also enterprise clusters
collaborative leadership, and regional development 142
collective nature of innovation 16–17, 176–7
commercialization gap, Canada 32–4, 50–52
Community Innovation Survey (CIS) 13, 183
community-based networks, role in economic success 145
computer software industry see software industry
Conference Board of Canada (CBOC), benchmarking report 30–32
contracts, government, R&D, Canada 43
control of business 109
effect on growth 96
co-operative entrepreneurship 158
copyright indicators 182
creative accumulation 213–14
cross-sectional analyses, limitations of 161–2
crowding out, R&D 49, 202
cumulative nature of innovation 16–17, 214
data capture 161–3
demographic change, effect on innovation 175
disaggregated R&D data 180
Dutch knowledge disease 202
econometric model of innovation output 74–6
economic communities 141–2
economic performance, Canada 26–8
and innovation, knowledge gaps 54–6
education, impact on innovation 160, 224
electronic business practices 225
employment and high-growth firms 104
energy demand, effect on innovation 175
enterprise clusters, Netherlands 71–82
innovation estimation 76–81
as unit of analysis 73–4
enterprise life cycle 109
and business growth 97
Enterprise, Skills and Innovation: Opportunity for All in a World of Change 25
EU Framework Projects 18–21
Europe, software patents 116
exchange rate as barrier to growth 95
FAST (Forecasting and Assessment in Science and Technology) 19
firm size and R&D, Canada 48–9
foreign ownership, impact on R&D, Canada 48
formal organisation and planning and in business growth 92–3
data sources 108
Frascati Manual 168–9, 231
fundamental research, crowding out 202
funding as barrier to growth 94
data sources 107
strategy, role in business growth, Canada 90
geographic agglomeration see clusters
geographic location of innovation 177
of manufacturing, changes 174–5
proximity and national system of innovation 210–11
software patenting, North America 122–3
see also clusters
GERD (gross domestic expenditure on R&D)
Canada 39
OECD 38–9
global pipeline 137
globalization effect of ICT 204–5
government policy see policy, innovation
government support for business R&D, Canada 42–6, 58–9
grants and contributions (G&G)
support for R&D, Canada 43
Index

237

gross domestic expenditure on R&D
see GERD
growth
economic, importance of innovation
28–30
firms see business growth

health care system, impact on
innovation 224
health R&D indicators 180–81
high-growth firms, characteristics
98–106
high-tech exports, Canada 33–4
higher education
R&D investment, and business
sector 55–6
supplying private sector needs 160
universities’ role in innovation 14
human capital
and cities 139–40
and cluster development 146
mobility and innovation process
177–8
and national system of innovation
210
and technological change 215
human resources
Canada 34–5
indicator development 188–90
as innovation assets 159
supply of qualified personnel 160
human resources science and
technology (HRST) 188

ICT (information and communication
technology)
economic impact 173
innovation indicator development
186–7
and knowledge transmission 2
04–5
as platform technology 225
immigrant earnings, cross-sectional
analyses 161–2
incentives and innovation policy,
Canada 42–6
indicators of innovation 25–6
future development 178–93
OECD 168–73
industrial clusters see clusters

industrial distribution, high-growth
firms 101, 103–5
Industrial Research Assistance
Program (IRAP) 44
industry
and BERD, Canada 40–41
and technology, firm classification
96, 108–9
Industry Canada 45, 62–3
information sources for innovation
13–14
Innobarometer 2004 survey 192
innovation
acceptance of 157–8
benchmarking, Canada 30–35,
56–8
as collective process 16–17, 176–7
as combination 205–6
cumulative nature 16–17, 214
definition 26
in enterprise clusters, Netherlands
71–82
and growth in small manufacturing
firms 98
and human capital mobility 177–8
internationalization 190–91
and the knowledge society 202–6
and leadership 157
pervasiveness 16
and productivity and economic
growth 28–30
social nature 135–8
as social process 154–61
data capture 161–3
systems of 14
trends 174–8
types 16
innovation activities 226–8
see also research and development
innovation environment, Canada 35
innovation indicators see indicators of
innovation
innovation location, changes 177
innovation measurement 25–6, 167–93
enterprise clusters 74–81
see also indicators of innovation
innovation outcomes
measurement 55, 182–3
innovation performance, Canada
30–35, 53–4
innovation policy see policy, innovation
innovation strategies see national innovation strategies
innovation surveys see surveys, innovation
innovation systems 222–6
boundaries 223–4
see also national systems of innovation
innovation targeting 25
Canada 36–42
innovation value measurement 182
innovative firms, types 183
intellectual property (IP) indicators 182
and innovation 91
protection and business growth 90–91
data sources 107
software see software protection
intellectual property rights (IPR) and universities 14
international competition, impact on MNE innovation 80–81
international relationships, role in economic success, Canada 144
internationalization of innovation 190–91
internationalization of R&D measurement of 181
Netherlands 72–3
intra-cluster relationships, role in economic success, Canada 144–5
invention and innovation 155
investment in innovation see BERD; GERD; government support; public funding; public investment; R&D investment
ISRN research 143–6
knowledge-based clusters 137
knowledge as capital 203–4
knowledge creation, Canada’s under-investment 32
knowledge gaps, innovation policy, Canada 53–6
knowledge and learning-based economy 135–8, 173–4

Knowledge Matters: Skills and Learning for Canadians 25
knowledge platform 223
knowledge systems, national 206–12
knowledge transmission city-regions 138
and ICTs 204–5
leadership
and innovation 157
and regional development 142
learning-based economy 135–8
linear model of innovation 12–13
local buzz 137
local labour markets, role in cluster development 146
local relationships, role in economic success, Canada 144–6
location, effect on firm growth 101, 103–6
longitudinal analyses, immigrant earnings 162
Longitudinal Employment Analysis Program – Small Area File (LEAP-SAF) 86
longitudinal study of innovation 162
managing innovation, indicators 184–5
market capitalization, software companies 115
market failure and government support for R&D 42
market niche
data sources 108
role in business growth 91
measurement
of growth factors 107–9
of innovation 167–93, 228–9
national innovation performance 25–6
see also indicators of innovation
multinational enterprises (MNEs)
measurement of role in economy 172–3
R&D data 181
mobility of human capital and innovation 177–8
measurement 188–9
MONITOR 19
multinational enterprise clusters, innovation estimation 80–81
Index

nanotechnology 225
national innovation strategies 25
  Canada 36–42
National Institute of Standards and Technology (NIST), USA 192
National Science Foundation, US 231
national systems of innovation 206–12
  definitions 207–8
Netherlands, innovation in enterprise clusters 71–82
Networks of Centres of Excellence (NCE) program 44
‘new economy’ 173–4
New S&T Indicators project 169

OECD
  Biotechnology Statistics Group
    survey 187
  conferences 221–2
  Oslo Manual 3
    project on determinants of growth 174
  S&T indicators 168–73
OECD countries R&D expenditure 38–9
Opportunity for All in a World of Change, White Paper on Enterprise, Skills and Innovation 25
organizational innovation, indicators 184–5
Oslo Manual revision 3

packaged software market 115
patent propensity determinants 123–5
patents
  as innovation measurement 182
  software see software patents
pervasiveness of innovation 16
platform technologies 225
policy, innovation 17–18, 229–31
  Canada 36–46, 50–52, 58–60
  indicators 191–3
positive feedback loop from innovation to R&D 214
poverty, data analysis 162
price indexes for R&D 179
prioritization of innovation 54–6
productivity
  Canada 28
  importance of innovation 28–30
public funding, effect on private funding of R&D 49, 202
public investment in innovation 158–9
public policy on innovation see policy, innovation
public returns on innovation activities, knowledge gaps 55
public-private sector struggles and innovation 159–60
purchasing power parities (PPPs) for R&D, development of 179

RDCI (Research and Development in Canadian Industry) Survey 85
regions see city-regions
regulation, impact on innovation 224
research capacity and national system of innovation 210
research and development (R&D) and growth 104, 179
  Canada 88–91
  SMEs 98–100
  and ICT 204–5
  indicators 168, 179–81
  and innovation 226–8
intensity
  Canada 39
  OECD 38–9
investment 17–18
  Canada 32, 36
  impact on productivity and economic growth 28, 30
  and innovation policy 58–9
  OECD targets 38
performance, Canada 46–50
professionalization 200
surveys, Canada 107
tax credits and growth, small firms 98
Research and Development in Canadian Industry (RDCI) Survey 85
research infrastructure, role in cluster formation 145–6
research paradox 214
resistance to innovation 156, 157–9
risk affinity and business growth 97
Route 128 211

Schumpeter Mark I and II regimes 213–14
Index

science and technology (S&T) indicators, OECD 168–73 and innovation 199–202
Scientific Research and Experimental Development (SR&ED) 43, 45
sector-level R&D data 180
service sector R&D, Canada 41–2
Silicon Valley 211
skills
local, role in cluster development 146
measurement of 189–90
shortages
as barrier to growth 95
Canada 34–5
see also human capital
small manufacturing firms, innovation and growth 98
SMEs, R&D and growth 98–100
social capability and catching up 209
social capital, role in regional development 142–3
social dynamics and economic performance, city-regions 135–43
social foundations of talent attraction and retention 139–40
research agenda 148–9
social and human capital and national system of innovation 210
social inclusion and civic engagement, and cities’ economic performance 140–43
research agenda 149
social infrastructure and innovation 163
social innovation 160–61
social interaction, clusters 145
social nature of innovation process 135–8
research agenda 147–8
society structure and innovation acceptance 158–9
software impact indicators 186–7
software industry 114–15
geographic agglomeration 119
software patents 116–20
geographic distribution 122–3
North America 113–14
survey 120–27
software protection 113–28
standard of living, Canada 27–8
state, role in transition to learning economy 140
statistical consolidation measures, Dutch enterprises 73–4
Statistics Canada, Survey of Innovation 1999 85
subsidies, R&D 58–9
supply chains and R&D performance, Canada 49–50
surveys, innovation 108
Canada 56
Survey of Advanced Technology in Canadian Manufacturing 1998 (AMT98) 48–9, 85–6
Survey of Innovation 1999, Statistics Canada 85
survey instruments, Canada 56, 85–6
systems of innovation 14
see also national systems of innovation
tacit knowledge sharing, city-regions 138
talent
attraction and retention, city-regions 39–40
local, role in cluster development 146
measurement 189–90
Targeted Socio-Economic Research (TSER) program 19
tax credits and government support for R&D, Canada 43, 45–6
TEARI (Towards a European Area of Research and Innovation) project 11–12, 14–18
technological congruence 209
technology
and innovation 225
and economic change 156
and growth 100–101
Technology Partnerships Canada (TPC) 44
trademark data as indicators 182
TSER (Targeted Socio-Economic Research) program 19

Louise Earl and Fred Gault - 9781847201645
Downloaded from Elgar Online at 07/18/2019 09:24:05PM
via free access
UK, national innovation strategy 25
universities, role in innovation 14
urban regions see city-regions
user-centred innovation 177

world-first innovation and firm growth 98
World Intellectual Property Organization (WIPO) trademark data 182