Index

academic and business collaboration, Italy 177
personal relationships and networks 177
academic career, based on publications 39
academic community 1, 2, 4
expertise shift-back on curricula 107
pressure to conform 103
academic degree courses 97
academic freedom in Italy 174
academic self-governance, Oxford and Cambridge 100
academies of music and fine arts, Italy 168
academization of Hogescholen, opposition to 125
accreditation initiatives, assessment of 63
for conformity with national standards 76
accreditation of programmes, decentralized
Germany, 1998 24–5, 144–5
Netherlands 2003 24
state power 76
accreditation procedure, Germany, Spain 76
admissions expansion in Italy, 1960s negative outcome 168–9
advisory groups on creation of new curricula
German Kuratoria 26
age distribution, Spain 183
Amsterdam University extramural commercial programmes 16
real estate master’s programme, financing 72
applied research, former polytechnics, UK 38, 80, 114, 158
apprenticeships 16, 49
technical and science faculties 147
architecture courses, Italy 170
assessment 33–4, 73, 76, 77
automatization process 25–6, 69, 72, 157–9, 169, 174, 184, 191
Europe 64, 75
France, allocation of financial resources 157, 159
Italy 169, 174
Spain 184, 191
universities, higher than other HE systems 25–6
bachelor/master system, British style, in Italy 176
Bank Sciences programme, University of Barcelona 16
basic and applied research, former polytechnics, UK 96
Berufsakademien (BA), Germany 134
binary HE systems 14
abolishment, 1992 88
academic and vocational, relationships 88
(Berufsakademien), Germany 54
Board of Directors (BOD) consiglio di amministrazione (CdA), Italy
finance and administration 174–5
bureaucratic work 76
German reform 135
launching, Italy 170, 176
LMD system, licence, master, doctorate 57, 202
Spain 183–4, 190–91
supra-national reform process 21
unintentional negative effect, Spain and Italy 21
business and industry relations 150–51 and HE institutions, relations in Germany 32, 135, 142
business consultancy services, local and national institutions, UK 53
Cambridge University 100 influence on technological development 38
career advancement, basis on publications 42
careers’ services 51, 53, 104, 107–9
Carnot system, Pact for Research, France 165–6
technology transfer partnerships 165
Catalunya Polytechnic, Spain, endowed chairs 18
chemical industry, Germany, managers with doctorates 17
collaboration contracts, HE and local development 38
Colleges of Further Education, adoption of Foundation degree, 2001, UK 26
collegial body, Claustro, Spain 188
company internships in UK 51
company size, importance of 37
competitions promotion 77
Comunidades Autónomas, Spain 184
Confindustria, Italy 86
Consejos sociales (Social Councils), Spain ‘participation of society in the university’ 184
continental model of university systems, Italian aspects 174
contracts with private firms, France 158
‘contractual model’, Netherlands, Spain 34–6
cooperation and partnerships 81, 84–5
obstacles against in Italy 173
research in France 34
cooperative model of business creation 39
of research 32
coordination methods, decentralized 75
coordination of university systems, state power 76
counselling in schools, France 163
course accreditation, universities and Hogescholen 124–5
degree courses in Netherlands 124
course content determination, Netherlands
obstacles against cooperation 125
courses, co-design of, rare 15
courses requiring less effort, in humanities 27
Court, Council, Senate, faculty of non-faculty members 100
curricula definition 11
economics 21
formation by academic staff and state economics 12
new channel of technical-vocational HE 13
in parallel with traditional universities 13
curricula design by ministers, German Länder (KMK) 24
curricular accreditation, engineering, architecture, finance, accounting 104
curricula reorganization
France 160–62
Germany 143–6
Italy 176–7
Spain 190–92
UK 94
Darmstadt, Technische Universität 16, 33, 144
autonomy for budget 136
technical disciplines 16
data bank for student registration, Italy 60
Dearing Report, 1997, UK 95
assessment processes and HE ‘market’ 77
decentralization, Germany 134, 150
decentralization of university seats 32
decentralized coordination mechanisms European universities 64
degree courses 72, 103, 176
Delft Polytechnic
thematic courses on specific firms’ projects 129
Delft, Technical University, ‘quasi engineers’ 126–7
Index 225

demand anticipation 84–6

demand, external, and influence on HE system 7

demand for higher education access to professions and positions 2–3

demand potential 81
demand role 6–7
democracy, transition to, in Spain, 1970s 184
diploma courses, legislation on, Italy 176
distance learning, Wageningen 117
doctorate programmes 31, 48
dual-system graduates 20
dual system of vocational training, Germany 132
Dutch Hogescholen (HBO) 117–18, 31
Dutch multinational companies, international investment 37

Economic Faculty of University of Frankfurt, honorary science lecturers 17
Education Reform Act, 1988, UK 93
education system 50–51, 159
‘elite’ universities versus ‘mass university’
‘generalized access system’ 80–81
‘employability’ 20, 55, 80–91
endowed chairs, in France, Italy, schools of commerce 18, 19
engineering and economics 6, 12
firm finance, Spain 191
engineering, industry-oriented negative trends 106
engineering professionals, courses by École Central de Lyon 17
English ‘old universities’, long history 4
enrolment increase in universities enrolment rate, higher in former polytechnics
lower fees and admission criteria 105
Enterprise in Higher Education, UK 1980s 23–4, 93
entrepreneurial drive, strongest, UK and Spain 39–40
entrepreneurial model 30
of business creation 39
entrepreneurial university 180
European Credit Transfer and Accumulation System (ECTS) 11
European exchange programmes Socrates, Erasmus, Erasmus Mundus 48
European HE systems, drivers of change Bologna Process, harmonization 200–201
‘knowledge economy’ 200–201
‘mass university’ 200–201
European HE systems economic content 1
reorganization variables 208–9
‘European Paradox’ 29, 39, 113, 127
‘Dutch Paradox’ 127
inventions in the market 113
European universities 198–211
Exzellenz-Initiative, Germany, research 32, 143, 199
three categories of competition 149

Fachhochschulen, Germany 88
faculty members, control of curricula and research 101–2
financial autonomy in Italy, 1993 169
financial support for teaching 72
financing in Germany, supplementary funding 137–9
of HE system in Italy 172–4
sponsoring of courses and chairs 17–18
firms and universities, collaboration difficulties 15, 71
firms, needs of, in science, business 104, 205
firms’ cooperation with universities, percentage, Netherlands 128
firms financing of endowed chairs, Germany, in firms’ interests 18
Floralis research support agency, 2004 165
formula funding 67–70
‘foundation chairs’, Germany, external funding from firms 150
Foundation degree (short course), 2001, UK 25–6, 86, 103–105, 107
European universities and the challenge of the market

Framework Act of Higher Education (HRG) 132
new bachelor’s and master’s degree 134
France 153–67
foundation by Napoleon of grandes écoles 14
Faure law, 1968 154
HE system, universities and grandes écoles 153
‘mixed research units’ (UMR) 154
project work in partnership 165
Savary law, 1984 154
universities, sciences and humanities 153
university technical institutes (IUTs) 154
Frankfurt University Faculty of Economics 12, 56
‘Bachelor meets Business’ 56
‘Careers Centre’ 56
‘Dean’s List’ 33
E-finance lab 33
student contact with commercial firms 55–6
Frankfurt University, Kuratorium bond strengthening 142
French academic body
prioritisation of independence 161
French grandes écoles of Napoleon for administrative elite 4
French higher education 153–67
French universities, co-design courses at grandes écoles 16, 57
Université Jean Moulin, Lyon 3, 16
funding, 63–79
competition in Netherlands, Hogescholen and universities 129–30
HE institutions, Hesse, Germany 138
HE system, France 157–8
linkage to output of universities 69
mechanisms, Netherlands 120–22
mechanisms, Spain 187–8, 191
private, for universities, data 75
research projects 33–4, 76–7
sources of HE institutions, UK 98
student services in UK, increase in 53
through scholarships and internships 72
universities by national governments 65
Funding Councils, distribution of funds 2006–2007 99
lay members from private organizations 101
funding problems, student fees 203
funding reorganization, UK 94
funding responsibility, function of state in 83
Further and Higher Education Act 1992, UK 31
end of binary system 93
German reforms in HE system
Stiftungsprofessuren (endowed chairs) 18
German Research Association (DFG) 73
Germany 132–51
academic independence, importance for humanities 18
degree awards as percentage of age group 133
dual system 25
Fachhochschulen, applied research 4, 14, 31
private and public spending 149
higher school councils advisory organ 23
higher technical training Fachhochschulen 4
link between education and labour market 132
Stiftungsprofessuren (‘endowed chairs’) 18
German Research Association (DFG) 73
Giessen, historic university, Germany 136
Girona University, Spain sociologists’ report on training needs 193
Goethe University, Frankfurt, Foundation University 136
governance autonomy and reform 64–7
English universities, substantial autonomy 3
former polytechnics, post-1992, Council and Academic Board 101
France 35, 154, 159–60
German HE institutions, collective decisions 139–41
Italy 174–5
Netherlands 122–3
'Shared governance' 101
Spain 188–90
government control over university funding 71
Graduate Development Centre, Career Day, UK 109
graduate entry to labour market, monitoring 50
graduate services, Germany 147–8
graduates in labour market, France 58
graduates’ skills and labour, match 25–6
graduate unemployment rates 51–2
Grande Ecole of Engineering INSA, Lyon 72
grandes écoles France 18, 31–2, 57, 153, 159
Grundbudget, Germany, division methods among HE institutions 138
Grundmittel, funding source, Germany 137
HE change, typology of, four types 207–8
HE institutions 6, 22, 34, 42, 54, 93–4
Hesse, Frankfurt, training and research programme 6, 136, 149
Higher Education Act, 2004, United Kingdom 95
‘Higher Education Innovation Fund’ (HEFCE, 2009) 40, 53
Higher Education Innovation Fund (HEIF), United Kingdom 95
Higher Education Statistical Agency national survey on job placement 54
Hochschulrat (Higher Education Council) 142

Hogeschool, Netherlands 88
financing 72
undermining of monopoly of academic sector 120
Holland, higher technical training, Hogeschool 4
human capital from on-the-job training 73
humanities and sciences, Spain 191
humanities and social sciences
prevalence of graduates in, 2006 89
humanities courses in Germany 145
humanities faculties, Netherlands
penalization of speculative research 129
humanities in France, less connection with market 57
human science faculties, Germany, internships 55
human skills for private business 49
‘Humboldtian’ teaching, Germany 65
human sciences faculty 54
personality training 147

income of Hesse’s HE institutions from research, technology transfer, continuing training 140
industrial entrepreneurs 11–12
industry and research relationship, Germany, science and technology 18
industry backwardness, Spain 186
industry interests from research 129
innovation by company size collaboration with HE institutions 37
innovation needs of firms 166
innovative research programme, Netherlands 128
institutional academic identity, lack of, in Europe 63
intellectual property rights 30, 41
international collaboration by large companies and HEs 38
internationalization of curricula, objective in France 164
international policies of universities 50
internships 3, 16, 56, 58
European universities and the challenge of the market

internship office, importance of, Italy for connection of university with outside 178
internships, France 163–4
internships, Netherlands 126–7
internships, Spain 59, 192
greater importance in curricula inventions and patent numbers inventions, unmarketable (Spain and UK) patenting procedure 42
Italian universities and external relations 168, 171–2
Italy 168–81
humanist cultural tradition little cooperation between industry and academe 15
national survey on graduate employment 52
private universities, business university model 60 ‘unitary’ category 88, 168
Jarratt Report, 1985, UK, managerial management techniques 94
Jean Fourier-Grenoble 3 University, France
Floralis research support agency, 2004 165
job insecurity of young in southern Europe 49–50
job placement 48–55
John Moores University of Liverpool, school of mechanics 12
Kassel University, Germany 149–50
Drittmittel by source 141
technical disciplines 16
UnikasselTransfer (UKT) 41
knowledge vouchers, Netherlands 128
labour market entry for young, difficulties in France 163
labour market entry, Germany 147
labour market for students 48
labour market in Spain, low-skilled jobs 192
highest level of youth unemployment 58–9
Länder ACC, federal structure of Germany 132
law and economics, prevalence of graduates in, 2006 89
law, five-year degree courses, Italy 170
law reform of curricula, Italy 23
lay member participation in universities since 1980s advisory on budgets and funding 101 from economy, arts, political class 65
lay members of governance 100 businessmen, trade unionists, politicians 101
Leading Technology Institutes (LTIs), Netherlands 128
legal status of trainee, France 58
legitimization of universities 69
Ley de Reforma Universitaria (LRU), 1983, Spain 188
Ley Orgánica de Universidades (LOU) greater managerialism in governance 184–5
licences professionnelles, France short courses for labour market 162
life-long learning, marketing of 11, 89, 146
Lisbon strategy competitiveness based on knowledge 81
human capital and research results 203
Liverpool John Moores University 06
good RAE rating 31, 42
Graduate Development Centre 54, 108–9
highest growth rate 97, 99
lay members in majority 101
World of Work (WOW) 108
Liverpool Science Park 43–4
Liverpool University, Centre for Material Discovery (chemistry) 33
Liverpool University, ‘industry-ready’ learning chemistry and engineering, emphasis on 96
ranking in RAE 99
machine tools industry, Germany, managers with doctorates 17
managerialism in Netherlands 123
Manchester Metropolitan University 102
expansion of careers’ service 108–9
lay members in majority 101
ranking in RAE 99–100
Manchester Science Park 43, 115
Manchester University 100
first rank in RAE 99
‘industry-ready’ learning, chemistry
and engineering 96
manager to market research
products 102
patents, prolific 113
Marburg, historic university, Germany 136
market, creation by state 82–4
market exchange, Spain 186
‘marketization’ of universities 82
market logic of action 1–2, 5, 7, 81, 83, 94
market-orientation, France 159
market-oriented models, as in UK 52
‘mass university’, transition to 83, 93, 201–4
Max Planck Institute 30
Milan, Catholic University, Faculty of
Financial and Actuarial Sciences 16
Milan University 60, 177
Ministry of Education survey,
Netherlands 122–3
Ministry of Higher Education and
Research (MENS), France 58
multinational in Netherlands 127
little interest in university links 119
National Qualifications Framework
(NQF), 2004 25–6, 82, 107
definition of objectives of degree
course 103
United Kingdom 94–5
national research agency, France 164
national system of educational
qualifications, UK 25–6
Netherlands 6
firms, transition to permanent
lecturing posts 17
Hogescholen 14, 36, 117
HE system, full integration into
economic system 56
national survey on graduate
employment 52
Netherlands Organization for Scientific
Research (NWO) 121
Netherlands school governance
structure, board executives, ‘lay
members’ 22
New Public Management theories,
1990s 77, 83, 171
occupational outcomes of previous
graduates 24
one-direction models, low integration
with economy 57–61
Open University, distance learning,
Netherlands 117
Organization for Applied Scientific
Research (TNO) 128
Organization for Economic
Cooperation and Development
(OECD)
patent owning by companies and
universities 113
orientation and training, Italy 178–9
orientation services, secondary-level,
France 58
Oxford University 100
influence on technological
development 38
patent activities, Netherlands 41
patent exploitation, France 165
patent marketing, Germany 143
patents, increased number in Spain 41
patents owned by companies and
universities 39
patents, percentage owned by HE
institutions 40, 41
payment for education, views 70–71
performance-based funding, Germany
139
personnel circulation, firms and
universities 16–17
physical sciences, industry-oriented,
negative trends 106
placement services 81
in universities, Spain 59, 192
Polytechnic of Delft
co-designed courses 16
consultancy on teaching programmes 72
Polytechnic of Milan 179, 180
polytechnics and colleges, status of university 31
Further and Higher Education Act 1992, UK 93
polytechnics, former, adoption of Foundation degree, 2001, UK 26
polytechnics, former, in UK 36, 53–4, 96, 107
Polytechnic University of Catalunya, custom-made training courses 15
Pompeu Fabra University Spain, consultancy on teaching programmes 72
postgraduate level ‘commercial programmes’, Netherlands 125
postgraduate ‘professional doctorates’ Netherlands 124–5
post-secondary schools, pressure from industrial entrepreneurs 11–12
practical training (Praktika), in German education system 55
Praktikum, Germany, apprenticeships in technical and science faculties 147
private financing of French HE, unpopular with firms 158
private funding, increase in 74
professionalization of academic governance, development in Netherlands 65–6
of education delivery, France 155
of external managers 67
professional lecturers, external, in France 157
‘professional project’ in degree course 58
professional training in UK courses 76
professor-scientists, given field of knowledge 80
‘Progetto Stella’, Italy, graduate employment surveys 179
project assessment 67–70
psychological counselling 177
public expenditure in HE, reduction of public expenditure 83
public financing of HE, France 157
public funding and assessment 33–4, 73, 77, 83, 110
public funding for HE, government decrease, 1980s 68
public funding for research, changes in in UK, France, Germany, Italy, Spain, Netherlands 74
public research funding, UK 35–6
public resources, allocation of, France 57
public transfer system, Italy 173
qualifications with value for employment 11
Quality Assurance Agency (QAA) for curricula 93, 107
R&D spending, low in Italy 171
also Greece and Portugal 180
regional and university-level autonomy, Spain 184
Regional Development Agencies, United Kingdom 95
regionalization of university education, Spain 184, 187–8
regulations on management of university budgets 69
research 30, 39, 73–5
applied, practical applications 28, 31
basic (blue-sky research), scientific discoveries 28, 88
and business world, France 164–6
and business world, Italy 179–81
and business world, Netherlands 127–30
Research Assessment Exercise (RAE), UK 39, 93, 99, 199
funded on number of publications 31, 97, 113
research centres 32–3
highly specialized, Germany, independent from university 30, 143
research expenditure in HE institutions, funded by companies 35
research funding France 147–5, 156–7
research funding in Germany 140
research funding sources in UK 109–15
Index

health care institutions, public companies, industry 36
research funding sources, Spain, ‘company chair’ 193–6
research, government influence on 69–70
research in UK, public funding for research, changes in 115
Research Out Funds, Higher Education Innovation Fund (HEIF) 95
research programmes of national importance (PRIN), Italy 34
research sector, France, thorough reorganization 164
research spin-offs 29, 30
research, theoretical research, cheaper than applied, Spain 196
research useful to industry 72–3
Rhône-Alpes, Lyon, France 6 economic system 155–7
Robbins Report, 1965 100
sandwich courses, first degree, increase in enrolment, subject/students 106
‘sandwich courses’, UK 72
school and business, relationships between, Hochschulrat 23
science and humanities courses, differences, Germany 145
science and technology parks, growth in Spain 186
Science Enterprise Centres, UK 95
science parks 29, 43, 45, 115, 195
Scottish ‘ancient universities’ 100–101
services on labour market, Netherlands 126
services to students, Netherlands 54–7, 126–7
skill-based technological change, ‘human capital’ 201–202
skilled jobs, shortage in Spain 193
skills from job experience 20, 85, 89
small enterprises, preference for vocational track of HE 87
small firms collaboration, highest in UK and Netherlands 37–8
social and relational skills, large enterprises, preference for 87
Social Councils, Spain, law of 1983 186
social demand 63, 74, 78
social prestige from HE credentials 26
‘social responsibilization of universities’ in social/economic matters 22
Sorbonne Declaration 1998 21
Spain, 58–9, 183–97
asociado professor category 17
company-funded research 36
Ley de Reforma Universitaria 1983, socialist government 22
Ley General de Educación, technical-vocational schools 15
practicas, practical training 59
Tribunal Constitucional 1987, claim by Basque government, against CS 22–3
Spanish system of HE 183
spending for research, adjustment 73
spending in HE in Europe 67
spin-offs in France, Italy, UK 42–3, 114, 115
state intervention in HE, provision of economic resources 12
state, strong role of, in UK 199
student as ‘customer’, in financial terms 106
student-centred teaching 48, 81
student demand low, for vocational programmes, UK 26
student employability 48
market-oriented models, as in UK 52–4
student population expansion in France, problems from 162–3
student services 50, 52, 162–4
Germany 146–7
increased funding, UK 53, 107–9
Italy 177–9
Spain 192–3
studies, fostering by firms, Germany 150
study programmes in Netherlands Bologna Process 124–6
study programmes, stakeholders’ demand 103

taxe d’apprentissage, France, firms’ taxes 158
Teaching and Higher Education Act, 1998, UK 95
teaching modules, Germany 145–6
teaching participation by firms personnel, France and Germany 16–17
teaching quality in German universities, student questionnaires 146–7
technical-scientific companies, most active 37, 56–7, 87, 126, 134, 150, 155
technical-vocational higher education 13, 14, 17, 20
 technological partnerships (TS), Netherlands 128
Technology Foundation STW, Netherlands, university research centres 32
technology parks 29, 44, 196
technology transfer 29–30, 39–42, 50, 82, 95, 113–14, 140
training type, enterprise-approved 86–7
unemployment 49, 54
UniKasselTransfer (UKT), 2003 143, 149–50
unitary systems, traditional,’professionalizing’ curricula 88
United Kingdom
 Education Reform Act, 1988 93
firms in North West 96
firms, transition to permanent lecturing posts 17
polytechnics, financed by local authorities 14
Research Assessment Exercise (RAE), UK 93
universities 100, 102, 105, 177
and companies, mutual prejudices 80, 113
competition amongst, in France 161
generalist and specialist, Italy, distinctions 175
and Fachhochschulen (FH) 134
service providers, country differences 48
and state, relations between, Italy 172
university administration in Spain, conformity 186
university attendance expansion, opposed by German employers 20
University Challenge Seed Funds, UK backing spin-offs 95
university enrolments in Italy 1960–2007 169–70
university governance, Social Councils, Spain, law, 1983 189
university governance, Netherlands, radical reform, 1997 123
university governance participation, types of 66, 100–103
university–industry programmes, Netherlands 119, 122
university inefficiency in France, drop-out rate, high 58
university management, non-academic personnel, Netherlands 123
University of Kassel (UKT), technology transfer office 55
University of Manchester Incubator Company (UMIC) 43
University of Manchester Intellectual Property (UMIP) 40
university professors in Spain, against sharing power with business 184
university reform in Europe 83, 154, 155
university research and economic advantage 179–80
vocational and academic tertiary institutions, distinctions 204
Vocational and Educational Training (VET) 89
vocational courses 20, 25–6, 49, 105, 134
vocational degree courses 97, 103, 118, 156
vocational programmes, Netherlands 117–18
Index

vocational track and binary systems 88–9
vocational training institutions, increase in basic research 31
vocational training, Spain 59
vouchers to small firms, for collaboration with HEs 38
Warwick University governance 102
World of Work (WOW), student orientation courses 54
youth unemployment in Europe 56, 126, 154