

SURVEY OF MASTER DEGREES IN EUROPE

BY HOWARD DAVIES

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European University Association asbl
Rue d'Egmont 13
1000 Brussels, Belgium
Tel: +32-2 230 55 44
Fax: +32-2 230 57 51

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Foreword



Professor Georg Winckler
EUA President

This report is published at a significant moment for Europe's universities. After a decade of policy discussion and implementation, the contours of the future European Higher Education Area are now clearly visible. Simultaneously, institutions are called upon to lend their weight to a coordinated response to the global economic crisis.

The Master has a crucial role to play. It is the most versatile of qualifications. Without it, Europe's commitment to research and innovation could not be sustained. The Master delivers the high level skills required by the knowledge economy. When integrated into a comprehensive lifelong learning framework, it demonstrates just how responsive and inclusive universities can be.

Even as it addresses European needs, it attracts students from every part of the world. Europe's enormous array of Master and Joint Master qualifications has become a successful platform for global dialogue. This is something to be celebrated.

At the same time, the Master offers certain challenges. To the Bologna Process, which needs to consider how best to monitor its performance. To national governments, as they clarify the position and function of Master-level study in their national qualifications frameworks. To institutions, as they seek to direct human and financial resources towards making the Master qualification yet more responsive to social need and individual aspirations.

EUA trusts that this report will make a useful and positive contribution to these debates.

A handwritten signature in black ink, appearing to read 'Georg Winckler'.

Georg Winckler
EUA President

Acknowledgements

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The author wishes also to thank the team members and national experts listed in annex, whose work – insufficiently visible in the final report – was indispensable to its writing. Their informed contributions were extremely valuable.

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Howard Davies

Executive summary

THE MASTER AFTER TEN YEARS OF BOLOGNA

1. After a decade of achievement, the Bologna Process will usher in the European Higher Education Area in 2010.
2. A three-cycle qualifications framework is formally in place, a range of mobility instruments has been created, and the principles of quality assurance are agreed. The 46 ministers meet regularly to review progress on other action lines, including employability, equality of opportunity (the 'social dimension') and collaboration with other global regions (the 'global dimension'). Cooperation between higher education institutions across Europe has reached unprecedented levels.
3. Much remains to be done. The Bologna second cycle – consisting of postgraduate pre-doctoral study and, in particular, the Master qualification – is not fully up and running. Not all countries have had time to implement their recent legislation. Not all courses have had time to produce their first cohorts of successful students.
4. The post-2010 period promises further achievement. National legislative action will be completed and national qualifications frameworks will be published. Quality assurance procedures will be in place in every country. The Bologna Bachelor, an innovation in some higher education systems, will have begun to gain broad acceptance as a viable point of entry to the European labour market. The Master will gain in distinctiveness as a result.

THE MASTER REPORT

5. In 2009 it is opportune to map the progress made and to suggest ways in which the implementation of the Master might be expedited.
6. EUA set up open-access on-line questionnaires in late 2007 and conducted a small number of site visits to higher education institutions in Austria, Belgium, Germany, Ireland, Poland, Spain and Sweden. It complemented the findings with team discussion and desk-based research. It sought to discover whether a recognisable Master template had emerged and whether, within it, there continued to exist substantial diversity of provision.
7. The provisional answer to both questions is 'yes'. A formal framework is in place and waits to be fully fleshed out by programmes and qualifications consistent with the Bologna specifications.
8. Master-level provision takes three principal forms. First, taught Master courses with a strong professional development application, available in full-time, part-time, distance and mixed modes. Secondly, research-intensive Master programmes, many of which are integrated into innovation and knowledge transfer activities and function as pre-doctoral studies for the career researcher. Thirdly, Master-level courses of varying duration delivered mainly to returning learners on in-service, executive release or self-referral bases. There is no reason to assume that patterns of demand will become less varied.
9. In the context of the global economic crisis, it is difficult to predict trends even in the short term. The conclusions and recommendations offered by this report are not comprehensive. They should be read in conjunction with future Bologna stocktaking and the forthcoming *Trends 2010*.

THE 'READABILITY' OF THE MASTER

10. The Master is well defined in terms of the bands of full-time duration and credit points determined by ministers. The level of academic attainment which it represents is expressed by agreed level descriptors.
11. This does not mean that the Master is 'readable' across the 46 Bologna jurisdictions. Its profile remains clouded by titles and nomenclature which, although usually clear at national level, lose clarity when viewed across external borders. It is not yet universally simple for students and other stakeholders to be guaranteed first-glance recognition of what a particular Master offers. A set of informative markers should be developed for the benefit of all users.
12. Nor is the Master wholly readable to policy makers and stock-takers. The internationally used ISCED classification system does not distinguish between Bachelor and Master, but only between an amalgam of the two and the doctorate. Until disaggregation is possible, monitoring the efficacy of the Bologna second cycle will be compromised.
13. The 'sectoral' qualifications delivered by training providers in the fields of healthcare and architecture constitute an important segment of Master-level activity. These and other professional qualifications fall within the scope of EU Directive 2005-36-EC. The Directive and the Bologna Process are not aligned. There is a particular need to consider action in the areas of quality assurance, recognition of prior learning, and continuing professional development.
14. The mobility instruments developed over the past decade – and notably the Diploma Supplement – have yet to reach a point at which they are used routinely by students, institutions and employers.

THE INTEROPERABILITY OF THE MASTER

15. A substantial volume of student mobility in Europe is likely one day to be 'inter-cycle'. Students will move from a Bachelor in one country to a Master in another, or from a Master in one to a doctorate in another. Most inward mobility to UK from other Bologna countries is of this type. However, in the wider Europe not all problems of structural compatibility and recognition have yet been resolved.
16. Selection for access to the Master has not yet become a practice uniformly and fairly applied. In some countries 'own-institution' candidates may enjoy an advantage.
17. Mobility may be problematic in another way. Mainstream provision of Master programmes and lifelong learning opportunities at Master level are rarely integrated. They tend to be supported by different legal and funding systems, infrastructural arrangements and by an academic division of labour. There is a danger that even as lifelong provision grows in volume, it will remain separate. Meeting individual, social and economic needs fully will require a higher level of synergy.
18. Career mobility – and therefore physical cross-border mobility – may also be impeded by the uneven recognition of prior learning, and particularly of non-formal and informal learning, at pan-European level. Access to the Master will be widened, and become more equitable, when reliable procedures are everywhere in place.
19. The key factor facilitating interoperability is the learning outcome. It will gain in profile as Bologna quality assurance practices are set in motion and as student-centred learning becomes the dominant pedagogy. In many disciplines consensus is being built on a pan-European basis, regarding which competences, skills and aptitudes should be achieved at Master level.

Executive summary

20. Transnational Joint Master programmes show no sign of diminishing in number. They supply concentrations of academic expertise and opportunities for on-course mobility. It is important that legal impediments are removed and that funding remains available.

THE FUTURE OF THE MASTER

21. The more flexible the Bologna second cycle, the more capable it will be of satisfying the aspirations of individuals and labour market needs. The efficient participation of social partners and civil society in institutional governance and in curriculum development will further energise and fine tune Master portfolios.
22. The Master has a crucial role to play in the knowledge society. It assures the acquisition of competences on which doctoral research depends. It develops human capital in many fields and should be accessible from as many points and by as many persons as possible. Its range of core activities, delivery modes and durations make it a hugely flexible instrument with which to confront the challenges of the global economic crisis.
23. Of the three Bologna cycles, it is the most 'marketised'. Fee variation is very wide. Costs are high. To assume that the Master will thrive on competition alone is incautious. Research and curriculum development depend on transnational collaboration. Given the Master's strategic importance to the Lisbon Agenda within the EU and to sustainable growth in all 46 Bologna countries, it is time to consider issues of student finance and equal opportunity of access.

List of acronyms

APEC	<i>Association pour l'Emploi des Cadres</i> (FR)
AP[E]L	Accreditation of prior [experiential] learning
ARENE	<i>Ammattikorkeakoulujen rehtorineuvosto</i> (The Rectors' Conference of Finnish Universities of Applied Sciences)
CEDEFOP	European Centre for the Development of Vocational Training
CEMS	Community of European Management Schools
CHEPS	Center for Higher Education Policy Studies (NL)
CIMO	Centre for International Mobility (FI)
CPD	Continuing professional development
DAAD	<i>Deutscher Akademischer Austausch Dienst</i> (German Academic Exchange Service) (DE)
DS	Diploma Supplement
EADTU	European Association of Distance Teaching Universities
ECTS	European Credit Transfer and Accumulation System
ECUI	European Consortium of Innovative Universities
EEA	European Economic Area
EFMD	European Foundation for Management Development
EHEA	European Higher Education Area
ENIC	European Network of Information Centres
ENQA	European Association for Quality Assurance in Higher Education
EQAR	European Quality Assurance Register for Higher Education
EQF	European Qualifications Framework for Lifelong Learning
ERA	European Research Area
ESIB	The National Unions of Students in Europe (now ESU)
ESG	Standards and Guidelines for Quality Assurance in the EHEA
ESU	European Students' Union (previously ESIB)
EUA	European University Association
EUCEN	European University Continuing Education Network
FEANI	<i>Fédération Européenne d'Associations Nationales d'Ingénieurs</i>
FHEQ	Framework for Higher Education Qualifications in England, Wales and Northern Ireland
GMAC	Graduate Schools Admission Council (US)
HE	Higher education
HEFCE	Higher Education Funding Council for England
HEI	Higher education institution
HEPI	Higher Education Policy Institute (UK)
HESA	Higher Education Statistics Agency (UK)
ISCED	International Standard Classification of Education
MBA	Masters in Business Administration

List of acronyms

NARIC	National Academic Recognition Information Centre
NOKUT	Norwegian Agency for Quality Assurance in Education
NQAI	National Qualifications Authority of Ireland
NQF	National qualifications framework
OECD	Organisation for Economic Co-operation and Development
PSM	Professional Science Master's
QA	Quality assurance
QAA	Quality Assurance Agency for Higher Education (UK)
RPL	Recognition of prior learning
SME	Small and medium-size enterprises
UAS	University of Applied Science
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICA	Network of Universities from the Capitals of Europe
VAE	<i>Validation des acquis de l'expérience</i> (FR)
VET	Vocational education and training

Methodology

The Master project was conceived by EUA as a 'mini-Trends' survey. The first 'Trends in Learning Structures in Higher Education' was prepared as a background paper for the meeting of 31 European education ministers in Bologna in 1999. Its country-by-country overview informed their decision to endorse a Declaration and thus to launch the Bologna Process.

At each subsequent biennial meeting, ministers have received an updated *Trends* survey as part of their stocktaking exercise, the most recent being the fifth, which was considered at the London summit in 2007. The sixth will appear as Trends 2010 – marking the year in which the first phase of the Bologna Process ends and in which the European Higher Education Area comes into being.

The Master report is a 'mini-Trends' in two senses: it addresses only the second of the three Bologna cycles, and it is based on site visits conducted in seven countries, compared to the eleven countries visited in, for example, Trends V.

The methodology is based on a sequenced mix of quantitative and qualitative data collection, but greater stress is placed on qualitative analysis. Research began with a suite of open on-line questionnaires, which sought responses from academics, employers, HEIs and students, and which was accessible between December 2007 and June 2008. Links to the questionnaires were distributed throughout Europe, via such channels as the EUA website and newsletter, Business Europe, ESU, Eurochambres, and national rectors' conferences. In total, 2558 responses were collected.

The results informed a series of one-and-a-half-day visits to one, two or three institutions in each of the following countries: Austria, Belgium (Flanders), Germany, Ireland, Poland, Spain and Sweden. These took place in the second half of 2008. The criteria for selection allowed for as wide a range of institutional profile as was possible, time and budget permitting, and encompassed different degrees of Bologna implementation on both sides of national binary lines (where these existed). The HEIs visited were regarded as mission-specific, rather than representative.

The site visits were conducted by teams of two experienced researchers, accompanied by a national expert nominated by the National Rectors' Conference. In each case the teams met a range of relevant actors, including academics, administrators, employers, institutional leaders, and students.

The material gathered in the questionnaire and fieldwork phases, augmented by desk-based research and team discussion, yielded the conclusions set out at the end of the report. These make no claim to be based on comprehensive or exhaustive inquiry, but should be regarded as attested indicators of various states of play in Bologna's second cycle.

The report is organised in terms of various themes: mobility, employability, and so on. Such is the inter-connection of Bologna actions, however, that all themes are effectively cross-cutting. The discussion of each therefore carries into other sections.

The report identifies significant features in the evolving Master landscape. For this reason, it focuses more on the taught Master than on the research Master. It also pinpoints areas in which further research and action will be productive. It hopes in this way to contribute to the discussions which the 2009 Bologna stocktaking, other imminent reports and Trends 2010, will undoubtedly provoke.



Introduction to the Bologna Master

THE BOLOGNA SECOND CYCLE AND THE MASTER DEGREE

This report is an investigation of the Bologna second cycle and the stage of development that it has reached in 2009.

The process of development still has a long way to run. Most of the 46 Bologna signatory countries are currently facing the challenge of making their higher education [HE] qualifications compatible with the overarching three-cycle framework put in place by the Bologna Process. By January 2009 only three HE jurisdictions had informed the Bologna Secretariat that their task had been completed: Ireland, Scotland (which controls its own system by devolution from the UK government), and Germany. Sweden was about to do so. Other countries were at the drafting stage.

Each of the three Bologna cycles contains one major academic award – the Bachelor in the first, the Master in the second, and the doctorate in the third. To obtain a Master is to reach the ceiling of the second cycle. Access to it is normally from the first cycle, while onward academic progression is to the doctorate.

The second cycle, however, contains more than just the Master. In most national systems, there are a host of short, intermediate and specialist awards which have evolved over a long period of time. In Ireland's new national qualifications framework [NQF], the ninth level – equivalent to the second Bologna cycle – has been reduced to just two awards, the 'Masters' and the 'Postgraduate Diploma'. This involved rationalising a large number of so-called legacy, minor and supplemental qualifications.

The Bologna Process aims to reduce the complexity of each national system, and thereby facilitate their interaction. As systems become less complex, they become more transparent to each other and more 'readable' by citizens of other countries, encouraging the mobility of students, researchers, teachers and other workers. This 'readability' will form the basis of the European Higher Education Area [EHEA], to be in place by 2010.

In some countries, there had previously been no distinction between the Bachelor and Master levels. Typically, courses of instruction had been long and integrated. For these countries, the conversion to Bologna has proved challenging. Some of its consequences will be highlighted in the course of this report.

Master-level provision takes three principal forms. First, taught Master courses with a strong professional development application, available in full-time, part-time, distance and mixed modes. Secondly, research-intensive Master programmes, many of which are integrated into innovation and knowledge transfer activities and function as pre-doctoral studies for the career researcher. Thirdly, Master-level courses of varying duration delivered mainly to returning learners on in-service, executive release or self-referral bases.

Beyond this typology, more precise definition is difficult. The list below indicates some categories of Master as they exist in some jurisdictions. Each category – and the limits of each definition – is discussed later in the report. The fact that readability is compromised by the proliferation of designations is one of the report's main conclusions.

- Academic Master: used in binary systems to distinguish the university-based programme from the Professional Master awarded by non-university HEIs
- Consecutive or Continuation Master: a Master undertaken immediately following, or very soon after, a Bachelor qualification in the same discipline
- Conversion Master: a Master undertaken in a discipline other than that studied in the preceding Bachelor
- Joint Master: a Master delivered by two or more HEIs awarding single or multiple diplomas

- Lifelong Master: used in some systems to designate second cycle provision delivered quite separately from the Consecutive Master
- Professional Master: used in binary systems to distinguish the Master awarded by non-university HEIs from the university-based Master

THE 'MASTER' DESIGNATION

After nearly a decade of Bologna usage, the Master and its variants are well established in European HE. Although new in many instances, the term has a historical resonance, harking back to the medieval *Magister* qualification, which is still the official title in some systems. In a few countries other designations are current. The Holy See has retained the *licenza*. The Greek *metaptychiako diploma eidikefsis* is unsurprisingly pre-latinate. But these, with the Danish *kandidat* and the Turkish *yüksek lisans*, are the only major exceptions.

To cross any frontier, in a tour of the 46 Bologna countries, is nevertheless to encounter a different shade of meaning, even where the English word 'Master' is used. It is a mistake to assume that the term universally conforms to the British definition. The English (with the Welsh and Northern Irish), the Irish and the Scottish HE systems are a few among many and have no statutory pre-eminence. In any case, they speak of the *Masters*, or the *Master's*, rather than *the Master*.

Terminology is never neutral and context is all-important. The *Association pour l'emploi des cadres* reported in 2007 that the introduction of the term *Master* by French universities had been doubly beneficial. Not only had it shed the sense of incompleteness carried by the *maîtrise*, it had also achieved – at least in the eyes of employers – parity of esteem with the *Master* (and the *Mastère spécialisé*) offered by the *écoles de commerce* and the *grandes écoles*.

This report will use the term 'Master'. In doing so, it marks its line of descent from the influential 'Survey on Master Degrees and Joint Degrees in Europe', compiled for EUA by Christian Tauch and Andrejs Rauhvargers in 2002.

WHAT IS THE BOLOGNA MASTER?

- Normally carrying ECTS 90-120, of which at least 60 should be at Master level
- Typical duration of one to two full-time equivalent years
- Disciplinary content consistent with generic level descriptors
- Curriculum design and pedagogy defined by learning outcomes
- A recognised point of entry to the European labour market

Ten years after the Bologna Declaration of 1999, what stage of development has the Bologna Master reached? At the very least, it is specifiable in terms of its location in the second cycle, its bandwidth in the European Credit Transfer and Accumulation System [ECTS], its level descriptors, and its typical duration in full-time equivalent years. It is recognisable – at least to the professionals, agencies, institutions and governments active in higher education.

However, it has yet to be fully implemented. It has still to achieve a stable European profile in terms of pedagogy, labour market relevance, research-relatedness, funding and finance. It lacks such a profile, partly because of the persistence of strong pre-Bologna traditions in certain countries, partly because in many others new legislation has not yet delivered a complete portfolio of up-and-running postgraduate programmes, and partly because the Master has to respond to the imperative of lifelong accessibility.

Its classical delivery mode and function, based on full-time attendance in a single higher education institution [HEI], linking sequentially with Bachelor and with doctorate, is no longer the presumed

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Introduction to the Bologna Master

best model. Transnational joint degrees, part-time, e-learning, post-experience, distance and in-company modes, as well as accredited prior learning have become important features in the Bologna Master landscape. So, too, has student mobility between disciplines, institutions, sectors and countries.

This profusion of modes and delivery patterns gives the Master a polymorphous character. It is therefore timely to attempt a mapping of its significance in 2009. But first, how has it come to be what it is now?

THE BOLOGNA PROCESS AND THE HELSINKI CONFERENCE OF 2003

At their Berlin summit in 2003, the Bologna signatory ministers committed their governments to the implementation of Bachelor and Master cycles by 2005. They noted that: 'First and second cycle degrees should have different orientations and various profiles in order to accommodate a diversity of individual, academic and labour market needs. First cycle degrees should give access, in the sense of the Lisbon Recognition Convention, to second cycle programmes. Second cycle degrees should give access to doctoral studies.'

'Access' signifies 'the right of qualified candidates to apply and to be considered for admission to higher education'. That is to say, in respect of the Master, the right in principle to enter it from the level below, i.e. from the Bachelor or from its equivalent.

The Berlin meeting implicitly reiterated the definition of the Master qualification which had been recommended a few months earlier by the Helsinki conference on Master-level degrees. This in turn drew on observations made by Tauch and Rauhvargers in 2002. They had presented evidence of continuing structural diversity, as well as of a countervailing trend towards a common template, in which the Master qualification brought to its point of culmination a typical five-year sequence of full-time studies carrying a total ECTS 300. This diversity within convergence led the Helsinki conference to specify the Master as a band of credit values, within which a range of programmes might be set:

2. Students awarded a master degree must have achieved the level of knowledge and understanding, or high level in artistic competence when appropriate, which allows them to integrate knowledge, and handle complexity, formulate judgements and communicate their conclusions to an expert and to a non-expert audience. Students with a master degree will have the learning skills needed to pursue further studies or research in a largely self-directed, autonomous manner.
[...]
4. Bachelor and master programmes should be described on the basis of content, quality and learning outcomes, not only according to the duration of programmes or other formal characteristics.
[...]
7. While master degree programmes normally carry 90 - 120 ECTS credits, the minimum requirements should amount to 60 ECTS credits at master level. As the length and the content of bachelor degrees vary, there is a need to have similar flexibility at the master level. Credits awarded should be of the appropriate profile.
8. In certain fields, there may continue to exist integrated one-tier programmes leading to master degrees. Yet, opportunities for access to intermediate qualifications and transfer to other programmes should be encouraged.

9. Programmes leading to a master degree may have different orientations and various profiles in order to accommodate a diversity of individual, academic and labour market needs. Master degrees can be taken at universities and in some countries, in other higher education institutions.

THE DUBLIN DESCRIPTORS

In 2004, in the wake of Helsinki and Berlin, the Joint Quality Initiative developed criteria to determine at which point in their learning curve students might be judged to have attained a particular level. These level completion criteria, known as the Dublin Descriptors, specify the Master as follows:

Qualifications that signify completion of the second cycle are awarded to students who:

- have demonstrated knowledge and understanding that is founded upon and extends and/or enhances that typically associated with Bachelor's level, and that provides a basis or opportunity for originality in developing and/or applying ideas, often within a research context
- can apply their knowledge and understanding, and problem solving abilities in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study
- have the ability to integrate knowledge and handle complexity, and formulate judgements with incomplete or limited information, but that include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgements
- can communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously
- have the learning skills to allow them to continue to study in a manner that may be largely self-directed or autonomous.

In Bergen in 2005, ministers invoked these descriptors when they adopted 'the overarching framework for qualifications in the EHEA, comprising three cycles (including, within national contexts, the possibility of intermediate qualifications), generic descriptors for each cycle based on learning outcomes and competences, and credit ranges in the first and second cycles'. Two years later, in London, they insisted on the use of learning outcomes in curriculum design and student-centred pedagogy.

The conceptual apparatus evolved in the early years of the Bologna Process supports the architecture of qualifications in which the Master finds its place. The concepts and the framework are now widely accepted. This report will show that, notwithstanding these achievements, transparency and readability have not yet been fully realised.

2

The implementation of the second cycle in 2007

THE BOLOGNA MASTER IN 2007

It is worth recalling the position of the Master in 2007. This was the year of the most recent ministerial summit and the occasion for a number of overviews. Five surveys in particular gave snapshots of the second cycle landscape and of how the structural framework described in the previous section was being implemented. These surveys were:

- a Gallup poll undertaken for the European Commission
- the *Bologna with Student Eyes* survey, produced by ESIB (now ESU, the European Students Union)
- the *Trends V* survey, conducted by EUA
- the Eurydice overview of country trends in 2006/07
- the Bologna Stocktaking report presented to ministers at the 2007 London summit.

THE GALLUP POLL

In a telephone survey conducted during January and February 2007, Gallup polled 5600 HE academics, of whom 49% asserted that the three-cycle system had improved, or would improve, the quality of education in general. This view was strongest in Bulgaria, Cyprus, Malta, Romania and Turkey and weakest in Estonia, Germany, Hungary and Italy. Overall, 40% were in disagreement. Engineers were the most sceptical discipline group; academics in the teacher education, medical and nursing fields were significantly more receptive. Asked whether they would rather have retained a system in which there was no distinction between Bachelor and Master, only 32% overall said yes, while 59% disagreed.

BOLOGNA WITH STUDENT EYES

Student opinion regarded the implementation of the three cycles as more apparent than real. It identified a range of problems: the disproportionate enrolment of male students at Master level; the dubious viability of Bachelor courses crudely amputated from old-style long Master programmes; persistent impediments to the access to Master from Bachelor, caused by imposition of *numerus clausus*, discontinuity of student finance, and discrimination against applicants from other institutions.

TRENDS V

Trends V noted that while implementation was incomplete, positive attitudes to Bologna prevailed wherever structural reforms were demonstrably linked to improvements in learning and teaching and to identifiable stakeholder benefit. Developments at Master level seemed to bear this out. *Trends V* noted 'extensive diversification of the second cycle across Europe' and its authors were moved to comment that 'it is at the second cycle level that institutions are becoming most innovative and creative'.

To illustrate the diversity of provision, *Trends V* pointed to Master qualifications tied to the first cycle, to Master qualifications located within the third cycle, and to apparently aberrant forms such as the 'post-Master Master'. It drew attention to the growth of the professional Master (already signalled by Tauch and Rauvargers), as well as to the manner in which Bologna reforms had inflected academic and market perceptions of second level programmes. These issues will be taken up later in this report.

EURYDICE AND THE BOLOGNA STOCKTAKING

National calendars of legislation and implementation diverged considerably. As a result, the European Commission's Eurydice unit decided to map the extent to which HEIs, programmes and students were 'affected' by the Bologna Process – where 'affected' meant subject to the reform of HE cycles and to the introduction of ECTS and the Diploma Supplement [DS], whether this had been by legislation or not, and whether or not implementation was complete.

Table A displays simplified Eurydice data in a country-by-country overview of the three-cycle system as it stood in 2007. To these data have been added the colour-coded assessments, undertaken by the Stocktaking Working Group, of the extent to which the first and second cycles had been implemented and the extent to which the Master was accessible from the Bachelor. The spectrum runs from dark green (positive) to red (negative).

Eurydice and Stocktaking seem sometimes not to tally. This is because Eurydice aimed to be descriptive and Stocktaking evaluative. Together with the absence of rigid criteria of compliance and the lack of congruence between national data sets, this introduces a measure of uncertainty into Table A.

It should be noted, too, that Eurydice uses International Standard Classification of Education [ISCED] categories. ISCED level 5, however, includes all tertiary education up to and excluding the doctorate. It thus assimilates the Bologna Bachelor and the Master, making disaggregated data retrieval from most international sources (Eurostudent and OECD, as well as Eurydice) problematic. UNESCO is currently reviewing this methodology.

ISCED nevertheless distinguishes between levels 5A and 5B as follows:

84. The first dimension to be considered is the distinction between the programmes which are theoretically based/research preparatory (history, philosophy, mathematics, etc.) or giving access to professions with high skills requirements (e.g. medicine, dentistry, architecture, etc.) [5A], and those programmes, which are practical/technical/occupationally specific [5B].

The distinction is an operational one in some of the binary HE systems to be found in Bologna signatory countries. Sub-category 5B – in contrast to 5A – does not give access to the doctorate. 5B programmes are typically of 2 to 3 full-time years in duration and unlikely, therefore, to figure at Master level – although this is nowhere explicitly excluded. Table A indicates where 5B completers – who may be Bachelors – have the right to proceed to a Master programme, and to which sort of Master programme, and by what bridging mechanism.

THE BOLOGNA MASTER IN 2009

How has the Master developed in the intervening period? This report will show that, in 2009, the Bologna Master is emerging as an interactive competence-based learning experience with multiple objectives: personal fulfilment, a contribution to collective well-being, the satisfaction of the needs of established and future labour markets, and such critical and scientific creativity as will spark new knowledge and innovative enterprise.

The Master retains the diversity and dynamism noted by *Trends V*. But it does not enjoy a clear profile, commanding spontaneous recognition by external stakeholders and the general public. It is (in many countries) new, in flux and required to respond to societal needs (demography, climate change, globalisation, the information revolution, the ever more strident growth imperative), which are in constant reformulation. The Master has a polymorphous character, which is not yet well charted.



The implementation of the second cycle in 2007

THE AIM OF THE EUA MASTER PROJECT

The EUA Master project has therefore set out to examine the current situation and to address a number of questions. Has Bologna allowed a recognisable European Master template to emerge and to be implemented – and how far is there still to go? Is there evidence that structural convergence is compatible with continuing diversity of provision? How significant is the Master qualification in terms of labour market access?

The situation – as the HE systems of 46 countries converge – is complex. The limitations of ISCED make it difficult to analyse and to identify future trends. The global economic downturn even more so. This report therefore offers only a partial overview. It does not claim to be comprehensive either in its observations or its conclusions. It should be read in conjunction with the material that it cites, as well as with important surveys yet to be published, notably the 2009 Bologna stocktaking, the Center for Higher Education Policy Studies [CHEPS] report on Bologna implementation, and *Trends 2010*.

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The implementation of the second cycle in 2007

TABLE A: COUNTRY-BY-COUNTRY OVERVIEW, AS AT 2007...

of institutions and programmes 'affected' by the adoption of the Bologna three-cycle model and of modes of access to the second cycle,

with colour-coded assessments of (A) the extent of implementation of first and second cycles, and (B) of the accessibility of the second cycle from the first.

[adapted from material contained in Focus on the Structure of Higher Education in Europe 2006/07: national trends in the Bologna Process (2007), Brussels: EURYDICE; colour-coded assessments from Bologna Process Stocktaking London 2007 (2007), London: Department for Education and Skills]

SIGNATORY COUNTRY	INSTITUTIONS AND PROGRAMMES 'AFFECTED'	DATE OF BOLOGNA REFORM	NOTE
 AD Andorra	One pilot programme at University of Andorra	Legislation pending	
 AL Albania	Majority of HEIs and majority of ISCED 5A and all ISCED 5B programmes	BA-MA cycles in place from 05-06	Long 6-year programmes retained for sectoral professions + arts
 AM Armenia	All public sector and majority of private HEIs offering ISCED 5A	Legislation in place since 2004	To be fully phased in by 2010
 AT Austria	Majority of HEIs and majority of ISCED 5A programmes, but not ISCED 5B – optional take-up by students	Legislation in place since 2002	Long 6-year programme retained for medicine; teacher education exempt
 AZ Azerbaijan	Majority of HEIs and programmes		
 BA Bosnia-Herzegovina	Majority of HEIs and majority of ISCED 5A & 5B programmes	Legislation pending	
 BE-de Belgium	One institution offering ISCED 5B only	Legislation in place since 2005	
 BE-fr Belgium	All HEIs and all programmes	Legislation in place since 2004	To be fully phased in by 2009
 BE-nl Belgium	All HEIs and all programmes	Legislation in place since 2003	To be fully phased in by 2010 (medicine by 2011)
 BG Bulgaria	All HEIs except one offering ISCED 5A, but excluding those offering ISCED 5B	Legislation in place since 2005	Long 5-year programmes retained for sectoral professions (except veterinary) + law



Source: <http://www.ond.vlaanderen.be/hogeronderwijs/bologna/documents/BPStocktaking9May2005.pdf>

ACCESS TO MASTER FROM BACHELOR	ACCESS TO MASTER FROM ISCED 5B	A	B
Via study abroad or by distance learning			
Selection at institutional level	ISCED 5B Bachelor programmes in nursing and teacher education may be followed by the postgraduate <i>mésues</i> , but not by the Master		
Selection at institutional level in humanities and social science; law, science and technology still on 5-year integrated cycle	No alignment of ISCED 5B programmes with Bologna cycles		
No interim selection in university-based 4+2 or 4+1 or 3+2 courses (combination varying by discipline); no selection in Fachhochschule-based 3+2 courses	Teacher education and midwifery courses are ISCED 5B; access to Master is possible if certain criteria are satisfied		
	No data available		
3+2 or 4+2 with selection at institutional level for access to MA	Transfer from ISCED 5B (including nursing) to 5A is possible		
Provision at ISCED 5B only, in nursing and teacher education	Access to Master in BE-fr, BE-nl and DE via bridging course		
No selection in medicine (3+4) or dentistry (3+2), except at end of Bachelor year 1; no selection in veterinary (3+3) or in other fields (3+2)	Access to Master via bridging course; midwifery is ISCED 5B		
No selection in medicine (3+4), dentistry (3+2), veterinary (3+3) or in other fields (3+2 or 3+1), but bridging programme is required for switch to different discipline	Professionally oriented Hogeschool Bachelors at ISCED 5B can access Master via bridging course		
No interim selection in 4+1	No alignment of ISCED 5B programmes with Bologna cycles		

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The implementation of the second cycle in 2007


SIGNATORY COUNTRY	INSTITUTIONS AND PROGRAMMES 'AFFECTED'	DATE OF BOLOGNA REFORM	NOTE
 CH Switzerland	All HEIs and 79% of all ISCED 5A programmes	Legislation in place since 2003	To be fully phased in by 2008
 CY Cyprus	All HEIs and all programmes	Various HEI-dedicated legal instruments in place	
 CZ Czech Republic	All HEIs and all ISCED 5A programmes	Legislation in place since 2005	
 DE Germany	34% of all ISCED 5A programmes – optional take-up by students	Enabling legislation in place at federal level since 2002	To be fully phased in by 2010. Long programmes retained for medicine, veterinary and dentistry
 DK Denmark	Majority of HEIs offering ISCED 5A programmes and all offering ISCED 5B	Legislation in place since 2002	
 EE Estonia	All HEIs and majority of ISCED 5A programmes	Legislation in place since 2004	Long programmes retained for sectoral professions, teacher education and civil engineering
 EL Greece	Majority of HEIs offering ISCED 5A and ISCED 6 programmes	Legislation pending	Long programmes retained for sectoral professions, for arts, engineering and agriculture
 ES Spain		Legislation pending	To be fully phased in by 2012
 FI Finland	All public HEIs and all their programmes	Legislation in place since 2005	Long programmes retained for medicine and dentistry
 FR France	No summative data – implementation via institutional autonomy	Legislation in place since 2002	To be fully phased in by 2010. Long programmes retained for medicine and engineering
 GE Georgia	Majority of HEIs offering ISCED 5A programmes	Legislation in place since 2004	To be fully phased in by 2008. Long 6-year programmes retained for medicine and veterinary
 HR Croatia	Majority of HEIs offering ISCED 5A programmes and all offering ISCED 5B	Legislation in place since 2004	Long programmes retained for medicine (6 yr) and law (5 yr)
 HU Hungary	Majority of HEIs offering ISCED 5A programmes, but minority of programmes	Legislation in place since 2004	Long programmes retained for sectoral professions, law and arts
 IE Ireland	All HEIs and all programmes	Legislation in place since 1999	
 IS Iceland	All HEIs and all programmes	Legislation in place since 1997	Full implementation



ACCESS TO MASTER FROM BACHELOR	ACCESS TO MASTER FROM ISCED 5B	A	B
No interim selection in dominant model, which is 3+1½ or 3+2	Transfer from ISCED 5B to 5A is possible under certain conditions	●	●
No interim selection in 4+1 or 4+2	Transfer from ISCED 5B to 5A Bachelor is possible, but not direct to Master	●	●
All programmes are 3-4 + 1-2-3 with interim selection at institutional level	Transfer from ISCED 5B to 5A is possible under certain conditions	●	●
Old and new systems (3+2 or 4+1) offered in parallel	Transfer from ISCED 5B to 5A Master is possible from <i>Berufsakademien</i>	●	●
No interim selection in 3+2 or 3+3. UAS Bachelors can access university second level <i>kandidat</i> , but after selection at institutional level	Transfer from ISCED 5B to 5A Master is only exceptionally possible, and only within the same discipline	●	●
University provision in 3+2 or 4+1 includes interim selection. UAS Bachelors, incl nursing and midwifery, can access university <i>magistrikaad</i> after selection.	No data available	●	●
No interim selection for second level. 5- or 6-year integrated Bachelor cycle for sectoral professions and arts. There is no second level provision in UAS sector, except in partnership with university	There is no ISCED 5B provision	●	●
		●	●
No interim selection in dominant 3+2 (incl architecture and pharmacy) or in veterinary (3+3)	ISCED 5B provision no longer exists	●	●
The dominant university model of 3+2 involves selection between M1 and M2 at institutional level	ISCED 5B ends with the <i>licence professionnelle</i> ; transfer to Master is via bridging course or VAE [AP(E)L]	●	●
No interim selection in 3+1 or 3+2	ISCED 5B provision not yet enshrined in law	●	●
Interim selection at institutional level exists in 3+2 and 4+1 sequences	Transfer from ISCED 5B to 5A is possible under conditions set by HEI	●	●
Interim selection at institutional level exists in 3+2 and 4+2 sequences	Transfer from ISCED 5B to 5A Bachelor with exemption of ECTS 60	●	●
Access to Master from 5- or 4-year Bachelor (sectoral professions) and other 3- or 4-year Bachelors is by selection at national level	ISCED 5B Ordinary Bachelor can access Master only via ISCED 5A Honours Bachelor	●	●
Interim selection at institutional level in 6+2 (medicine), 4+2 and 3+2. A <i>numerus clausus</i> comes into operation after term 1 of the dentistry and nursing programmes	Transfer from ISCED 5B to 5A Bachelor and Master is possible	●	●

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The implementation of the second cycle in 2007

SIGNATORY COUNTRY	INSTITUTIONS AND PROGRAMMES 'AFFECTED'	DATE OF BOLOGNA REFORM	NOTE
 IT Italy	All HEIs offering ISCED 5A and ISCED 6, and majority of ISCED 5A programmes	Legislation in place since 2004	
 LI Liechtenstein	All HEIs and all ISCED 5A programmes	Legislation in place since 2005	
 LT Lithuania	Majority of HEIs and majority of ISCED 5A programmes	Legislation in place since 2000	Long programmes retained for sectoral professions and law
 LU Luxembourg	All post-2006 programmes at University of Luxembourg	Legislation in place since 2003	
 LV Latvia	All HEIs and majority of ISCED 5A programmes	Legislation in place since 2000	Long programmes retained for sectoral professions except architecture
 MD Moldova	All HEIs and all programmes from 2005	Legislation pending	Long programmes retained for sectoral professions
 ME Montenegro	All HEIs and all ISCED 5A and 5B programmes	Legislation in place since 2003	Long programmes retained for medicine and dentistry
 MK FYROM		Legislation in place since 2003	Long programmes retained for medicine and dentistry
 MT Malta	All programmes at University of Malta	Legislation in place since 2006	Long programmes retained for sectoral professions, accountancy and theology
 NL Netherlands	All HEIs and all programmes	Legislation in place since 2002	To be fully phased in by 2008
 NO Norway	All HEIs and all programmes	Legislation in place since 2003	To be fully phased in by 2007. Long programmes retained for sectoral professions and psych
 PL Poland	All HEIs and majority of programmes	Legislation in place since 2006	Long programmes retained for sectoral professions, arts, law and psychology
 PT Portugal	Minority of HEIs and ISCED 5A and 6 programmes	Legislation in place since 2006	To be fully phased in by 2009. Long programmes retained for sectoral professions
 RO Romania	Majority of HEIs and ISCED 5A programmes	Legislation in place since 2006	Long programmes retained for sectoral professions
 RS Serbia		Legislation in place since 2005	To be fully phased in by 2009



Excellent performance



Very good performance



Good performance



Some progress has been made












Little progress has been made yet

ACCESS TO MASTER FROM BACHELOR	ACCESS TO MASTER FROM ISCED 5B	A	B
Holders of the 3-year <i>laurea</i> opt for the academic <i>laurea magistrale</i> or the professional first-cycle <i>Master universitario di I livello</i>	ISCED 5B provision is structured according to Bologna cycles, allowing cross-over into ISCED 5A		
Interim selection at institutional level exists in 3+2 in business, but not in architecture	No data available		
Dominant model of 4+2 involves interim selection at institutional level	No alignment of ISCED 5B programmes with Bologna cycles		
Dominant mode is 3+2; the Bachelor programme includes study abroad; there is no selection for Master	ISCED 5B has been converted into ISCED 5A		
Interim selection at institutional level exists in 3+2 and 4+2 sequences	ISCED 5B qualification holders (incl. nursing) can cross to ISCED 5A carrying ECTS credits		
Interim selection at institutional level	No data available		
Medicine (6+2) and dentistry (5+2) involve selection at institutional level	ISCED 5B provision is structured according to Bologna cycles		
Sectoral professions (6+2 and 5+2) have selection at institutional level	ISCED 5B provision is not structured according to Bologna cycles		
Sectoral professions and theology (5+2 and 5+1) and other programmes have no selection	ISCED 5B diplomates can access Master only via ISCED 5A Bachelor		
Sectoral professions (3+3 and 3+2) have prior selection at national level; the remaining programmes are 3+2 or 3+1. Hogeschool Bachelors can access university Master, directly or by bridging course	ISCED 5B qualification holders can cross to ISCED 5A carrying 120 ECTS credits from an associate degree programme		
Dominant model is 3+2 with no interim selection	There is no ISCED 5A provision in HE		
Main model is 3+2 with interim selection, incl. nursing, midwifery; architecture (4+2)	ISCED 5B completers can obtain Bachelor by passing special examination		
Norm is 3+2 or 4+1, with prior selection at national level and interim selection at institutional level	No data available		
Norm is 3+2 or 4+2, with prior selection at national level and interim selection at institutional level	ISCED 5B has been converted into ISCED 5A		
No data available	Transfer from ISCED 5B to 5A Bachelor is possible under conditions set by HEI		

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The implementation of the second cycle in 2007

SIGNATORY COUNTRY	INSTITUTIONS AND PROGRAMMES 'AFFECTED'	DATE OF BOLOGNA REFORM	NOTE
 RU Russia	Majority of HEIs offering ISCED 5A programmes, but minority of programmes	Legislation in place since 1996	Optional take-up of Bologna by HEIs
 SE Sweden	All HEIs and all programmes from 2007	Legislation in place since 2005	Long programmes retained for sectoral professions, eng, law and psychology
 SI Slovenia	Minority of HEIs and ISCED 5A programmes	Legislation in place since 2004	To be fully phased in by 2010
 SK Slovakia	All HEIs and all programmes	Legislation in place since 2003	Long programmes retained for med, vet, pharm and theology
 TR Turkey		Legislation in place since 1981	Long programmes retained for sectoral professions and law
 UA Ukraine			
 UK EWNl	All HEIs and all programmes	No Bologna legislation	Long programmes for sectoral professions
 UK Scotland		Legislation in place since 2003	
 VA Holy See	Only two ecclesiastical HEIs	Legislation in place since 1979	



Excellent performance



Very good performance



Good performance



Some progress has been made



Little progress has been made yet

ACCESS TO MASTER FROM BACHELOR	ACCESS TO MASTER FROM ISCED 5B	A	B
Norm is 4+2, with prior selection at national level and interim selection at institutional level	No data available		
Norm will be 3+2	Credits can be transferred from ISCED 5B to Bachelor at HEI discretion		
Norm is 3+2 or 4+1, with prior selection at national and institutional levels and interim selection at institutional level	No data available		
Norm is 3+2, but architecture is 4+2, while nursing (4-year) has no access to Master	No alignment of ISCED 5B programmes with Bologna cycles		
Norm is 4+2 (incl. nursing and midwifery), with prior selection at national level and some interim selection at institutional level	ISCED 5B completer can access year 3 of ISCED 5A following examination and bridging programme		
No data available	No data available		
Normally 3+1 or 4+1, with interim selection at institutional level; 5-year integrated cycle for sectoral professions and engineering	Credits can be transferred from ISCED 5B to Bachelor at HEI discretion		
Normally 4+1, with interim selection at institutional level	Credits can be transferred from ISCED 5B to Bachelor at HEI discretion		
Model is 3+2, with prior selection at national and institutional levels and no interim selection	No data available		

3

The notion of compliance and the process of transition

WHAT IS COMPLIANCE?

As indicated above, the Bologna signatory countries are committed to accommodating their HE qualifications within the three-cycle structure. Before looking at the various ways in which they have proceeded, it is worth pausing at the notion of compliance. The phrase 'Bologna-compliant' is often used to describe arrangements that are consistent with what ministers have agreed to implement. But the phrase is misleading. Despite this, it shows no sign of falling out of academic and administrative usage. Some definition is therefore required.

In the Bologna Process the legal status of a qualification derives, generally speaking, from its location within a national or regional context. The Bologna Declaration itself is not a treaty, which means that operation of the three-cycle system is not subject to international obligation or sanction. The notion of compliance in this respect is misplaced.

However, the Bologna Master must be compliant when signatory governments enshrine it in national or regional law, as virtually all have done. The principal exceptions are the UK's devolved administrations in England, Wales and Northern Ireland. Here no dedicated Bologna legislation exists.

To complicate matters, relevant law is also to be found at EU level. Two instruments in particular have a bearing on the Master qualification:

- the European Qualifications Framework for lifelong learning [EQF], with which compliance is voluntary
- Directive 2005-36-EC on the Recognition of Professional Qualifications.

In the latter case, compliance is mandatory and sanctions for infringement may be severe. The interaction of Bologna and the Directive raises complex questions, which are taken up in section 5 below.

EUROPEAN QUALIFICATIONS FRAMEWORK FOR LIFELONG LEARNING [EQF]

The EU legislative act setting up the EQF is a Recommendation. This means that there are no budgetary implications and that Member State governments may utilise the facilities of the EQF as they see fit.

Independent of Bologna, EU ministers meeting in Copenhagen in 2001 decided to collaborate closely on policies and structures relating to vocational education and training [VET]. Accordingly, the EQF aims to codify into eight levels all the qualifications to be found in EU education systems beyond the compulsory school-leaving age.

It thereby covers the concerns of two Processes: the EU-initiated Copenhagen Process and the multilateral Bologna Process. In respect of Bologna and HE, it poses no problem, the Bologna ministers having declared in London that they were 'satisfied that national qualifications frameworks compatible with the overarching Framework for Qualifications of the EHEA will also be compatible with the proposal from the European Commission on a European Qualifications Framework for Lifelong Learning.'

In practice, and despite the different formulation of the learning outcomes, the Bologna Master corresponds to EQF Level 7, defined as follows:

The learning outcomes relevant to Level 7 are

Knowledge

- highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research
- critical awareness of knowledge issues in a field and at the interface between different fields

Skills

- specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields

Competences

- manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches
- take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams.

As mentioned earlier, the work of referencing all national and regional qualifications systems to the Bologna three-cycle system is now in train. This work will be followed by a further stage of matching qualifications to the EQF. The target completion date for the two-stage referencing is 2010. The target date for the referencing of individual programmes to the EQF is 2012.

Before leaving the notion of compliance, it is important to note that it has a more coercive sense in the context of EU accession. In its negotiations with candidate countries, the European Commission regards Bologna-readiness as one of the criteria to be successfully satisfied before the chapter on education and training can be closed. The rapid reform of Turkey's HE system can in some measure be attributed to the accession process.

THE BOLOGNA PROCESS AND THE LISBON AGENDA

One further element of context is needed, to make the recent evolution of the Master qualification intelligible. It is the gradual convergence of two lines of policy development: Bologna, which specifically addresses HE matters from outside the framework of the EU, and the EU's Lisbon Agenda.

In 2000, the Lisbon Council declared that in the course of the next decade it wished to make the EU economy the 'most dynamic, inclusive and knowledge-based economy in the world'. Europe, as a global region, could not hope to compete with the emerging and rapidly growing low-wage economies of Brazil, China, India and Russia. Instead, it had to depend on its innovative acumen and its accumulation of intellectual property.

By 2005, it was clear that the realisation of this ambition was falling behind schedule. Notably, Member States had failed to dedicate 3% of GDP to research. The European Commission therefore launched a number of policy initiatives designed to make Europe's universities more efficient – not only in research, innovation, knowledge transfer and regional development, but also in satisfying the need of the labour market for high-skilled workers.

In 2006, the Commission published a Communication on 'delivering the modernisation agenda for universities'. This lent its weight to the implementation of the three-cycle structure, as well as endorsing other Bologna action points such as employability, lifelong learning, inter-disciplinarity, university-enterprise collaboration, and student recruitment from third countries – all of which will figure later in this report. Specifically, the Commission called for 2% of GDP to be committed to a 'modernised HE sector'. This was to be over and above the 3% target for research.

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The notion of compliance and the process of transition

In the same year, Richard Lambert and Nick Butler argued influentially that European universities fell far short of the standards set by the best-performing US institutions. New funding would have to be generated by a range of public and private sources. Without accountability, however, they saw no chance of such funding being forthcoming. Accountability, in turn, depended on improved governance and greater autonomy at the level of the institution.

By autonomy, Lambert and Butler meant the freedom of HEIs to manage their human and financial resources, to develop strategy in consultation with external stakeholders, to be responsible for curriculum development and quality assurance, to engage in partnerships and consortial activity on a cross-border basis, and – above all – to diversify their revenue streams. This was standard practice in the public HE sector in the UK.

Many recent reforms at national level have followed this line of thinking, spurred on by the performance of British universities in international rankings, as well as by the European Commission and bodies such as the OECD.

Recent expressions of the same analysis show just how far Bologna and Lisbon have come to be regarded as co-extensive in policy terms; and how far the Master has become a key instrument in policy implementation. Bruegel, the Brussels-based think-tank, has declared that:

‘The mission of graduate studies is to create a link between education, research and innovation. The more advanced professional Masters provide high-skilled human resources to technology-based enterprises, while research Masters and Doctorates provide the resources needed by universities and (public and private) research centres.’ [P. Aghion et al, *Higher Aspirations: an agenda for reforming European universities*, p.19]

In structural terms, this means that – with respect to the integration of the Bologna EHEA and the EU’s European Research Area [ERA] – the Master is a powerful driver.

WHAT HAS HAPPENED SINCE 2007?

Leaving Directive 2005-36-EC to one side for the moment, compliance with Bologna can be said to be a legal obligation primarily at national level. Since the London summit, and since the time of the situation described in Table A, legislative action by governments has further advanced the consolidation of the three-cycle architecture. Two important examples testify to the momentum attained.

In France, the August 2007 law on the *libertés et responsabilités des universités*, the so-called *loi LRU*, which principally addressed the issue of university autonomy, explicitly incorporated the Bologna degree titles – ‘*les grades de licence, de master et de doctorat*’ – into Article L.612-1 of the *Code de l’éducation*.

In Spain, meanwhile, royal decree 1393/2007 paved the way for the three-cycle structure of *Grado, Máster y Doctorado* to be launched in 2008 and to be fully implemented by 2010.

Elsewhere, a Bologna framework law was enacted in FYROM in 2008; in Serbia, too, legislation with a Bologna focus passed into law. In the same year, Slovenia legislated to enable joint degrees. More action by governments is in the pipeline. In Bosnia-Herzegovina, Bologna implementation is formally in motion. The Czech government envisages a new tertiary education act. In Greece, the Bologna framework law 3549/2007 is to be followed by further legislation reforming postgraduate provision. In Lithuania, a draft law on Studies and Science, mainly addressing issues of funding and governance, awaits adoption. A Swedish informant spoke of an impending ‘avalanche’ of Bologna- and Lisbon-related legislation.

Just what does this mean in practice? The next section will look at the detail of Bachelor-Master sequencing, access and progression routes, and the different categories of Masters which are currently visible in the Bologna landscape. Meanwhile, it is worth reflecting on the processes of transition.

SYSTEMS STILL IN TRANSITION

No single national or regional HE system has been aligned with Bologna sufficiently long for it to be regarded as embedded. Instead, systems are in varying degrees of transition.

Transition has generated a set of received and re-cycled opinions regarding the labour undertaken by HEIs:

- There has been too little financial support and incentivisation by governments (and by institutional managements)
- Reform has been a vehicle for the implementation of other, only distantly related, policy initiatives
- Reform has been welcome, but fatigue has set in; the task of delivering two or more generations of programmes simultaneously has proved onerous
- The purpose of Bologna has been inadequately explained to other stakeholders and to the public at large
- Communication between academics in different countries has, by contrast, been facilitated, because Bologna has created a shared frame of reference.

These generalisations are valid, if not universally so. Academics responding to EUA's open-access questionnaires had different views of what had driven the transition to Bologna: 45% attributed it to legislation, and 31% to informal pressure from other stakeholders; only 19% perceived it to be the result of autonomous action by their HEI. Necessarily, reform presents differently in different locations.

Reform can be far-reaching. Qualification frameworks are often perceived as desirable enhancements of an HE system's superstructure, but they are quickly pile-driven into the realities of funding and student finance. Portugal has carried forward an impressive array of reforms – qualifications, credit points, institutional governance, quality assurance, but finds that more sensitive items on its agenda remain outstanding, notably institutional performance contracts and academic staff employment contracts. Both of these are bound up with the paradigm shift to student-centred learning inspired by Bologna. Finland, meanwhile, contemplates a new output-based funding package featuring incentives for early completions of Master programmes.

Reform can also be fragile. In Germany, the 2-year Master sometimes came on stream before the first cohort of 3-year Bachelors had graduated, making eventual demand difficult to estimate. Before the system had settled, a current of second thoughts had begun to question whether a 4-year Bachelor might not be preferable – in terms of accommodating work and study placements.

Reform can have conservative or innovative outcomes. Reports from Poland suggest that the new Bachelor + Master (3+2) sequence differs little from the preceding 5-year integrated Master programme. Indeed, students refer to the new Master as year 4 and year 5 and are perplexed when asked to make formal application to the course. It is also felt that the 5-year programme moved gradually from introductory theory to specialist practice and that the Bologna model does so by sudden transition – and does so too late, at the end of year 3.

In Ireland, by contrast, rapid post-Bologna growth at Master level has encouraged the government to launch a Strategic Initiative Funding scheme, designed to consolidate greater Dublin as a learning region, with a four-point focus on the enhancement of learning, graduate education, internationalisation, and widening participation.

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The notion of compliance and the process of transition

Clearly, reform also creates a need for impact assessment. Work has already begun. Ireland is conducting a review of its national qualifications framework and the results will be available in 2009. Flanders is committed to an 'optimisation' process to be completed in 2010. This will assess the success or otherwise of its Bologna course portfolio (including 'new' disciplines such as bio-chemistry). It will also evaluate the performance of its re-combined HE system, which is based on regional 'associations' of university, university colleges and other HEIs. These associations are designed to improve systemic cohesion, but such has been the unpredictability of the progression of cohorts in the transition period, that Flanders has placed a moratorium on all new Master courses, pending completion of the optimisation.

In other countries – where the new Master came on stream before the new Bachelor – impact assessment is concurrent, rather than ex-post. This is the case at institutional level in Germany. In Spain, HEIs in both public and private sectors mounted new second cycle programmes – on an own-initiative basis known as *titulos propios* – in anticipation of legislation; these will now be reviewed and re-classified as *Másteres*. In Austria one university has set up an ongoing course evaluation programme called 'studies for the future', which involves employers as well as all internal stakeholders.

Local impact assessments like these will feed in to the national submissions which governments make to future Bologna stocktakings. The stocktakings will be undertaken at regular intervals throughout the decade beginning in 2010. At each one, a greater number of students will have completed Bologna Masters in a greater number of countries. The Master's profile will be progressively better defined.

4

The Bachelor - Master - Doctorate sequence

THE QUESTION OF COURSE DURATION – IS THERE A STANDARD MASTER LENGTH?

In most European HE systems, the duration of second cycle qualifications is expressed as 60 ECTS points per full-time equivalent academic year. Sometimes local legislation specifies the value of one credit point – usually in terms of quantitative measures of student workload, rather than by reference to calibrated learning outcomes. This is the case, for example, in Wallonia, where one ECTS point is allocated to 24 hours of study time; in Flanders, one point represents 25 to 30 hours. Sometimes ECTS operates at a fixed equivalence with a local currency, as in Sweden where ECTS 1.0 is worth 1.5 HE points. Sometimes there is no national credit system; in these cases, ECTS stands alone.

In general, these variations in practice pose no problem, except perhaps at the level of the module. Some German HEIs, for example, have a clear preference for a decimalised breakdown of the full-time year – into modules of 5, 10, 15 ECTS points. Student exchange into systems with less regular attributions can create difficulties.

It is the question of the length of the whole course, however, which looms larger in the minds of those implementing the changes. The Bologna Master does not have a standard full-time length. Nor is there, within Bologna, an agreed universal standard for the total of full-time years, or the total of ECTS points, required by the Bachelor-Master sequence.

In the landscape charted by Table A, the sequence of n+x has a range of different values. The new Spanish legislation replaces the former *licenciado* with combinations of 4+1 and 4+2. Roughly half of the Bologna countries have hybrid systems offering various combinations of whole and sometimes half-years. This may derive from the fact that legislation has allowed HEIs to choose between 3+2 and 4+1, for example, or from the fact that legislation has specified different course durations for different disciplines. The outcomes are not always happy. When graduation from Bachelor to Master takes place in February, as can be the case in Polish programmes running on a 3.5 + 1.5 system, delay in progression risks triggering a disruptive one-year intermission.

Determining whether, in a particular national system, there is a dominant mode and what it might be, is not as easy as might be expected. At European level, the cumulative picture is necessarily complicated. In the Bologna countries in which a dominant model was visible in 2007, only one system (UK [England, Wales, Northern Ireland]) was based on the model of 3+1; three were based on 4+1; five were 4+2; and thirteen were 3+2. This last group included countries such as Denmark, Finland, France, Italy, Norway, Poland, Slovakia, Sweden, Switzerland, as well as a clutch of very small HE systems. This group is undoubtedly substantial, but still it would be incautious to characterise 3+2 as the dominant mode in the wider Europe. What catches the eye is the variety and profusion of forms.

Wendy Davies, in a study conducted for the UK's Europe Unit, looked closely at Master level provision in Bulgaria, France, Germany and Netherlands. She found that in Bulgaria duration ranged from two to four semesters, with the 3-semester model (1.5 full-time years) being the most common. In France the dominant mode was indeed 3+2, but with a selection procedure intercalated between the two Master years M1 and M2. Germany, meanwhile, displayed the same range of duration as Bulgaria, but with a clear majority of programmes (71% in 2007) lasting two years. Finally, the Netherlands offered many 1-year and many 2-year Masters, with other intermediate durations. Wendy Davies concluded that in these four countries, despite the diversity, there was nevertheless 'an overwhelming preponderance of 2-year Master programmes, particularly for scientific, technical and engineering training'.

A wider *tour d'horizon* suggests a preponderance, but one which is not overwhelming. And in any case, the situation is not stable. CHEPS researchers noted in 2008 that 'a shared overall vision

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with regard to the desired character of master programmes and hence their number seems to be lacking in the [Netherlands].¹ They recommended a thorough review of provision, duration and admissions.

Sweden, to give another example, has moved from 3+1 to a branching programme of 3+1 (3+*Magister*) or 3+2 (3+*Master*), rather than to the straight 3+2 reported by Eurydice. It is one of the rare countries in which Bologna has elongated post-secondary education.

ACCESS AND PROGRESSION ROUTES TO THE MASTER

Just as the combinations vary, so the interface introduced between the Bologna Bachelor and the Bologna Master is not simple. It changes according to national tradition and legislation, academic discipline, and institutional mission. Moreover, national transparency and readability, so far, are rarely optimal. As has been indicated already, only three countries had finalised their national qualification frameworks by January 2009.

Large numbers of European students will continue to expect, as they have done in the past, to proceed immediately from a Bachelor in a given discipline to a Master in the same discipline. And they will expect to do so in one country, perhaps in one institution. Particularly in those HE systems which have created two cycles out of a longer integrated first degree, this trajectory is not perceived to be problematic. There, students, parents and employers assume that progression is seamless.

In Bologna, however, this assumption is now properly speaking problematic – because it renders greater flexibility less thinkable.

The terms *consecutive* and *continuation* are often used to characterise the Master of the type defined above. That there are other possibilities is obvious. A Master may follow a Bachelor at a distance of many years. It may be in a different discipline, in which case it may fall into the category of the *conversion* course. A graduate in physics, for example, may decide to obtain an accountancy qualification. And of course, the Master may be awarded by another institution and in another country.

This flexibility is exactly what Bologna seeks to attain. It attempts to extrapolate a transparency from the multiple and complex HE systems over which Bologna ministers have control – in order to maximise the potential for mobility between them.

In doing so, it encounters two principal categories of difficulty. There is the problem of nomenclature and the problem of variation in practice. Not only do *consecution* and *continuation* have different definitions in different HE environments, but the force which they exert varies from country to country. Eloquent examples exist at each end of the spectrum. In the case of the Finnish ‘professional’ Master, which requires – in addition to the Bachelor qualification – three years of post-graduation work experience, continuation is impossible. In Poland’s public university system, by contrast, continuation is required in law.

In Europe there is no consistent or predictable pattern. In one country, funding mechanisms and selection processes might deem that immediate progression from a mono-disciplinary Bachelor to a related inter-disciplinary Master is non-consecutive; in another, such a ruling would have no meaning. Nor is the existence of the *conversion* Master permitted everywhere.

Table A shows the possibility of trans-binary progression from ISCED 5B to the Master. It is not universal. In some countries – pending, perhaps, the elaboration of their NQF – there is no continuity between 5B and 5A. In others, the distinction has been abolished. Most commonly, as for example in Flanders, holders of a ‘professional’ Bachelor can cross the binary line to access an ‘academic’ Master via a bridging course, which is often the final year of the academic Bachelor. (The various

senses of the term 'professional' will be examined in a later section.) Finland applies the same principle on a case-by-case basis. New Swiss legislation came into force in 2008, specifying the conditions for trans-binary access to the university Master.

For the intending transnationally mobile student, navigation is hazardous. Yet the portability of grants and loans (and debt) will increase in volume in future years, as Bologna ministers intend. Mobility will thereby be facilitated, but the 'readability' of the Master within the EHEA will have to improve accordingly.

ISSUES RAISED BY SELECTION

No sooner is there a structural distinction between first and second cycles, between Bachelor and Master, than the problem of selection arises. May all students progress? And if not all, which?

In the Austrian, Finnish (with the exception of certain Master programmes) and Flemish university sectors access to the Master is open; there is no *numerus clausus*. This makes it difficult to anticipate the volume of student progression and to plan for its accommodation into small study groups.

In Austria, the admissions process requires examination of each student's Bachelor profile and is labour-intensive. It also has to take account of the possibility that some catch-up study might be necessary during the first phase of the Master. In consequence, 'own-institution' students, whose profiles are familiar, may be preferred to those applying from other HEIs. In such instances, there is a danger that the in-house Bachelor will constitute a set of prerequisites for the Master that are more readily satisfied by internal than by external candidates. As indicated already, ESU regards this situation as inequitable. In Bologna terms, it can be described as a recipe for student immobility.

In the Netherlands, 'own-institution' Master students are known as *doorstroommasters*. Students from other universities compete with them for admission on terms that may not be demonstrably equal. Those from across the binary line in the *Hogeschool sector* (now known in English as universities of applied science [UAS]), and those with backgrounds in other disciplines, are required to undertake a pre-Master worth ECTS 30.

In Poland the significant binary divide is between private and public HEIs. The possibility of progression from the former to the latter, between Bachelor and Master, has created difficulties. Discrepancies in grading cultures have led to litigation by students, as well as to the provision of one Master track for 'own-institution' and another, with a catch-up function, for entrants from other institutions. The introduction of a zero semester, designed to homogenise the cohort, may be deemed viable academically, but still generates problems from the points of view of funding and the academic calendar.

The alternative to recruiting Master students endogenously is to welcome applications from all quarters, to limit the places available and to introduce a selection procedure. In many countries, notably Ireland and the UK, this is custom and practice. It depends for its success on published, intelligible and fair selection criteria. Where the criteria are an unwieldy mix, set in different proportions by government, institutional management and local Faculty, outcomes may be less than satisfactory.

Equity argues for institutional autonomy in selection and admissions. Asked whether they had complete, partial or no power to decide on admissions criteria, HEIs responding to the EUA questionnaire answered 'yes' in groups of 64%, 32% and 4% respectively.

The attendant question of the mode and timing of selection has become pressing in countries, in which, like Finland, the internationalisation imperative co-exists with open access. How should the relevant factors – grades, CV, interview – be weighted and operationalised? How may affirmative

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action programmes be accommodated? Do the traditionally low grades in certain disciplines in certain countries (law in Germany, for example) have a discriminatory function? These are problems which Bologna – with its growing fund of transnational good practice – can help to resolve.

THE PREVALENCE OF SELECTION

Just how widespread is selection? The UK's Higher Education Policy Institute [HEPI] noted in 2008 that 'most other European countries have introduced Bachelors degrees for 3 or 4 years followed by a Masters qualification for 1 or 2 years in a way which assumes that most students will complete the two qualifications in some 5 years without any entry hurdle for the Masters qualification.'

A study undertaken in 2005 by the American Graduate Schools Admission Council [GMAC], however, showed that 16 of the 29 European countries surveyed – more than half – operated a selection process between Bachelor and Master. The evidence from Eurydice suggests that, out of the 44 relevant jurisdictions for which data is available, only 16 had no selection procedure in 2007. It seems fair to assume, therefore, that two thirds of national systems do indeed – whether at national or institutional level – select a reduced number of actual Master entrants from the total number of formally qualified applicants.

The survey conducted by Wendy Davies supports this assumption: Germany routinely operates selection, as do France and the Netherlands, although the case of France, which selects at the point between M1 and M2 levels, is exceptional. In the Netherlands, applicants to the Master – with the exception of the *doorstroommasters* – are subject to selection. Bulgaria selects as a function of the volume of demand.

What does absence of selection indicate? In the worst case scenario, it suggests that the transition between Bachelor and Master is more apparent than real; that a Bachelor-Master boundary has been created arbitrarily in order to conform to the Bologna template; that the HE system concerned serves a historical elite rather than 30%-40% of the age range; that demand for the Master approximates to that for the Bachelor, as has always been the case; that change, in other words, has been contrived for the purpose of staying the same.

Selection, by the same token, can operate in the service of non-academic considerations: a means of transition from one system of institutional funding and student finance to another; or a *numerus clausus* established to protect entry to a particular profession.

Thus far in Bologna, neither non-selection nor selection is as transparent or efficient as it might be. It is difficult to disagree with the recommendation of the Bruegel think-tank – that in the second cycle 'selection at entry should become the norm' [op.cit., p.5]; with the proviso that the criteria are fair and open to scrutiny.

THE PRE-MASTER MASTER AND THE POST-MASTER MASTER

The second cycle contains anomalies that NQFs will hopefully address as a matter of urgency.

Many HEIs reported via the on-line questionnaire that Bologna had necessitated changes to their degree structure. Half of these institutions, located in 19 different countries, said that they offered second cycle programmes which extended beyond the Master degree.

Bologna legislation in Wallonia provides for a one-year *master complémentaire*, which adds a professional focus to the Bachelor-Master sequence. The same is true in Flanders, where an advanced level Master is perceived to enhance employability. It may in practice be a conversion course – business administration for chemists, for example. Such programmes are considered in some senses to be 'outside' the Bologna schema. They are run at the initiative of the university and do not

fall within the scope of the state funding system; they have no function regarding access to the doctorate. Virtually the same situation is observable in Poland, where a shortfall in financial support for doctoral studies is cited as one of the factors inducing students to embark on additional Master programmes. The Swiss Master of Advanced Studies [MAS] is yet another post-Master Master.

To some extent, the Belgian qualifications survive from older national structures. They may yet be absorbed into a forward-looking lifelong learning framework. Only time and 'optimisation' will tell whether and how they will endure.

The post-Master-Master is not the only anomaly. In some Scottish universities, the Master of Arts is equivalent in level to the Bachelor of Science and is a first cycle qualification. In Italy, the *Master Universitario di primo livello* is also a first cycle qualification. These, effectively, are pre-Master Masters.

In addition, there are designations which, enshrined in tradition, may be open to misreading. In England, the Bachelor of Veterinary Medicine [BVetMed] has the status of Masters. In the most renowned English universities, the Master of Arts is a non-academic distinction, available to alumni on payment of a fee.

Such phenomena raise once more the question of nomenclature. It will become one of the refrains of this report, which will stress the critical importance of the transparency and cross-border readability of qualification systems. The Diploma Supplement [DS] can shed valuable light on what students have achieved, but it is legitimate to ask why it should be expected to bear the extra burden of deciphering dysfunctional terminology. Rather, it is for NQFs, under pressure from stakeholders, to become as user-friendly as possible.

THE RESEARCH MASTER AND PROGRESSION TO THE DOCTORATE

Access to the third cycle from the second is in principle assured in the Bologna Process. The research Master represents the classical model of transition. It is well established, although its designation and status across Europe is not readable at first glance.

In some countries, the research Master is the absolute pre-condition for entry to the doctorate and is explicitly defined as such. Elsewhere, it is not the absolute pre-condition. In many instances, transition from Master to doctorate is a matter of academic discretion. In the UK tradition, for example, good performance in the MPhil, a research degree, may lead to termination of registration and re-enrolment as a doctoral student. This does not rule out the possibility of a student progressing to doctorate from the satisfactory completion of a taught (i.e. less research-intensive) Master. It is also possible to progress to the doctorate direct from the Bachelor, given attainment of sufficient quality. In such matters, academic discretion is exercised within regulations established by due process, but which are not necessarily identical in all institutions.

Just as is the case in the Bachelor-Master sequence, so Bologna has enabled new patterns of Master-Doctor progression. In the Netherlands, many research-intensive universities now offer Top Masters. These may be either a specialist component embedded in a research Master, or a two-year free-standing English-medium research Master giving access to the four-year doctorate, or a two-year Master in which the second year can count as the first year of the four-year doctoral programme. The third of these possibilities is also available at some German universities. It is worth noting, in passing, the ambiguous title of Top Master.

EUA's 2007 report on *Doctoral Programmes in Europe's Universities* considered that access to the doctorate should not be from the Master alone. It called for flexibility of admission policies in a

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context of institutional autonomy. This is even more desirable in a context where the doctorate itself is assuming new forms.

In some countries, Bologna implementation is incomplete in this respect. In Sweden, for example, the distinction between the one-year *Magister* and two-year *Master* has not been clarified. The latter is not obviously more research-oriented, except insofar that it will normally be offered by HEIs with experience of third cycle delivery. But whether it, or both, will allow access to the doctorate remains to be decided.

At the level of the EHEA, readability remains paramount. Again, it is reasonable to expect NQFs to specify what is nationally the case. But in all likelihood the speed of reform will generate new forms of Master provision, as well as new categories of doctorate. It will be essential, post-2010, to ensure that optimal flexibility is achieved at the European level. This will entail regular mapping of the modes of transition between Master and doctoral studies.

Here, too, Bologna and the Lisbon Agenda – EHEA and ERA – visibly converge. Career researchers, knowledge transfer agents, innovators and entrepreneurs are not the creatures of the third cycle alone. As a general rule, they have their roots in the first and second cycles. As a general principle, they should be allowed to return to both of these, as their personal and professional aspirations dictate.

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The regulated professions

As indicated above in section 3, some qualifications fall within the scope of EU legislation, with which compliance is mandatory. These are the qualifications which give access to the regulated professions.

In the EU internal market there are over 800 such professions, but not all involve formal training at the level of the Bologna second cycle. Two groups are relevant to this report:

- the sectoral professions (principally, medical doctor, dental practitioner, veterinary surgeon, pharmacist, architect; more rarely, the general care nurse and the midwife)
- the professions subsumed in the so-called general system, of which the engineer is the most pertinent example.

A third group consists of the legal professions, still subject to their own dedicated legislation, rather than to the Directive 2005-36-EC on the Recognition of Professional Qualifications referred to earlier.

The first group is of particular interest. This is because the Directive was transposed into national legislation throughout the period 2005 to 2007, at precisely the moment when medical schools and other training providers were beginning to grapple with the implementation of the Bologna reforms. The Directive is relevant to all 27 EU Member States, to the European Economic Area [EEA], as well as to third Bologna countries having relevant bilateral trade agreements with the EU. Few countries are untouched by the thorny issues raised.

THE SECTORAL PROFESSIONS

Directive 2005-36-EC regulates the cross-border delivery of services by the healthcare professionals and others listed above. It specifies not only how their qualifications are to be recognised, but also what minimum standards of training have been agreed by Member States.

The training requirements are typically expressed in terms of a combination of factors: full-time course duration, total number of training hours, specified knowledge, skills and competences. The wording of the Directive is copied from texts dating back to the 1970s. Only at the most abstract level, therefore, can it accommodate new styles of pedagogy, scientific and technological developments, changes in the status and the aspirations of particular professional groups. Its requirements are not spelt out in terms of learning outcomes; nor does it deal with the contemporary realities of continuing professional development [CPD], fitness to practise, and professional re-validation and re-licensing requirements.

In many instances, the introduction of Bologna reforms has created the possibility – although not the necessity – of splitting previously long and integrated training programmes into a Bachelor-Master sequence, with a consequent re-designation of the final qualification. Whether this frequently controversial possibility is realised depends on national legislation, the balance of professional opinion in the country concerned, and academic custom and practice. Table A indicates the position, as it was in 2007. In none of the sectoral professions has a pan-European consensus yet been realised.

The implications of dispensing with the long integrated qualification are far-reaching. It would allow students to progress from a Bachelor in one country to a Master in another. In such cases, how could discrete national quality assurance systems guarantee that students had completed a training programme which was compliant with the Directive? This question preoccupies the European Commission's Directorate General for the Internal Market. Ultimately, it will have to be resolved at the level of the emerging European quality assurance provisions.

Problems of mobility have not yet been eliminated at national level. Flemish students report that mobility is purely theoretical while medical school curricula remain unsynchronised. In Switzerland,

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on the other hand, a coordinated attempt been made to facilitate movement between medical faculties.

LABOUR MARKET CONSIDERATIONS

Bachelor-Master sequences would also enable governments and regulatory authorities to create a new point of access to the professions – post-Bachelor. In Norway and Sweden the Bachelor in pharmacy is a qualified ‘prescriptionist’, but is allowed to own and manage a pharmacy only after obtaining the Master. But this case is exceptional. The intercalation of a Bachelor qualification at a halfway point in a long integrated programme is not yet well established in pharmacy across the 46 Bologna countries. What it might mean for student finance, for the funding awarded to HEIs, for the division of professional labour in the sector concerned, and for onward progression to the Master, remains problematic in many countries and is the subject of continuing debate.

The European Commission, which has exclusive legal competence for the operation of the internal market, is sensitive to these issues. They go beyond the academic matters with which Bologna is principally concerned, touching on such policy lines as services of general interest, consumer protection and the liberalisation of the professions.

The recent Green Paper on the European Workforce for Health illustrates the point. It includes among the possible areas of future action: ‘investing to train and recruit sufficient health personnel to achieve self-sufficiency at EU level; encouraging cross-border agreements on training and staff exchanges...’

Here it makes implicit reference to the difficulties experienced by Austria and Belgium. These two countries have set quotas on the ‘excessive’ numbers of German and French students who gain entry to their medical and dental schools as a way of by-passing domestic *numerus clausus*. Temporarily, the Commission has suspended infringement proceedings, in order to allow Austria and Belgium sufficient time to justify actions deemed by the European Court of Justice to be illegal. Austria has taken advantage of the suspension to impose a quota on veterinary students: from 2009, only 5% of the total can be non-EU students and only 20% can come from other EU Member States.

It is not difficult to see that by facilitating student mobility, Bologna exposes the lack of congruence in national healthcare workforces and their funding frameworks. At the same time, it is clear that its insistence on the readability of qualifications can help Europe respond to a range of pressing problems. Europe’s dependence on third world healthcare workers will decrease. The need for qualified labour will continue to rise, as the burdens of ageing and obesity become more severe. Human and animal diseases have little difficulty crossing the EU’s internal borders. Healthcare providers and patients too will become more mobile. From these points of view, protectionist attitudes to healthcare training are hard to sustain.

Bologna’s qualifications framework and its insistence on learning outcomes can contribute significantly to healthcare policy integration and service delivery at European level. It is therefore important that academic and professional bodies work towards consensus on what constitutes Master-level competence in the respective disciplines, and on how it can be attained in academic structures which do not inhibit student and professional mobility. Much work has been done in this area, notably by nurses working within the framework of the Tuning Project, as well as by ERASMUS Thematic Networks such as MEDINE (medicine), DentEd (dentistry) and PHARMINE (pharmacy).

THE BACHELOR-MASTER SEQUENCE IN MEDICINE

In respect of the basic medical education programme for doctors, the Directive requires six full-time years or 5,500 hours of theoretical and practical training. One German HEI offers an insight into the complexity of the issues involved. It offers a wide portfolio of courses:

- A long integrated degree with a classical medical curriculum, consisting of five years (divided into two blocks of 2 + 3 years by an interim state examination) and followed by a one-year internship
- A long integrated 'reformed' degree with an inter-disciplinary and problem-based learning curriculum; this has been in operation for ten years and uses a mix of funding sources to support its higher costs
- A proposed Bologna 3+2 Bachelor-Master sequence, followed by a one-year internship, to be up and running by 2010
- A suite of specialist Master programmes, originally conceived for students already qualified as general medical practitioners, but currently being modified to accommodate access from the Bologna Bachelor

In other words, the HEI envisages a complex body of provision, with a variety of exit and transfer points appropriate to particular patterns of student choice. Only some of the routes through the system will deliver qualified medical practitioners and therefore be in compliance with the Directive. Some may be shed or prioritised, in accordance with evolving funding mechanisms, legal requirements and student demand.

It has not yet been decided whether the Bologna model will replace its predecessors or sit alongside them. Students fear the introduction of a new selection filter. Another constituency welcomes the Bachelor stop-off or switch-over point, noting that roughly half of medical graduates will never take up work as physicians. Labour market access at this point is therefore a viable option.

In Germany, the final *Staatsexamen* (state examination) determines access to the medical profession, as well as to the legal and teaching professions. Peter Zervakis argues (in *Educating for a Global World*) that it is possible to remove this hurdle, without undermining the state's regulatory function, while at the same time giving universities greater control over learning and teaching approaches and over curriculum.

THE 'GENERAL SYSTEM'

The issues outlined above affect other disciplines too, notably engineering. But engineering is not a sectoral profession. Its duration, workload and required competences are not spelt out in the Directive. Instead, it falls into the 'general system', a set of provisions which allow Member States to inspect the qualification of a would-be incoming professional and to plot it against a five-level grid.

Qualifications pitched at a level lower than that required can be accepted by the potential host Member State, which has the right – in light of its assessment of the CV of the professional concerned – to insist on a supplementary adaptation period or an aptitude test. In practice, the choice is usually left to the individual.

Levels c, d, and e, set out below, describe post-secondary attainment:

- (c) a diploma certifying successful completion of
 - (i) either training at post-secondary level other than that referred to in points (d) and (e) of a duration of at least one year or of an equivalent duration on a part-time basis, one of the conditions of entry of which is, as a general rule, the successful completion of the secondary course required to obtain entry to university or higher education or the completion of equivalent school education of the second secondary level, as well as the professional training which may be required in addition to that post-secondary course;

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- (ii) or, in the case of a regulated profession, training with a special structure, included in Annex II, equivalent to the level of training provided for under (i), which provides a comparable professional standard and which prepares the trainee for a comparable level of responsibilities and functions. [...]
- (d) a diploma certifying successful completion of training at post-secondary level of at least three and not more than four years' duration, or of an equivalent duration on a part-time basis, at a university or establishment of higher education or another establishment providing the same level of training, as well as the professional training which may be required in addition to that post-secondary course;
- (e) a diploma certifying that the holder has successfully completed a post-secondary course of at least four years' duration, or of an equivalent duration on a part-time basis, at a university or establishment of higher education or another establishment of equivalent level and, where appropriate, that he has successfully completed the professional training required in addition to the post-secondary course.

The Bologna Master may thus figure at level d or at level e, depending on the duration of the Bachelor which precedes it.

As they stand, the requirements of the Directive in relation to the general system are not calibrated in terms of ECTS; nor do they use the language of learning outcomes and level descriptors. An eventual alignment of the Directive and Bologna will thus remove a powerful source of potential confusion. At the moment, national regulatory agencies are obliged to accept documentation which is consistent with the Directive. The Diploma Supplement, the Dublin Descriptors, reference to the Bologna cycles, the mobility instruments bundled into EUROPASS, useful though they may be for other purposes, are not consistent with the Directive.

THE BOLOGNA PROCESS AND ENGINEERING

Table A shows that some countries have opted to retain the long integrated engineering qualification. The Bologna Process triggered a particularly agonised debate in England, where the four-year Master qualification (MEng) was felt to be vulnerable to perceptions that it was too short and that it was not a second cycle degree. However, an emerging European consensus has allowed ECUK, the Engineering Council of the UK, to become one of the first six national agencies to be allowed to award the EUR-ACE label to courses that it has accredited. The other agencies are the French, German, Irish, Portuguese and – thanks to a linked TEMPUS programme – the Russian ones.

Given the widely differing traditions of engineering education in Europe, the success of the EUR-ACE label is significant. It has laid down framework standards for the accreditation of engineering programmes. These specify learning outcomes at first and second cycle levels, allowing the possibility that they may be attained in either discrete or integrated courses. Because the former lend themselves more readily to the promotion of student mobility, it may still turn out that the providers of integrated courses will contemplate switching to 3+2 where national legislation permits.

EUR-ACE is managed by the European Network for Accreditation of Engineering Education [ENAE], which itself operates under the umbrella of the *Fédération Européenne d'Associations Nationales d'Ingénieurs* [FEANI]. FEANI also administers the EUR ING qualification, which requires seven years of preparation, including at least three years of theoretical education in a recognised HEI establishment and two years of assessed engineering professional experience. The European Commission endorses this title, without allowing it the status of a qualification within the meaning of the Directive. In 2004, in answer to a Parliamentary question, it judged the FEANI scheme 'an excellent example of self-regulation by a profession at European level and [...] a model for other professional groups in the technical and scientific sector, such as chemists and physicists.'

Professional, academic and regulatory bodies, operating at national and European levels, play a decisive role in determining to what extent high-level qualifications are adapted to the Bologna system of cycles and learning outcomes. The emergence of the Master as a distinctive element of HE provision in the EHEA cannot be achieved without them. In the spheres of curriculum development, quality assurance and accreditation, student and professional mobility, their role is critical. They will prove particularly influential in the work of aligning Bologna and the Directive. It is important that their voices are heard in both the Bologna Process and the relevant EU committees.

THE RE-ENGINEERING OF THE DIRECTIVE

In summary, there is considerable scope for reviewing the Directive and for exploring the possibility of its accommodation with Bologna. There are four main areas of concern. First, course structure and the conversion of the long integrated programme into a Bachelor-Master sequence. As indicated in an earlier section, Bologna cannot make this mandatory. Nevertheless, developing transnational coherence and interoperability is of high priority.

Secondly, it will be necessary for European quality assurance systems to evolve to a degree of cohesion sufficient to persuade DG MARKT that transnational training patterns are compliant with the Directive.

Thirdly, a necessary precondition of cohesion is that all parties at all levels acknowledge and put into effect the use of learning outcomes in curriculum design.

Finally, the parameters of continuing professional development [CPD] and fitness to practise must first be refined transnationally, in order to be enshrined in NQFs and subsequently in the Directive.

The salient issues are those of pedagogy, lifelong learning, mobility and employability. All of these are discussed in greater detail in following sections.

THE LIBERAL PROFESSIONS

As a final example of the complex interface between the Bologna Process and EU legislation, it is worth pausing to consider the liberal professions.

The European Commission regards them as particularly reluctant cross-border service providers. In 2004, DG Competition [DG COMP] resolved to investigate the practice of lawyers, notaries, accountants, architects, engineers and pharmacists – all regulated professions. It examined each from the point of view of potentially restrictive practices in the areas of (i) price fixing, (ii) recommended prices, (iii) advertising regulations, (iv) entry requirements and reserved rights, and (v) regulations governing business structure and multi-disciplinary practices.

In respect of entry requirements and reserved rights, DG COMP noted that ‘there might be scope to lower entry requirements in cases where they appear to be disproportionate to the complexity of the profession’s tasks’ [COM(2004)83, para.4.4.53]. It appealed to professional bodies and national regulatory authorities to assess whether such action might increase cross-border competition while safeguarding the quality of service.

The possibility of over-qualification has not been mentioned thus far in this report. Clearly, it has its due place in any discussion seeking to assess employability and labour market needs, in relation to both the capacity and the cost-efficiency of the EHEA. It is yet another marker, if one were needed, of the intricate interaction of Bologna and the Lisbon Agenda.

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Lifelong learning

Addressing the issue of lifelong learning, *Trends V* discerned little evidence of focused strategic thinking at institutional level. Instead, it found uncertainty and ambiguity. Is lifelong learning a mode of continuing education for graduates? Or is it initial education for disadvantaged groups, delivered by HEIs?

With the exception of the Master completed within five or six years following the end of secondary education, virtually all manifestations of second cycle learning may be regarded as 'lifelong'. This is as it should be. The drivers are demography (the cultural and economic aspirations of the ageing population, of refugee groups) and the needs of the labour market (technological change, CPD, re-skilling, raising of the retirement age, migrations).

There are two approaches to lifelong learning at Master level. Provision may be routinely available to the full range of client groups, including the traditional *continuation* or *consecutive* student (in the sense in which the terms are used in section 4 above). Alternatively, it can be gathered into a separate category of activity, given a 'lifelong learning' label and delivered, managed and funded discretely. At the London summit, ministers made no recommendation regarding this distinction. They took pains to emphasise, however, that they expected a stronger focus on the recognition of prior learning [RPL] and on flexible learning paths.

RECOGNITION OF PRIOR LEARNING

The UK Quality Assurance Agency's guidelines on the Accreditation of Prior Learning date from 2004, although institutional engagement with RPL, notably in the old polytechnic sector, goes much further back. In Ireland, the National Qualifications Authority [NQAI] has had Bologna-focused policies in place since 2005. Its policies are firmly centred on learning outcomes. They have a quality assurance focus, as required by the Standards and Guidelines for Quality Assurance in the EHEA [ESG], but they also address the widening of access. In France, too, the system of *validation des acquis de l'expérience* [VAE] is highly elaborated and has a specifically professional and labour market application.

Traditionally, the mode of prior learning most easily recognised is formal learning. But RPL gives high priority to the non-formal and informal learning now known as 'life-wide'. The most common example is the recognition of successful work experience as an equivalent to academic attainment. Bologna signatory countries are keen to extend good practice in this area. The Slovenian Institute for Adult Education is charged with the development and validation of non-formal learning. In Finland, a national working party has recommended framework principles, within which HEIs will be required to develop consistent, reliable and transparent RPL systems. The credit awarded will be for demonstrable competences, rather than for durations and locations of study or of work experience. Nationwide discussions are under way on how to refine RPL on a disciplinary basis, for example in healthcare subjects, business administration and technology.

Good practice exists, but it cannot be said that RPL is successfully operating everywhere. While the Flemish law on flexibility (2004) permits exemptions based on competences acquired outside the formal learning context, this is not yet always part of institutional practice. In Spain, RPL is not much in evidence as a significant instrument of recruitment, admission and progression.

According to the European Commission (DG Employment and Social Affairs), 'the absence of a system of official recognition of nonformal and informal learning constitutes [...] a major shortcoming' in Greece. DG Enlargement's 2008 review enjoins Serbia and Turkey to put RPL mechanisms in place as rapidly as possible.

Micheline Scheys, general rapporteur of the Bologna seminar held in Amsterdam in December 2008, delivered a clarion call for joined-up action. She pointed to the existence of 'islands of RPL',

lacking coordination and comparability, and called for quality assurance agencies to 'realise the international and national comparability, compatibility and transparency of RPL processes'.

FLEXIBLE LEARNING PATHS

The openness and navigability of the Swedish HE system is exceptional in the degree to which it allows students to aggregate modules from different programmes in different institutions on both sides of the binary line, according to their needs. The funding system encourages attainment by credit accumulation, rather than by final qualification. That is to say, it funds throughput, rather than output. Age of entry is irrelevant. Here, lifelong learning was said by one informant to 'sit in the walls'; a second nature, in other words.

But a system in which all provision is lifelong is indeed exceptional. Much more common are the impediments, and in particular the separation of the lifelong from everything that is delivered to students in more or less uninterrupted sequence in the few years following the end of secondary education.

In a Polish institution which sponsors a University of the Third Age, the courses offered cannot be credited towards the School's recognised academic programmes. In Spain, too, lifelong education provision is outside the formal qualifications framework. It is frequently the case that HEIs offer three separate categories of courses: the *titulaciones oficiales* (official Bologna courses), the in-house *titulos propios*, and the *formación continua*; the latter two are described as forms of complementary provision.

THE LIFELONG MASTER

This separation is evident in the field of graduate studies, even though many traditional students study on a part-time, rather than a full-time, basis. Second cycle initiatives in CPD are frequently not to be found in universities' Master programme portfolios. They are more likely to be short customised courses which fall outside standard Faculty provision, completed in isolation one from another and with no possibility of credit accumulation. Pat Davies of the European University Continuing Education Network [EUCEN] has explored the possibilities of integrating the various types of activity. She points to two approaches: a 'building up' model in which short CPD courses could be aggregated by RPL into a Master qualification; and a 'dividing up' model, in which an existing Master programme might be broken down into units useable in different training environments.

EUCEN completed a detailed survey of ULLL (university lifelong learning) provision in 2007. Its report confirmed that some progress had been made, at least to the extent that there had been a proliferation of Master programmes designed to have immediate professional application and targeting particular professional groups. On the other hand, the diversity of format, delivery mode, duration and designation, was wide enough to prompt concern 'that the value of a masters diploma may be called into question'. Pat Davies concluded that 'there is a perceived need to take as yet undefined steps to ensure that all masters have equal value.' [*The Bologna process and university lifelong learning – the state of play and future directions*, p.12]

STRUCTURAL DISCONTINUITIES

The problem goes wider than issues of curriculum and course structure. In many systems, the full-time Master and the short multi-modal provision in CPD are not co-located. They are based in different parts of the HEI, answerable to different managerial authorities, quality assured and funded in different ways.

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Lifelong learning

In Austria and Finland, universities have dedicated adult education units which are removed from the Master delivery points. In Germany, a Lifelong Learning Master is normally designated as such and commands high tuition fees. It runs parallel to, but isolated from, the government-subsidised programme for full-time students which charges lower fees. In one instance, Masters of this type are hived off into a semi-independent lifelong *Universität für Weiterbildung*, badged in English as a University for Professional Studies and run in the framework of a public-private partnership. Two factors appear to inform this process. First, the level of tuition fees bearable by the students, even though high, is insufficient to cover costs in the absence of government subsidy. And secondly, the legal framework does not tolerate the mixing of non-economic (public) and economic (private) revenue streams.

THE WAY FORWARD

If Bologna governments are to construct seamless HE systems, in which the second cycle constitutes a navigable space sufficiently rich in possibilities to satisfy personal aspirations and labour market needs, much work is required. It is for NQFs to accommodate all accredited learning experiences, but also to create the potential for generating new ones through RPL. ECTS must become even more versatile than it already is. Staff development, stakeholder involvement, enhanced counselling services, student-centred learning – these too are pre-requisites. Institutional autonomy likewise is an essential ingredient – if without it HEIs are unable to integrate different types of provision to the best educational advantage.

At the invitation of the French presidency, and with the cooperation of other organisations, EUA published a ‘European Universities’ Charter on Lifelong Learning’ in 2008. It set out the commitments expected of universities and of governments in making European lifelong learning a reality. While not addressing the Master in particular, it stressed the paramount importance of inclusion – social, strategic, pedagogic, infrastructural.

The inference to be drawn is that HEIs must turn away from hive-off and bolt-on solutions, in favour of more integrative forms. Quality assurance agencies must devise ways of ensuring that Master-level study, in whatever form it is undertaken and delivered, is acknowledged as such by society at large, and that the bridging mechanisms are visible, intelligible, viable and energetically promoted. Governments, in turn, will have to remove the resource and legal barriers. Between the Bologna cycles and within the Bologna cycles, discontinuity is dysfunctional. In the lifelong perspective, it is far too prevalent.

The EUA Charter is set against a wider backdrop – that of the Lisbon Strategy and its response to the global economic crisis. The European Commission’s overview of structural reforms carried out at Member State level is instructive. The recommended strategic framework is that of the roadmap towards flexicurity, the optimal expression of the balance between competitiveness and social cohesion. In each of the four ‘pathways to flexicurity’, lifelong learning plays a key role.

The Commission’s panoramic view of EU27 reveals countries in which, in 2008, action on the lifelong learning front is urgently required (Austria, Estonia, Italy, Malta); countries with strategies in place, but which have not yet found the momentum to implement them (Bulgaria, Czech Republic, Greece, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia); and countries which need to attend to particular aspects (Belgium, Cyprus, Germany, Ireland, Sweden). The 2008 enlargement reports put Montenegro into the second category.

Admittedly, many of the Commission’s detailed observations concern low-skilled citizens who are a long way from accessing the second cycle. Nevertheless the number of EU Member States, which can claim to have comprehensive lifelong learning strategies and structures – embracing HE – is very low.

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Student centred learning

LEARNING OUTCOMES

The London Communiqué was clear in its intention regarding both Bachelor and Master. NQFs would, among other things, 'help HEIs to develop modules and study programmes based on learning outcomes and credits'. These would sit within the overarching framework, with its 'generic descriptors for each cycle based on learning outcomes and competences', already adopted in Bergen in 2005. Stocktaking in 2009 would monitor implementation.

Learning outcomes and their explicit formulation in programme specifications are a proxy for student-centred learning – a set of practices, or ethos, which was not prioritised in the early phases of the Bologna Process. *Trends V* found that it cropped up only rarely in the discussions undertaken during site visits, inferring that 'the shift in thinking may follow instead of precede a reform of structures' [*Trends V*, p.20].

This is now happening. In many countries Bologna has triggered a paradigm shift from learning by rote to a premium set on active inquiry. Or, as Portuguese Decree-Law 74/2006 put it, 'the transition from a system of education based on the transmission of knowledge to a system based on the development of competences'.

It is no mean task. Abandoning a model of passive learning techniques, deployed in large amphitheatres with a teacher-student ratio of up to 1:500, in favour of one based on small group activity, requires substantial investment. Academic staff development, construction of learning resource banks, reconfiguration of physical space, retrofit of building stock, extension of management information systems, renegotiation of teaching staff employment contracts, reform of programme design and validation procedures, quality assurance, student support, internal resource allocation and even national funding systems, all find their way on to the agenda.

Not all countries have this steep hill to climb. In many, innovative student-centred Master programmes are well established; witness the object-based learning techniques pioneered in Denmark and taken up by the new Portuguese medical schools. 'Pedagogic and curriculum development' is a central feature of the commitment made, on a transnational basis, by the European Consortium of Innovative Universities [ECIU]. There is no shortage of good practice at institutional level.

Inescapably, the staff-student ratio is a crucial factor. The most recent data supplied by Eurydice and Eurostat in the European Commission's *Key Data* for 2007 showed an EU average of 1:15.9. At the extremes lay Greece, at 1:28.1, and Sweden at 1:9 – a threefold variation. The figures related to the year 2003-04 and covered ISCED 5A, 5B and 6. Comparative national staff-student ratios at Master level would be instructive, but are not available.

IMPLEMENTATION

How many national systems have adopted learning outcomes as the cornerstone of curriculum design? In 2004 Stephen Adam found a high level of activity in Flanders, Denmark, Hungary, Ireland, Spain, Sweden and UK. In most of the thirty countries canvassed there was movement towards implementation. In some, the activity was concentrated on the vocational side of the binary line. Overall, there was no evidence of consistent implementation. Adam recommended that common language and good practice be derived from a range of case studies. Thanks to Bologna and notably to ESG, the momentum subsequently built up to the point at which, in his detailed 2008 update, he felt moved to note 'an enormous cultural change' [*Learning Outcomes, current developments in Europe*, p.5].

In countries where learning outcomes have been introduced systematically – in the UK, for example – students have given them a warm welcome. According to QAA, 'the most striking aspect of their introduction has been, according to the audit reports, the value attached to them by students

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Student centred learning

who appreciate the clarity they have brought to the overall purpose of their programme, the interrelationship between parts of the programme and the nature and purpose of assessment tasks.’ [The adoption and use of learning outcomes, para.49]. ESU, in the 2007 edition of *Bologna with student eyes* [p.47], strongly recommends their adoption.

In the investigations into Master-level provision conducted by EUA, there was considerable evidence of change well managed. A Flemish university is introducing learning outcomes via a process of staff development, in which students are involved, and which is supported at local (Faculty) and central (university leadership) levels, as well as being monitored by the national quality assurance agency. In Finland, two universities jointly run a national staff development programme known as W5W.2, while the ARENE project does likewise for the UAS. In Ireland, one institution jointly coordinates policy implementation across all HEIs in the greater Dublin city region, using funded internal fellowships as levers of change. Another is working on the intranet linkage of learning outcomes to its on-line library catalogue.

In Germany, the introduction of learning outcomes has provided opportunities to bridge gaps between contrasting Faculty cultures, as well as to manage problems thrown up by the academic division of labour between Bachelor and Master levels of work. In Sweden, academics and students have appreciated the greater transparency brought by the new approaches to learning and teaching. Only in Spain did the survey find less shared knowledge of – and more resistance to – learning outcomes.

ASSESSMENT, OPTIONALITY AND RESEARCH COMPONENTS

Learning outcomes tend to be embedded in modular systems where their attainment can be properly formative. Assessment is therefore more frequent. This is beneficial when, as reported by German Master students, it is also varied, when it demands a precise focus and encourages interaction. At the same time, as many institutions confirmed, it requires powerful student record and management information systems, together with more complex course regulations. Site visits suggest that, since *Trends V*, the endemic reliance on end-of-year examinations has begun to weaken.

In turn, modular systems create scope for wider student choice and for greater combinatory flexibility in the designation of core and optional curricular elements. They offer the opportunity to soften the hard lines of mono-disciplinary study. They give students the chance to study with others majoring in different fields. There are also disadvantages: the vulnerability of options due to shortfall in student uptake or to timetabling constraints, the need to resource attentive academic counselling, the critical timing of choice points – all of which require coordinated response. In the open-access questionnaires, 57% of student respondents reported that optionality in their courses did not exceed 25%.

The necessary capacity to manage change on the ground argues strongly for institutional autonomy. Where the structural features of modular systems are too tightly enshrined in legislation, as for example in Poland where the law determines 70% of the Master programme and requires 30% optionality, it is harder for HEIs to address student demand. Labour market needs are not so rapidly satisfied. Academic disciplines are more constrained and less prone to evolve by cross-fertilisation.

The fact that the bulk of the curriculum is set down in Polish law brings additional constraints, this time on mobility. Content has to be matched very closely with that of the partner institution before mobility can be realistically contemplated. Students are obliged to return home to sit parallel examinations before their foreign studies can be recognised. Imported ECTS points are used as indicators of attendance rather than of attainment. On-course mobility in these conditions is bound to be the exception rather than the rule. It has conditions attaching to it that make it unattractive.

The EUA survey found that Master programmes normally contained a research component. Only 21% of HEIs and 17% of academics reported that research was not systematically included. The question of whether it was theoretical or practical, an individual or a group activity, expressed as a thesis or as a number of projects and assignments, whether it was critical or not to progression to the doctorate, depended on the institutional and pedagogic contexts. Yet virtually everywhere, the importance of the research component was accepted and non-controversial. It would appear to be a defining feature of the Bologna Master – even though the on-line questionnaire revealed that only half of the student respondents were satisfied or very satisfied with the research opportunities offered by their chosen programme.

In Poland there was lively debate. There, the Master thesis occupies one semester out of a possible maximum of four; as a result, there is perceived pressure on available teaching time. Opinions are divided on whether to adjust the research element of the Bachelor degree accordingly. Should it be removed, in order to free up teaching time, which in turn will decompress the Master schedule? Or should it be retained, in order to rehearse the research methodology required by the Master?

The wider problem of time allocation is not peculiar to Poland. The APEC survey cited earlier showed that French universities regard ‘semesterisation’ as a mixed blessing – one of its disadvantages being the extent to which the multiplicity of assessment periods reduces the time available for teaching. The same anxiety was voiced during site visits in Ireland.

TEACHING TIME

The issue of teaching time, directly related to the concept of content, prompts further questions. To what extent should it be the prime consideration in student-centred learning? Does it inhibit inter-disciplinarity? Does its insistence suggest an institutional reluctance to depart from traditions of supply-side pedagogy? How can academic employment practices evolve to accommodate the innovativeness that the Bologna Process requires? Will the involvement of other stakeholders, notably students and employers, introduce the necessary flexibility into curriculum development?

The sense that a mono-disciplinary teacher has of teaching time derives, in the least innovative cases, from experience as a full-time student in an age before that of mass higher education. Flexible curricula, in contrast, are more likely to be modular and more likely to lend themselves to inter-disciplinary study.

Because each module can be accessed from more than one route, student groups tend to be heterogeneous. Not only may they originate in other countries, or in other institutions in the same country, they may converge on particular modules from different starting points in second cycle provision. The resultant cultural, ethnic and academic differences within a particular student group pose a pedagogic problem, which is new to some European institutions. The need for diversity management in the seminar room is becoming more widely recognised. It is a *sine qua non* of all staff development programmes aiming to create a culture of learning outcomes.

In this context, the problem of teaching time assumes a different aspect. Now the teacher is faced, not with packing as much content as possible into the time available, but with homogenising the cohort in order that the delivery of content may begin. EUA site visits revealed that a common response is to introduce a zero semester or foundation year, in which disparate groups of students are marshalled to the starting line.

This solution is costly and should not be an automatic default. Bologna ministers have proposed an alternative. They ask academics, students and institutional leaderships to use resources creatively and innovatively, to the point at which the content adjusts to the learning outcome, rather than the reverse, always provided that there is no loss of intellectual coherence. The relative importance

of subject content and learning outcome is a delicate balance, and one in which – supported by academic counselling – the student must be involved. The personal study plan worked out by each Finnish student and her or his university is an example of this approach.

Anxiety about the teaching time available at Master level may also be generated by insufficient differentiation of the curriculum from the Bachelor. Once the Master is uncoupled from its reference to *continuation* and articulated instead to the dimension of lifelong learning, the scope for innovative pedagogy broadens. In stressing the learning outcome in preference to the teaching outcome, Bologna encourages not only student-centred learning, but also student participation in curriculum development.

This tendency will accelerate as the Bologna countries move to implement quality assurance procedures based on the ESG, in which the strong focus on learning outcomes has something approaching regulatory force.

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Mobility

ON-COURSE MOBILITY

It is important to distinguish between on-course (horizontal) mobility offered within a particular programme – and the so-called transnational vertical mobility that takes a student from a whole course in one Bologna cycle in one country to the next Bologna cycle in another. The former is often funded by transnational programmes like ERASMUS and NORDPLUS, or by national sources such as DAAD in Germany, or even at institutional level. Vertical mobility is more likely to be self-funded.

On-course mobility is well established and has been extensively researched. It is an eloquent fact that the ERASMUS Programme aims to reach its three millionth student by 2012. The target is ambitious. It requires a further million mobile students in the next three academic years and prompts the question of how the volume of mobility has been or will be affected by the implementation of the three-cycle system.

In the course of its investigations, EUA learnt that in Austria mobility was rising again after a temporary fall. In Finland and in Spain it was thought that Bologna reforms would boost mobility, although it was too soon to say. In Flanders, on the other hand, there were difficulties. Many factors were cited: asymmetric curricular change in partner institutions; the labour intensity of producing information packs in English and of checking the transcripts of incoming students. Informants in other countries mentioned the familiar and frequently cited barriers: financial constraints, foreign language problems, family and work commitments, mismatch of academic calendars.

In Germany, it was suggested that mobility had declined in both Bachelor and Master, when compared to the third year of the old long degree. The obligation to work to support the cost of study at home, the low level of ERASMUS grants, and the slowness of national procedures were significant factors. In addition, it was felt that foreign study periods were being crowded out by research modules, by work placements and by delivery of the core curriculum. In order to protect them, some institutions were contemplating the possibility of opening a 'mobility window' in the Master, to the value of 30 ECTS points.

The issue has been taken up at European level. German MEP Doris Pack's own-initiative report to the European Parliament in September 2008 'emphasises that the three-cycle degree system (Bachelor degree, Masters Degree and Doctorate) could become more flexible especially by using a "4+1" instead of "3+2" system for the first and second cycles [and] notes that for some studies this could be more appropriate in order to enable greater mobility and employability of graduates'.

Pack also 'calls on universities in the Union to undertake an innovative, far-reaching and methodical curricular reform, since ambitious and high-quality content and restructuring of organisation is crucial for student mobility and for greater flexibility [and] calls for a "mobility study period" to be introduced into all degree programmes to enable students to go abroad'. It is not clear whether this suggestion concerns the Master as well as the Bachelor. The tenor of her argument suggests that it could not be both. Instituting a Europe-wide system of 4+1, moreover, is a daunting proposition, when seen in the light of the diversity of practice described earlier in section 4.

The recent report by Eurostudent floats the possibility of compulsory international semesters, but this is on the assumption that the prescribed duration of a Bologna Bachelor is three years, which is not the case. The forthcoming report by the European Commission's Expert Group on mobility will shed further light and make proposals.

INTER-CYCLE MOBILITY

One alternative to on-course mobility is the inter-cycle window created by the student – the gap semester or gap year which can be intercalated between Bachelor and Master. Anecdotal evidence suggests that this is growing in importance, particularly when the gap is filled with work placement

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or paid employment as well as study. It has implications for employability. No data is available at European level – and is unlikely to be, as long as ISCED methodology remains unchanged.

Responding to the on-line questionnaire, 16% of students said that they had changed their field of study between first and second cycles, while 30% reported that they had changed institutions. Section 4 has already touched upon the question of transnational inter-cycle mobility. How easy is it to progress from a Bachelor in country X to a Master in country Y? How easy is it to do so on a trans-binary trajectory? As suggested earlier, the answers to these questions have to be case-by-case. Bilateral agreements, such as the recently signed memorandum allowing inter-cycle transfer between France and Switzerland, are rare.

As a general rule, responses to transnational questions are local, since no pan-European at-a-glance map or on-line navigation system exists. Evidence from the Spanish private sector indicates that students thwarted in their ambitions in one country nevertheless find their way to a more liberal jurisdiction.

Impediments are sometimes attributable to national legislation, the extreme example being Greece, where the Constitution limits the recognition of qualifications awarded outside the Greek public HE sector. As a result, Greece can neither sign nor ratify the Lisbon Convention on the Recognition of Qualifications, despite the urging of Bologna ministerial summits. In the field of professional qualifications, the European Court of Justice has ruled that Greece has infringed Directive 2005-36-EC.

The width of the Bologna Master band can itself be the source of dispute. The fact that it may be of one or two full-time years – a difference of 100% - unsurprisingly raises the question of comparability. Doubts concerning the 3+1 model prevalent in England, Wales and Northern Ireland were highlighted by the Norwegian quality assurance agency NOKUT in 2005. Appeals made by Norwegian holders of English Masters degrees against legally binding judgements emanating from the Norwegian ENIC-NARIC agency had held that only the two-year research-focused MPhil qualification could be regarded as equivalent to the Norwegian two-year Master (ECTS 120). English one-year Masters could be awarded ECTS 75 in recognition of a quantum of academic attainment, but they could not count as equivalent. Norway was confident that its decisions were justified by the consideration of ‘substantial difference’ specified in the Lisbon Convention, which both Norway and UK had ratified.

The UK’s HEPI vigorously countered this conviction, recalling that ‘the UK position has long been that the UK has the capacity to deliver second cycle (Masters level) qualifications with the requisite learning outcomes in a twelve month period that take longer in other countries’. In fact, UK provision is more diversified than this remark suggests. A UK HE Europe Unit survey in 2007 indicated that most disciplines offer some 2-year taught Master programmes – up to 22% in certain subject areas.

THE MOBILITY INSTRUMENTS

What of the mobility instruments? ECTS is now embedded in most national legislations. A powerful prior condition for its pan-European use in both credit accumulation and transfer has thus been satisfied.

The issuing of the Diploma Supplement, in contrast, varies widely. Apparently little known in Spain, it is routinely used in Finland, in Ireland and in Poland, even if in the latter a fee may be charged. However, even when national policies are clear, it is rare to find HEIs, students and employers in agreement about its availability and visibility. Out of 1497 students completing the EUA on-line questionnaire, 63% did not know whether their institution issued the DS. A detailed survey carried out by ENQA commented that the DS ‘seemed too often than not to be for national use only’ [G

Aelterman et al, *Study on the Diploma Supplement seen by its users*, p.36]. All of this suggests that information campaigns and energetic intervention by Bologna Promoters remain as urgent as ever.

EUA site visits showed also that the national recognition centres, the NARICs, are not uniformly familiar across Europe. Enjoying a high profile in countries with aggressive student recruitment policies, such as the UK, they are much less prominent elsewhere. In some cases, their profile is higher when they inform migratory flows which go beyond higher education and energise the wider economy. The National Qualifications Authority of Ireland, for example, publishes brochures in Latvian, Lithuanian, Polish and Russian.

When asked to react to the statement that 'higher education institutions should not trust qualifications obtained in foreign countries as easily as they trust those obtained in their own country', 16% of HEIs agreed or strongly agreed, as did 22% of students and 20% of academics. This response too shows that the mobility instruments, backed up by quality assurance mechanisms, have some way to go before they can be regarded as established.

THE JOINT MASTER

Trends V reported that the majority of joint degrees were second cycle programmes. In the view of the authors, it was too soon to declare the success or otherwise of the Joint Master. They tended towards the conclusion that these were expensive ventures which were more likely to thrive in the portfolio of elite institutions.

Joint Masters are nevertheless likely to increase in number. The popularity of ERASMUS MUNDUS has been instrumental in persuading governments to put in place the legal basis for the award of joint or multi-partner single awards. In Denmark, Norway and Sweden, this matter is now in train. In England, the post-1992 universities (ex-Polytechnics) are empowered to award joint degrees, while older established universities may renegotiate the terms of their founding charters. In the Netherlands, it is rather the duration of the Master that is felt to be in need of modification, in order to fit better with the curricula of potential foreign partners.

In 2007, Eurydice reported that joint degrees were formally recognised in around half of the countries concerned. The situation at that time was not completely clear: in some countries where joint degrees were legally possible, there were none; in others, joint degrees were up and running, unsupported by dedicated legislation; in yet others, they were permitted in one or two of the Bologna cycles, but not in all three.

The Joint Master is not immune to the problems of designation haunting the landscape of the second cycle. Several, but not all, of the programmes funded by ERASMUS MUNDUS claim the (unofficial) title of European Master. On the other hand, not every European Master sails under the flag of ERASMUS MUNDUS. 'European' may be assumed to indicate, as in the case of certain lifelong European Masters in Germany, the existence of joint curriculum development and student exchange with a range of European partners. This is also the practice in Austria, but there such courses may be known as International Master Programmes. To complicate matters further, the designation 'international' is also used for courses which have no foreign partners, but which specifically target international students. 'European' may also mean that foreign partners provide work placements and dissertation supervision, but no tuition. Finally, it is not uncommon to find transnational Joint Masters which have no descriptor whatever.

In the site visits conducted for this report, there was no sign of disaffection with the Joint Master. On the contrary, many institutions delivered them and intended to continue doing so, although in 83% of HEIs completing the on-line questionnaire joint Master students did not exceed 5% of the second cycle cohort. In 8% of these HEIs, Joint Master programmes represented more than 10% of the

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Master portfolio. The evidence of growth is supported by an investigation conducted by Matthias Kuder and Daniel Obst. Their study of transatlantic joint programmes showed that European HEIs were more likely to offer them than their US counterparts, and that they were more likely to be at Master level than at Bachelor level. A large majority of HEIs in both regions said that they planned to develop more joint degrees.

Running a joint Master is nevertheless not problem-free. One academic informant described the difficulties posed by variable entry points, credit weighting, workloads, learning outcomes – all compounded by incongruent national legislations. The difficulties meant that the course structure was not always clear to students and that course coordination was not always transparent, requiring a strong element of ad hoc compromise and approximation. The 'Guidelines for quality enhancement in European Joint Master programmes', published by EUA in 2006, continue to offer valuable support to course planners.

It is important that institutional leadership, as is now evidenced in Germany, fosters course developments which, even though driven by the enthusiasm of individual academics or departments, have a clear strategic orientation. This will typically involve the targeting of particular global regions, concurrent research collaboration, and the possibility of *co-tutelle* for the Master thesis. It will also identify synergies between the portfolio of taught Master courses and the research, innovation and knowledge transfer activities of the institution.

CONSORTIAL ACTIVITY

Strategic imperatives, together with the resource-intensity of the Joint Master, may also encourage institutions to look for ways of rationalising joint provision. This is particularly true of institutions with a plethora of partners.

What are the advantages of consortial activity? The partners are known; good and shared practices can inform a number of Joint Masters, with consequent economies of scale; staff mobility is easier to organise and acts as a stimulant to student mobility; recruitment campaigns can be coordinated. Many of the long established consortia, self-selected by region, mission or discipline, are very active Joint Master providers. Witness the Guidelines on Joint Programme agreements posted by the UNICA group.

In the light of these perceived benefits, the five Nordic countries – Denmark, Finland, Iceland, Norway and Sweden – have invited tenders from consortia of Nordic HEIs (a minimum of three) to set up a second round of Nordic Master Programs in 2009. Funded at a level of DKK 1m each, they will combine specialist expertise in a bid to attract Nordic, European and international students.

At the same time, the Coimbra Group, historically a volume supplier of ERASMUS students, notes 'the apparent slowdown in physical international student mobility within the new Bologna structures'.

This remark is to be amplified in a promised position paper. Will the Group revise its view of the relative strategic importance of horizontal and vertical mobility? Will joint programmes become less important than inter-cycle referral and recruitment? Or will they be developed with renewed intensity? The answers, for many HEIs active in the Master marketplace, as well as the Coimbra Group itself, are likely to be determined by considerations of return on investment.

On the wider European canvas, the questions are political and economic, as well as academic. They stand out against a deeper backdrop – the affordability (for governments and for students) of HE and the contribution that it is expected to make to economic growth. HEPI's anxiety and defence of the English one-year Masters – which is virtually excluded from ERASMUS MUNDUS where courses of ECTS 120 are the norm – turns on the status of the qualification as a unique selling point in the UK's knowledge export industry.

Other modes of consortial activity may be driven by prevailing economic conditions. Economies of scale, concentrations of disciplinary expertise, joint maintenance and development of laboratory and other research facilities, multi-institutional graduate schools, all these may burgeon at regional level. Mergers and consolidations as responses to recession may also grow in number. Whatever new formations emerge, they will create new opportunities for transnational networking in curriculum development and in collaborative research, as previously competing HEIs pool their resources.



Employability

At their London summit in 2007, ministers called for closer HE-employer dialogue and promised to bring their public sector employment practices into line with Bologna. They also set up a working group on employability and asked for report back in Leuven / Louvain-la-Neuve in 2009. The working group chose to focus on the Bachelor degree. How far does it help students secure and retain employment, take up self-employment, and navigate the labour market on a lifelong basis? How could employers come to accept Bachelor-level attainment as a valid qualification, in those countries in which no such qualification had previously existed?

The Bologna three-cycle system cannot be said to be in place until this process is complete. In other words, until all 46 countries have evolved beyond the position in which the Master is the sole point of initial entry into the market for high-skilled labour. Thereafter, the residual and multiple functions of the second cycle – acquisition of high level competences and knowledge, research, innovation and knowledge transfer, access to doctorate, continuing personal and professional development – will be easier to map and to articulate on a pan-European basis. Meanwhile, the definition of the Bologna Master awaits the full fleshing out of the Bologna Bachelor.

EMPLOYABILITY AND THE BACHELOR

Employer-awareness campaigns are already in train – like the ‘Welcome Bachelor’ ventures mounted jointly by business and HE sectors in Austria and Germany – but it will be some time before they produce measurable results. Universities Austria, the conference of rectors of public universities, has launched a project on the employability of BA and MA degree holders. It is due to report in 2010 and will show how far perceptions and practice have changed.

Thus far the Bachelor has only just begun to consolidate its position. In Flanders the banking community has recognised it as an appropriate qualification for certain grades of work, on which in-service training can build, but beyond the financial services sector it is considered too soon to tell. The small number of employers, with whom EUA conversed in other countries, had contrasting views. In Spain some were in sympathy with the aims of Bologna and were happy to provide work placements during both Bachelor and Master programmes. In Germany they preferred the 4-year Bachelor with a placement element, leaving the Master to be taken later on a part-time basis as CPD.

In Austria and Poland, they were more likely to share the view of students: sceptical regarding the Bachelor, uncertain of its academic merits and its value in the labour market. In Poland, government was said not to have led the way with the reform of public sector recruitment practices. In Austria, there is a telling distinction between the pre-nominal *Magister* – regarded as a prestigious title – and the post-nominal BA. Was ba part of the surname? one employer asked. Austrian employers nevertheless valued student mobility, whether at Bachelor or at Master levels; it increased assertiveness and laid the basis for more specific project management skills. In the Netherlands, according to the CHEPS report already cited, the university Bachelor (as opposed to the UAS Bachelor) is not perceived as a viable labour market entry qualification.

EMPLOYABILITY AND THE MASTER

Ministers have said that the dialogue with employers must intensify. In the Spanish private sector and in Ireland employers have a role in curriculum development. In the German UAS sector they are consulted on labour market analysis and provide work placements and guest lecturers. They may also have seats on formal course accreditation panels.

In Poland, employers evinced little knowledge of course content and of the Diploma Supplement. A similar view was reported in Sweden; attitudes there have begun to change, however, insofar as

employers now look for evidence of the ability to complete a course, an aptitude which the open lifelong nature of the Swedish system did not always foster.

Clearly, there is scope for better communication between HEIs and employers. In a follow-up to the EUA Joint Masters Project of 2004, Adina Timofei asked HEIs offering joint degrees whether they had sought any employer involvement at the curriculum design stage. Despite citing labour market relevance as one of the major motivations for developing their courses, 54% of respondents reported no consultation and only 14% requested employer feedback.

To some extent enterprises are unaware of the HE offer. The representative of a multinational corporation, speaking at the Luxembourg conference on employability in October 2008, pointed to a failure by universities to market the new degrees. In what do they consist? Have they been tailored to employers' needs? And if so, on the basis of what assumptions? Given this limited transparency, he welcomed the DS – to the point of anticipating that his company would soon refuse to consider job applications which did not attach one.

Dialogue and communication are likely to thrive as employers are persuaded that participation in curriculum development, quality assurance and governance is in their interests. In no institution visited by EUA was this participation wholly absent. But it requires a time commitment by both sides; and this in turn is fostered by a shared culture built up over a period.

From the point of view of the HEIs, such a culture consists of a mix of collaborative research, careers guidance systems with links to employers' bodies, organisational receptivity to inter-disciplinary innovation, alumni tracking where privacy laws permit (this is not always the case, for example in Germany), mentoring facilities, and viable, monitored, credited and integrated work placements.

It also requires internal agencies, located appropriately within the institutional infrastructure, capable of conducting a dialogue with employers, translating it into strategic thinking and mainstreaming it into action. The French *LRU* law cited earlier requires all universities to open careers advice offices, with responsibility for on-course work placements as well as for counselling in the longer perspective.

In many HEIs, the relationship with business and industry burgeoned during the years of the COMETT and LEONARDO programmes. A conference hosted by DAAD in Bonn in 2007 demonstrated how urgent it is for this capacity to be revived, refined, and shared. Its detailed recommendations to HEIs, employers, governments and the European Commission pointed also to the wider societal context. HEI-employer dialogue has to be energised, it said, but not *in camera*. How to involve NGOs, consumer groups, the media and employees' organisations in policy formulation and project management is a question that both parties must address. Since 2007, the European Commission has run a regular university-business forum to pursue the wide range of issues involved.

The EUA site visits revealed substantial evidence of the sort of HEI engagement sought by the Bologna working group: commitment to regional, national and European labour markets; involvement of social partners in institutional governance; participation by employers and professional bodies in curriculum development at Master level; enterprise education; work placement schemes; careers counselling; alumni tracking; an emphasis on inter-personal and inter-cultural skills.

According to REFLEX Project fieldwork in France, Germany, Netherlands, Norway and UK, the 'soft' skills most valued by employers are communication, foreign language, project management and entrepreneurial skills. These are likely to be fostered in the ethos of student-centred learning, favoured by Bologna. National governments can support developments in this area. The Higher Education Funding Council for England [HEFCE] has made GBP 60m available for some 30 projects, co-funded by employers, in its Employer Engagement Projects.



Employability

BINARY SYSTEMS AND THE PROFESSIONAL MASTER

The issue of employability is particularly complex in countries with binary HE systems. Here, the distinction is made – whether in law or in institutional mission only – between the ‘academic Master’ and the ‘professional Master’. In some countries the gap is wide, as in Finland where access to the Master in UAS institutions requires three years of prior work experience, while in the universities Bachelor to Master progression may be immediate. In the Netherlands, the distinction is maintained between the Master – awarded by the practically oriented UASs – and the Master of Arts and Master of Science degrees conferred by the research-oriented universities. On the staffing side, German UASs will appoint to teaching posts only applicants who come with five years of professional or industrial working life behind them; this is not the case with academic appointments in the classical universities.

In many countries, binary systems have become more flexible, or at least more congruent, as *Hogeschulen* and *Fachhochschulen* – reborn as UASs, in English, although not in the national language – aspire to higher levels of research and second cycle teaching programmes, and as universities introduce more vocational courses in an attempt to raise the employment rates of their students. The separation may ultimately be dissolved by legislation, as happened in England in 1992, or it may be retained with some tolerance of institutional drift, as is the case in Portugal.

The softening of binarism raises the question of whether the term ‘professional Master’, which the Danish UAS sector at one time sought to make its own prerogative, continues to have any real content.

The European Network for Universities of Applied Sciences was set up in 2004 to represent non-university HEIs in Austria, Denmark, Estonia, Finland, Germany, Ireland, Netherlands and Switzerland. Its current priority is the collaborative development of the Bachelor for the Labour Market (the BaLaMa Project), but it also speaks as a consortium of second cycle providers. Its statement to the London Bologna summit (signed by all participating countries except Germany) makes clear how it wishes the professional Master to be perceived: enjoying parity of esteem with the research-oriented Master and commutable with it in terms of access and progression. The ‘professional Master’ should have its place within an EHEA attuned to the Lisbon Agenda; in this context no HEI should be excluded from engagement with applied research and innovation.

The designation, however, is precise only in certain national circumstances. It cannot be generalised. At the European level, it is best to regard it as a symptom of the stress evidenced in binary environments, in which mission steer expresses the university aspirations of generic UASs, while the search for new markets drives universities to target cross-binary clientele. It is the product of the process of transition. In the EHEA, it will be difficult to find a Master that has no professional application.

It is therefore hard to predict a prosperous future for the ‘professional Master’ in the wider European and international recruitment market. Certainly, there is nothing in Europe quite as targeted as the American Professional Science Master’s. These two-year cross-disciplinary programmes were launched in 1997, aiming to equip Bachelor scientists and mathematicians with business and legal expertise, allowing them to self-start in innovative enterprises or to take up middle-management positions in the corporate, governmental and NGO sectors. To European eyes, these are a brand of the conversion Master, which in some European countries has a long track record.

Many universities are also attempting to give the classical doctorate a higher employability value, thereby improving the career prospects of early stage researchers. This impacts on the ‘academic’ research-focused Master, now under pressure to provide more flexible and competence-based access routes to the PhD. Hence the UK’s Master of Research [MRes], which delivers research methodologies to doctoral students in a graduate school environment, thus mitigating the risk that research will

succumb to isolation and poor time management, while at the same time enhancing employability. In this sense, and in the context of the ERA, the research Master is no less a professional Master than any other.

THE MBA

From the point of view of the general public, the MBA is an excellent example of the professional Master. Originating in the US and, on arrival in Europe, the prerogative of specialist graduate schools, it is now well established in the broad spectrum of European HE. Frequently of one year in duration, with fewer on-course internships, the European version typically caters for older, more professionally experienced, students, than its North American equivalent.

In its 2005 study of the likely impact of Bologna on graduate management education, GMAC calculated that Bologna would bring on stream around 12,000 'new' graduate programmes. It used three per university as its rule of thumb. These would cater intra-EHEA for something in the region of a quarter of a million pre-experience business Master students and 30,000 MBA students annually.

In this profusion there have been problems of definition. While welcoming Bologna's expansion of the second cycle market, GMAC viewed with some alarm the 'potentially confusing array of new Master degrees'. The water would remain muddy, in its view, until generalist and specialist pre-experience and post-experience qualifications were clearly distinguished in the national qualifications frameworks. It urged Bologna signatory countries to reserve the MBA title for post-experience programmes. In Germany, where the distinction between the pre-experience Master of Arts (Business Administration) and the post-experience MBA is clear in law and manifest in accreditation procedures, this is now the case.

By 2007, according to the European Foundation for Management Development [EFMD], the situation was already being resolved. 'A structured market for masters programmes in business and management is taking shape in Europe around three clearly differentiated segments: the MBA, which will now benefit from official recognition as a national degree in most countries; the generalist Masters in Management; and the specialised MSc programmes'. This classification will take some time to bed down – some students encountered by EUA feared that the Master would diminish the prestige of the MBA. NQFs will have the task of reassuring them.

ENTERPRISE EDUCATION

The Lisbon Agenda has stressed the relevance of particular thematic strands within the second cycle. Business schools have taken on the corporate social responsibility agenda, while the European Commission's Directorate General for Consumer Affairs has funded a suite of transnational joint Master programmes in consumer education.

Enterprise education is another such theme. DG Enterprise and Industry has actively monitored and fostered developments in secondary education, as well as in the first and second Bologna cycles. Its expert group on enterprise in non-business studies made detailed observations and recommendations in 2008. These covered many of the issues already raised in this report: flexibility of course structures, curriculum development, work placement, employer involvement, the accreditation of RPL, intellectual property, innovation and incubation, HEI infrastructure. The group called for the Commission to conduct 'a regular and comprehensive benchmarking of public policies in this area' and to coordinate an action plan.

Bologna is a propitious environment for enterprise education initiatives. They chime well with the shift to student-centred learning. In addressing such fields as social enterprise and the creative



Employability

industries, they are relevant beyond the business schools. There is therefore also scope for coordination at national level. Sweden's Knowledge Foundation is leading an initiative to draw employers into collaborative curriculum design associated with the new generation of two-year Master degrees. The intention is to identify and foster synergy between employers' interests and research undertaken in the HEIs, with a particular focus on the non-science disciplines, which in the past have received less attention from the point of view of knowledge transfer.

GENDER AND EMPLOYABILITY

The 'Master' designation is hardly gender-neutral. In 2005, ESU (at that time ESIB) noted that a gender bias was also visible in recruitment to the Master. In its view, the implementation of the Bologna cycles coincided with a restriction of access to the second cycle by women. The 2007 edition of *Bologna with Student Eyes* deepened the analysis. Access to the Master from the Bachelor is impeded in many countries, it said, by factors such as quotas, tuition fees, shortfalls in funding to institutions and in financial support for students, and by inequities associated with binary HE systems.

But in fact, it is not easy to see from the data provided how these are expressed in terms of gender. Of the eight countries surveyed, evidence of imbalance unfavourable to women at Master level appears to be present in four (Austria, Germany, Liechtenstein and Switzerland); in three the imbalance is favourable (Denmark, Finland and Spain), and the remaining country (Slovakia) is neutral.

The European Commission's fifth Report on Equality between Women and Men (2008), citing the 2007 Eurostat labour force survey, shows that 80.7% of women in EU27 completed upper secondary school studies, against 74.8% of men. Similarly, 10.4% of women in the 25-64 age range were participating in lifelong learning at the time of the 2006 survey, against 8.8% of men. At Bachelor level, women represent 'as much as 59%' of graduates. At tertiary level overall, according to Eurostat's 2007 statistical portrait of the EU, the percentage of women students in EU-25 had risen from 52.7 in 1998 to 54.8 in 2004.

As far as the doctorate is concerned, Laudeline Auriol's 2007 report for OECD, which covers Argentina, Australia, Canada, Germany, Portugal, Switzerland and the US, shows that in Germany women represented only 32.2% of doctoral enrolments (2004), while in Portugal the figure was 39.2% (2005). In her own-initiative report on 'Women and Science', European Parliament Member Britta Thomsen states that women 'earn 43% of EU doctoral degrees'. This is a 2003 figure for EU-25, culled from the European Commission's *She Figures*. *She Figures* also shows that in the four years since 1999 female doctorates had increased by 7%, as against a growth rate of 2% for males.

Data on the Master, however, is unavailable. As indicated above, relevant Eurostudent, EU and OECD data sets, which use ISCED 5, cover Bachelor and Master qualifications without disaggregation. The situation regarding the Master is therefore obscure. Are fewer women gaining entry? And is this why their access to the doctorate is lower? Do Master-level admissions follow traditionally gendered disciplinary pathways? The European Commission's Key Data for 2007 notes that male students predominate in science, mathematics, computing and engineering, manufacturing and construction, while women outnumber men in the arts, education and health studies. But these conclusions derive from aggregated data for the year 2003-04. ESU rightly calls for better and more comprehensive data collection.

10

The Master market

THE SECOND CYCLE MARKETPLACE

By common consent HE is a social good, whatever its source of funding, and HEIs are accountable to society at large, as well as to their direct funders. In many countries a strong public service ethos nevertheless contends with growing pressure to liberalise. Public authorities turn to private capital (family or corporate) to augment state expenditure on HE, in the face of more pressing priorities. Where a private HE sector exists, efforts are made to make it more competitive. OECD, for example, has urged Portugal to de-regulate postgraduate fees, thus shifting some of the financial burden from the public coffers.

The Bologna second cycle is a complex marketplace. Europe competes with other global regions (witness the ambition of ERASMUS MUNDUS to emulate Fulbright's record in attracting high-flying students to the US) and countries compete with countries. For-profit and not-for-profit private HE providers compete with each other and with public HEIs in the search for new services and new client groups.

Moreover, it is in the second cycle that 'marketisation' is likely to proceed most rapidly. It is not everywhere as well supported by public funds as is the first cycle. It offers more opportunity for commercial exploitation than does the doctorate. The Bruegel report already cited regards the second cycle as so strategically important, that it recommends a higher level of public support, complemented by a package of fees, income-contingent loans and bursaries.

Such a policy will become more feasible as the autonomy of HEIs grows. Individual institutions will be better equipped to specify a mission in line with their target populations and their market position. The configuration of public and private sectors may then change. Public-private partnerships may increase in number. Public institutions may be offered the opportunity to become foundations and to exercise greater operational freedom, an evolution already visible in Germany and in Portugal.

THE SOCIAL DIMENSION

Would-be mobile students need adequate financial resource. To undertake a Master degree in a foreign country requires grant, loan, scholarship, sponsorship, self-financing, or a combination of these. This will not change when the 46 Bologna HE systems become interoperable.

For any student contemplating a full-time Master abroad, there are many factors to consider: admission, cost, value for money, recognition. Each of these is complex. Admission involves not just consideration of prior learning and experience, but also immigration rules, security procedures and linguistic competence. The costs of living and tuition have to be considered in the light of loss of earnings at home and the purchasing power of the home currency in the host country.

Value for money depends on duration and quality of course, the perceived prestige of the host institution, the relevance of the qualification to the intended career path, the competitiveness of the labour market and the extent to which the postgraduate premium will yield a good return on investment.

Finally, there is the question of the recognition of the qualification obtained. Is it global, is it good for public and private sectors, is it compliant with relevant legislation? In the case of students contemplating the part-time, executive release or distance Master, the issues are not so stark, but still pressing.

Once the student is on course, other questions arise, such as the availability of part-time work, the provision of careers guidance and work placements, support for family and children. EU students have various national safety nets; in all probability, they pay low fees. Non-EU students face problems of a different order. Women will take longer to repay income-contingent loans than men.

The intersection of the social dimension and the Master market is of such complexity that, assuming an eventual re-drawing of the ISCED bands, constant monitoring will be necessary at institutional, national and transnational levels.

ENGLISH-LANGUAGE DELIVERY

It is no accident that the UK is the European field-leader in the Master market. Aspirant professionals in many fields perceive an anglophone qualification as the *sine qua non* of upward mobility in a globalised labour market.

OECD noted in 2005 that 'an increasing number of institutions in non-English-speaking countries now offer courses in English to overcome their linguistic disadvantage in attracting foreign students'. This was particularly true of the Nordic countries. On the other hand a substantial number of countries had no or virtually no English-language HE provision; these were Austria, francophone Belgium, Greece, Italy, Luxembourg, Portugal, Russian Federation and Spain.

OECD was unable to disaggregate Master-specific data. GMAC, however, ran a web-based survey of the 2003-04 academic year in Europe, which showed a total of 1889 Master programmes delivered in English outside Ireland and the UK. Of these, 539 (29%) were business-oriented qualifications. 22% of the 1889 were located in Nordic HEIs.

More comprehensive work undertaken by Bernd Wächter and Friedhelm Maiworm in 2007 showed that programmes delivered in English in non-anglophone countries were common, but still not a mass phenomenon. Numbers had nevertheless tripled since 2002. Of the overall total, 80% were Master programmes. In Belgium, Germany, Sweden and Switzerland, Master programmes represented over 90% of the English-medium course portfolio.

Wächter and Maiworm also found that in southern Europe English-medium programmes were rare. But in the last two years, the imminence of Bologna legislation has encouraged Spanish HEIs, particularly in the private sector, to move more energetically into the market. The typical HEI's internationalisation strategy focuses not only on recruitment from Latin America, the traditional Iberian catchment, but also from Africa, Asia and elsewhere in Europe.

EUA site visits revealed a suite of 14 one-year Advanced Masters in a Flemish university. The Swedish national website showed approximately 500 English-language Masters, the vast majority very recently developed. The Finnish site, meanwhile, came up with 229 English-medium second cycle programmes. In Poland, institutions have a modest amount of foreign marketing and hope to gear up in due course. German ambitions are strong, despite certain constraints: employment law, which prescribes a distribution of teaching staff between Bachelor and Master work and is not as flexible as it might be; and the fact that significant revenue can be generated only from Master programmes which are designated as lifelong.

FEE LEVELS

Table B shows the tuition fees charged, for a sample of full-time English-medium Master programmes, by the HEIs visited by the EUA team. It confirms the reports by Wendy Davies and by Wächter and Maiworm, which stress the extraordinary range of prices. From nil annual fee to EUR 47,500, the range is explicable only by the complex interplay of many factors: the country location of the provider, the national funding system, the discipline niche, perceived demand, institutional and consortial prestige. There is no evidence that yield management pricing policies have taken hold, but it not unknown for fees to vary for cohorts originating in sending countries which have strong bargaining power.

The fee-free Master may well become extinct. Wächter and Maiworm point to the emergence of a clear trend since 2002, when 57% of English-medium providers of European Bachelors and Masters (outside Ireland and UK) charged no fee. By 2007, this figure had dropped to 30%, concentrated mainly in the Nordic countries. They regard this, to some extent, as the natural consequence of a stronger background trend to the introduction of fees for all courses, whether delivered in English or not. Indeed, Denmark has now introduced fees for non-EU students; Norway and Sweden are almost bound to follow suit. A recent report by the Swedish National Agency for Higher Education revealed that, in some fee-free 2-year Master programmes, foreign students filled more than 95% of the places.

The trend to fees therefore continues, even if wide variations in student purchasing power and academic labour costs mean that full price convergence is a very long way off.

THE INTERNATIONAL MARKET

In none of the countries and institutions visited by EUA was there a headline strategic commitment to the Chinese and Indian markets. Here, the UK currently enjoys European market dominance, not merely through high-profile in-country ventures, but also through routine recruitment of Chinese students in large numbers. English HEIs have been assisted, of course, by their proficiency in Europe's *lingua franca*. Injections of funding from two Prime Ministers' Initiatives, the intermediation of the British Council, professional marketing departments operating at institutional level: these have all powered concerted recruitment drives. UK HESA figures show that in 2007-08, non-EU full-time postgraduate students in UK HEIs represented 41.75% of the total number of nearly a quarter of a million students.

Other countries have begun to follow the UK lead. Thanks to the DAAD office in Beijing, the Chinese make up the largest group of foreign students in Germany. Campus France has five representations in China and nine in India. Denmark has decided to intensify its marketing effort, independently of the other Nordic countries.

The UK track record is a strong one, yet anxieties about its long-term competitiveness persist. These derive from the dominant 3+1 ECTS 270 model, which some feel may be perceived externally as 'Bologna-lite', and from the evident high cost of the UK Master – to home and EU students, not to mention those from third countries who pay much more. Against that are set the UK's claim to high quality standards, a strong student-centred ethos, continuing student demand and the fall in the international value of the pound sterling.

The 2008 HEPI report cited earlier feared that the international Bachelor market would shrink, as developing countries expanded their HE systems; it had more confidence in the buoyancy of second cycle provision, but warned that 'perceptions of aloofness from the Bologna process – however unfair – could damage UK universities in the long term'. By the time it had become clear that UK was heading into recession, this anxiety had grown. Competition would become more intense and Germany, with its high level of subsidy to students, was felt to pose a strong threat.

Drummond Bone, reporting to UK government, noted that 'while the one year masters has traditionally been competitive because of its short length and hence relatively low cost, the global feeling may be turning against it'. He concluded that 'it will be necessary for the UK to remain flexible on masters' length provision should global employers insist on a 2 year degree, but we must note that this would seriously disadvantage us in cost terms'.

GLOBAL ECONOMIC CRISIS

Such trends as are observable have now to be set against the backdrop of the severe global downturn. Recession will impact in unpredictable ways and short-term changes will intrude on the more gradual evolution of the Bologna Process towards the EHEA. Just how the Master will be affected is uncertain. Journalistic speculation has focused primarily on the business and management studies sector, and on the UK situation in particular, both because here the banking crisis is more severe than elsewhere, and because second cycle course delivery is more susceptible to competitive pressures.

Reports in the British specialist press suggested that applications to Master courses were holding steady in the autumn of 2008. Whether by the autumn of 2009 prospective students will still have the necessary disposable capital or access to private loans, as well as the non-aversion to risk, is impossible to say. Some sources predict a flight into public sector employment, and into teaching in particular. Others assume that entry to Master programmes will rise as students delay their exposure to a problematic labour market. The *Financial Times* reported a shift of consumer interest from the MBA to the pre-experience Master in Management, noting the global expansion of the Community of European Management Schools [CEMS]. Shifts in market share of this sort – from MBA to Master in Management – are, arguably, precisely the sort of contingencies to which established business schools, operating in established marketplaces, can easily adjust.

Students responding to the EUA on-line questionnaire were asked to give the most important reason for undertaking a Master programme. 48% cited preparation for the labour market; 30% said that they wished to complete the first cycle with a more specialised course; 15% intended to prepare for the doctorate. This was before the extent of the crisis had become apparent. Now, it is evident that recession will also bring in its train all kinds of high-skill retraining needs, as companies consolidate and re-focus, as well as a demand for similar provision from newly unemployed workers.

In this context, agencies such as UK's HEFCE will play a major role in seeking new forms of HE-enterprise collaboration and reconfiguring the workforce. HEFCE has set up an Economic Challenge Investment Fund, which builds on previous knowledge transfer initiatives. Institutions bidding for matched funding will have an opportunity, perhaps as never before, to reshape Master-level provision in a lifelong learning perspective.

Recession will test the skills forecasting capacity of public authorities and the elasticity of EU state aid rules for education and training. In late 2008, the European Commission estimated that 'in EU 25, between 2006 and 2020, the proportion of jobs requiring high levels of education attainment should rise from 25.1% to 31.3% of the total'. The figure, derived from CEDEFOP data which does not disaggregate ISCED levels 5 and 6, may already be in need of revision.

More importantly for the HE sector, recession will challenge the resources of institutions which, for legal or academic reasons, lack the autonomy, the strategic vision and the operational flexibility to respond. Those on which the Bologna template has been imposed by legislation may well require focused capacity building, if they are to turn its schematic features into creative strategies and versatile delivery systems.








National responses will be critical. Early indications are that HE budgets will be cut in Hungary, Italy, Latvia, Lithuania and Poland, while better insulated countries (Denmark, France, Germany, Switzerland) will increase expenditure on HE as part of national stimulus packages. The Master market will also be impacted by reductions in outflows from sending countries, as purchasing power diminishes and as the expansion of national HE systems accelerates. The UK market will benefit from the depreciation of sterling.




One thing is sure – that recession will concentrate the minds of senior university managements, anxious to persuade public authorities that higher education is an investment and not a cost.

Bologna countries are likely to agree that economic recovery in Europe depends on a thriving high-skilled knowledge economy, on innovation in the lead markets already agreed by EU Member States (e-health, sustainable construction, technical textiles, bio-based products, recycling, renewable energies), on optimal employability and on a mobile labour force.

In such an environment, the Master may prove to be a valuable instrument. To paraphrase the Lisbon Agenda, it must be dynamic, inclusive, knowledge- and competence-based. The Master is versatile, can be swiftly and accurately targeted at specific client groups, can be accessed and delivered in a variety of modes and in a wide price range. Underwritten by effective quality assurance, readable and referenced against NQFs, it can help re-build capacity and stimulate growth.

TABLE B: TUITION FEES FOR SELECTED ENGLISH-MEDIUM MASTER PROGRAMMES, DELIVERED AT HEIS VISITED BY EUA

COUNTRY	INSTITUTION	TUITION FEES PER ANNUM (FULL-TIME STUDY, EXCLUDING CAPITATION, ENROLMENT, STUDENTS UNION FEES, ETC), 2008-09 ACADEMIC YEAR	VALUE IN € (JANUARY 2009)
 AT Austria	Fachhochschule St. Pölten (University of Applied Sciences)	None available	n/a
 AT Austria	Universität für Bodenkultur Wien (University of Natural Resources and Applied Life Sciences Vienna)	European Master in Animal Breeding and Genetics [ERASMUS MUNDUS Joint Master], 2 years, two fee levels: • non-EU students – EUR 8.000 • EU students – EUR 5.000 Master in Mountain Forestry [Joint Master], 2 years, single fee level: EUR 727	8.000 5.000 727
 BE Belgium	Universiteit Antwerpen (University of Antwerp)	The suite of Advanced Master Programmes includes: MA Development Evaluation and Management, 1 year, EUR 1.000 Master in Production Innovation and Entrepreneurship, 1 year, EUR 7.000 Master in Nanophysics, 1 year, EUR 540 (annual living costs estimated at EUR 10.000)	1.000 7.000 540
 DE Germany	Charité Universitätsmedizin Berlin [Charité]	MSc International Health [Joint Master], 1 year, 8.500-10.000 MSc Molecular Medicine, 2 years, no tuition fee MSc Public Health (International Gender Studies), 1 year, EUR 7.700 (monthly living costs estimated at EUR 650)	8.500 – 10.000 free 7.700
 DE Germany	Fachhochschule Osnabrück (University of Applied Sciences)	None available	n/a
 DE Germany	Freie Universität Berlin (Free University of Berlin)	MA East European Studies, 2 years, EUR 4.450 MSc Polymer Science [Joint Master], 2 years, no tuition fee MA Visual and Media Anthropology, 2 years, EUR 4.450 (monthly living costs estimated at between EUR 600 and EUR 700)	4.450 free 4.450
 ES Spain	Universidad Complutense de Madrid	None available	n/a

COUNTRY	INSTITUTION	TUITION FEES PER ANNUM (FULL-TIME STUDY, EXCLUDING CAPITATION, ENROLMENT, STUDENTS UNION FEES, ETC), 2008-09 ACADEMIC YEAR	VALUE IN € (JANUARY 2009)
 ES Spain	Universitat Ramon Llull Barcelona	The range of business programmes offered by ESADE includes: Master in Marketing Management, one academic year, EUR 21.790 MBA, one calendar year, EUR 47.500 (monthly living costs estimated at between EUR 1.090 and EUR 1.850)	21.790 47.500
 IE Ireland	Dublin City University	Comprehensive range of one-year Master programmes, with two fee levels: <ul style="list-style-type: none"> • non-EU students – between EUR 11.124 and EUR 15.000 • EU students – between EUR 6.573 and EUR 9.700 (annual living costs estimated at EUR 8.920)	11.124 – 15.000 6.573 – 9.700
 IE Ireland	Dublin Institute of Technology	Comprehensive range of one-year Master programmes, with two fee levels: <ul style="list-style-type: none"> • non-EU students – EUR 11000 (EUR 12.000 for MA International Business) • EU students – between EUR 2.385 and EUR 6.150 (annual living costs estimated at between EUR 8.000 and EUR 10.000)	11.000 – 12.000 2.385 – 6.150
 PL Poland	Szkoła Wyższa Psychologii Społecznej (Warsaw School of Social Sciences and Humanities)	MA English Studies, 2 years, PLN 5,390 Integrated Master in Psychology, 5 years, PLN 7,970	1.157 1.711
 PL Poland	Uniwersytet Warmińsko- Mazurski w Olsztynie (University of Warmia and Mazury in Olsztyn)	None available	n/a
 SE Sweden	Göteborgs Universitet (University of Gothenburg)	34 two-year Master programmes available in English; no tuition fee (annual living costs estimated at SEK 73,000 [EUR 6.850])	free
 SE Sweden	Malmö Högskola (Malmö University College)	5 one-year and 7 two-year Master programmes available in English; no tuition fee (annual living costs estimated at SEK 73,000 [EUR 6.850])	free

THE SECOND CYCLE NOT YET FULLY IN PLACE

1. The Bologna second cycle – and the Master within it – are formally well defined, in terms of the band of full-time course durations, ECTS points and level descriptors. Its boundary with the third cycle and the doctorate is clearly demarcated.
2. Although Bologna is advancing successfully on a number of fronts, it still has some way to go. Many Master programmes are new and have not yet produced graduates.
3. The second cycle will be fully in place when actions currently in train have been brought to fruition:
 - the acceptance of the Bologna Bachelor, on a pan-European basis, as a valid qualification and labour market entry point
 - the enactment by governments of all remaining Bologna-related legislation deemed necessary
 - the signature and ratification of the Lisbon Convention by countries which have not yet done so
 - the promulgation of all 46 national qualifications frameworks
 - the adoption of the European Standards and Guidelines [ESG] by all quality assurance agencies and higher education institutions.
4. In anticipation of the completion of the second cycle, Bologna countries, together with stakeholders, should agree guidelines and procedures for impact assessment of the Master and set up a stocktaking timetable.

TOWARDS COMPLETE TRANSPARENCY

5. Too many students, employers, HE administrators and citizens at large have an imprecise notion of what the Bologna Process means. Governments and HEIs must bring renewed vigour to their information campaigns.
6. The readability of the Master depends on other issues being resolved. First, the absence of data. ISCED Band 5 does not disaggregate the Bachelor from the Master. Informed stocktaking, impact assessment and policy responses will be difficult for as long as this situation lasts.
7. Secondly, the problem of nomenclature. The array of academic titles awarded for successful completion of Master programmes is wide. Even where the term ‘Master’ and the abbreviation ‘M’ is used, there is only limited pan-European understanding of how different Masters stand in relation to each other. The second cycle contains post-Master Masters and Bachelor-designated courses. NQFs must absorb these in a manner which gives the highest priority to readability and user-friendliness.
8. Thirdly, transparency at European level may be compromised by the very distinctions introduced to clarify matters at national level. ‘Research Master’, ‘professional Master’, ‘continuation Master’, ‘consecutive Master’, ‘advanced Master’, ‘top Master’, ‘lifelong Master’, ‘European Master’, ‘international Master’ are terms which reveal the shortcomings of the apparently common language of description. The understanding of each depends on its precise legal and administrative context. This context is usually national. At European level, the danger of misrecognition has not yet been dispelled. Increasing numbers of students will complete the new generation of Bologna Master programmes in the post-2010 period. Regular monitoring and stocktaking are therefore essential to ensure that the Master gains in definition and readability.

AN AGREED SYSTEM OF NOTATION

9. The second cycle is dynamic; profusion of provision is the rule. Transparency is therefore at a premium. NQFs will be important reference points. To complement them, Bologna signatory countries should consider adopting a system of markers, to indicate the salient features of Master programmes:
 - duration, full-time or otherwise
 - ECTS value
 - whether covered by EU legislation
 - whether professionally accredited
 - attendance and delivery modes
 - status of provider(s)
 - combinatory power: mode of access from Bachelor and to doctorate
 - accessibility for purposes of professional development
 - pedagogic approach
 - with or without work placement
 - funding and price
 - available financial support.
10. All stakeholders must be able to make a 'first glance' appreciation of what a Master programme represents. Specialist admissions officers, careers counsellors and professional regulators should constitute the second-line recourse. The system of markers would signal the features of the qualification offered, as opposed to the Diploma Supplement, which details the characteristics of the qualification obtained.

INTEROPERABILITY IN THE SECOND CYCLE

11. Access to the Master, and to which form of Master, is more constrained in some national systems than in others. Binary systems are, by their very nature, less flexible. Bologna countries must work towards a common policy of access to the Master: from ISCED 5b, from the Bachelor, via the recognition of prior learning. And they should do likewise regarding progression from the Master to the doctorate. Bologna stocktaking and the *Trends* reports should then monitor interoperability on a transnational basis.
12. Selection to the Master should become a universal practice, based on fair, published and monitored criteria. HEIs should ensure that their own Bachelor students are not advantaged in any way.

ALIGNMENT OF BOLOGNA WITH EU LEGISLATION

13. The Bologna cycles and Directive 2005/36/EC on the recognition of professional qualifications are not in alignment. There is considerable scope for re-engineering the Directive. Bologna countries and the European Commission should jointly contemplate action on the following points:
 - the use of learning outcomes, ECTS, Dublin Descriptors and other mobility instruments in the text of the Directive and in the mechanisms which it prescribes for the recognition of sectoral qualifications and for the management of the general system
 - the role of quality assurance agencies in confirming compliance in the case of sectoral qualifications obtained via inter-cycle transnational mobility
 - the viability of a labour market entry point to the sectoral professions at the Bachelor stage

- the recognition of qualifications obtained in a lifelong learning context
 - issues relating to continuing professional development and fitness to practise.
14. It is essential that other stakeholders, notably academic, professional, regulatory and student bodies are fully participant in these discussions.
 15. It is also desirable that stakeholders in the different disciplinary and professional fields continue to work together to achieve pan-European consensus on curricula matters.

LIFELONG LEARNING

16. Many countries do not yet have comprehensive lifelong learning systems in place. A statement of the commitments to be made by institutions, governments and other stakeholders is set out in the European Universities' Charter on Lifelong Learning drawn up by EUA.
17. As far as the Master degree is concerned, there is no universally accepted practice regarding the recognition of prior learning. There is scope for greater flexibility of delivery and greater versatility of course modules. In many instances, lifelong learning provision lacks integration with traditional full-time provision, both at the level of curriculum and in terms of its institutional location. It is important that the lifelong dimension is not hived off or bolted on.

STUDENT-CENTRED LEARNING

18. The implementation of the European Standards and Guidelines [ESG] by all partners will encourage a culture of course design and delivery based on learning outcomes. The Master is propitious terrain for student-centred learning. HEIs, consortia and governments should disseminate good practice. Staff development and updating programmes, already common, should be provided as a matter of routine.
19. Student-centred learning at Master level is costly. It requires favourable staff-student ratios, extensive learning resource banks, high-performance student record and management information systems, reconfiguration of physical space. Research-intensive programmes, particularly in the hard sciences, need laboratory facilities, instrumentation, high quality ICT support, research-active staff.
20. EU Member State governments should honour the commitment to invest 2% of GDP in higher education, in order to bring staff-student ratios to the level at which student-centred learning becomes viable, as well as to secure the excellence in innovation, knowledge transfer and human capital that the Lisbon Agenda aims to achieve. In all of these, the Master has a critical role to play.

MOBILITY

21. In respect of horizontal mobility, course content remains an issue. The insistence on the replication of curriculum by the partner institution should give way to the use of learning outcomes. Quality assurance agencies implementing ESG should address this matter in their mobility guidelines.
22. The Diploma Supplement is not yet used sufficiently widely, either for access to the Master or for progression from the Master to doctorate or to employment.
23. Bologna stocktaking should collect data on the frequency and the function of the gap year between Bachelor and Master.

EMPLOYABILITY

24. The role of the Master in the European labour market will be consolidated only when the Bachelor is universally accepted as a viable point of labour market entry.
25. Other preconditions exist. First, that HEIs secure the efficient involvement of social partners in governance and curriculum design. Secondly, that they put in place the infrastructure required for productive interaction with the labour market.
26. Governments should ensure that public service employment regulations are brought into line with the Bologna qualifications architecture. They should also incentivise university-enterprise cooperation at Master level.
27. Master curricula should be informed by good practice in enterprise education. This means setting learning outcomes which sharpen the aptitudes for innovation, social enterprise, self-employment, and which, when appropriate, are supported by advice on intellectual property rights and the commercialisation of research outcomes.
28. The employable and the professional cannot be assigned to one side only of a binary line. It is desirable that binary systems become more permeable and inclusive.
29. The focus on employability must also be the occasion to redress long-standing imbalances in professional opportunity, particularly in respect of gender and ethnicity.

FINAL REFLECTIONS

30. The Master qualification offers HEIs particular opportunities: to assure the availability of high level education to all citizens throughout their lives; to anticipate and satisfy the needs of the high skill labour market; to contribute to economic growth by promoting research and innovation.
31. The second cycle is the most 'marketised' of the three cycles. Symptomatic of this is the growth of the English-medium Master – with ever wider geographical distribution. The use of English allows HEIs to compete in the international market; it is a platform for joint curriculum development and delivery; it enhances employability.
32. Increasingly, tuition fees are charged, but the variation in level is wide and, viewed at European level, random. There is little discussion and no consensus in Bologna on the role to be played by income-contingent loans at Master level. This debate should be taken forward in the context of higher education as a public responsibility. The duty of HEIs is to contribute to individual, social and economic well-being. They are accountable to the full range of stakeholders, whatever their mission and their sources of funding.
33. The Master degree stands at the point of intersection of professional development, research, innovation and knowledge transfer. Collaboration is no less important than competition. Joint curriculum development, course delivery and research supervision flourish at Master level on a transnational basis. The incentivisation of these activities must continue.
34. Recession may force further collaboration, as institutions and Faculties consolidate. Future graduate schools may not belong only to single vertically differentiated institutions. They may also be regional discipline-based consortia, sharing laboratory facilities and incubation space. They may be collaborative deliverers of taught Master programmes. These developments should be fostered.



Conclusions

35. The future of the Master depends on the complex interaction of a number of factors: global, European and national labour needs; changing patterns of purchasing power and postgraduate premiums; estimations by students of value for money; system steer by policy makers; the level of public investment and the availability of private finance; competition and collaboration. Their interaction is difficult to predict, particularly in a global economic downturn.
36. The Master is a versatile qualification. It has a wide range of functions, addresses a wide range of clients, and is capable of rapid and flexible response to social and economic need. The Bologna Process has achieved impressive results in its first decade. The stage is set for making the Master readable across Europe.

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Annexes

ANNEX A – ON-LINE QUESTIONNAIRES

The on-line questionnaires can be accessed via the links below:

Academics:

http://www.eua.be/fileadmin/user_upload/files/Publications/Academics.pdf

Employers:

http://www.eua.be/fileadmin/user_upload/files/Publications/Employers.pdf

HEIs:

http://www.eua.be/fileadmin/user_upload/files/Publications/HEIs.pdf

Students:

http://www.eua.be/fileadmin/user_upload/files/Publications/Students.pdf

ANNEX B – SITE VISITS

- Charité Universitätsmedizin Berlin, Germany
- Dublin City University, Ireland
- Dublin Institute of Technology, Ireland
- Fachhochschule Osnabrück (University of Applied Sciences), Germany
- Fachhochschule St. Pölten (University of Applied Sciences), Austria
- Freie Universität Berlin (Free University of Berlin), Germany
- Göteborgs Universitet (University of Gothenburg), Sweden
- Malmö Högskola (Malmö University College), Sweden
- Szkoła Wyższa Psychologii Społecznej (Warsaw School of Social Sciences and Humanities), Poland
- Universidad Complutense de Madrid, Spain
- Universitat Ramon Llull Barcelona, Spain
- Universität für Bodenkultur Wien (University of Natural Resources and Applied Life Sciences Vienna), Austria
- Universiteit Antwerpen (University of Antwerp), Belgium
- Uniwersytet Warmińsko-Mazurski w Olsztynie (University of Warmia and Mazury in Olsztyn), Poland

ANNEX C – PROJECT TEAM MEMBERS

- David Crosier, EUA
- Howard Davies, EUA
- Michael Gaebel, EUA
- Michael Hörig, EUA
- Ruth Keeling Sobótka, University of Cambridge, UK
- Dionyssi Kladis, University of Peloponnese, Greece
- Jonna Korhonen, EUA
- Ewa Krzaklewska, Jagiellonian University, Poland
- Tapio Markkanen, Former Secretary General of Finnish Rectors' Conference
- Lewis Purser, Irish Universities Association (IUA)
- Hanne Smidt, EUA
- Charoula Tzanakou, University of Warwick, UK

ANNEX D – NATIONAL EXPERTS

- Eva Åkesson, University of Lund, Sweden
- Luc François, University of Ghent, Belgium
- Katarzyna Frankowicz, Conference of Rectors of Academic Schools in Poland (CRASP)
- Esther Huerta, Spanish Rectors' Conference (CRUE)
- Gabriela Nimac, Universities Austria (UNIKO)
- Lewis Purser, Irish Universities Association (IUA)
- Carmen Quijada, Spanish Rectors' Conference (CRUE)
- Jan Rathjen, German Rectors' Conference (HRK)
- Elisabeth Westphal, Universities Austria (UNIKO)
- Peter Zervakis, German Rectors' Conference (HRK)

The European University Association (EUA) is the representative organisation of universities and national rectors' conferences in 46 European countries. EUA plays a crucial role in the Bologna process and in influencing EU policies on higher education, research and innovation. Thanks to its interaction with its members and a range of other European and international organisations EUA ensures that the independent voice of European universities is heard wherever decisions are being taken that will impact on their activities.

The Association provides a unique expertise in higher education and research as well as a forum for exchange of ideas and good practice among universities. The results of EUA's work are made available to members and stakeholders through conferences, seminars, website and publications.

European University Association

Rue d'Egmont 13
1000 Brussels
Belgium
Phone: +32-2 230 55 44
Fax: +32-2 230 57 51
www.eua.be