

The future of graduate management education

in the context of the Bologna Accord

Volume 2 - supporting appendices

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Appendix 1:

The Bologna Declaration

Joint declaration of the European Ministers of Education convened in Bologna on 19 June 1999

The European process, thanks to the extraordinary achievements of the last few years, has become an increasingly concrete and relevant reality for the Union and its citizens. Enlargement prospects, together with deepening relations with other European countries, provide even wider dimensions to that reality. Meanwhile, we are witnessing a growing awareness in large parts of the political and academic world and in public opinion of the need to establish a more complete and far-reaching Europe, in particular building upon and strengthening its intellectual, cultural, social, and scientific and technological dimensions.

A Europe of Knowledge is now widely recognised as an irreplaceable factor for social and human growth and as an indispensable component to consolidate and enrich the European citizenship, capable of giving its citizens the necessary competencies to face the challenges of the new millennium, together with an awareness of shared values and belonging to a common social and cultural space.

The importance of education and educational co-operation in the development and strengthening of stable, peaceful and democratic societies is universally acknowledged as paramount, the more so in view of the situation in South East Europe.

The Sorbonne Declaration of 25 May 1998, which was underpinned by these considerations, stressed the universities' central role in developing European cultural dimensions. It emphasised the creation of the European area of higher education as a key way to promote citizens' mobility and employability and the Continent's overall development.

Several European countries have accepted the invitation to commit themselves to achieving the objectives set out in the declaration by signing it or expressing their agreement in principle¹. The direction taken by several higher education reforms launched in the meantime in Europe has proved many governments' determination to act.

European higher education institutions, for their part, have accepted the challenge and taken up a main role in constructing the European area of higher education, also in the wake of the fundamental principles laid down in the Bologna Magna Charta Universitatum of 1988. This is of the highest importance, given that universities' independence and autonomy ensure that higher education and research systems continuously adapt to changing needs, society's demands and advances in scientific knowledge.

¹ A list of the countries that have signed the Bologna Accord to date is provided in the glossary.

The course has been set in the right direction and with meaningful purpose. The achievement of greater compatibility and comparability of the systems of higher education nevertheless requires continual momentum in order to be fully accomplished. We need to support it through promoting concrete measures to achieve tangible forward steps. The 18 June meeting saw participation by authoritative experts and scholars from all our countries and provides us with very useful suggestions on the initiatives to be taken.

We must in particular look at the objective of increasing the international competitiveness of the European system of higher education. The vitality and efficiency of any civilisation can be measured by the appeal that its culture has for other countries. We need to ensure that the European higher education system acquires a worldwide degree of attraction equal to our extraordinary cultural and scientific traditions.

While affirming our support to the general principles laid down in the Sorbonne Declaration, we engage in co-ordinating our policies to reach in the short term, and in any case within the first decade of the third millennium, the following objectives, which we consider to be of primary relevance in order to establish the European area of higher education and to promote the European system of higher education worldwide:

- **Adoption of a system of easily readable and comparable degrees**, also through the implementation of the Diploma Supplement, in order to promote European citizens' employability and the international competitiveness of the European higher education system.
- **Adoption of a system essentially based on two main cycles: undergraduate and graduate.** Access to the second cycle shall require successful completion of first-cycle studies, lasting a minimum of three years. The degree awarded after the first cycle shall also be relevant to the European labour market as an appropriate level of qualification. The second cycle should lead to the Master and/or Doctorate degree as in many European countries.
- **Establishment of a system of credits – such as in the ECTS²** – as a proper means of promoting the most widespread student mobility. Credits could also be acquired in non-higher education contexts, including lifelong learning, provided they are recognised by the receiving Universities concerned.
- **Promotion of mobility** by overcoming obstacles to the effective exercise of free movement, with particular attention to:
 - for students, access to study and training opportunities and to related services
 - for teachers, researchers and administrative staff, recognition and valorisation of periods spent in a European context researching, teaching and training, without prejudicing their statutory rights.
- **Promotion of European co-operation in quality assurance** with a view to developing comparable criteria and methodologies.
- **Promotion of the necessary European dimensions in higher education**, particularly with regards to curricular development, inter-institutional co-operation, mobility schemes and integrated programmes of study, training and research.

² European Credit Accumulation and Transfer System.

We hereby undertake to attain these objectives – within the framework of our institutional competencies and taking full respect of the diversity of cultures, languages and national education systems and of university autonomy – to consolidate the European area of higher education. To that end, we will pursue the ways of intergovernmental co-operation, together with those of non-governmental European organisations with competence in higher education.

We expect universities again to respond promptly and positively and to contribute actively to the success of our endeavour.

Convinced that the establishment of the European area of higher education requires constant support, supervision and adaptation to the continuously evolving needs, we decided to meet again within two years in order to assess the progress achieved and the new steps to be taken.

Signed by:

Austria, Belgium (French community), Belgium (Flemish community), Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Republic of Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom

Appendix 2: Summary of individual country progress

Significant reform has already taken place as higher education is transformed through the introduction of Bachelor and Master qualifications where previously they may not have existed. This appendix discusses the progress made to date in implementing the Bologna reforms from three perspectives:

- **The trends in establishing the basic structure of two cycles in higher education. This includes progress made towards defining a legal basis in which the new awards can be delivered, and the restructuring of programmes in light of the Accord.**
- **ECTS¹ and the Diploma Supplement². Introducing a credit system and communicating the content and achievement of students to an international standard are essential in supporting student mobility.**
- **Programme lengths in post-Bologna higher education and the scope of the reforms.**

1: Establishing the basic two-cycle structure

During the past two years the high-level aims of the Bologna Accord have been implemented in the education systems of all the signatory countries to differing degrees. Longer higher education qualifications are gradually being replaced by the new two-cycle system. A common element of this reform is that the two-cycle system of Bachelor and Master qualifications is being applied to all fields of study, except the regulated professions such as medicine and veterinary medicine, theology and, to a lesser extent, engineering and law. In the long term, even these exceptions are likely to disappear. A driving force behind this structural convergence is the acknowledgement that the Bachelor qualification is key for student mobility and choice. As it will be internationally recognised, it will also make student recruitment easier.

Undergraduate qualifications that grant access to further study are drawing attention to the role of Master (and Doctoral) qualifications. In all the signatory countries, the relationship between undergraduate and postgraduate qualifications is proving complex. Student mobility is important in the Bologna Accord and there is increasing competition for students at this level (particularly since Master and Doctoral students actively contribute to developing the academic profile of institutions). It is therefore likely that selection procedures will be needed for international courses in all countries, regardless of the area of study.

Pre-Bologna, only seven of the signatory countries already had the two-cycle system of higher education in place. The majority of these were in the English-speaking world.

¹ European Credit Accumulation and Transfer System.

² The Diploma Supplement is outlined in Appendix 5.

2: ECTS and the Diploma Supplement

There has already been a strong move towards adopting ECTS in the majority of the signatory countries. ECTS is being actively used to enable credit transfer and facilitate student mobility at both European and national levels. Where a credit system did not exist pre-Bologna, ECTS is providing a framework for the design of new systems. Where a credit system was in place, existing national systems are either being integrated into, or being replaced by, ECTS.

One reason for the swift acceptance of ECTS-based systems has been the realisation that introduction would not force institutions to automatically accept credits from all other institutions. This, however, raises the need for more transparent policies for credit transfer. Countries need to ensure that institutions implement an ECTS, or compatible system, consistently and recognise credits earned outside their particular education system (or even through a different educational stream).

Significant progress has also been made towards the mandatory issue of the Diploma Supplement. Only four countries have so far made no move to implement it (the German community of Belgium, Greece, Luxembourg and the UK). The importance of the Diploma Supplement increases in those countries where old and new structures coexist during the transition period. However, there is general consensus about the role it plays in increasing the transparency of awards and learning outcomes.

3: Programme lengths and application scope

A number of countries, including Germany, Poland, Finland, Hungary and Iceland, have made explicit the requirement for Bachelor qualifications to be composed of between 180 and 240 ECTS credits.

Overall, there is a clear preference for a three-year undergraduate qualification as exemplified by the Italian *Laurea*, Austrian and Swiss Bachelors and French *Licence Professionnelle*. When combined with a Master degree, there is consensus that the total length of study should be equivalent to 300 ECTS credits (five years in length). This can be achieved through either 3+2 or 4+1 combinations.

With reference to intra-European degree (vertical) mobility, a strong plea is made to governments and institutions to ensure equal treatment of bachelor degrees between EHEA³ countries as a formal requirement for admission to master programmes.

Conference on Master Level Degrees, 2003⁴

³ European Higher Education Area.

⁴ The conference on Master level degrees was an official follow-on conference organised between 2002 and 2003, which explored issues of relevance to the Bologna process. The full text of the conclusions and recommendations can be found at <<http://www.bologna-berlin2003.de/pdf/Results.pdf>>

The Bologna Accord has increased awareness that higher education is no longer completely in the university domain. As a result, there is a trend towards allowing non-university institutions to offer the same award types. Germany, the Netherlands, Norway and Portugal have already legislated to offer the same type of degrees irrespective of the institution type. A number of countries (including Denmark and France) have replaced traditional vocational diplomas with professional Bachelor qualifications. Where college/polytechnic diplomas have been changed into Bachelors, they usually take three years to complete. Blurring the distinction between university and non-university higher education is also leading to the creation of bridging routes that enable students to transfer between 'academic' and 'vocational' programmes.

Debate continues about which institution types should be able to offer Master degrees. In countries with binary systems where it is not possible for non-university institutions to award Master degrees, new opportunities are being created. Foreign institutions can franchise these qualifications and international institutions can enter the domestic market. This develops transnational education markets. Success is more likely if national systems cannot quickly respond to demand, there is a highly restrictive selection process, there is a gap between employer requirements and programme content or there is a lack in the diversity of programmes (with respect to study area and/or study language).

Where non-university institutions can offer Master degrees, some restrictions exist. In the Netherlands and the UK they are allowed solely on the basis that funding comes from non-governmental sources. In Germany student contributions are being considered.

To serve a wider range of international students and contribute to capacity building in developing countries, the possibility of delivering European higher education through branch campuses operated by consortia of European universities should be explored and encouraged, especially at the Master level.

Conference on Master Level Degrees, 2003

While the basic requirement for access to Master programmes is a first degree at Bachelor level, there are some variations in selection and admission in the signatory countries. Where a binary higher education system exists, countries including Norway, Denmark and Estonia have opened up university Master programmes to holders of non-university degrees. In Hungary, bridging courses are required. Other countries such as Italy give access to university Master programmes only if the student holds a previous university Bachelor.

Summary of individual country reforms

Albania: decreed the introduction of ECTS into the higher education system in 2001, piloted the first curricula for the two-cycle system and had already made progress towards implementing the Diploma Supplement across all institutions before signing the Bologna Declaration. These initiatives are continuing and changes to the higher education acts are proposed in 2004.

Andorra: no details are available of the implementation process for Bologna.

Austria: in 1999 it became possible to offer degrees based on two main cycles through an amendment to legislation that became effective in 2002. From this date, all new courses in universities must comply with the Bachelor–Master structure; more than 50% of all fields of study should be covered by 2006. An amendment in 2002 to *Fachhochschulen* laws has provided the legal basis for Bachelor and Master programmes and the first programmes will start in 2003/04 and 2004/05. ECTS has been compulsory since 1999 in universities and since 2002 in *Fachhochschulen*. From 2003 (2004 for *Fachhochschulen*) Diploma Supplements have been issued on request to all graduates (in German or English).

Belgium (Flemish community): legislation was passed in April 2003 to reform the higher education structure into two main cycles, starting with Bachelor programmes in 2004/05, Master programmes in 2007/08 and full transition by 2010. Key changes are the introduction of Bachelor and academic Master degrees in universities, and professional Bachelor degrees in non-university higher education; academic Bachelor and Master degrees can be offered, but only if in association with a university. Programme accreditation is required if a Bachelor or Master qualification is to be recognised by law. A national credit system compatible with the ECTS has been in place since 1991 and only slight changes are required to make the compulsory Flemish Diploma Supplement match the international one.

Belgium (French community): reforms are planned from the 2004/05 academic year that will introduce a 3+2 or 3+1 structure to both university and long-type non-university education. The ECTS system will also be introduced at the same time. The Diploma Supplement has been offered voluntarily from June 2003.

Belgium (German community): no reforms have been implemented as most students tend to study in the French community of Belgium or in Germany. While there is no credit system to date, this will be introduced in September 2004 when two schools for teacher training are replaced by a single institute.

Bosnia and Herzegovina: a document produced in 2002 offered guidance to institutions wanting to implement reform and each university has now produced its own plan and timeline. Pilot projects in all the key areas are underway – the earliest, for ECTS and the Diploma Supplement, were started in 2003/04. Roll-out should start in 2005/06 but full compliance is unlikely before 2008. The first Master graduates should emerge in 2006/07.

Bulgaria: higher education legislation from 1995 introduced a two-cycle (4+1) structure for the award of a *Bakalavur* and *Magistur* (medicine, dentistry, pharmacy and law, however, lead directly to the award of *Magistur*). Bachelor programmes are intended to provide broad, profile-oriented, basic training with the Master adding in-depth fundamental content. A process for the formal adoption of an ECTS-compatible credit system was started in 2003 but many institutions already use it. Implementation of the Diploma Supplement is planned.

Croatia: a new education act legislates for the two-cycle higher education structure (3+2 or 4+1), ECTS and the Diploma Supplement to be introduced and preparations are already underway. A flexible approach has been taken and so while the majority of universities and polytechnics will start implementation in 2004/05, the remainder will do so the following year.

Cyprus: despite the majority of students electing to study abroad, the University of Cyprus and some private colleges offer 4-year Bachelor and 18-month Master programmes. The Diploma Supplement is replacing the official transcript, and ECTS is already obligatory at the university while other public and private institutions are in the process of rolling it out.

Czech Republic: a two-cycle degree system (*Bakalár-Magistr*) was added to the single-cycle system in 1990 and recent amendments to the higher education act have introduced greater programme flexibility. Despite lacking a legal basis, an ECTS-compatible system is generally accepted. Since 1998 the Diploma Supplement has been issued to all graduates on request.

Denmark: a three-cycle structure (3+2+3) was agreed for university education in 1993 and legislation passed in January 2003 has now made the 3+2 structure statutory in all disciplines except medicine and veterinary medicine. Legislation in 2000 also introduced the professional Bachelor award (primarily focused on the education and health sectors). ECTS and the Diploma Supplement have been mandatory since 2001 and 2002 respectively.

Estonia: since 2002/03 the structure of university programmes has comprised two main cycles, the most common being the 3+2, with the exception of medicine, pharmacy, dentistry, veterinary medicine, architecture, civil engineering and teacher training. From 2005/06, however, professional institutions (in co-operation with a university) will also be able to offer Master programmes in addition to their single-cycle studies. Issue of the Diploma Supplement in English is already in place and from 2006 ECTS will be required from all institutions.

Finland: a two-cycle degree system for most subjects was introduced at the beginning of the 1990s but Bachelor programmes will only be made obligatory from 2005. Currently students can go directly to Master studies and Bachelor qualifications are considered intermediary and of little relevance to the employment market. At this point, all fields of study, excluding medicine, dentistry and veterinary science, will have the two-tier system and an ECTS-based credit system that replaces the existing national degree credit system. Procedures to issue the Diploma Supplement do not have a legal basis but in practice most institutions produce it automatically, with the remainder doing so on request. Polytechnics can offer Bachelor degrees and, on an experimental basis at present, also post-experience Masters.

France: a decree was published in 2002 to reform higher education based on four main degrees – the *Baccalaureat* (which grants access to higher education), the *Licence*, the new Master degree (previously called the *Mastaire* and either academic or vocational) and the Doctorate. Holders of the DESS, DEA or engineer's diploma, awarded by an accredited institution post-1999, can also have the Master automatically conferred and the reforms integrate these awards into the new qualification structure. The reforms in 2002 also established ECTS and the Diploma Supplement. However, due to the contractual length of four years between the government and higher education institutions, all reforms are unlikely to be implemented until the 2005/06 academic year.

Germany: an amendment to education legislation in 1998 adapted the higher education system to a 3+2 or 4+1 Bachelor–Master structure in universities, *Hochschulen* and *Fachhochschulen*. Full transition will be achieved by 2010 but in the interim the old and new exist side by side except in medicine, veterinary medicine and dentistry. A credit system compliant with ECTS is planned. Development of both a German and international Diploma Supplement started in 2000 and must be implemented for all new programmes.

Greece: government, universities and students are opposed to shortening their existing two-cycle higher education system (4–6 + 1–2) and no reform has taken place or is planned. Greece has a credit system but it will need to be modified for compliance with ECTS. Like structural reforms, the Diploma Supplement is the subject of national debate.

Hungary: a two-cycle degree structure has not yet been fully adopted but programmes launched from 2006/07 will have to adopt the new structures (medicine is excluded). There is a clear distinction between first and higher degree qualifications; the latter are not financed by the state and are considered to be an adult education activity. A modification to the higher education act in 2003 has allowed institutions to launch experimental first degree programmes in some fields of study. Both ECTS and a Hungarian language Diploma Supplement have been used since 2003, and are issued on request.

Iceland: the long-established two-cycle system of higher education consisting of either the single-stage *Candidatus* (4–6 years) or dual Bachelor–Master (3–4 + 1–2) means that no major policy changes are planned. In common with other countries, medicine and dentistry consist of a single long-cycle study period. An ECTS-compatible credit system is already in place (but ECTS itself is not yet compulsory) and the Diploma Supplement is being introduced from 2004.

Italy: a decree was issued in 1999, updated in 2004, that changed the structure of higher education into two main cycles – either a *Laurea* (3 years) followed by a *Master di livello* (1 or 2 years) or a *Laurea Magistrale* (5 years in total). The first *Laurea* courses were introduced in 2001/02 and new second-cycle qualifications in 2003/04, but courses already underway still award the older qualification types. Medicine, surgery, veterinary science, dentistry and architecture are excluded from the new post-Bologna qualifications. Reforms in 2001 introduced a credit system compatible with ECTS and the Diploma Supplement is issued with all degrees under the new framework.

Latvia: a degree structure based on two cycles was introduced in 1991 and amendments in 2000 introduced professional Bachelor (4 years) and Master (1 year) degrees as a replacement for the former 5-year programmes. Recent changes have created pathways for students of professional Bachelors to continue their studies in academic Master programmes, and vice versa, but it must be noted that academic Master degrees have only one aim – the preparation of students for independent research activities. The Latvian credit system, established in 1998, is compatible with ECTS. Diploma Supplements are issued voluntarily and ministers are currently considering regulation to make this mandatory.

Liechtenstein: although the majority of students study abroad, reforms are planned for the state's two official institutions offering undergraduate and graduate education. The Diploma Supplement and ECTS have been offered by both since 2003. Changes are already underway to alter the Bachelor and Master (3+2) courses in line with the Bologna recommendations and have their legislative basis in reforms of the 1992 law.

Lithuania: the main reforms were incorporated in the new Law on Higher Education adopted in 2000. A degree structure based on two main cycles has existed since 1993 and there has been steady progress towards the 3+2 model. Since 1993 a national credit system has been in place and the Diploma Supplement was introduced in 2003.

Luxembourg: most students study abroad but this may change with legislation introduced in 2003 to establish the University of Luxembourg. The university will offer both academic and vocational bilingual (choice between French, German and English) courses at the Bachelor, Master and Doctoral level. Curricula will be based on ECTS (which is also being applied to vocational training) but no steps have been taken to introduce the Diploma Supplement.

Macedonia: the Bachelor and Master qualifications already existed in the higher education system but were awarded after differing numbers of study years, depending on the institution. A credit transfer system compatible with ECTS is planned, as is the issue of the Diploma Supplement. At alternative higher education institutions, however, any planned reforms are less apparent.

Malta: a degree structure based on two main cycles has existed for many years within a 4+1 framework. ECTS is being implemented from October 2003/04 and pending the introduction of the Diploma Supplement, students receive a transcript of their records.

The Netherlands: an amendment to the Higher Education and Research Act in 2002 established the Bachelor–Master structure in both academic and vocational higher education from the 2002/03 academic year, but vocational Bachelor degrees must take 4 years compared to 3 years for academic programmes. This legislation changed the existing credit system to make it more like ECTS but did not make the Diploma Supplement mandatory; to date it is being awarded on a voluntary basis. In common with other countries, medicine, pharmacy, veterinary medicine and dentistry have different structures.

Norway: educational reform in 2001 introduced the Bachelor–Master structure to both academic and vocational higher education and by 2003/04 the new structures must be incorporated by law. For existing students, both the old and new structures will coexist to ensure a smooth transition. Only a small number of courses (medicine, theology, psychology and veterinary science) are exempt from the 3+2 model. A new credit system was introduced in 2001 which is now fully compatible with ECTS. The Diploma Supplement has been issued to all students on request since 2002.

Poland: a degree system based on two main cycles has existed since 1990 when university-type higher education institutions could offer 3-year higher vocational studies leading to a Bachelor degree (*Licencjat, Inzynier*), followed by a Master degree. Although adoption of ECTS is not yet mandatory, institutions are voluntarily complying. From 2004/05 the Diploma Supplement becomes mandatory.

Portugal: steps are being taken to adopt the new first degree structure but these have yet to be translated into actual legislation. A 2-year Master already exists but there are also plans to adapt this to professional higher education. A credit system used solely by universities is compatible with ECTS. Plans to introduce the Diploma Supplement are well underway and some institutions already offer it voluntarily.

Republic of Ireland: the structure of higher education is already composed of two main cycles. Since 1989 ECTS has been incorporated with the existing credit system and is implemented in institutes of technology; reviews are being undertaken for full integration. A working group established in 2003 is dealing with roll-out of the Diploma Supplement.

Republic of Montenegro: responsibility for change has been assigned to its sole university and progress towards ECTS and the Diploma Supplement is well underway. A draft higher education law was produced in 2002/03 that legislates for Bachelor and Master degrees (using the 3+2 model), ECTS and the Diploma Supplement but true Bologna degrees have yet to emerge into the market. Implementation of ECTS will start in 2003/04 and the full reforms should be in place by 2007.

Romania: despite reshaping second-cycle courses in 1999 (Master courses last 3–4 semesters, extend competence, and can be attended by graduates from any field of study) the new degree structures have not yet been introduced. However, laws are soon to be passed introducing the new structures to higher education and it is hoped that the Bachelor–Master system will start in 2004/05. ECTS has not been fully implemented and the Diploma Supplement is issued only on request.

Russian Federation: present-day legislation permits the delivery of multi-level higher education but more detailed legislation is planned for 2005. Currently the strategic lines of higher education reform are based in the law on higher and postgraduate education, its associated by-laws and the *Conception of modernisation of Russian education*. In the early 1990s a system based on two main cycles was introduced but further work is required before it is fully compatible with Bologna. Bachelor degrees currently take 4 years or more, Masters 5 or more and there is also a more traditional specialist training route that leads to the award of a *Diploma Specialist* degree after 5 or more years of study. An ECTS-compatible system is in place (pilots have been running since 2002 in 20 institutions) while the Diploma Supplement is being considered. The transcript that is already part of Russian higher education has a certain degree of ‘flexibility’ and this has led some institutions to issue it in the format of the Diploma Supplement. Finally the Ministry for Education has started to design a plan of activities for full reform by the 2010 deadline. This will include the compulsory use of ECTS and compulsory issuance of the Diploma Supplement (by 2005) to successful graduates.

Serbia: a reform strategy for higher education was presented in 2002 and drafting the reforms started in 2003. Included are provisions for a two-cycle higher education structure (the first Bachelor programmes will start in 2004/05, Masters from 2006) and the non-mandatory use of ECTS. A handbook on ECTS and the Diploma Supplement was distributed in 2002. Despite the explicit inclusion of ECTS in the legal reforms and its use to define course lengths, adoption of both is optional at this point in time. Vocational higher education still falls under older laws but there are plans to include it within university legislation referred to earlier.

Slovakia: a new higher education act in 2002 has led to an increased distinction between Bachelor (3–4 years of study), Master (a further 1–3 years) and Doctoral studies. Former long-cycle programmes (with the exception of medicine and veterinary medicine) are being phased out and ECTS is compulsory. The same act requires the Diploma Supplement to be issued from 2005/06.

Slovenia: a higher education degree system based on two main cycles has existed since the 1960s but discussions are underway to alter the future structure of higher education in accordance with the Bologna Accord. An ECTS-compatible system has been used by institutions but concern over different interpretations has led the government to start preparations for a national credit system. The Diploma Supplement has been issued since 2000/01 with full implementation in 2003/04.

Spain: a trial which started at the beginning of the 2003/04 academic year is introducing the first cycle into higher education and a framework proposal is being drafted to implement the new degree structures on a broader scale. A national credit system was established in 1983 but this will have to be changed to make it compatible with ECTS (the Royal Decree to do so was ratified in 2003). The Diploma Supplement, available since 2002, has been added to the existing catalogue of professional qualifications.

Sweden: review of the existing system of higher education is underway and a report will be produced in 2004 to discuss the structure in an international perspective. To date no changes have been made or are planned, and further clarification is sought over the exact definition of first- and second-cycle degrees. A credit system compatible with ECTS already exists. Since 2003 the Diploma Supplement (in English) has been issued with all higher education qualifications.

Switzerland: regulatory instruments and implementation plans for adoption of the Bologna recommendations were completed in 2003 (despite the first university offerings made in 2002/03). The Rectors' Conference of Swiss Universities (CRUS) signed an agreement in 2004 committing all Swiss universities to implement reform by 2010 and replacing the current *Licenziat* and *Diploma* system. *Fachhochschulen* Bachelor courses are scheduled to start in 2005/06 and in the following year they will also offer Master programmes. Laws surrounding the Diploma Supplement were passed in 2002 and their introduction is currently being prepared (*Fachhochschulen* have issued them since 2000/01). There is an existing ECTS-compatible credit system and recommendations were passed in 2003 on its adaptation, with *Fachhochschulen* implementing this from 2005/06 in line with their new Bachelor degrees.

Turkey: a two-tier system of higher education offering Bachelor and Master qualifications and an ECTS-compatible credit system are already in place. The Diploma Supplement, introduced in 2003/04, is available only on request.

UK: while the majority of higher education courses fit a two-cycle 3+2 or 3+1 structure, there are some courses that award the Master without an intermediary Bachelor stage. The use of a credit system is under discussion with ministers while the Diploma Supplement has yet to be implemented on a broad scale (despite commonalities with the existing progress file which was introduced in 2002/03). Scotland already has a single framework for credit transfer at the national level but it is unclear if ECTS compatibility is planned.

Predominant programme lengths and reform scope

	Recommended		Other		Reform applied to other types of institution		
	3+2	4+1	3+1	4+2	Bachelor only	Bachelor & Master	Different
Albania	■						
Austria	■	■				■	
Belgium	■		■		■	■	
Bulgaria		■					■
Croatia	■	■				■	
Cyprus		■		■		■	
Czech Republic	■	■	■	■			■
Denmark	■				■		
Estonia	■	■			■		
Finland	■	■			■		
France	■					■	
Germany	■	■		■		■	
Greece		■		■	■	■	
Hungary	■				■		
Iceland	■			■		■	
Italy	■		■			■	
Latvia	■	■				■	
Liechtenstein	■						
Lithuania	■				■		
Luxembourg	■	■					■
Macedonia	■			■		■	
Malta		■					
Montenegro	■						
the Netherlands	■	■				■	
Norway	■					■	
Poland	■					■	
Portugal		■				■	
Rep. of Ireland	■	■	■	■		■	
Romania	■	■					
Russian Federation		■					
Serbia	■	■		■	■		
Slovakia	■	■					
Slovenia							■
Spain	■	■					
Switzerland	■					■	
Turkey		■		■			
UK	■	■	■				

Table A2.1: Predominant programme lengths and reform scope

Progress towards implementing ECTS and the Diploma Supplement

	ECTS		Diploma Supplement	
	In place	Planned or underway	In place	Planned or underway
Albania		■		■
Austria	■		■	
Belgium	■	■	■	■
Bosnia & Herzegovina		■		■
Bulgaria		■		■
Croatia		■		■
Cyprus	■			■
Czech Republic	■		■	
Denmark	■		■	
Estonia		■	■	
Finland	■			■
France		■		■
Germany		■		
Greece		■		■
Hungary	■		■	
Iceland		■	■	
Italy	■		■	
Latvia	■			■
Liechtenstein	■		■	
Lithuania	■		■	
Luxembourg	■			
Macedonia		■		■
Malta	■			■
Montenegro		■		■
the Netherlands	■			■
Norway	■		■	
Poland		■		■
Portugal	■			■
Rep. of Ireland		■		■
Romania		■		■
Russian Federation		■		■
Serbia		■		■
Slovakia	■			■
Slovenia		■	■	
Spain		■		■
Sweden	■		■	
Switzerland	■		■	
Turkey	■			■
UK		■		■

Table A2.2: Implementing ECTS and the Diploma Supplement

Appendix 3: Modelling the numbers

We created a number of models to try and determine how many students are likely to undertake Master studies. As a starting point, however, we needed to determine the number graduating with a Bachelor qualification.

Stage 1: Predicting the number of Bachelor graduates

The first stage is driven primarily by demographics and the numbers of students leaving secondary school education in 2005.

From population estimates¹ of the number of 15–19 year olds, we used higher education enrolment rate data for academic tertiary education (OECD, 2003, table C2.1) to determine how many are expected to continue their studies. Using a single information source was necessary to ensure cohesion across the signatory countries. A graduation rate of 76% was then applied which represents the average percentage of students successfully completing tertiary education in the OECD countries. Figure A3.1 represents the logic behind this model.

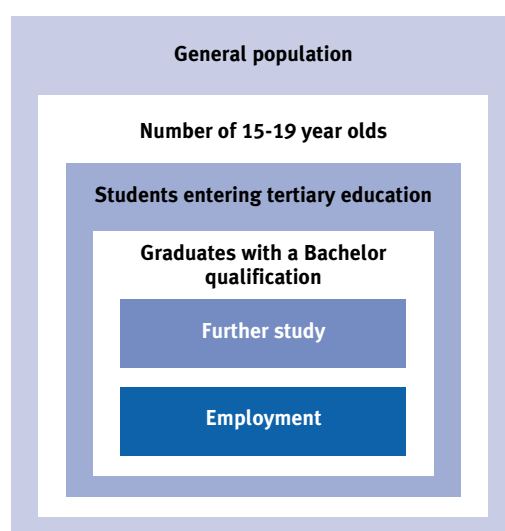


Figure A3.1: Figurative representation of stage 1

The sensitivity analysis for the predicted student numbers shown in Table A3.2 is outlined in Table A3.3 and represented graphically in Figure A3.4. The analysis considered the impact of increasing enrolment rates above the baseline levels outlined in Table A3.2 and also the effect of increasing graduation rates. Shorter first degree programmes should increase both enrolment and graduation rates.

¹ All population data has been taken from the 2005 projections of the US Census Bureau's International Database and can be accessed at <<http://www.census.gov>>

	Population aged 15-19 years (2005)	Students who could enter tertiary education ²	% entering academic tertiary education ³	Students entering academic tertiary education
Albania	369,297	73,859	15%	11,078
Andorra	3,534	706	15%	105
Austria	478,246	95,649	34%	32,520
Belgium	616,053	123,210	32%	39,427
Bosnia & Herzegovina	315,780	63,156	15%	9,473
Bulgaria	492,041	98,408	15%	14,761
Croatia	280,416	56,083	15%	8,412
Cyprus	64,217	12,843	15%	1,926
Czech Republic	647,609	129,521	30%	38,856
Denmark	311,435	62,287	44%	27,406
Estonia	107,140	21,428	15%	3,214
Finland	319,180	63,836	72%	45,961
France	3,826,248	765,249	37%	283,142
Germany	4,809,672	961,934	32%	307,818
Greece	565,914	113,182	15%	16,977
Hungary	623,955	124,791	56%	69,882
Iceland	22,005	4,401	61%	2,684
Italy	2,797,027	559,405	44%	246,138
Latvia	186,467	37,293	15%	5,593
Liechtenstein	2,025	405	15%	60
Lithuania	281,392	56,278	15%	8,441
Luxembourg	27,262	5,452	15%	817
Macedonia	169,953	33,990	15%	5,098
Malta	28,247	5,649	15%	847
the Netherlands	998,951	199,790	54%	107,886
Norway	292,699	58,539	62%	36,294
Poland	2,841,772	568,354	67%	380,797
Portugal	634,866	126,973	15%	19,045
Rep. of Ireland	291,174	58,234	38%	22,128
Romania	1,715,825	343,165	15%	51,474
Russian Federation	11,974,936	2,394,987	15%	359,248
Serbia & Montenegro	783,017	156,603	15%	23,490
Slovakia	406,090	81,218	40%	32,487
Slovenia	124,231	24,846	15%	3,726
Spain	2,085,231	417,046	48%	200,182
Sweden	605,591	121,118	69%	83,571
Switzerland	454,588	90,917	33%	30,002
Turkey	6,596,259	1,319,251	20%	263,850
UK	3,958,380	791,676	45%	356,254
Total	51,108,725	10,221,732		3,151,070
Predicted number of academic tertiary graduates per annum⁴				2,394,807

Table A3.2: Predictions of stage 1

² The population data has been divided by 5 in order to determine the approximate number of secondary school graduates who could enter tertiary education.

³ Source: OECD, 2003, *Education at a Glance*, table C2.1, OECD Indicators, Paris. Italicised entries are estimates and are used only where data is unavailable.

⁴ A graduation rate of 76% has been used. This is the European average for OECD countries and is taken from OECD, 2003, *Education at a Glance*, OECD Indicators, Paris. Graduation rate is the percentage of students entering the first year of a course of study and who actually successfully complete it.

		Additional % enrolled in tertiary education										
		+0%	+5%	+10%	+15%	+20%	+25%	+30%	+35%	+40%	+45%	+50%
Graduation rate	70%	2,205,749	2,316,037	2,426,325	2,536,614	2,646,902	2,757,191	2,867,478	2,977,766	3,087,697	3,196,335	3,300,100
	72%	2,268,770	2,382,209	2,495,648	2,609,088	2,722,527	2,835,968	2,949,406	3,062,845	3,175,916	3,287,659	3,394,388
	74%	2,331,792	2,448,382	2,564,972	2,681,563	2,798,153	2,914,745	3,031,334	3,147,924	3,264,136	3,378,983	3,488,677
	76%	2,394,807	2,514,554	2,634,295	2,754,038	2,873,779	2,993,521	3,113,262	3,233,003	3,352,356	3,470,307	3,582,965
	78%	2,457,835	2,580,727	2,703,619	2,826,513	2,949,405	3,072,298	3,195,190	3,318,082	3,440,576	3,561,631	3,677,254
	80%	2,520,856	2,646,899	2,772,942	2,898,987	3,025,030	3,151,075	3,277,118	3,403,161	3,528,796	3,652,954	3,771,542
	82%	2,583,877	2,713,072	2,842,266	2,971,462	3,100,656	3,229,852	3,359,046	3,488,240	3,617,016	3,744,278	3,865,831
	84%	2,646,899	2,779,244	2,911,590	3,043,937	3,176,282	3,308,629	3,440,973	3,573,319	3,705,236	3,835,602	3,960,120
	86%	2,709,920	2,845,417	2,980,913	3,116,411	3,251,908	3,387,406	3,522,901	3,658,398	3,793,456	3,926,926	4,054,408
	88%	2,772,924	2,911,589	3,050,237	3,188,886	3,327,533	3,466,183	3,604,829	3,743,477	3,881,676	4,018,250	4,148,697
	90%	2,835,963	2,977,762	3,119,560	3,261,361	3,403,159	3,544,960	3,686,757	3,828,556	3,969,896	4,109,574	4,242,985

Table A3.3: Sensitivity analysis of stage 1

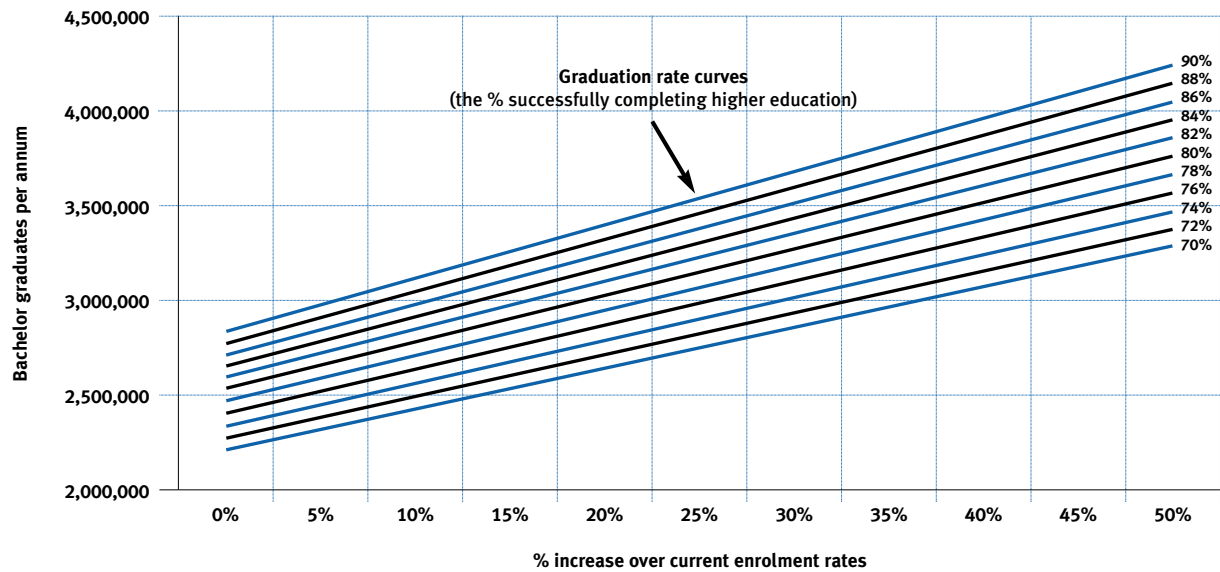


Figure A3.4: Graphical representation of the sensitivity analysis of stage 1

Stage 2: Predicting the demand for graduate management studies

Stage 1 determined the number of Bachelor graduates expected to complete academic higher education in the signatory countries in 2005. We then moved on to predict student behaviours in the post-Bologna environment.

One of the expected benefits of replacing the traditional long-cycle degree with shorter first degrees is an increase in enrolment and graduation rates. We will therefore use two base values upon which the demand for graduate management education will be predicted. These two values are:

- 1 No change – 2,394,807.** This was obtained using current levels of tertiary education enrolment and a graduation rate of 76%.
- 2 Growth – 2,772,942.** Enrolment levels were raised by 10% and the graduation rate increased to 80% to obtain this value.

Of these values, only 90% were used. The missing 10% represents candidates who do not enter employment or undertake further study. This produced baseline Bachelor graduate numbers of **2,155,326** and **2,495,648** respectively.

From these figures, Tables A3.5 and A3.6 detail the numbers of graduate students expected to pursue a pre-experience graduate management qualification (such as a Master in Business or an MSc in Marketing) and those expected to undertake a post-experience qualification such as the MBA. The additional Tables A3.7, A3.8, A3.9 and A3.10 illustrate the impact of students who have elected to study for a non-business Master and who then decide to study for an MBA at a later date after entering working life. A word of caution. The model projections are probably rather low given that in countries with traditionally long-cycle higher education, reducing the time taken to acquire a qualification can improve enrolment and graduation rates. Although incrementing each country's enrolment rate by a percentage and applying a constant graduation rate is necessary for illustrative purposes, this is unlikely to reflect the diversity of actual implementation. What the models highlight, however, is the significance of the changes in the field of graduate management education.

Reading the tables

The tables should first be read horizontally as this axis denotes the percentage of students either continuing in education or entering employment. The vertical axis indicates the percentage electing to study for a pre- or post-experience graduate management qualification. The anticipated student numbers appear where these two lines meet.

For example, using the 'no change' scenario, if 40% of students continue in education and 25% study for a pre-experience business Master, our model indicates that approximately 216,000 students would be expected. Following this down we can then read the figure representing the 60% of students who enter employment of which, if 2% undertake a post-experience qualification, we would expect to see demand of 26,000. These cells have been highlighted in Table A3.5.

No change - 2,156,000 students who can study for a Master degree												
		% continuing in education										
		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
% choosing pre-experience business Master	5%	0	11,000	22,000	32,000	43,000	54,000	65,000	75,000	86,000	97,000	108,000
	10%	0	22,000	43,000	65,000	86,000	108,000	129,000	151,000	172,000	194,000	216,000
	15%	0	32,000	65,000	97,000	129,000	162,000	194,000	226,000	259,000	291,000	323,000
	20%	0	43,000	86,000	129,000	172,000	216,000	259,000	302,000	345,000	388,000	431,000
	25%	0	54,000	108,000	162,000	216,000	270,000	323,000	377,000	431,000	485,000	539,000
	30%	0	65,000	129,000	194,000	259,000	323,000	388,000	453,000	517,000	582,000	647,000
	35%	0	75,000	151,000	226,000	302,000	377,000	453,000	528,000	604,000	679,000	755,000
	40%	0	86,000	172,000	259,000	345,000	431,000	517,000	604,000	690,000	776,000	862,000
	45%	0	97,000	194,000	291,000	388,000	485,000	582,000	679,000	776,000	873,000	970,000
50%	0	108,000	216,000	323,000	431,000	539,000	647,000	755,000	862,000	970,000	1,078,000	
		% entering employment										
		100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
% choosing MBA	0.5%	11,000	10,000	9,000	8,000	6,000	5,000	4,000	3,000	2,000	1,000	0
	1.0%	22,000	19,000	17,000	15,000	13,000	11,000	9,000	6,000	4,000	2,000	0
	1.5%	32,000	29,000	26,000	23,000	19,000	16,000	13,000	10,000	6,000	3,000	0
	2.0%	43,000	39,000	34,000	30,000	26,000	22,000	17,000	13,000	9,000	4,000	0
	2.5%	54,000	49,000	43,000	38,000	32,000	27,000	22,000	16,000	11,000	5,000	0
	3.0%	65,000	58,000	52,000	45,000	39,000	32,000	26,000	19,000	13,000	6,000	0
	3.5%	75,000	68,000	60,000	53,000	45,000	38,000	30,000	23,000	15,000	8,000	0
	4.0%	86,000	78,000	69,000	60,000	52,000	43,000	34,000	26,000	17,000	9,000	0
	4.5%	97,000	87,000	78,000	68,000	58,000	49,000	39,000	29,000	19,000	10,000	0
	5.0%	108,000	97,000	86,000	75,000	65,000	54,000	43,000	32,000	22,000	11,000	0

Table A3.5: Projections based on the 'no change' assumption

Growth model - 2,496,000 students who can study for a Master degree												
		% continuing in education										
		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
% choosing pre-experience business Master	5%	0	12,000	25,000	37,000	50,000	62,000	75,000	87,000	100,000	112,000	125,000
	10%	0	25,000	50,000	75,000	100,000	125,000	150,000	175,000	200,000	225,000	250,000
	15%	0	37,000	75,000	112,000	150,000	187,000	225,000	262,000	300,000	337,000	374,000
	20%	0	50,000	100,000	150,000	200,000	250,000	300,000	349,000	399,000	449,000	499,000
	25%	0	62,000	125,000	187,000	250,000	312,000	374,000	437,000	499,000	562,000	624,000
	30%	0	75,000	150,000	225,000	300,000	374,000	449,000	524,000	599,000	674,000	749,000
	35%	0	87,000	175,000	262,000	349,000	437,000	524,000	612,000	699,000	786,000	874,000
	40%	0	100,000	200,000	300,000	399,000	499,000	599,000	699,000	799,000	899,000	998,000
	45%	0	112,000	225,000	337,000	449,000	562,000	674,000	786,000	899,000	1,011,000	1,123,000
50%	0	125,000	250,000	374,000	499,000	624,000	749,000	874,000	998,000	1,123,000	1,248,000	
		% entering employment										
		100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
% choosing MBA	0.5%	12,000	11,000	10,000	9,000	7,000	6,000	5,000	4,000	2,000	1,000	0
	1.0%	25,000	22,000	20,000	17,000	15,000	12,000	10,000	7,000	5,000	2,000	0
	1.5%	37,000	34,000	30,000	26,000	22,000	19,000	15,000	11,000	7,000	4,000	0
	2.0%	50,000	45,000	40,000	35,000	30,000	25,000	20,000	15,000	10,000	5,000	0
	2.5%	62,000	56,000	50,000	44,000	37,000	31,000	25,000	19,000	12,000	6,000	0
	3.0%	75,000	67,000	60,000	52,000	45,000	37,000	30,000	22,000	15,000	7,000	0
	3.5%	87,000	79,000	70,000	61,000	52,000	44,000	35,000	26,000	17,000	9,000	0
	4.0%	100,000	90,000	80,000	70,000	60,000	50,000	40,000	30,000	20,000	10,000	0
	4.5%	112,000	101,000	90,000	79,000	67,000	56,000	45,000	34,000	22,000	11,000	0
	5.0%	125,000	112,000	100,000	87,000	75,000	62,000	50,000	37,000	25,000	12,000	0

Table A3.6: Projections based on the 'growth' assumption

		% continuing in education										
		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
% choosing pre-experience non-business Master	95%	0	205,000	409,000	614,000	819,000	1,024,000	1,228,000	1,433,000	1,638,000	1,843,000	2,047,000
	90%	0	194,000	388,000	582,000	776,000	970,000	1,164,000	1,358,000	1,552,000	1,746,000	1,940,000
	85%	0	183,000	366,000	550,000	733,000	916,000	1,099,000	1,282,000	1,465,000	1,649,000	1,832,000
	80%	0	172,000	345,000	517,000	690,000	862,000	1,034,000	1,207,000	1,379,000	1,552,000	1,724,000
	75%	0	162,000	323,000	485,000	647,000	808,000	970,000	1,131,000	1,293,000	1,455,000	1,616,000
	70%	0	151,000	302,000	453,000	603,000	754,000	905,000	1,056,000	1,207,000	1,358,000	1,509,000
	65%	0	140,000	280,000	420,000	560,000	700,000	840,000	981,000	1,121,000	1,261,000	1,401,000
	60%	0	129,000	259,000	388,000	517,000	647,000	776,000	905,000	1,034,000	1,164,000	1,293,000
	55%	0	119,000	237,000	356,000	474,000	593,000	711,000	830,000	948,000	1,067,000	1,185,000
	50%	0	108,000	216,000	323,000	431,000	539,000	647,000	754,000	862,000	970,000	1,078,000

Table A3.7: Student number projections based on the 'no change' assumption who study for non-business pre-experience Master degree

1% MBA		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
% choosing pre-experience non-business Master	95%	0	2,050	4,090	6,140	8,190	10,240	12,280	14,330	16,380	18,430	20,470
	90%	0	1,940	3,880	5,820	7,760	9,700	11,640	13,580	15,520	17,460	19,400
	85%	0	1,830	3,660	5,500	7,330	9,160	10,990	12,820	14,650	16,490	18,320
	80%	0	1,720	3,450	5,170	6,900	8,620	10,340	12,070	13,790	15,520	17,240
	75%	0	1,620	3,230	4,850	6,470	8,080	9,700	11,310	12,930	14,550	16,160
	70%	0	1,510	3,020	4,530	6,030	7,540	9,050	10,560	12,070	13,580	15,090
	65%	0	1,400	2,800	4,200	5,600	7,000	8,400	9,810	11,210	12,610	14,010
	60%	0	1,290	2,590	3,880	5,170	6,470	7,760	9,050	10,340	11,640	12,930
	55%	0	1,190	2,370	3,560	4,740	5,930	7,110	8,300	9,480	10,670	11,850
	50%	0	1,080	2,160	3,230	4,310	5,390	6,470	7,540	8,620	9,700	10,780
1.5% MBA		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
% choosing pre-experience non-business Master	95%	0	3,075	6,135	9,210	12,285	15,360	18,420	21,495	24,570	27,645	30,705
	90%	0	2,910	5,820	8,730	11,640	14,550	17,460	20,370	23,280	26,190	29,100
	85%	0	2,745	5,490	8,250	10,995	13,740	16,485	19,230	21,975	24,735	27,480
	80%	0	2,580	5,175	7,755	10,350	12,930	15,510	18,105	20,685	23,280	25,860
	75%	0	2,430	4,845	7,275	9,705	12,120	14,550	16,965	19,395	21,825	24,240
	70%	0	2,265	4,530	6,795	9,045	11,310	13,575	15,840	18,105	20,370	22,635
	65%	0	2,100	4,200	6,300	8,400	10,500	12,600	14,715	16,815	18,915	21,015
	60%	0	1,935	3,885	5,820	7,755	9,705	11,640	13,575	15,510	17,460	19,395
	55%	0	1,785	3,555	5,340	7,110	8,895	10,665	12,450	14,220	16,005	17,775
	50%	0	1,620	3,240	4,845	6,465	8,085	9,705	11,310	12,930	14,550	16,170
2% MBA		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
% choosing pre-experience non-business Master	95%	0	4,100	8,180	12,280	16,380	20,480	24,560	28,660	32,760	36,860	40,940
	90%	0	3,880	7,760	11,640	15,520	19,400	23,280	27,160	31,040	34,920	38,800
	85%	0	3,660	7,320	11,000	14,660	18,320	21,980	25,640	29,300	32,980	36,640
	80%	0	3,440	6,900	10,340	13,800	17,240	20,680	24,140	27,580	31,040	34,480
	75%	0	3,240	6,460	9,700	12,940	16,160	19,400	22,620	25,860	29,100	32,320
	70%	0	3,020	6,040	9,060	12,060	15,080	18,100	21,120	24,140	27,160	30,180
	65%	0	2,800	5,600	8,400	11,200	14,000	16,800	19,620	22,420	25,220	28,020
	60%	0	2,580	5,180	7,760	10,340	12,940	15,520	18,100	20,680	23,280	25,860
	55%	0	2,380	4,740	7,120	9,480	11,860	14,220	16,600	18,960	21,340	23,700
	50%	0	2,160	4,320	6,460	8,620	10,780	12,940	15,080	17,240	19,400	21,560

Table A3.8: Students undertaking an MBA after having completed a non-business pre-experience Master degree based on the 'no change' assumption

		% continuing in education										
		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
% choosing pre-experience non-business Master	95%	0	237,000	474,000	711,000	948,000	1,186,000	1,423,000	1,660,000	1,897,000	2,134,000	2,371,000
	90%	0	225,000	449,000	674,000	899,000	1,123,000	1,348,000	1,572,000	1,797,000	2,022,000	2,246,000
	85%	0	212,000	424,000	636,000	849,000	1,061,000	1,273,000	1,485,000	1,697,000	1,909,000	2,122,000
	80%	0	200,000	399,000	599,000	799,000	998,000	1,198,000	1,398,000	1,597,000	1,797,000	1,997,000
	75%	0	187,000	374,000	562,000	749,000	936,000	1,123,000	1,310,000	1,498,000	1,685,000	1,872,000
	70%	0	175,000	349,000	524,000	699,000	874,000	1,048,000	1,223,000	1,398,000	1,572,000	1,747,000
	65%	0	162,000	324,000	487,000	649,000	811,000	973,000	1,136,000	1,298,000	1,460,000	1,622,000
	60%	0	150,000	300,000	449,000	599,000	749,000	899,000	1,048,000	1,198,000	1,348,000	1,498,000
	55%	0	137,000	275,000	412,000	549,000	686,000	824,000	961,000	1,098,000	1,236,000	1,373,000
	50%	0	125,000	250,000	374,000	499,000	624,000	749,000	874,000	998,000	1,123,000	1,248,000

Table A3.9: Student number projections based on the 'growth' assumption who study for non-business pre-experience Master degree

1% MBA		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
% choosing pre-experience non-business Master	95%	0	2,370	4,740	7,110	9,480	11,860	14,230	16,600	18,970	21,340	23,710
	90%	0	2,250	4,490	6,740	8,990	11,230	13,480	15,720	17,970	20,220	22,460
	85%	0	2,120	4,240	6,360	8,490	10,610	12,730	14,850	16,970	19,090	21,220
	80%	0	2,000	3,990	5,990	7,990	9,980	11,980	13,980	15,970	17,970	19,970
	75%	0	1,870	3,740	5,620	7,490	9,360	11,230	13,100	14,980	16,850	18,720
	70%	0	1,750	3,490	5,240	6,990	8,740	10,480	12,230	13,980	15,720	17,470
	65%	0	1,620	3,240	4,870	6,490	8,110	9,730	11,360	12,980	14,600	16,220
	60%	0	1,500	3,000	4,490	5,990	7,490	8,990	10,480	11,980	13,480	14,980
	55%	0	1,370	2,750	4,120	5,490	6,860	8,240	9,610	10,980	12,360	13,730
	50%	0	1,250	2,500	3,740	4,990	6,240	7,490	8,740	9,980	11,230	12,480
1.5% MBA		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
% choosing pre-experience non-business Master	95%	0	3,555	7,110	10,665	14,220	17,790	21,345	24,900	28,455	32,010	35,565
	90%	0	3,375	6,735	10,110	13,485	16,845	20,220	23,580	26,995	30,330	33,690
	85%	0	3,180	6,360	9,540	12,735	15,915	19,095	22,275	25,455	28,635	31,830
	80%	0	3,000	5,985	8,985	11,985	14,970	17,970	20,970	23,995	26,995	29,995
	75%	0	2,805	5,610	8,430	11,235	14,040	16,845	19,650	22,470	25,275	28,080
	70%	0	2,625	5,235	7,860	10,485	13,110	15,720	18,345	20,970	23,580	26,205
	65%	0	2,430	4,860	7,305	9,735	12,165	14,595	17,040	19,470	21,900	24,330
	60%	0	2,250	4,500	6,735	8,985	11,235	13,485	15,720	17,970	20,220	22,470
	55%	0	2,055	4,125	6,180	8,235	10,290	12,360	14,415	16,470	18,540	20,595
	50%	0	1,875	3,750	5,610	7,485	9,360	11,235	13,110	14,970	16,845	18,720
2% MBA		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
% choosing pre-experience non-business Master	95%	0	4,740	9,480	14,220	18,960	23,720	28,460	33,200	37,940	42,680	47,420
	90%	0	4,500	8,980	13,480	17,980	22,460	26,960	31,440	35,940	40,440	44,920
	85%	0	4,240	8,480	12,720	16,980	21,220	25,460	29,700	33,940	38,180	42,440
	80%	0	4,000	7,980	11,980	15,980	19,960	23,960	27,960	31,940	35,940	39,940
	75%	0	3,740	7,480	11,240	14,980	18,720	22,460	26,200	29,960	33,700	37,440
	70%	0	3,500	6,980	10,480	13,980	17,480	20,960	24,460	27,960	31,440	34,940
	65%	0	3,240	6,480	9,740	12,980	16,220	19,460	22,720	25,960	29,200	32,440
	60%	0	3,000	6,000	8,980	11,980	14,980	17,980	20,960	23,960	26,960	29,960
	55%	0	2,740	5,500	8,240	10,980	13,720	16,480	19,220	21,960	24,720	27,460
	50%	0	2,500	5,000	7,480	9,980	12,480	14,980	17,480	19,960	22,460	24,960

Table A3.10: Students undertaking an MBA after having completed a non-business pre-experience Master degree based on the 'growth' assumption

Modelling the signatories against individual countries

Finally, to provide a ‘reality’ check for these figures, we have also modelled the grouped European data against trends in the US, Australia, UK and Denmark.

For each of these countries we researched population data and the number of degrees awarded at the Bachelor, Master and business Master levels. The ratios between each of these figures were applied to the European data. The results of these calculations are shown in Tables A3.11, A3.12, A3.13 and A3.14.

They reveal that if the signatory countries enjoyed the same levels of enrolment and graduation, they would award between 1.5m and 4.9m Bachelor degrees per annum. Between 146,901 and 372,943 graduate management qualifications would be awarded per annum. Note that this number refers to full- and part-time, and pre- and post-experience, management study graduates.

Statistic	US	Extrapolated data for the signatories
Population aged 15-19 years, 2000	20,249,959 ⁵	51,108,725
Bachelor degrees awarded, 2000/01	1,237,875 ⁶	3,124,264
Master degrees awarded, 2000/01	468,476 ⁶	1,182,383
Master degrees awarded in the field of business, 2000/01	116,475 ⁷	293,970
Percentage continuing to Master studies	38%	
Percentage electing to study business Master degrees	25%	

Table A3.11 Projections based on US figures

Statistic	Australia	Extrapolated data for the signatories
Population aged 15-19 years, 2000	1,313,820 ⁸	51,108,725
Bachelor degrees awarded, 2002	126,833 ⁹	4,933,912
Master degrees awarded, 2002	35,704 ⁹	1,388,916
Master degrees awarded in the field of business, 2002	9,587 ¹⁰	372,943
Percentage continuing to Master studies	28%	
Percentage electing to study business Master degrees	27%	

Table A3.12 Projections based on Australian figures

⁵ US Census Bureau <<http://www.census.gov>>

⁶ US National Center for Education Statistics <<http://nces.ed.gov/programs/digest/do2/tables/dt246.asp>>

⁷ US National Center for Education Statistics <<http://nces.ed.gov/programs/digest/do2/tables/dt253.asp>>

⁸ US Census Bureau <<http://www.census.gov>>

⁹ Australian Government Department of Education, Science and Training, Appendix 2.5 of <http://www.dest.gov.au/highered/statistics/students/o3/student_tables/tables/appendices.xls>

¹⁰ Appendix 2.6 from same source as reference above.

Statistic	UK	Extrapolated data for the signatories
Population aged 15-19 years, 2000	3,736,579 ¹¹	51,108,725
Bachelor degrees awarded, 2000/01	243,425 ¹²	3,329,544
Master degrees awarded, 2000/01	48,230 ¹²	659,687
Full-time Master degrees awarded in the field of business and administrative studies, 2000/01	10,740 ¹²	146,901
Percentage continuing to Master studies	20%	
Percentage electing to study business Master degrees	22%	

Table A3.13 Projections based on UK figures

Statistic	Denmark	Extrapolated data for the signatories
Population aged 15-19 years, 2000	279,669 ¹³	51,108,725
Bachelor degrees awarded, 2000/01	8,228 ¹⁴	1,503,644
Long-cycle degrees awarded, 2000/01	8,969 ¹⁴	1,639,060
Long-cycle degrees awarded in the fields of administration, business economics and economics, 2000/01	1,790 ¹⁴	327,117

Table A3.14: Projections based on Danish figures

Comparing these figures to our model and using a continuation rate of 30%, which translates to 70% of students entering employment, of which 25% decide to study pre-experience management qualifications and 1.5% post-experience, produces the results summarised in Table A3.15. This indicates that our model is indeed cautious.

	Range from the country figures	No change	Growth
30% of students continue studying, 25% elect to study pre-experience management Masters	The country figures do not allow this level of breakdown	162,000	188,000
70% enter employment and 1.5% undertake a post-experience qualification		23,000	27,000
TOTAL:	Australia: 372,943 Denmark: 327,117 UK: 146,901 US: 293,970	185,000	215,000

Table A3.15: Model comparisons

¹¹ US Census Bureau <<http://www.census.gov>>

¹² UK Higher Education Statistics Agency <<http://www.hesa.ac.uk/holisdocs/pubinfo/student/qualsoo01.htm>>

¹³ US Census Bureau <<http://www.census.gov>>

¹⁴ Statbank Denmark <<http://www.statbank.dk>>

Appendix 4: GATS

The Bologna Accord is a driving force for many exciting and fundamental changes in European higher education.

In general, higher education is becoming more accessible but this expansion brings difficulties in delivery related to budgetary constraints, changing relationship between governments and their institutions, and a growing emphasis on market orientation.

Alternative forms of higher education are emerging. Learning no longer has to take place in real time, face to face in a classroom, and state institutions are no longer the sole providers. Economic forces are increasingly driving the cross-border supply of education. As the business of education grows it becomes a target for trade laws such as GATS.

What is GATS?

GATS, the WTO¹ General Agreement on Trade in Services, came into effect in 1995 and complements a similar agreement for merchandising trade, GATT (the General Agreement of Tariffs and Trade). The objectives of both agreements are to:

- create a system of international trade rules
- ensure a fair and equitable treatment of all participants (the principle of non-discrimination)
- stimulate economic activity through guaranteed policy bindings
- promote trade and development through progressive liberalisation.

GATS is a legally enforceable set of multilateral rules covering international trade in services.

It is comprised of three parts:

- 1 A framework containing the general principles and rules.
- 2 National schedules that list each country's specific commitments to opening up their domestic market to foreign providers.
- 3 Annexes that contain limitations for each sector and can be attached to the national schedules.

As of April 2003, only 34 countries had submitted their offers. Among these are 20 countries that have signed the Bologna Accord (the EU15, Iceland, Liechtenstein, Norway, Poland and Switzerland). Of these 20, only the EU15, Liechtenstein and Norway have put their offering into the public domain.

¹ The WTO (World Trade Organisation) is a group of 147 countries that deals with the rules of trade between nations. Agreements are negotiated and signed as a group, and then ratified in the individual parliaments.

Which education services are covered?

Among the Bologna signatory countries that are also members of the WTO, GATS applies to all education undertaken after compulsory schooling. Exceptions are, however, granted for services '*supplied in the exercise of governmental authority*'. This term is used to refer to services provided on a non-commercial basis that are not in competition with other service suppliers. It is at this point that the debate starts as to exactly what services are covered.

GATS supporters believe that government provided and funded education is exempt but not everyone agrees.

The conditions for exemption reveal:

- **Non-commercial:** Critics of GATS consider that public service providers are not exempt because mixed higher education systems have both public and private suppliers which compete against each other. This is further complicated if significant funding for public institutions comes from the private sector. A final complication is that if a public institution delivers education in another country it is considered to be a private or commercial initiative. The key question is exactly what 'non-commercial' means in terms of higher education.
- **Not in competition:** There are currently no qualifications or limits to this term. The mere presence of private for-profit or private not-for-profit providers implies that public providers are in competition with other bodies. In addition there are concerns that delivery channels may influence or limit the concept of competition. For example, are public providers that use traditional face-to-face classroom methods really in competition with foreign, for-profit, e-learning providers?

This lack of agreement over what the conditions mean when applied to higher education is at the centre of the GATS debate. These issues must be clarified. Four 'modes of supply' (the ways in which services can be traded) are defined. Figure A4.1 summarises these definitions and applies them to higher education.

How are services provided?

While there are some unconditional obligations that must be met – most favoured nation (MFN), transparency, dispute settlement and monopolies – each country lists the services that it wishes to give foreign providers access to, the extent of market access and the guaranteed level of national treatment. The second of these obligations is expected to protect national objectives.

One of the key elements to watch concerns MFN. This requires equal and consistent treatment of all foreign trading partners. An individual country can determine the degree of market access to each of its subsectors (and this can include no access at all). If it opens its market, all countries must be treated equally, in terms of market access and national treatment, for services that fall within the scope of the agreement. If one country excludes another country from a sector, then all countries must be excluded. This has serious implications for countries already engaged in ‘trade in education services’ by giving access to foreign education providers.

MFN is different from national treatment. Unlike MFN, national treatment applies only if specific commitments have been made and requires that no discrimination exists between domestic and foreign providers. There is concern that this can put the concept of education as a public good at risk. An increasing number of for-profit providers, a lack of quality control, increasing market orientation and a possible reduction in government spending on education due to the presence of, or dependence on, private providers will impact on education funding. This funding takes the form of grants, subsidies, tax incentives etc, and these must be distributed across an increased number of institutions.

Mode of supply	Explanation	Examples in higher education	Size/Potential of the market
Mode 1: Cross border supply	Provision of a service where the service crosses the border and doesn't require the physical movement of the consumer	Distance learning E-learning Virtual universities	Currently relatively small but of high potential due to new delivery channels (ICT and internet)
Mode 2: Consumption abroad	Provision of the service requires the consumer to move to the country of the supplier	Students who go to another country to study	Currently the largest share of the global market for education services
Mode 3: Commercial presence	The service provider establishes a physical location in another country in order to deliver a service	Local branch or satellite campus Twinning partnerships Franchising arrangements with local institutions	Growing interest and strong potential for future growth Most controversial as it appears to set international rules on foreign investment
Mode 4: Presence of natural persons	Persons travelling to another country on a temporary basis to provide a service	Professors, teachers and researchers working abroad	Potentially a strong market given the emphasis on mobility

Table A4.1: Modes of supply²

Of the 147 WTO members, only 21 have made commitments to higher education. The EU has included higher education in its schedule and has placed limits on all modes of trade except consumption abroad (ie foreign tuition paying students).

² Knight, J (2002) *Trade in Higher Education Services: The Implications of GATS*, The Observatory on Borderless Higher Education, UK.

The principle of progressive liberalisation

Another principle of GATS that concerns critics is progressive liberalisation. This extends the coverage of GATS to more sectors and decreases the number of impediments to increased trade. As each round of negotiations is entered, more sectors open up and fall under the remit of GATS. Barriers are difficult to define in this context because they are viewed subjectively; what may appear to be a barrier in one country could actually be a fundamental element of its higher education system. Table A4.2 summarises the main barriers that are perceived as blocking each of the four modes of supply³.

Progressive liberalisation is therefore likely to lead to countries that are not interested in the import or export of education services experiencing greater pressures to open their markets in line with other countries.

Mode of supply	Barriers
Mode 1: Cross border supply	<ul style="list-style-type: none"> ■ Economic needs tests on the suppliers of these services ■ Lack of opportunity to qualify as a degree-granting institution ■ Requirement to use local partners ■ Denial of permission to enter into, and exit from, joint ventures with partners on a voluntary basis ■ Excessive fees/taxes imposed on licensing or royalty payments ■ New barriers to using the Internet to deliver education ■ Restrictions on use/import of educational materials ■ Inappropriate restrictions on the electronic transmission of course materials
Mode 2: Consumption abroad	<ul style="list-style-type: none"> ■ Visa requirements and costs ■ Foreign currency and exchange requirements ■ Recognition of prior qualifications from other countries ■ Quotas on numbers of international students in total and at a particular institution ■ Restrictions on employment while studying ■ Recognition of new qualifications by other countries
Mode 3: Commercial presence	<ul style="list-style-type: none"> ■ Inability to obtain national licenses to grant a qualification ■ Limit on direct investment by education providers ■ Nationality requirements ■ Restrictions on the recruitment of foreign teachers ■ Government monopolies ■ High subsidisation of local institutions ■ Difficulty in obtaining authorisation to establish facilities ■ Economic needs test on suppliers of these services ■ Prohibition of higher and adult education, and training services, offered by foreign entities ■ Measures requiring the use of a local partner ■ Difficulty in gaining permission to enter into, and exit from, joint ventures with partners on a voluntary basis ■ Tax treatment that discriminates against foreign suppliers ■ Foreign partners are treated less favourably than other organisations ■ Excessive fees/taxes imposed on licensing or royalty payments ■ Rules for twinning arrangements
Mode 4: Presence of natural persons	<ul style="list-style-type: none"> ■ Immigration requirements ■ Nationality or residence requirements ■ Needs test ■ Recognition of credentials ■ Minimum requirements for local hiring are disproportionately high ■ Personnel have difficulty obtaining authorisation to enter and leave the country ■ Quotas on the number of temporary staff ■ Repatriation of earnings is subject to excessively costly fees and/or taxes for currency conversion ■ Employment rules ■ Restrictions on use/import of educational materials to be used by foreign teacher/scholar

Table A4.2: Barriers to trade by mode of supply⁴

³ *ibid.*

⁴ *ibid.*

The key arguments for and against GATS

For: Supporters of GATS feel that it will maximise the benefits and opportunities presented by recent trends in higher education. These trends include⁵:

- the increasing use of ICT for domestic and cross-border supply of education
- the growing number of private for-profit entities providing higher education domestically and internationally
- the increasing tuition fees and other costs faced by students of public (and private) institutions
- the need for public providers to seek alternate sources of funding which sometimes means engaging in for-profit activities or seeking private sector sources of financial support
- the ability of governments to fund the increasing demand for adult and higher education.

Consumers (students) will therefore have greater access to a wider range of education opportunities at home and abroad.

Against: Critics feel that the agreement will lead to the commercialisation of education, a compromise of quality and a market-oriented approach. All of these threaten the traditional view of education as a public good.

⁵ *ibid.*

Appendix 5: The Diploma Supplement

The Diploma Supplement is comprised of the following eight sections:

1. Information identifying the holder of the qualification

- a Family name(s).
- b Given name(s).
- c Date of birth.
- d Student identification number or code (if available).

2. Information identifying the qualification:

- a Name of qualification and (if applicable) title conferred (in original language).
- b Main field(s) of study for the qualification.
- c Name and status of the awarding institution (in original language).
- d Name and status of institution (if different from 2c) administering studies (in original language).
- e Language(s) of instruction/examination.

3. Information on the level of the qualification:

- a Level of qualification.
- b Official length of the programme.
- c Access requirement(s).

4. Information on the contents and the results obtained:

- a Mode of study.
- b Programme requirements.
- c Programme details (eg modules or units studied) and the individual grades/marks/credits obtained.
- d Grading scheme and, if available, grade distribution guidance.
- e Overall classification of the qualification (in original language).

5. Information on the function of the qualification:

- a Access to further study.
- b Professional status (if applicable).

6. Additional information:

- a Additional information.
- b Further information sources.

7. Certification of the supplement:

- a Date.
- b Signature.
- c Capacity.
- d Official stamp or seal.

8. Information on the national higher education system:

Further information can be found at: <http://europa.eu.int/comm/education/policies/rec_qual/recognition/ds_en.pdf>

Appendix 6: Business degrees

	BACHELOR	MASTER	MBA
PURPOSE	<ul style="list-style-type: none"> ■ The study of organisations, their management and the environment in which they operate ■ Preparation for and development of a career in business and management ■ Enhancement of lifelong learning skills and personal development 	<ul style="list-style-type: none"> ■ Advanced study of organisations, their management and the environment in which they operate ■ Preparation for and/or development of a career in business and management by developing skills at a professional or equivalent level, or as preparation for research or further study in the area ■ Development of the ability to apply knowledge and understanding of business and management to complex issues, both systematically and creatively, to improve business and management practice ■ Enhancement of lifelong learning skills and personal development for self-directed work 	<ul style="list-style-type: none"> ■ Advanced study of organisations, their management and the environment in which they operate ■ Preparation for leadership and transformational roles in business ■ Development of the ability to apply knowledge and understanding of business and management to complex issues, both systematically and creatively, to transform business and management practice ■ Apply previous and newly-acquired knowledge to complex business issues in a range of contexts ■ Develop understanding and experience of global business issues ■ Enhancement of lifelong learning skills and personal development for self-directed work
KNOWLEDGE AND UNDERSTANDING	<p>Courses provide a broad, analytical and integrated study of business and management</p> <ul style="list-style-type: none"> ■ <i>Markets:</i> development and operation for resources, goods and services ■ <i>Customers:</i> expectations, service and orientation ■ <i>Finance:</i> sources, uses and management; use of accounting for managerial applications ■ <i>People:</i> management and development of operations ■ <i>Operations:</i> management of resources and operations ■ <i>Information systems:</i> development, management, exploitation and impact ■ <i>Communications and IT:</i> using relevant communication and IT applications ■ <i>Business policy and strategy:</i> development of in a changing environment to meet interests ■ <i>Contemporary and pervasive issues</i> 	<ul style="list-style-type: none"> ■ Draw upon generic knowledge and skills from the first degree and understand how it can be used effectively in the institutional context ■ Demonstrate relevant knowledge and understanding of organisations, the external context in which they operate and how they are managed ■ Explicit process to integrate subjects to give a holistic understanding of business ■ Learning methods take a theoretical and conceptual approach but further and faster than at Bachelor level <p><i>Specialist Masters will set their specialism within the broader field of business and management</i></p>	<ul style="list-style-type: none"> ■ Main emphasis is on leadership through strategic management ■ Ground new knowledge on the basis of professional experience ■ Demonstrate relevant knowledge and understanding of organisations, the external context in which they operate and how they are managed ■ Expectations of considerable autonomous learning ■ Remove subject and functional boundaries to handle complex situations holistically ■ Strengths in analysing, synthesising and solving complex unstructured business problems ■ Can communicate findings and implement agreed solutions effectively and efficiently ■ Strongly developed interpersonal skills and able to interact effectively with a range of specialists ■ Significant group work element so that students can draw on each others, experiences to deepen understanding
EMPLOYMENT	<ul style="list-style-type: none"> ■ Knowledge and understanding of the key areas of business, their relationships, application and importance in an integrated framework ■ Demonstrate competence in area specific and intellectual skills ■ Apply knowledge and demonstrate critical evaluation ■ Have a view of business influenced by a variety of learning sources ■ Can deal with uncertainty and complexity ■ Explore alternative solutions ■ Integrate theory and practice in a wide range of situations 	<ul style="list-style-type: none"> ■ Consistently apply their knowledge and area specific and wider intellectual skills ■ Deal with complex issues systematically and creatively; make sound judgements with incomplete data, and communicate conclusions clearly to a range of audiences ■ Proactively recognise the need for change and manage it ■ Be adaptable and demonstrate originality, insight and critical reflection in problem situations ■ Make decisions in complex and unpredictable situations ■ Evaluate and integrate theory and practice ■ Operate effectively in a variety of team roles, taking leadership where appropriate ■ Be self-directed and able to act autonomously in planning and implementing projects ■ Take responsibility for continuing to develop knowledge and skills 	<ul style="list-style-type: none"> ■ Consistently demonstrate and apply a depth of knowledge, and understanding, based on previous work experience and MBA learning to complex business situations ■ Deal with complex issues systematically and creatively; make sound judgements with incomplete data, and communicate conclusions clearly to a range of audiences ■ Apply strategic management skills at senior level in changing business environments ■ Ability to transform organisations through strategic leadership and intellectual rigour ■ Understanding and experience of global issues ■ Be self-directed and able to act autonomously in planning and implementing projects ■ Take responsibility for continuing to develop knowledge and skills

Adapted from the UK QAA (Quality Assurance Agency for Higher Education) subject benchmark statements:

- Bachelor degree in business and management
<<http://www.qaa.ac.uk/crntwork/benchmark/business.pdf>>
- Master degree in business and management
<<http://www.qaa.ac.uk/crntwork/benchmark/mast/MBAintro.htm>>

Appendix 7: Data sources for Table 2.2

- **Austria:** <http://www.llm-guide.com/austria_01.html>
- **Belgium:** <http://www.kbr.be/fulbright/other_info/benglish_def.htm>*
- **Bulgaria:** <<http://www.uctm.edu/en/info/links.html>> and <http://www.seeeducoop.net/education_in/pdf/universities-bul-enl-to1.pdf>
- **Cyprus:** <<http://kypros.org/CyprusPanel/cyprus/education.html>>*
- **Denmark:** <http://www.ciriasonline.dk/download/711_higher_edu_prg_uk_logo_735.pdf>
- **Estonia:** <<http://www.ee/www/Education/Universities/welcome.html>>
- **Finland:** <<http://www.oph.fi/koulutusoppaat/amkopas/pdf/degrees.pdf>> and <http://www.opintoluotsi.fi/link_directory/linkkihakemisto.asp?categoryid=546>
- **France:** <<http://www.edufrance.fr/en/>>
- **Germany:** <<http://www.daad.de/deutschland/en/2.2.4.html>>
- **Greece:** <<http://www.greece.gr/EDUCATION/SchoolsAndUniversities/GreekUniversities.stm>>* and <<http://www.greece.gr/EDUCATION/SchoolsAndUniversities/ForeignUniversitiesInGreec.stm>>*
- **Hungary:** <<http://www.om.hu/letolt/nemzet/hepiflih2003.pdf>> and <http://www.mba.center.hu/e_menu2.htm>
- **Iceland:** <<http://www.nordenedu.net/>>
- **Italy:** <<http://www.braintrack.com/linknav.htm?pprevid=44&level=3>>
- **Latvia:** <http://www.aic.lv/HE_2002/HE_LV/Progr/default.htm>
- **Liechtenstein:** <http://www.liechtenstein.li/en/liechtenstein_main_sites/portal_fuerstentum_liechtenstein/fl-buw-bildung_wissenschaft/fl-buw-allgemeineb/fl-buw-allgemeineb-hochschulen.htm>
- **Lithuania:** <<http://www.skvc.lt/enic-naric/hedsys.asp?res=univ>>
- **Luxembourg:** <<http://www.google.co.uk/search?sourceid=navclient&ie=UTF-8&oe=UTF-8&q=university+of+luxembourg>>
- **Malta:** <<http://www.um.edu.mt/>>
- **The Netherlands:** <<http://www.nuffic.nl/study/dutchhe/default.asp?switch=en&SID=154024>> and <<http://ext3.nuffic.nl/study/dutchhe/default.asp>>
- **Norway:** <<http://www.nordenedu.net/>>*
- **Poland:** <<http://www.poland.pl/education/index.htm>>
- **Portugal:** <<http://www.braintrack.com/linknav.htm?pprevid=42&level=3>> and <<http://www.braintrack.com/linknav.htm?pprevid=111&level=4>>
- **Republic of Ireland:** <<http://www.heai.ie/institute/index.htm>>* and <<http://www.heai.ie>>
- **Slovakia:** <<http://www.uips.sk/enic/sk/SystemHE.htm>>
- **Slovenia:** <<http://www.ljudmila.org/srce/slovenia.html>>
- **Spain:** <<http://www.braintrack.com/linknav.htm?pprevid=39&level=3>> and <http://www.spainexchange.com/study_spain/universities_in_spain2.php>
- **Sweden:** <http://europa.eu.int/public-services/sweden/citizens/education/higher_education_en.htm> and <http://www.sweden.se/upload/studyinsweden_se/Publications/pdf-files/Masters%20Programmes%202004-05.pdf>
- **Switzerland:** <<http://www.crus.ch/engl/postgrad.html>>
- **Turkey:** <<http://www.studyturkey.metu.edu.tr/highereducation/universities.htm>>

* Page provides a source of links to higher education institutions in the respective country.

Appendix 8: Course information framework

We recommend that a common framework is adopted to present course information consistently.

The European qualifications framework¹ offers a possible structural base upon which to build course descriptions but this may need to be adapted as students are unlikely to want such granular information. The 1996 Review of Postgraduate Education² in the UK recommended a structure for postgraduate course descriptions.

We have integrated this with both the proposed Danish qualifications framework³ and the UK guidelines for preparing programme specifications⁴. We propose the following course summary structure. The key elements are:

1. General information:

- a Full course title.
- b Aim of the course, eg research and scholarship; preparation for research and deepening subject knowledge; conversion or bridge; professional and practice-related.
- c Nature of study, eg taught; research (extent of research/taught components); practice or the production of a creative piece of work.
- d Method of assessment.
- e Prerequisites for entry (previous study and/or specific knowledge and understanding).
- f Length of course.
- g Level of study, eg percentage undergraduate material/credits; cross-referencing to other categories.
- h ECTS credits.

2. Course components:

- a Compulsory course units.
- b Electives and options.
- c Internships.
- d Thesis requirements.

3. Competency goals:

- a Intellectual competencies, eg analytical and abstract thinking; communication skills.
- b Professional and academic competencies, eg specialist skills; cross-disciplinary competencies.
- c Practical competencies, eg practical skills; professional ethics; responsibility.
- d Possible job roles and business functions the student is suited for.

4. Other information:

- a Price and sources of support.
- b Awarding body.
- c Accreditation.
- d Recognition.

¹ Adam S (2003) Qualification Structures in European Higher Education, <<http://www.vtu.dk/fsk/div/bologna/BasicReportforSeminar.pdf>>

² HEFCE (1996) Review of Postgraduate Education, <http://www.hefce.ac.uk/pubs/hefce/1996/m14_96.htm>

³ Danish Bologna follow up group (2003) Towards a Danish 'Qualifications Framework' for higher education, <<http://www.vtu.dk/fsk/div/bologna/DanishQFReport.pdf>>

⁴ Quality Assurance Agency for Higher Education, Guidelines for preparing programme specifications, <<http://www.qaa.ac.uk/crntwork/progspec/progspec0600.pdf>>

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