

ACCESS TO MASTER LEVEL IN THE EUROPEAN HIGHER EDUCATION AREA: THE CASE OF CROATIA

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Abstract

The Bologna process and its introduction of the three-cycle degree structure into its signatories' higher education systems have been beneficial, but not without problems. One of the problems has been the issue of access to the second cycle or the master level of studies. This level is expected to fulfill the obligation of providing further education to bachelor graduates who cannot find entry into the labor market without a master degree, but also to be flexible enough to promote international, national, disciplinary and social mobility. How this works in practice has been insufficiently explored and this thesis partially fills the gap by extrapolating and analyzing admissions criteria to master programs at the University of Zagreb in Croatia, which has been placed among the bottom four countries in the EHEA for its implementation of access to the second cycle. University of Zagreb's use of *numerus clausus* and overwhelming reliance on bachelor GPA and bachelor degree type restrictions impede access and mobility and need to be complemented by a greater variety of selection criteria.

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Chapter 1: Introduction

Higher education has been seen as a ticket to a better future, not only for individuals, but for society in general, so the issue of access to it has been widely discussed, both in academia and the media. Even though the term ‘access’ is frequently used in literature to refer to the right of underrepresented groups to study in higher education, in the context of access to master level, reports usually use the term in a broader sense, as it is used in the Lisbon Convention on the Recognition of Qualifications (Council of Europe 1997), as ‘the right of qualified candidates to apply and to be considered for admission to higher education’ (Davies 2009, 14). Who these qualified candidates may be will be determined by the analysis of the Bologna and EHEA policy documents and research and reports done on the subject.

The issue of access to master studies has not gained significant attention so far, and then mainly from the students who are directly affected by it and know its full implications. However, with the advance of the Bologna process in Europe, the role of master studies has changed, diversified and acquired more importance than before. This new degree structure and Bologna process’ emphasis on international mobility, flexible learning paths and social equity have been especially influential in changing the way admissions to master level are perceived and handled. The possibility of accessing at least one master level program from one’s bachelor program is considered very important and is in practice in the majority of EHEA countries (Rauhvargers, Deane and Pauwels 2009), but it is not sufficient to ensure access in practice. The European University Association (Davies 2009) and European Students’ Union (ESIB 2007) have warned in their reports about problematic practices administered in entry to master level, such as non-transparent admissions procedures, admissions quotas, preference for students from certain institutions and additional requirements which make access to master level more difficult for certain groups of students. Coupled with the need to promote mobility, flexibility and equity,

admissions to master programs have become a very complicated issue which needs to be urgently resolved. The reports recommend that admissions criteria be agreed on across EHEA and made transparent, with the aim of widening access to master level. What that means and how it would be accomplished, however, remains unclear.

Research on admissions criteria has also not caught up with the issue and it mainly deals with entrance to the bachelor cycle of studies. The main debates here are on the role of entrance examinations and their construct and predictive validity and fairness, the role of secondary-school grade point average and the standing of the secondary schools that the students attended, etc. However, little attention has been paid to the selection criteria for master studies, especially in the context of the Bologna process, and where it has been discussed, has mainly been within the context of individual programs.

The EU and Bologna policy documents have set up ambitious goals that higher education is supposed to accomplish, but there has been little analysis on how admissions criteria to master level may or may not support these goals. Croatia is among the countries that have received less favorable evaluations in certain categories, particularly in the Bologna follow-up group's evaluation of its opportunities for access to higher degree cycles (Rauhvargers, Deane and Pauwels 2009), where Croatia was placed among the bottom four EHEA countries. In this thesis therefore I will analyze admissions criteria to master studies at Croatia's flagship university, the University of Zagreb, and see whether and how they fulfill this role. Special focus will be on how admissions criteria are able to reconcile the role of master level as it is implemented in Croatia and other goals of the Bologna process, termed 'mobility' in this thesis (international, national, disciplinary and social). In order to find this out, I will analyze admissions criteria stated in the University of Zagreb public announcements for the enrollment to all the master level programs offered by the University for the academic year 2011/2012. It is possible that the criteria that are chosen by the programs to select applicants and the importance that is given to some of them

impede access to certain groups of applicants, especially those that are not continuing their education directly after the corresponding bachelor program at the same institution as the master program that they are applying to.

In chapter two I will first deal more in depth with the issue of access to higher education, then I will present the results of the analysis of EU and Bologna policy documents aimed at defining the new role and importance of master level after the introduction of the Bologna process and then I will focus especially on the concept of ‘mobility’ and the many different forms it may take and also the potential consequences of it for admissions policies in general. In the next chapter I will present the analysis of higher education policy in Croatia and how it responds to the challenges imposed by the Bologna process. Particular emphasis will be placed on the consequences that the Bologna process may have for admission policies to master level programs. In the fourth chapter, I will present the analysis of admissions criteria to master studies at the University of Zagreb and evaluate how compatible they are with the role of the master level in the EHEA and other aims promoted by the Bologna process. This analysis and evaluation will provide a basis for policy recommendations which would make admissions criteria to master level programs at the University of Zagreb more compatible with the Bologna process aims and recommendations, but also provide a more detailed analysis and evaluation of the effect of various selection criteria to master level programs in the EHEA on the accomplishment of the professed aims of the Bologna process in general.

Chapter 2: Access, Master and Mobility in the EHEA

2. 1. Access to Higher Education

Ever since the trend of massification of higher education, with more and more people wanting to enter and entering institutions of higher learning, universities have been met with a difficult task of selecting suitable candidates, often among very wide and diverse groups of hopefuls. They have usually had to find applicants who can demonstrate that they are most ‘worthy’ of being admitted, i.e. who show merit, and who are most likely to graduate from the program. These two are usually mutually inclusive, but problem arises when universities have to choose criteria which will actually show merit and predict success at future studies.

Even though it is mostly agreed that universities should admit students who have the most ‘merit’, the definition of merit is not always so simple (Admissions to Higher Education Steering Group 2004). Examination results do not always have the best predictive validity, and according to the Steering Group, universities should also take into consideration the background and the context of the students’ achievements in order to truly capture the best students regardless of their pre-admission paths.

An emphasis on accepting and promoting diversity has numerous benefits for higher education, enriching student and academic experience, as well as society as a whole, but it has placed a significant amount of strain and burden on higher education institutions. A diverse student body has diverse needs and aims, as well as diverse sets of skills and competences and ways of expressing them. How can universities choose among these students, while also keeping in mind what makes a successful student?

With the introduction of the Bologna process, the issue of access has been expanded to entry to second and third cycles as well. In the Lisbon Recognition Convention (Council of Europe 1997), as well as in stocktaking reports dealing with the implementation of Bologna process,

access is defined as ‘the right of qualified candidates to apply and be considered for admission’ (Rauhvargers, Deane and Pauwels 2009, 34), and the issue of access is not analyzed as numbers of students advancing through cycles, but as their right and potential to do so. Based on the results presented in the 2009 stocktaking report, almost all countries, 42 out of 46, have all first cycle qualifications that ‘give access to several second cycle programmes’ and all second cycle qualifications that ‘give access to at least one third cycle programme without major transitional problems’ (Rauhvargers, Deane and Pauwels 2009, 33). This is considered a good result, even though authors admit that the transition may not be as smooth in all the countries, as students may have to satisfy additional requirements, such as entrance exams, additional courses and work experience.

These issues are partly covered in the Bologna with Student Eyes report (ESIB 2007), which treats the issue of access in a more complex manner. Students complain that, even though formally access is available in most countries, it is still not without impediments and is jeopardized because programs have restrictions on the number of students that they admit or because higher education institutions have a tendency to favor their own graduates (ESIB 2007).

However, even though these targets of students’ complaints probably do impede access, the additional requirements mentioned by the stocktaking report may not do so. Entrance exams, additional courses and work experience may also be considered as a way to widen access for applicants who may have taken a non-traditional route to second and third cycles (Rauhvargers, Deane and Pauwels 2009) and who wish to enroll to second and third cycles but may not be able to do so because they do not have the most suitable formal qualifications.

Widening access to a variety of students is something that is increasingly being advocated. Even though policy documents may not be sufficiently specific on the conceptualization of cycles, they are clear on advocating diversity and flexibility. Terms such as social dimension, mobility, flexible

learning paths and lifelong learning are used throughout the policy documents and have consequences for the higher education system, especially access requirements.

Should all students have the opportunity to continue their education at master level, and if not, which students should and how will they be selected? The suggestion of the Survey on Master Degrees in Europe (Davies 2009) is that there be some consensus on admission criteria and that they be transparent across countries and institutions which would hopefully bring order into a presently chaotic state of affairs on the field.

However, even though there is little consensus on the definition and the role of master degree in the EHEA, there is consensus on the importance of mobility, lifelong learning and equity.

Students, as well as researchers and other staff, should be able to move freely around EHEA, to grow and develop personally and professionally, and this opportunity should be available to the widest possible number of people, from various entry points. This thesis uses the collective term ‘mobility’ for all of these phenomena, and distinguishes among:

- international mobility (promoted in Bologna policy documents as simply ‘mobility’, and refers to movement of students, researchers and staff within and outside EHEA)
- national mobility (mobility among a country’s higher education institutions between corresponding and similar fields)
- disciplinary mobility (the opportunity for students to move between disciplines, mostly promoted and analyzed under the terms ‘lifelong learning’ and ‘flexible learning path’ in policy documents)
- social mobility (the opportunity for everyone to access higher education, regardless of their background, mostly promoted and analyzed under the terms ‘social dimension’ in the policy documents).

These will be discussed further below.

2. 2. Mobility in European Higher Education Area

2. 2. 1. *International mobility*

When mobility in the EHEA is mentioned in the policy documents, they usually mean international mobility, achieved when students, researchers or staff can freely move from one country's higher education system to another for the purposes of gaining international experience. This thesis will not deal with researchers' and staff mobility, but only with student mobility.

The Leuven Communiqué (2009) mentions the importance of student centered learning and mobility in making higher education respond to the needs of the 'changing labor market' and society's demands for 'active and responsible citizens'. Mobility is especially important for the personal development of students, because it enables them to improve their language skills, gain experience of living in a foreign country and interacting with people from different cultures.

International mobility can be achieved in two different ways: horizontally and vertically.

Horizontal mobility refers to the mobility of students not with the aim of obtaining a degree in the foreign country, but spending a study period there. Vertical mobility, on the other hand, refers to mobility where the student intends to graduate in another country, and this is the type of mobility that will be examined in this thesis.

Mobility benefits not only students, but universities that they attend. Having a diverse student body enriches the studying experience, both academic and social. Having foreign students in one's own country also promotes a country and its higher education among other countries.

International mobility has several prerequisites that need to be satisfied in order for mobility to be successfully implemented, though. Transference of scholarships and grants, visa arrangements, language difference or similarity and admissions requirements can either facilitate the process or

aggravate it. This thesis will focus specifically on admissions requirements and how they relate to the promotion of international mobility.

2. 2. 2. National mobility

As admissions requirements can either facilitate or aggravate international mobility, so can they facilitate or aggravate national mobility. Students have been complaining about the problem of higher education institutions giving preference to their own students (ESIB 2007) and have recommended, along with the Survey on Master Degrees in Europe (Davies 2009) that this practice be abolished in the future.

Why does this practice need to be abolished? It impedes the flexibility of learning paths and lifelong learning. Under Bologna, students are encouraged to move, not only between countries, but also between institutions in their own country.

2. 2. 3. Disciplinary mobility

The Bologna process' emphasis on the importance of flexibility and student centered teaching has made it important for students to be able to create their own individual learning paths and to choose (within limits) what they are going to study. Lifelong learning, with all the consequences it brings with it, a diverse student body, both in age and types and years of experience, is a necessity in today's knowledge society. The aging population and the increasingly diverse, complex and interdisciplinary demands from the labor market are making it imperative that people have an opportunity to improve and diversify their knowledge at any stage in their life. The master cycle may play an indispensable role in this, since the majority of these applicants to higher education will already have a bachelor degree. The diversity of the applicants, their aims and needs will give the master degree a new range of roles and functions, but it will also bring with it a host of issues that need to be dealt with. First and foremost among them is the need for more flexible

admissions criteria, ones that take into consideration not only formal periods of study, but competences acquired in other ways.

Research has shown, though, that the practice of admitting students who finished their bachelors in disciplines other than the one they wish to start their master in is still not there in all the countries (ESIB 2007). Belgium, Estonia, Latvia and Switzerland, for example, are the countries where it was reported that access to masters which are not in the same field of study as the bachelor is not ‘straightforward’ (ESIB 2007, 40).

2. 2. 4. Social mobility

Apart from the need for flexibility, policy documents also emphasize the importance of the social dimension of higher education in EHEA. Students should be allowed equitable access and completion of higher education, and the student population should reflect the countries’ population in general. The communiqué from Bucharest (2012) emphasized the role of widening access to higher education as a precondition for societal progress and economic development.

The importance of social equity as envisaged by the Bologna process is clarified in the Leuven Communiqué (2009). It states that higher education is a public responsibility and names social equity as one of European values along with institutional autonomy and academic freedom.

Social equity is achieved through widened access but also completion of higher education. The Eurydice report on the impact of the Bologna process mentions two mechanisms countries usually use in order to widen participation of underrepresented groups in higher education: special admission procedures and targeted scholarships and grants for members of underrepresented groups (Eurydice 2010, 33).

However, before examining how these different types of mobility are implemented in the biggest university in our country of interest, Croatia, it would be useful to examine what is the master level in the EHEA and why has the issue of access to it become so important.

2. 3. Master level in the EHEA

The introduction of the three-cycle degree structure in EHEA has brought with it numerous benefits, the most important of which is the harmonization of previously diverse and mutually difficult to compare higher education degrees across Europe, but it has also brought significant challenges. Even though, formally, the new degree structure has been introduced more or less successfully in the majority of EHEA countries (Rauhvargers, Deane and Pauwels 2009), there are still significant issues that need to be dealt with in order for this degree structure to fully function in reality.

One of the issues that need to be solved is the still extant diversity among the cycles as they are understood in various countries. Therefore, for example, there are some countries which have ‘two levels of bachelor degrees’ (Rauhvargers, Deane and Pauwels 2009, 7), as well as a variety of master degrees, which are both considered first and second-cycle qualifications respectively, but have different roles and rights of access to further education and the labor market. How is this possible?

The answer lies in the fact that the descriptions of the three cycles in policy documents are very general. For example, the master degree, the ceiling of the second cycle, is described as a degree that consists of 90 to 120 ECTS, at least 60 of which should be at master level. This amounts to one to two years of full-time study. The content criteria for the degree are vaguely described as having to be ‘consistent with generic level descriptors’ (Davies 2009, 13) and defined through ‘learning outcomes’ (Davies 2009, 13). They should also have ‘a recognized point of entry to the European labor market’ (Davies 2009, 13).

The generic level descriptors mentioned in the guidelines can be found in several sources, the primary of which are the so-called ‘Dublin Descriptors’ (Joint Quality Initiative 2004) and the EHEA framework of qualifications (2005). A comparison of descriptions for the master level and

the bachelor level sometimes does not show much difference between the levels and this difference sometimes only depends on different phrasing or use of an adjective or an adverb. If these frameworks are compared with other frameworks in use, such as the European Qualifications Framework (European Commission 2008), it may even be possible to find instances where these general guidelines are contradictory given a certain interpretation. However, some things are largely consistent about the master degree: it expects master graduates to be able to handle multidisciplinary contexts, to integrate knowledge, to be autonomous and creative, to solve problems and clearly communicate issues with experts, as well as non-experts. Due to a high degree of vagueness of descriptions (or this vagueness is probably a consequence of the situation on the field), there is now a large variety of master degrees in EHEA. There is no one model of an EHEA master degree. Reports mention professional masters, academic masters, taught masters, joint masters, research masters, etc. The Survey on Master Degrees groups master level courses into three, mutually very different, categories: taught masters, for professional development and with a variety of modes of delivery; research masters, which function as pre-doctoral studies; and masters for returning learners, with an even wider array of delivery modes and functions (Davies 2009, 12). This variety of forms, roles and modes of delivery that the master degree may have opens up many opportunities relevant for the EHEA, but it also opens up many problems that need to be solved in order to achieve this, and one of them is defining admissions criteria that would be compatible with all the recommendations in the policy documents.

Chapter 3: Croatia as a member of the EHEA

The implementation of the new degree structure in Croatia has not been without problems as well. Croatia has been a participant in the Bologna process since 2001 and has used it to obtain much-needed guidelines for the change and improvement of the Croatian higher education system.

With the act of signing the Bologna declaration, Croatia committed to harmonizing its higher education system with the rest of the signatories and consequently to change its then-degree structure. According to a Croatian Bologna report, universities were required to adapt their degree structures to a 3 or 4 year long first cycle, except for a select few that could merge the first cycle with the second cycle (Ministry of Science, Education and Sports 2005).

In spite of Croatia's positive evaluations of its formal harmonization of its higher education system with EHEA, the 2009 stocktaking report (Rauhvargers, Deane and Pauwels 2009) evaluates Croatia's success in the implementation of relevant instruments of the Bologna process negatively, especially when certain criteria are taken into consideration. For example, Croatia is among the four lowest rated countries in the implementation of access to higher cycles of higher education, even though the standards for obtaining the highest rating were not high: its higher education qualifications merely had to give access to qualifications in the next, higher cycle, but Croatia is among the countries where less than 25% of qualifications do not give access to the higher cycle.

The majority of other criteria have also not been given the highest grade. According to the criterion evaluating the implementation of the two cycles, Croatia is among the 10 countries where not all, but 70-89% of students are in the two-cycle degree system, and according to the criterion evaluating the implementation of the Diploma Supplement, it is among countries where

the Diploma Supplement is given only to some graduates and programs free of charge, and not all of them.

However, one of the biggest issues related to the introduction of the Bologna process in Croatia is the fact that the bachelor degree does not really have its own exit point into the labor market. Even legally, the old pre-Bologna undergraduate degree corresponds to the new Bologna master degree, and not the bachelor degree (OG 2007), making it hard for the labor market to recognize what the new bachelor degree can do. The new Croatian Qualifications Framework (2011) attempts to define the outcomes of the bachelor cycle, but it will take time until it takes root.

Some authors (Rodin 2007) see the failure of this in the fact that Croatian universities have not really conducted a curricular reform of their programs and created new, post-Bologna two-cycle degrees, but have merely split the old, pre-Bologna undergraduate programs into two parts, making either of the two parts incomplete without the other. While this claim cannot be accepted without an extensive analysis, it is apparent that there are problems with the Croatian implementation of the Bologna process, and they are not endemic to Croatia, but other countries as well (ESIB 2007), making the need for curricular reform of the new programs one of the most important and urgent issues to be solved.

How has this affected access to master level? Due to the fact that a bachelor degree does not have a functional entry point into the Croatian labor market yet, access to master level is made all the more urgent. The option of continuing to master level should be open to all in that case. However, research has shown that not all first and second cycle degrees lead to further cycles in Croatia, and even where this is the case, this thesis will show that it is not without significant impediments.

It seems that the situation is problematic even for 'regular' students in Croatia, those who are Croatian citizens and who wish to continue their studies in a master program in the same field as

their bachelor program at their university. What happens then to those students who wish or have to be mobile?

3. 1. Mobility in Croatia

This section will give a brief overview of the situation and the main issues in the four types of mobility which will be analyzed in this thesis. Whereas national mobility and disciplinary mobility are not really on the agenda, with seven universities and few programs where students can be mobile, other issues have received some attention.

International mobility has become important in Croatia because it wants to increase its currently low international mobility figures, but getting incoming students to attend is aggravated by the fact that Croatian is not a widely spoken language, and that the majority of courses at Croatian universities are in Croatian. Focusing on attracting the best students in the West Balkans region may be a valid policy decision in this situation, the one that was undertaken by Slovenia (Eurydice 2010) and the Nordic countries for the Nordic region, even before the Bologna process (Carlsson et al. 2009).

However, even if they do wish to and then manage to enroll, foreign students always have to pay the full fee or even three times as much than Croatian students. Whereas this practice is not uncommon in other European countries, especially EU countries when it concerns non-EU students, where universities use additional funds generated from non-EU students as a source for improving the quality of education, other countries are also offering loans and grants for foreign students. Having foreign students pay the full fee or even more than that is problematic for attracting quality students into one's higher education system.

The 2010 Eurydice report on the impact of the Bologna process showed that Croatia did not have a strategy for attracting international students (2010, 93), but in that year Croatia has composed a two-year action plan to remove obstacles and strengthen international mobility in

Croatia (MoSES 2010). This document gives the exact figures which tell how insufficiently evolved international mobility in Croatia is: in the academic year 2011/2012, it is estimated that universities will have 1036 (0.6%) students going outside the country to study, and even fewer, 320, foreign students coming to Croatia, mostly through Erasmus program (MoSES 2010).

Social issues have also received attention, not so much among policy makers, but among researchers, partly as a response to the fact that the Croatian higher education system is not sufficiently sensitive to the needs of all the groups. The Croatian Constitution guarantees the right of access to higher education to all Croatian citizens based on their abilities and under the same conditions (OG 2001). Provisions for underrepresented groups, defined in the Eurydice report (2010) as students with disability, of lower socio-economic status (including those affected by war), of certain ethnicity (especially Roma), mature students and fully employed students and students coming from certain geographic regions, are not mentioned here.

However, research has shown that underrepresented students do not study under the same conditions as everybody else. The experiences of students of lower socio-economic status (Doolan 2011) show that they often have to support themselves by working in order to afford their studies. Their financial situation is often aggravated by the fact that there are not many needs-based scholarships and grants in Croatia (Dolenec 2010) and that merit based scholarships are usually taken up by students of higher socio-economic status because they had the opportunity and the means to prepare themselves better for entrance examinations or for studying in a higher education context in general. That is why students from disadvantaged groups may take more time to graduate from their bachelor course or may do it less successfully than their more advantaged counterparts.

The issue may best be resolved by introducing more support at lower levels of schooling to facilitate studying for disadvantaged groups, but until that happens, it would be advisable to

consider alternative methods of selection of students which may also take into consideration their different paths of coming to the master program of their choice.

Admissions criteria which would sustain this diversity will take into consideration all the many ways in which a student may be competent for their program and value the diversity of ways in which the student was able to achieve these competences. Valuing the students' relevant working experience if they have it, for example, may give the faculty admissions committee more information on the competences of the student for the program in which they wish to enroll.

Allowing students without the relevant bachelor degree to take an entrance examination which would give them the opportunity to show that they acquired their knowledge and skills in another manner is also a possibility. Checking their knowledge and motivation through interviews, motivation letters, research proposals, writing samples or portfolios (Sedlacek 2003) can all be avenues through which students may demonstrate their competence, preparedness and motivation for studying in a certain master program, apart from their bachelor degree and GPA acquired through it.

How are these issues resolved at University of Zagreb, Croatia's biggest university, will be examined in the next chapter.

Chapter 4: Admission to Master Programs at the University of Zagreb

4. 1. Methodology

The thesis will mainly offer a qualitative analysis of the selection criteria extracted from public announcements for admission to master programs at the University of Zagreb, but, due to the fact that the research took into consideration all the master programs that have their own admissions criteria at the University of Zagreb, the results will also be quantified where appropriate.

Croatia was chosen for this research due to its low rating in the 2009 Bologna stocktaking report (Rauhvargers, Deane and Pauwels 2009) in the category of access, where Croatia was among the bottom four countries. The purpose of this research was to go more into depth on the potential causes of such problematic results in the category of access, but also to explore further the issue of access to master level in EHEA, beyond what was analyzed in the stocktaking report.

The University of Zagreb was chosen as the case to be analyzed because it is Croatia's flagship university, attended by approximately half of the students (Dolenec 2010) and, according to public announcements for the analyzed academic year 2011/2012, with more places allotted to its master programs than all the other public universities in Croatia combined (Table 1). Due to its size and standing, Zagreb also has the biggest variety of master programs of all the other universities in Croatia, giving coverage of all the disciplines.

University	Quota (academic master)	Quota (foreign students)
University of Zagreb	8800	197
University of Rijeka	2510	94
University of Split	1955	0
University of Zadar	1087	66
University of Osijek (Juraj Strossmayer)	2112	53
University of Pula	357	23
University of Dubrovnik	305	0

Table 1. Quotas for master programs at Croatia's public universities.

4. 1. 1. *The University of Zagreb*

The University of Zagreb consists of 33 units, all of which were taken into consideration and analyzed in this research (Table 2). Out of these 33 units, 29 are faculties, three are academies of arts and one is a university center. Almost all of them consist of additional subunits, or departments. According to the law, faculties have the right to choose their own admissions criteria. This right to have their own selection criteria extends to individual departments at faculties, so at some faculties, such as the Faculty of Architecture, each department/master program has its own set of criteria, and at some faculties all the departments/master programs have the same set of criteria. This has resulted in 53 analyzed different sets of admissions criteria at University of Zagreb for this research.

Field	Units
Science	Faculty of Science
Technical field	Faculty of Architecture, Faculty of Electrical Engineering and Computing, Faculty of Chemical Engineering and Technology, Faculty of Traffic and Transportation, Faculty of Mechanical Engineering and Naval Architecture, Faculty of Geodesy, Geotechnical Faculty, Faculty of Civil Engineering, Faculty of Graphic Arts, Faculty of Metallurgy, Faculty of Mining, Geology and Petroleum and Faculty of Textile Technology
Bio-medical field	Faculty of Pharmacy and Biochemistry, School of Medicine, School of Dental Medicine and Faculty of Veterinary Medicine
Bio-technical field	Faculty of Agriculture, Faculty of Food Technology and Biotechnology, Faculty of Forestry
Social science	Faculty of Education and Rehabilitation Sciences, Faculty of Economics and Business, Faculty of Organization and Informatics, Faculty of Political Science, Faculty of Kinesiology, Faculty of Law, Faculty of Teacher Education
Humanities	Faculty of Humanities and Social Sciences, Catholic Faculty of Theology, Center for Croatian Studies
Arts	Academy of Dramatic Art, Academy of Fine Arts, Academy of Music

Table 2. Units of the University of Zagreb according to field of study.

Universities have a great deal of autonomy in Croatia, and they determine how big their admissions quotas are going to be. There are three types of students studying at the University of Zagreb: regular students (*redovni studenti*), which receive all the student subsidies and may be non-fee paying or fee paying, part-time students (*izvanredni studenti*), which do not receive student subsidies and pay full fees and foreign students (*strani studenti*), which are entitled to student subsidies and can pay from full fee to up to three times as much as the maximum fee for domestic students (determined by faculties). Since quotas limit the number of students that may study at a particular program, or may determine who pays fees and who studies tuition-free, the determining of selection criteria and their weighting are crucial in deciding who these students will be.

The programs which were analyzed all passed the needed accreditation procedures. In order to obtain a license, universities have to, among other data, give the following information on their programs to the relevant accreditation authority: comparableness of the study program with the programs of related accredited study programs in Croatia and EU countries, possibilities for mobility of students within the national and international area of higher education, information

on adequate and transparent selection procedures for admission to the study programs and information on bachelor studies which enable admission to the suggested master level of studies (Ministry of Science, Education and Sports 2010).

The admissions procedures need to be conducted in such a manner that they guarantee equal treatment of all the applicants regardless of their 'race, skin color, gender, language, religion, political and other beliefs, national or social background, property, birth, social standing, disability, sexual orientation and age' (OG 2003, 2004). Furthermore, according to the law, a master can be enrolled by a person that finished a suitable bachelor course, and what these suitable courses are is determined by the universities themselves.

4. 2. Numerus clausus at the University of Zagreb

In Bologna with Student Eyes (ESIB 2007), students identified several problems related to access to the second cycle and one of them is the imposition of *numerus clausus* when entering the master level. All faculties at the University of Zagreb have imposed restrictions on the number of students that they are admitting, but the numbers of students that may be admitted in relation to the number of students that were admitted to bachelor courses 3 or 4 years ago (depending on the duration of the bachelor course) varies (Appendix 1). Some faculties' restricted number of students is larger than the number of students that they admitted to bachelor courses in the corresponding year of admission, some of them have the same quotas, and some of them have smaller quotas than they had at bachelor level. However, this may not necessarily be detrimental to the access of students from the bachelor level of study, because entrance quotas at bachelor level need not necessarily mean that they were filled up nor that the number of students who did enroll at bachelor level managed to graduate within the proscribed time limit in order for them to start master studies three or four years later depending on the length of the program.

The total number of students who can be admitted to a program is not the only thing that may impact access to master level, though, because obtaining access does not depend merely on the total number of places, since fees for those places vary. Naturally, the best places for access are those where students do not have to pay a tuition fee, and placement among that group of students depends on one's place on the ranking list of students determined by the faculty's selection criteria. This makes selection criteria and even the smallest advantages a candidate can get through them extremely important for access.

Foreign students usually have their own, separate quotas. These quotas are usually very small compared to the quotas for Croatian students, but this may not be detrimental because it does not seem that many foreign students apply to University of Zagreb (Ministry of Science, Education and Sports 2010). Even so, separate quotas for foreign students ensure that foreign students compete among each other, not against Croatian students, which is especially important for those faculties where places are scant, and Croatian students, or even students who graduated from the same institution, have advantage.

4. 3. Integrated bachelor and master courses at the University of Zagreb

Among the faculties listed in Table 1, though, there are some whose admissions criteria to master programs will not be analyzed because they teach integrated degree programs where students automatically move onto master level from bachelor level (Table 3).

Faculties	Integrated programs
Faculty of Science	Biology and chemistry (teaching) Physics (teaching and research) Physics and ICT (teaching) Physics and chemistry (teaching) Physics and polytechnics (teaching) Geography and history (teaching) Mathematics and physics (teaching)
Faculty of Pharmacy and Biochemistry	Pharmacy Medical biochemistry
School of Medicine	Medicine
School of Dental Medicine	Dentistry
Faculty of Veterinary Medicine	Veterinary medicine
Faculty of Kinesiology	Kinesiology
Faculty of Teacher Education	Primary education (teaching)
Catholic Faculty of Theology	Theology Religious pedagogy and catehetics
Academy of Fine Arts	Restoration and conservation of artifacts

Table 3. Integrated bachelor and master programs at University of Zagreb.

An integrated degree means that students cannot graduate with a bachelor degree, but they have to continue their studies to finish with a master degree. In the case of integrated degrees there are usually no separate admissions for the continuation of studies apart from a passing grade in previous work in the same course. In this respect, integrated degrees are similar to the old, pre-Bologna undergraduate degrees: they are both offering a continuous course of studies in the same program at the same faculty and finish with a master-level degree.

There are both benefits and drawbacks to integrated degrees. The benefit of an integrated degree is the unquestionable advancement towards the master degree, provided minimum criteria for passing are met, which is in line with ESIB's recommendations (ESIB 2007). The drawback of the degree is its lack of flexibility: this type of integrated program does not allow for vertical international mobility between the first and the second cycle nor does it provide students from other faculties or disciplines with a regular point of access to the second cycle.

However, integrated degrees are not unusual and exist in other EHEA member countries as well. Regulated professions are especially prone to not following the separate bachelor-master cycle structure. The EU has seven degrees where qualifications are regulated and automatically

accepted across the EU (Directive 2005/36/EC) and Croatia conforms with these requirements: doctors, dentists, architects, pharmacists, veterinarians, midwives and nurses. Of these, doctors, dentists, pharmacists and veterinarians have integrated degrees in Croatia.

Among other degrees which are usually integrated, are lawyers and teachers. Of the usually regulated professions, missing are engineers and architects from this list since they do not have an integrated program at the University of Zagreb. However, probably because of this, the criteria that, for example, Faculty of Architecture uses for admissions to their master program in architecture are very specific: students will only be taken into consideration for the program if they have a bachelor degree and an internship in architecture and the quota for the master is higher than the corresponding bachelor quota. The integration of some other programs, such as theology and kinesiology, is less clear, though, since masters in theology and kinesiology are not among regulated professions in Croatia.

4. 4. Admissions criteria for master level programs at the University of Zagreb

The analysis of public announcements for master programs at the University of Zagreb yielded the following criteria that programs use to select suitable candidates:

- bachelor GPA
- type of bachelor course
- faculty attended
- time taken to finish the first degree
- interview
- result on the entrance examination
- other: portfolio, motivation letter/letter of interest, academic awards (dean's, rector's), letters of reference, internship/work experience, published papers and/or presentations at conferences, membership in professional societies, knowledge of second foreign

language, assistantship at bachelor level course , success in non-academic competitions (e.g. sport), writing sample, cv/resume , project proposal, audition, knowledge of English language.

Of the criteria which were enumerated, this section will take into consideration those that are the most important, i.e. either they are given significant weight compared to other criteria or they are used by the greatest number of programs or both.

4. 4. 1. Bachelor GPA

Out of all the programs analyzed, there are only few that do not use bachelor GPA as an important criterion for selecting candidates for admission. Only certain master programs which are in the arts field do not take the bachelor GPA into consideration; these are master in design at Faculty of Architecture and master in dramaturgy at the Academy of Dramatic Arts. Seven take minimum level of GPA as a prerequisite for entering the admissions procedure, but do not further take it into consideration when ranking students.

The vast majority of master programs, however, use bachelor GPA as one of the main criteria, if not the main criterion for selecting and ranking students. At least eight programs that were analyzed solely rely on bachelor GPA to select students.

Using GPA in the selection of students has been debated extensively at the level of entrance to bachelor level from secondary schools, but there is a dearth of research into the use of bachelor GPA in entrance to higher levels of higher education. Research into the use and relevance of bachelor GPA as an entrance criterion to master studies is mostly tied to individual disciplines. For example, a study done by Fastre et al. (2008) has discovered that bachelor GPA (in both business and non-business bachelor programs) is only a very limited predictor of success at a European master of science program in business, with bachelor GPA and GMAT scores explaining 25.3% of the variance of the master GPA. This percentage increases significantly

(39.2%) if non-cognitive characteristics of students, such as attachment (negative relationship) and academic adjustment are taken into consideration, making authors of the article recommend that other criteria, besides GPA and test scores, be used to select students.

The debate on high-school GPA as an admissions criterion to bachelor level mainly revolves around its objectivity and validity. While the proponents of the use of GPA praise it as being a more 'holistic' assessment of the student characteristics due to its capturing of more students' characteristics than the entrance examinations (often non-cognitive but still important for success in studies: motivation, conscientiousness, perseverance, participation in class, etc.) (Wolming 1999), the detractors express worry that the student GPA is not an objective indicator of knowledge because it depends on the judgment of individual teachers, the characteristics of the student's peer group and the school context.

Applying this logic to bachelor GPA in Croatia may not be entirely possible. Even though changes brought on by the Bologna process have emphasized more interaction in class, as well as more continuous work throughout the term, it is questionable whether the bachelor GPA reveals as much about the applicant's qualities other than his or her ability to prepare for the relevant final examinations. In itself, success at bachelor level, reflected in the bachelor GPA, is a quality relevant for master studies. Research done into individual disciplines, such as business, should not be taken as an immediate sign of failure of GPA to predict master GPA, because this GPA probably needs to be in a relevant discipline and in relevant subjects to show its full predictive value. The practice of mainly taking one's own bachelor graduates also increases the predictive ability of bachelor GPA in Croatia.

However, excessive emphasis on GPA, to the exclusion of other criteria, may be detrimental to some students' chances of securing their place in their master program of choice. A GPA is not only reflective of the students' cognitive and non-cognitive characteristics, but also opportunities that the students have to expand their knowledge and demonstrate it. The Croatian scholarship

and tuition fee policies at bachelor level often only serve to exacerbate the conditions under which some disadvantaged students may study. Because the Ministry and the universities take mainly academic merit and success as criteria for awarding scholarships and other student privileges (Dolenec 2010), such as student accommodation and tuition-free education at bachelor level, those who benefit the most are those who were able to ensure that they would be academically successful, which does not always coincide with those students who need financial assistance.

Without changing this type of practice and merely prolonging it at entrance to master level, strong emphasis on academic merit, expressed through bachelor GPA or any other criterion, to the exclusion of other possible criteria, may be detrimental to the promotion of the social dimension in Croatian higher education.

The use of bachelor GPA is also problematic for disciplinary mobility. A GPA is always obtained in a certain number and type of courses, and it may not be valid or relevant enough to simply compare and rank GPAs obtained in different types of bachelor programs. The issue of the number of courses in a program was solved through ECTS points which are standardized throughout EHEA and which are a useful measure to use when trying to determine the extent of a student's bachelor program, even if their implementation is not always fully successful.

However, the issue of GPAs obtained in different types of programs has not been dealt with as cleanly and as elegantly as that. Research into the predictive validity of bachelor GPA has shown that it does not explain much of the variance in master GPA (Fastre et al. 2009), but this has mostly been the case where master programs were receiving a wide variety of bachelor graduates. The University of Zagreb's master programs have tried to deal with using bachelor GPA in different ways. Probably one of the reasons why master programs at University of Zagreb have been able to rely so heavily on bachelor GPA in their selection of students has been the relatively low number of bachelor programs, mostly very similar to the bachelor program corresponding to

the master program in question, that they were willing to take it into consideration in such amounts. The number of institutions where these bachelors can be obtained in Croatia (because it is Croatian bachelor programs that are mostly considered) is small and easy to keep track of.

Reliance on GPA where there exists a wider variety of bachelor programs and higher education institutions may not be as strong and as reliable. Some master programs at University of Zagreb have stipulated that they will be calculating GPA only from certain courses, relevant for them, while some take into consideration all the courses, but give different weight to each of them.

4. 4. 2. Type of bachelor course

The issue of bachelor courses which are accepted for studying at certain master programs is still relatively easily solved in Croatia where the majority of students come from Croatian universities which are known to admissions committees and can even, in some cases, be enumerated in the public announcements. However, with Croatia potentially entering the EHEA, the number of institutions and programs which would need to be taken into consideration will increase. There are no clear instructions in the Bologna policy documents on how universities should deal with this diversity in bachelor diplomas. The importance of flexible learning paths is emphasized when the introduction of two-cycle degree structure was envisaged, but to what degree, it is not clear.

The vast majority of master programs which were analyzed accept not only graduates of bachelor courses corresponding to the master programs that they are applying to, but also bachelors of congruent fields. Some programs list bachelors that they are accepting, some even naming the faculties and universities in Croatia where they can be obtained, some stipulate a minimum number of ECTS points or courses that applicants need to have in order to be considered for admission, etc.

There is also a small number of programs which do not specify at all which bachelor program a student ought to have graduated from. These programs are mostly in arts, humanities and social

sciences, except forestry, which then allows non-forestry bachelor graduates (forestry graduates still have advantage) to prove their competence through entrance examinations.

However, the manner in which all these congruent bachelor diplomas are treated in relation to the 'main' degrees varies. Some programs show no preference for any groups of students, but many prefer graduates with diplomas in bachelors corresponding to the masters to which they wish to apply. They show this preference by giving these graduates additional points, or placing them in front of all the other candidates on the ranking list. Some allow bachelor graduates to make up for lost points by taking entrance examinations, but not many do.

Should master programs give preference to graduates who graduated in bachelor programs closer to the master program to which they want to apply? Probably. These candidates are on average probably better prepared than all the other candidates and are thus more likely to graduate. They have also proven their motivation for the field by enrolling in and graduating from the corresponding bachelor program. However, should they do it without exceptions? Probably not. Having a diverse student body may even be beneficial to the master program, with graduates from other fields offering a different perspective on what is being taught in the program (Admissions to Higher Education Steering Group 2004). Bachelors of other programs may also not have the official bachelor diploma in the field that is required, but they may offer work experience that may be interesting for the program and may make the applicant a successful student. However, this may not be known if work experience, as well as other criteria, is not given sufficient attention along with the type of bachelor course and the obtained GPA.

4. 4. 3. Faculty attended

Davies (2009) recommends that universities and programs do not give preference to their own students and ESIB agrees (ESIB 2007). The majority of programs that were analyzed do not give direct and explicit preference to bachelor graduates from their own faculties. Six do, however. They give preference to graduates from their own bachelor programs by either giving them additional points, or placing them without exception ahead of other candidates on the ranking list. These programs are directly going against the recommendation, and therefore impede not only disciplinary, but also national and, in some cases, international mobility.

4. 4. 4. Time taken to finish the first degree

Having the time it took the applicant to finish the first degree as one of the criteria for master programs may make sense, especially in Croatia. Before the introduction of the Bologna process, one of the biggest problems of Croatian higher education has been the problem of students taking much more time than legally stipulated to graduate from their undergraduate programs (MoSES 2007, 28). Rewarding students who efficiently completed the program in as little time as possible is certainly a reasonable policy because master programs do want students who are more likely to finish the degree in as little time as possible. However, as with bachelor GPA, there can be various reasons why a student did not finish his or her bachelor degree on time, and it is possible that some of them did not do so because they had to support themselves while they were studying (Doolan 2011).

Naturally, it is not the job of admissions policies to rectify social inequalities in the education system, but this particular policy may deepen them in the context of current Croatian higher education policies. Luckily, the weight that is given to this criterion is usually relatively low, in those cases (12 programs) in which it is used.

4. 4. 5. Interview

Interviews are usually used in admissions procedures to check the motivation of the student, their knowledge and skills not evident on paper or just to get a more holistic impression of the student. During the interview a student may be able to show what sets them apart from other candidates, as well as explain why they potentially did worse on some of the other criteria.

The analyzed master programs did not use interviews very often. Four master programs use interviews, of which some use them only in special circumstances (for example, with graduates of non-corresponding bachelor programs), and some with all the applicants. The Academy of Dramatic Arts, for example, uses them for all its master programs and for all the candidates, giving the interviews much importance. But the Academy is also one of the rare institutions whose master programs do not ask for a bachelor in a specific field and administer extensive admissions procedures, where qualifications are not as important as qualities displayed by the students through various methods of assessment.

However, the use of interviews in admissions procedures carries with it problems such as subjectivity and lack of predictive validity, which were confirmed through research (Kelman and Canger 1994), at least in some fields.

4. 4. 6. Result on the entrance examination

Unlike entry to bachelor level, entry to master level is not often guarded by entrance examinations. Eighteen master programs in total require entrance examinations, but only few (five) require them for all the candidates. The majority of those are at the Academy of Dramatic Arts, whose master programs take a variety of bachelor graduates and do not show preference for any bachelor program, even its own. Other faculties and their programs which take into consideration entrance examinations require them from those applicants that did not finish the bachelor program which corresponds to the master program the student is applying to or for

their own graduates that did not obtain the minimum GPA that is required to enter the master program.

The debate on entrance examinations to higher education mostly revolves around their fairness, validity and objectivity. Whereas entrance examinations are usually considered an objective measure of student achievement, putting everyone in the same situation and giving everyone the same tasks, entrance examinations are usually criticized for being biased against and unfair to certain groups of candidates, especially certain races (Jencks and Phillips 1998; Ballantine 2001), applicants of lower socio-economic status (Bowen et al. 2005) and women (Ballantine 2001).

However, in the case of admissions to master programs, entrance examinations may be considered an instrument of promoting national and disciplinary mobility, because they give the opportunity to candidates from other bachelor programs to compensate for the fact that they did not formally finish the corresponding bachelor program (Rauhvargers, Deane and Pauwels 2009). Entrance examinations can also be seen to promote social mobility because they may give candidates who could not get a better GPA due to their social circumstances a second chance to improve their ranking.

4. 4. 7. Other criteria

The criteria analyzed in this part were not analyzed separately either due to the small number of master programs that take them into consideration or because they are not given much weight in admissions procedures. Those criteria that were given little weight would probably be useful to distinguish among candidates that were equally good in other, more ‘important’ criteria, such as bachelor GPA. Those that are not commonly used in more programs are probably program or discipline specific, such as auditions to the master program in acting at the Academy of Dramatic Arts.

A portfolio is used as a criterion in those cases in which it is necessary, which are the arts. It can be considered to promote all the types of mobility analyzed in this thesis, because talent displayed in it can either override bachelor GPA (not used at all as a criterion in some arts programs), type of bachelor attended, faculty or university.

Various types of academic achievement, academic awards, published papers or presentations at conferences may be considered important, especially for entry to postgraduate level, where students are expected to be more autonomous and creative. They may improve a student's ranking if other criteria are not as good, but not by much, due to their low weighting compared to other criteria.

Motivation letters may give a more holistic picture of the student and allow the student to express their will and motivation to study at the program which may not be apparent in the results that they obtained through other criteria. They were mainly used for those candidates that did not graduate from the corresponding bachelor program in which they had to explain why they decided to study at a program which does not correspond completely to their bachelor program.

Project proposals or writing samples were not used as much as it would be expected from criteria for entry to master level, but this is not surprising in the Croatian context where there is not much emphasis on the importance of writing skills, especially compared to some other countries, such as the US.

The use of non academic successes of students as an admissions criterion was surprising, considering that many programs do not give importance even to academic accomplishments. The only non-academic criterion used in this regard was success in sports competitions. It remains unclear why certain programs would give additional points to students who were successful in sport competitions and not any other competitions or activities.

All in all, this use of a variety of criteria is positive because it allows the admissions committees to gain a more holistic impression of the candidate. However, these criteria need to be used carefully so as not to put too much emphasis on one skill or accomplishment at the expense of another.

Chapter 5: Conclusion

This thesis has examined how selection criteria used in admissions procedures to master level programs at the University of Zagreb may or may not work against the aims of the Bologna process. The issue of access to master level was analyzed keeping in mind two different aims: the aim of providing access to master programs without major impediments and the aim of providing opportunities for international, national, disciplinary and social mobility. The results of the analysis have shown that the admissions criteria to master level programs at the University of Zagreb do not fully support either of these goals. On the one hand, access to master level is impeded because all the master programs have additional requirements for admission and many of them have very restricting admissions quotas, and on the other hand, the selection criteria that are used are inflexible and favor applicants who are not ‘mobile’.

The issue of access becomes even more problematic when we take into consideration that Croatia was evaluated as a country whose bachelor and master programs do not all provide access to the higher level of studies. Since this report has analyzed only master level admission requirements, it was not able to see which bachelor programs did not provide access to any master program and why, but these programs may exist according to the 2009 Bologna follow-up group stocktaking report (Rauhvargers, Deane and Pauwels 2009). Only few master program admissions support mobility and some even work explicitly against it, especially against national and disciplinary mobility, by giving advantage to applicants who graduated in their faculties’ bachelor programs or corresponding bachelor programs in the same field of study. Social mobility may be jeopardized by treating all the students’ academic results as if they were accomplished under the same conditions when they were clearly not and the failure of international mobility in Croatia is the result of a complex set of issues and restrictive admissions criteria are merely a small part of them and may not even be an issue in this context.

Admissions criteria which would satisfy all these different aims will be difficult to find, though, because while some of them may promote mobility, they restrict access without impediments and vice versa, a possibility that was also noted in the stocktaking reports (Rauhvargers, Deane and Pauwels 2009). Abolishing the *numerus clausus* is also not a viable option because faculties do not have unlimited capacity for admitting students, which introduces the need for some additional criteria in case the number of students who apply is higher than the number of students who can be admitted.

Before mentioning options which may work, it must be emphasized that adapting admissions criteria to the needs of the present situation does not solve the root cause of the problem. The three cycle degree system's implementation is flawed in some countries, and Croatia is one of them. The bachelor degree does not have a separate identity and recognizable labor market outcomes, thus forcing the students to continue their education at master level and putting pressure on admissions to master level programs. A substantial curricular reform and rethinking of the role of each cycle, with the participation of various stakeholders, including those from the labor market, is a necessary precondition for any long-term solution to the problem.

Until then, it is important to increase mobility while not jeopardizing access at the same time. The admissions criteria and their relative importance for the applicant selection are sufficiently transparent to give the applicants information on what is important for admission. However, maybe their transparency has caused them to be more rigid than necessary, by forcing applicants to fit into formal boxes which can potentially leave numerous good qualities unrecognized. The criteria that are mostly used are also too reliant solely on the applicant's academic success at bachelor level and the closeness of their bachelor program to what they wish to apply to at master level, and do not take into consideration other qualities that the applicant may have that are not visible in bachelor GPA. The applicant's relevant work experience, special skills not obtained through formal schooling or high motivation may also indicate potential high-quality

students, but may then prevent access for recent bachelor graduates if the admissions quotas are too restrictive. This reliance on formal criteria is also perilous for international mobility because, while it is relatively easy to deal with previously determined formal criteria in a small country with few eligible bachelor programs, it is another to determine merit of students who come from the diversity offered by EHEA and higher education systems outside it.

The *numerus clausus* need not be abolished, and probably should and could not, because limitations on the number of students were not put there randomly, but with consideration for the capacity of the program to admit students and the capacity of the labor market to absorb them after graduation. However, if there was more mobility, international, national and disciplinary alike, then bachelor graduates would have more options in choosing their master programs and go somewhere else if they did not manage to be admitted to one master program.

The admissions criteria, the determination of quotas and ranking lists for tuition-fee paying and non-paying students do not function in a vacuum, though, and are not the only problem of the Croatian higher education system. There is a lack of a scholarship- and grant-based support system for students based on financial need, so the students are mostly reliant on parental support, their own devices or merit based scholarships which are more likely to be obtained by those who do not even need financial support in the form of grants or scholarships or do not need it the most. What this analysis has shown is a dire lack of flexibility of the Croatian higher education system and with it, a lack of options for those students who may not take or are able to take the traditional road to obtaining a master degree which is in opposition to the values espoused in the Bologna process and EHEA policy documents.

The Bologna process has set up very ambitious goals for the higher education systems in the EHEA. Due to the nature of the coordination of the Bologna process, the operationalization and implementation of these goals were often left to the member countries themselves, and this has resulted in a variety of interpretations and implementation problems. Steering discussion towards

more practical problems of implementation, as well as providing expert education and guidance to member countries may be more useful in this moment than setting goals that many countries cannot achieve.

Further research into this issue is also crucial. This thesis has only started examining the implications of the use of various selection criteria and their impact on the choice of students at master level. Only after an extensive and objective analysis of the effects that selection criteria may have in various contexts can a decision on their use in admissions procedures be made.

Appendix 1

Faculty	Program	Bachelor quota - total	Bachelor quota - regular	Bachelor quota - foreign	Master quota - total	Master quota - regular	Master quota - foreign
Faculty of Science	Biology	116	110	6	160	160	0
	Geography	45	45	0	100	100	0
	Geology	37	35	2	36	36	0
	Chemistry	85	85	0	65	65	0
	Mathematics	330	300	30	259	245	14
Faculty of Architecture	Architecture and Urbanism	125	120	5	160	155	5
	Design	32	30	2	32	30	2
Faculty of Electrical Engineering and Computing		650	640	10	550	550	0
Faculty of Chemical Engineering and Technology		230	220	10	130	125	5
Faculty of Traffic and Transportation		600	470	10	363	262	6
Faculty of Mechanical Engineering and Naval Architecture		480	480	0	395	390	5
Faculty of Geodesy		115	115	0	80	70	10
Geotechnical Faculty		130	120	10	69	60	9
Faculty of Civil Engineering		195	180	15	225	222	3
Faculty of Graphic Arts		205	150	5	105	100	5
Faculty of Metallurgy		58	55	3	33	30	3
Faculty of Mining, Geology and Petroleum		180	165	15	198	180	18
Faculty of Textile Technology		445	420	25	320	225	15
Faculty of Agriculture		450	440	10	400	387	13
Faculty of Food Technology and Biotechnology		190	180	10	190	180	10
Faculty of Forestry		320	305	15	210	185	25
Faculty of Education and Rehabilitation Sciences		124	120	4	139	135	4
Faculty of Economics and Business		1710	1180	30	1800	1080	0
Faculty of Organization and Informatics		510	450	10	340	280	10
Faculty of Political Science	Political Science	180	140	0	135	130	5
	Journalism	165	45	0	195	190	5
Faculty of Law	Social Work	170	110	0	121	85	6
	Social Policy	0	0	0	38	25	3
Faculty of Humanities and Social Sciences		1162	1062	100	1275	1255	0
Center for Croatian Studies		365	350	10	390	390	0
Academy of Dramatic Art		69	60	9	61	55	6
Academy of Fine Arts		72	62	0	70	62	8
Academy of Music		142	132	10	114	109	5

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