

# **Massification and Diversity of Higher Education Systems: Interplay of Complex Dimensions**

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## **Massification and Diversity of Higher Education Systems: Interplay of Complex Dimensions**

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### **Introduction**

Universities are amongst the oldest institutions that have survived since the middle ages. Nevertheless, most universities and other academic institutions, which operate nowadays, were established in the last century (Guri-Rosenblit & Sebkova, 2004). Since the end of the Second World War there has been a growing demand to widen access to higher education and change the elitist nature of universities. The massive expansion of higher education across all continents has been one of the defining features of the late 20th and early 21st centuries. By 2000 there were approximately 100 million students, representing about 20% of the relevant age cohort worldwide, whereas at the start of the 20<sup>th</sup> century only around 500,000 students were enrolled in higher education institutions over the globe (Clancy et al., 2007; Schofer & Meyer, 2005). Nowadays, already a number of countries have achieved admission rates of over 50% of the age cohort. This enrolment growth has created huge pressures on national governments in trying to cope with various problems associated with the expansion of the higher education boundaries, and most particularly with their structures.

Structures of higher education systems have reigned highly on the agendas of higher education policy in many countries, and most particularly in economically developed countries, for more than four decades. In the late 1950s and early 1960s, when the view spread in economically advanced countries that an expansion of higher education would be essential for economic growth, the conviction that an increasing diversity within higher education was desirable gained momentum (Teichler, 2004). Two arguments were most powerful as far as advocacy for increasing diversity is concerned. First, most experts agreed that it is impossible to teach all of the large numbers of students in research universities which are extremely expensive to

sponsor. Therefore, it seemed obvious that other type higher education institutions geared mainly for teaching and professional training are appropriate for absorbing the growing numbers of students (Clark, 1983; Trow, 1974, 2000). Second, a growth of diversity of backgrounds, talents and motives of job expectations among the rising number of students should be accommodated by heterogeneous higher education providers.

The views about the desirable diversity, however, differed substantially in various respects: (a) what range of heterogeneity or homogeneity was preferable; (b) to what extent diversity should be arranged inter-institutionally or intra-institutionally; (c) how clearly differences should be demarcated or soft and blurred; (d) to what extent diversity was best served by formal elements of diversification (i.e. different types and levels), or by informal elements (i.e. differences in the reputation or profile between individual institutions or their sub-units); and (e) whether diversity prevails predominantly according to the vertical dimensions, i.e. ranking according to quality, reputation etc., or whether horizontal differentiation, e.g. according curricular thrusts and institutional profiles, plays a role as well. Over the years, the debates changed substantially. Major policy concerns moved from education and economic growth around 1960 to equality of opportunity and employment opportunities for graduates (Teichler, 2004). Trends of globalization, supra-national policies, bottom-up initiatives of founding private for-profit higher education institutions, continuous cuts of higher education budgets by governments, the emergence of the digital technologies and the growth of transnational higher education in the last decade have added additional layers to the debates on diversity and massification in higher education.

Unquestionably, the interrelations between the size of higher education systems and their levels of diversity reflect an interplay of complex dimensions. In this paper we address the following issues: external and internal boundaries of higher education systems; top-down and bottom-up forces; globalization and supra-national trends; flexibility; public and private sectors; and the impact of digital technologies on widening access to higher education. These themes highlight most crucial issues to which higher education policy makers are advised to pay attention to when

deliberating what are the best ways to implement the expansion of their higher education systems, and design their overall structure and composition.

## **External and Internal Boundaries**

"Higher education" and "higher education system" became popular terms in the second half of the 20th century (Teichler, 1988, 2001). The use of these terms suggests that there is a macro-structure of higher education. Higher education activities and institutions in a country have something in common and are interrelated. We do not consider individual institutions or sub-units as self-sustaining entities, but rather as embedded in common frameworks of societal expectations, regulatory frameworks, and co-operative or competitive linkages. In some countries, this move towards a perception of a system became clearly visible when laws and governmental orders addressing individual institutions of higher education were substituted by a system-wide regulatory framework (Teichler, 2004). Among international organizations, the OECD became an ardent advocate in the 1980s for substituting the term "higher education" by "tertiary education" in the international higher education policy arena, including in any given system all post-secondary institutions. The debate as to whether it is more appropriate to relate to a "higher education system" or to "tertiary education" reflects the problematic of defining the external boundaries of higher education systems, and defining clear indicators which enable to compare access rates in different countries (Clancy et al., 2007).

The extent of diversity and homogeneity of higher education systems in each national context depends on various variables. Each national higher education system has external and internal boundaries that portray its horizontal and vertical structure at various levels. The external boundaries define basically which kind of institutions are included in or excluded from the higher education system. In some systems - tertiary level professional institutes are not considered as part of the higher education system because they do not award academic degrees - both a vertical (status) and horizontal distinction (differentiation between various type institutions), whereas in other systems, like in the USA, all post-secondary institutions constitute an integral part of the higher education system. In other systems - very prestigious institutes, such as

academies of science or notable research institutes, are situated outside the boundaries of the higher education system (Guri-Rosenblit & Sebkova, 2004).

The authorization of granting degrees is not a definite criterion for including or excluding institutions from the higher education system. Extensions of foreign universities which operate in different national settings do grant degrees, but of their own national institutions, and they are neither considered as a part of the national settings in which they operate, nor as a part of their mother institutions. In some countries the extensions form a very strong component of the higher education system. By depicting the external boundaries of various national higher education systems, it is possible to understand the size and basic structure of each system, as well as the vertical and horizontal structure of its institutions. The external boundaries do change from time to time if, for instance, non-academic institutions are upgraded to an academic status, or a new higher education law changes the status of tertiary-level institutions or research institutes (ibid).

The internal boundaries reflect the horizontal and vertical structures of any given higher education system in relation to a variety of variables: overall structure (unified, binary or segmented into several sectors), the interrelations between the public and private sectors, access policies, study programs, budgeting patterns, research and teaching policies, academic traditions and cultures, evaluation and accreditation, etc. Over recent decades, substantial attention was paid to a select number of formal dimensions of diversity within the internal boundaries of higher education systems in various national contexts: (a) types of institutions and programs (e.g. universities versus *Fachhochschulen* in Germany); and (b) levels of programs and degrees (e.g. Bachelor, Master and doctoral programs) (Teichler, 2004).

National systems of higher education vary substantially according to the extent of diversity. Many higher education systems are highly diversified and contain various types of institutions, while some others are quite monolithic in their composition. Comprehensive universities reflect the nature of most higher education institutions in some national settings, while specialized institutions are the leading models in other countries. Liberal education and the cultivation of the human nature constitute the supreme goals of some leading higher education institutions, while professional

training and the response to market demands shape the nature of other higher education institutes (Guri-Rosenblit, 2006). In some countries, we note relatively clear boundaries between institutions of higher education in charge of both teaching and research, and institutions focusing mainly on teaching or professional training. Some universities publicly announce a specific character in their name, such as 'International University', 'Catholic University', 'General Electric University' or 'University of the Air' (Teichler, 2004).

### **Top-Down and Bottom-Up Forces**

The last decades have witnessed both many top-down government policies to broaden access to higher education and to regulate the structure of the higher education system, side by side with growing bottom-up initiatives of founding a wide range of new higher education providers, such as - private for-profit establishments, various virtual-type institutions and corporate universities.

New mechanisms of government steering and management have a substantial impact on the structures of the higher education systems (Bleiklie, 2001, 2004). Obviously, higher education in Europe is increasingly shaped by mechanisms of incentives and sanctions imposed top-down. It is generally assumed that these mechanisms help to increase the efficiency of higher education. The most ardent advocates of these new mechanisms often claim that both an increasing vertical and horizontal diversification is the most likely result of growing competition for success (Teichler, 2004). However, competition might reinforce imitation drifts rather than stimulating diversity. A strong emphasis placed on rewards and sanctions might undermine intrinsic motivation. A strong managerial emphasis in higher education might lead to substantial tensions between management and academia. Both might elicit uncontrolled changes of the higher education system as a whole. The increasing power of evaluation and accreditation mechanisms does not necessarily reinforce horizontal diversity. Our current knowledge base is shaky as far as the impact of new steering and management systems on the structure of the higher education systems are concerned (ibid).

During the 1960s, the structure of higher educational systems became a major issue in higher education policies. The establishment of polytechnics in the United Kingdom, the *Institutes Universitaires de Technologie* in France and the *Fachhochschulen* in Germany initially supported the view that most European countries placed prime emphasis on institutional diversification, and that two-type or multi-type structures were likely to emerge in many countries.

As far as types of higher education institutions are concerned, some countries continued to rely on a "unitary" system. For example, Italy preserved a system of universities as the only institutional type. In some countries, like in France, the level of programs was more strongly advocated than the types of higher education institutions. In Sweden, the length of university programs varied substantially by field of study, and both universities and other colleges were viewed as components of a "comprehensive" pattern of the higher education system. Altogether, we note a move away from relatively extreme structural alternatives discussed and implemented in the 1960s to more moderate alternatives in the 1970s, when the range of models could be named the "diversified model" on the one hand, and on the other hand the "integrated" model. According to the former (which became more popular), differences in quality, status and content of different type higher education institutions should be substantial; whereas according to the latter, which did not gain popularity in many countries, those differences ought to be kept in bound (Hermanns et al., 1998). However, some kind of a consensus seems to have emerged that borderlines between various sectors of the higher education system ought to be blurred, and that a certain degree of permeability of educational ladders ought to be ensured.

Starting in the late 1970s, and progressing for a while in the 1980s, debates about formal structures of the higher education system lost momentum in Europe (OECD, 1983). This coincided with policies on the part of the European Economic Community since the mid-1970s that put emphasis on mobility and cooperation while calling for respect of the varied cultural backgrounds of higher education systems in the European countries (Teichler, 2004). Moreover, higher education policy debates in European countries paid increasing attention to informal structural aspects, notably on vertical differences according to academic reputation and job prospects of graduates.

In the late 1980s, formal structures of higher education systems were back on the agenda. The decision by the Council of the European Community in 1988 (according to which three years of successful study is the regular entry qualification to high-level occupations) could be interpreted as a signal that various types of programs and institutions were no longer relevant for career opportunities. In addition, the move to upgrade the polytechnics to universities in the United Kingdom in 1992 (Fulton, 1996; Kogan, 1993, 1997; Scott, 1996) was interpreted by many experts as an indication of a formally unitary structure being the model of the future, while diversity was likely to persist or even grow informally among institutions of the same category, according to quality, reputation and graduate careers. In contrast, various countries established or reinforced a two-type structure, for example - the Netherlands with the upgrading of *Hogescholen*, Finland (*Ammattikorkeakoulu*), Austria and Switzerland (both *Fachhochschulen*) (Kyvik, 2004).

Since 1999, the Bologna Process has set an intensive process which aims at establishing a harmonized joint Higher Education Area of Europe by 2010. Restructuring the academic degrees at many national jurisdictions has initiated many changes in many countries. Acute changes took place in several Central and Eastern European countries. In order to change significantly the general conditions of higher education functions, restructure the higher education systems, and expand the higher education infrastructure, several top-down legal actions have been taken in countries like the Czech Republic, Hungary, Poland and Slovenia (Guri-Rosenblit & Sebkova, 2004).

As aforementioned, concurrently with many top-down regulations issued by governments which are related to the structure of higher education systems, many bottom-up initiatives have contributed to the diversification of higher education systems in many countries, particularly in Eastern and Central European countries, and in developing countries. The most notable phenomenon relates to the flourishing of many for-profit private establishments, extensions and virtual type universities. The positive aspects of the initiation of these new institutions include: widening of learning opportunities at various higher education levels by providing more choice for citizens in any given national jurisdictions; challenging traditional education systems by

introducing more competition and innovative programs and delivery methods; helping make higher education more competitive; assisting in diversifying the budgeting of higher education; and benefiting through links with prestigious institutions, mainly in developing countries. For instance, several prestigious American universities are operating currently in Qatar through the funding of the "Qatar Foundation for Education, Science and Community Development", a non-profit organization founded in 1995 by the Emir of Qatar (Mangan, 2004). Cornell University opened there a branch of its medical school; Texas A&M University operates an engineering program; Virginia Commonwealth University operates a program in design arts; and Carnegie Mellon University opened in 2005 undergraduate studies in computer science and business. These respected universities provide high-level higher education studies in their field of expertise (Guri-Rosenblit & Sebkova, 2004).

However, there are also negative aspects of these new ventures. Currently many unregulated providers of higher education operate for-profit in many countries. They are not subject to external or internal audit/monitoring processes, and their operation remains outside official national quality assurance regimes. Many of these institutions constitute "degree mills" that provide low level education. Furthermore, some claim that there is unfair advantage enjoyed by some transnational providers in comparison to the strictly regulated national providers, that might affect loss of income of the latter. Unquestionably, the intricacy of relationships between different-type transnational providers, delivery methods and programs, creates a highly complicated situation, which affects greatly the horizontal and vertical patterns of higher education structures at the national and international levels.

## **Globalization and Supra-National Policies**

"Internationalization" and "globalization" have become dominant buzz words in higher education and practice. These two terms draw attention to the undeniable fact that boundaries of what were relatively closed national systems are increasingly being challenged by common international trends (Enders & Fulton 2002; Scott, 1998, van der Wende, 2002). Universities are at present engaged in becoming partners in inter-institutional schemes and pushing forward in the drive towards globalization.

Students, academic staff and curricula are transferred and exchanged between institutions; accreditation agencies ensure promptness in accrediting previous experiential learning and previous academic studies; governments append their signatures to cooperative projects in higher education. Strengthening agreements between academic institutions within a particular country and across national borders will be central to the mobility of adult students (Guri-Rosenblit & Sebkova, 2004).

Until the early 1990s, structural higher education policies and trends were clearly national policies and developments (Gellert, 1993; Huisman et al., 2001). International comparison was a powerful tool for understanding national developments and for setting a framework in the search for improvement. However, different decisions were made within individual countries reflecting international views of the best options, varied policy preferences, as well as national contexts. The Sorbonne Declaration of 1998 and the Bologna Declaration of 1999 were visible starting points for supra-national actions to make the patterns of the national higher education systems more similar across Europe (Teichler, 2004). The Bologna Declaration seems to be based on the convictions that: (a) higher education systems in Europe will move quickly towards quite similar patterns; (b) levels of higher education programs will be the clearly dominating structural characteristic of higher education as compared to types of higher education institutions and programs, ranks and profiles, etc.; and (c) structures of the higher education systems have an enormous impact on all key features of higher education.

A structural convergence of national higher education systems is advocated in the Bologna Declaration of 1999, primarily for the two purposes of: (a) enhancing the attractiveness of higher education in (continental) European countries for students from other parts of the world through the introduction of a stage system of programmes and degree; and of (b) facilitating the mobility of students within Europe. The former aim calls for improved transparency, but is neutral as far as the extent of diversity within the national higher education system is concerned. The latter aim, however, implies that quality differences between higher education institutions are kept within bounds (Bleiklie, 2001; Neave, 2002; Van der Wende, 2001). Mobility within Europe can be facilitated through convergent structures only if trust is justified that the quality of teaching and learning is similar at a stage system of study

programmes throughout Europe. This indicates that opportunities for the recognition of study abroad are no longer determined by the overall composition of national trends and policies. Rather, national policies are, to a certain extent, shaped by common policies of various countries to stimulate student mobility by facilitating recognition of study abroad.

In recent years, the term "globalization" surpassed the term "internationalization" in the frequency employed in economically advanced countries to characterize cross-national changes of both contexts of higher education and higher education systems themselves (Enders, 2004). The term "globalization" suggests that increasing cross-border activities in higher education indicates a "blurring" of borders, while "internationalization" is based on the assumption that national systems continue to play a role in the process of increasing cross-border activities. Moreover, the term "globalization" is often put forward when claims are made that higher education is bound to be more strongly affected by worldwide economic developments, as well as by suggestions that the individual higher education institutions, notably those wishing to place themselves in the first league of reputable hierarchy, have to compete globally (Teichler, 2005).

"Globalization" concepts of this type suggest that relatively steep vertical diversification of higher education is desirable without advocating certain formal dimensions of vertical diversity, and without taking a clear position on whether vertical diversity is accompanied by horizontal diversity. Often, pre-stabilized harmony between quality and relevance in the elite sector of higher education in the twenty-first century seems to be taken for granted.

## **Flexibility**

There seems to be a close interrelation between the diversification and flexibility patterns of higher education systems and their access policies. The more diversified and flexible higher education systems are, the more likely they are to exercise a mass-oriented or even universal access policy (Guri-Rosenblit, 2006). Diversification by itself does not suffice for providing equality of opportunity in higher education. In

England, for instance, different-type higher education institutions have been invented since the 19<sup>th</sup> century in order to broaden access to higher education. Nevertheless, until the 1960s, the English higher education was one of the most elitist systems in the world enrolling only 5% of the relevant age cohort. American higher education, on the other hand, provides an illuminating example of a diversified, flexible and mass-oriented system nearly from its very start.

The history of American higher education is characterized by the growth of multi-purpose institutions which continue to add functions and responsibilities without disregarding older commitments (Rothblatt, 1997). The American higher education system is the most pluralistic and diverse system in the world. It has inherited most of the existent university ideas in Europe, and it has adopted them in a most flexible way. It has also invented new-type higher education institutions, like the community colleges, land-grant universities and corporate universities. American higher education institutions have been expansion-minded since the War for Independence and have generally shown willingness to stretch existing resources to support new ventures. Already in the 19<sup>th</sup> century, the United States had laid the basis for a most diversified and stratified system that provides opportunities of universal access to higher education to all of its citizens, at a time when all higher education systems in Europe were extremely selective and based on meritocracy (Trow, 2000).

United States has the leading research universities in the world, side by side with community colleges open to all who wish to pursue post-secondary education. It has large-scale multi-campus universities that teach dozens of thousands of students side by side with small-scale colleges. It operates broad comprehensive universities concurrently with specialized institutes. United States has created what Clark Kerr called a "multiversity model" (Kerr, 1963).

The Americans have defined an acceptable "academic currency" from outset (Trow, 1974, 2000). The currency of a "unit" is used in all American higher education institutions, and it enables to transfer at ease academic studies from one institution to another. The European Credit Transfer System introduced by the Bologna Process aims at achieving a comparable academic currency in Europe (Bolag, 2003).

One of the most unique features of the American higher education system is not merely its diversity, but most specifically its flexibility, which can hardly be found elsewhere. Even students at community colleges, can transfer eventually to leading research universities if they excel in their studies. In the three-tier California system, there is a written agreement between the community colleges, the state universities and the University of California systems, that define exactly the percentage of students from community colleges that can be admitted each year even to a prestigious university like UC Berkeley, and continue there their third and fourth year of studies towards an undergraduate degree of the renowned research university.

European higher education evolved in a different way as compared to American higher education. Particularly after the foundation of nation states in the 19<sup>th</sup> century, the national higher education systems were perceived mainly as training the political, intellectual and professional elites of each state. Each nation has shaped the structure of its higher education system on unique underlying premises that seemed to fit best its political and societal needs. Multiple academic cultures flourished within the different states that have been manifested through diverse access policies, many study tracks to a wide range of diplomas and degrees of different lengths and reputation, and a wide spectrum of different types of tertiary and higher education institutions.

The fact that some of the systems, like in England, were quite diversified, in the sense that they contained many types of universities and other types of higher education institutions, has not necessarily turned them into mass-access oriented systems. Countries with a socialist ideology have stayed quite elitist in their access policies to higher education. The fact that all of the former communist countries have provided higher education free of charge has not turned them into systems that adopted a mass access policy. Most of the Eastern European countries had a very low access rate until the 1990s, ranging from 11% to 23% (Kovac et al., 2006; Neave, 2003; UNESCO, 2003). Even in the communist countries higher education was perceived for decades as a privilege based on meritocracy rather than as a civil right.

The flexibility of the American system, enabling students to move from one-type higher education institution to another has been nearly non-existent in most countries. It is almost unthinkable to this date to move in midst of the academic studies from

Paris University to a *grand école*, from a college in Israel to Hebrew University, from a "new" English university to Oxford and Cambridge. Even most diversified higher education systems in Europe portray most inflexible patterns of mobility between different-type higher education institutions.

It seems that European higher education systems, under the Bologna Process, are currently becoming more flexible. Each stage in advancing the Bologna Process requires greater commitment to the commonality of purpose and action in the field of higher education, so that, by 2010, higher education services will be able to flow freely from one side of the continent to the other, like material goods do today (Commission of the European Communities, 2003; UNESCO, 2003). Students of all ages will draw on the most convenient services, relevant in the terms of their intellectual interests, career development or social commitments. For learners, and administrators, the freedom of movement in a common European intellectual space will offer equal conditions of access to many providers and users of higher education, equal conditions of assessment and recognition of services, of skills and competencies, and equal conditions of work and employment. The tools given by the Bologna Declaration are intended to invent a European model of higher education sufficiently strong to establish its attractiveness *vis-à-vis* the rest of the world, and particularly *vis-à-vis* the American model.

Concurrently with decreasing the diversity between higher education systems at the macro level, the architects of the Bologna Process have stressed from the outset that it is of tremendous importance to acknowledge the legitimacy of institutional diversity and heterogeneity of academic cultures. They emphasized that diversity must be preserved, even if convergence and common issues of concern should be implemented and pushed forward (UNESCO, 2003). In other words, the trend of convergence does not abolish the inherent diversity of higher education institutions in European countries. Various-type higher education institutions will continue to operate in all national settings, and they will portray both vertical differences (based on various hierarchical and ranking criteria) and horizontal differences (targeted to different student clienteles) (Guri-Rosenblit, 2006; Neave, 2003). However, it is most likely that institutes of the same kind, such as "world-class" research universities will exhibit in the future great resemblance (Altbach, 2004; European Commission, 2004).

## **Public and Private Sectors**

The interrelations between public and private higher education institutions portray different academic cultures and have an impact on the structure of higher education systems in many countries. In some countries, there is almost no private sector in the higher education system. In the England, for example, except of Buckingham University which is a private small scale university, there are no private universities and colleges, and also in Scotland and Ireland the proportion of private institutions is very low (Clancy et al., 2007; Guri-Rosenblit, 2006).

United States, on the other hand, has a very strong component of private higher education institutions, and it is particularly proud of its private research universities, many of which have established themselves as leading world class universities, and are of envy and models of imitation by many nations. Japan, China, India and Germany have proclaimed in the last decade that they are opting to establish world-class universities comparable to the American ones. However, the unique interrelations between the academic institutions and the corporate world in the USA are non-existent in any other country. The generous donations and endowments of the business world and private alumni to American universities are of envy in all other countries, and are hard to imitate, because they are built on strong cultural roots that have been cultivated for centuries in the American society. There are also other types of private institutions in the USA, like Phoenix University that constitutes the largest distance teaching university in the USA, many for-profit consortia, corporate universities that cater to various clienteles and expand access opportunities in American higher education.

The widening of access to higher education in Europe has been linked also to the development of many private higher education institutions. In some of the countries of Central and Eastern Europe, which experienced enormous increases of students as mentioned above, the proportion of private institutions in the overall number of higher education institutions is remarkably high. For instance, in Slovenia the private institutions constitute 82% of the total number of higher education institutes; in

Poland - 63%; in Romania - 60%, in Hungary - 52% (UNESCO, 2003, p. 5). But a prevailing number of these private universities and colleges are small, and provide mainly high demanded subjects of study in business administration, economics and some other social science subjects. The flourish of these private endeavours have changed drastically the external and internal boundaries of many higher education systems, and affected the horizontal and vertical patterns of diversity in each national milieu (Guri-Rosenblit, 2006). Unlike the well-established leading private universities in the USA, most of the private providers in European countries, as well as in many other countries worldwide, have weak infrastructures, relatively unstable full-time academic faculty, and they do operate mainly for profit.

The emergence of a plethora of new providers of higher education, particularly private providers, has created an acute problem. In order to ensure the harmonization of higher education at the system level, it is of tremendous importance to set stringent quality assurance measures. Nowadays, the Bologna Process aims at establishing accreditation agencies, both state agencies and self-regulatory bodies of academic institutions, in order to enhance a quality assurance culture, setting clear criteria for the evaluation of quality of higher education provided by both old and new higher education institutions. The introduction of the "European Credit Transfer System" is viewed as a principle instrument in achieving transparency of the quality of academic programs. Quality assurance mechanisms, the definition of clear "academic currencies" and diploma supplements will provide a more homogeneous and articulated degree system, which will enable easy comparison of diverse degree requirements and structures (Bolag, 2003, UNESCO, 2003).

## **The Impact of the Digital Technologies**

Higher education systems all over the world are challenged nowadays by the new information and communication technologies. These technologies have had a huge impact on the world economy, corporate management and globalization trends, and they bear a tremendous potential to reshape the nature of study environments everywhere, of both conventional and distance teaching institutions. The impact of the new technologies on higher education environments is likely to grow in the future,

and will affect all domains of academic activity - research, teaching and learning, organization, finance and government policy. The digital technologies enhanced the establishment of totally new virtual universities, and pushed forward the creation of consortia between universities and other partners from outside the academic world, as well as convinced many campus universities to mobilize them for a wide spectrum of uses for both providing distance education and for their students at campus. As such the new digital technologies have contributed to the diversification of many higher education systems (Guri-Rosenblit, 2001, 2006; Guri-Rosenblit & Sebkova, 2004).

E-learning will greatly contribute to growing flexibility in academic study patterns (Bates 2001; Collis & Moonen 2001; Collis & van der Wende 2002). Flexible learning offers students many opportunities to adjust their interests, needs and learning styles to a variety of learning settings and media combinations. Hybrid courses, combining various components of face-to-face encounters with online provision will emerge as a growing pattern in academic institutions. However, online teaching as a stand-alone pedagogy will be used to a very limited extent and most e-learning will be employed for add-on functions in teaching/learning processes; (Bates, 2001; Guri-Rosenblit & Sebkova, 2004). The majority of students attending campus universities will prefer to attend classes, or will choose to distribute their college experience among residential campuses, commuter colleges and online courses. More graduate or postgraduate students will study online, whereas the majority of undergraduates will prefer the more conventional face-to-face encounters.

E-learning will promote the growth of both academic trade and academic philanthropy. More universities and new for-profit companies will export academic and professional programs as a commodity to a variety of student populations. There are already some noticeable differences among national policies in this domain. Australia, the UK and Canada are more oriented to the international market (Ryan, 2002). Many of their universities try to export their higher education as a commodity to third world countries. American universities are more directed inwards, generally preferring campus-based integration of digital technologies, with a few examples of purchases and partnerships in physical campuses overseas. In many European countries the new technologies play an important role. They are used to open a broad

space for collaboration among the EU and other European countries in various programs such as SOCRATES.

Concurrently with the growing use of e-learning for profit and commercial purposes, academic philanthropy through the utilization of the new technologies' capabilities will grow as well. The 'MIT's Open Courseware Project' constitutes an excellent example in this domain (Olsen, 2002; Vest, 2001). It demonstrates how a leading private university can practice intellectual philanthropy in the world of academic teaching. Higher education institutions all over the world will be able to adapt content and ideas from the MIT courses for their benefit. Also Carnegie Mellon and Princeton universities have been involved in experiments to make course materials public on the Web (Olsen, 2002). The Open Knowledge Initiative constitutes an additional example of academic generosity. This is a collaborative effort led by MIT, Stanford University with six other institutions of developing free and open technical specifications of learning management systems and related infrastructures (ibid).

E-learning exerts global outreach. In an international market, students are able, and will be more so in the future, to approach any university where access policy encourages and extends to international students. This will be particularly true in professional training and postgraduate fields. The outreach of universities to international student clienteles on a global level could be activated at different levels, ranging from enrolling individual students from different countries, through collaborative ventures with other institutions (universities or business enterprises), to cooperative undertakings with governments, international corporations and intergovernmental organizations. The involvement of such central bodies is essential for the systematic implementation of the new technologies into higher education systems efficiently and on a large scale. Global outreach by its very nature increases mobility and contributes to the decrease of diversity between same-type institutions in different countries.

## **Concluding Remarks**

This paper purported to give a synthetic overview of the complex dimensions that shape the interrelations between the massification of higher education systems and their structure and composition. Many higher education systems worldwide expanded extensively in the last decades, and have undergone wide and deep structural changes. We addressed in this paper the problematic of comparing access rates in different countries due to the fact that the external boundaries of higher education systems are defined by different indicators and criteria. The external boundaries define basically which kind of institutions are included in or excluded from the higher education system. When comparing higher education systems, it is of immense importance to depict their external boundaries in order to comprehend their size and their overall structure.

The internal boundaries of higher education systems reflect the horizontal and vertical structures of any given higher education system in relation to a variety of variables, such as -whether it is a unified system, a binary system or segmented into several sectors; the interrelations between the public and private sectors; access policies; study programs; budgeting patterns; academic traditions and cultures, etc. The structure and composition of any given higher education system are influenced by a wide range of trends, some of which portray conflicting forces, such as: top-down governmental regulations and legislation versus bottom-up initiatives led by private investors and entrepreneurs and by the far-reaching influences of the digital technologies; growing impacts of globalization and supra-national policies versus the need to be attentive to national and local market needs; and the intricate relations between a dominant public sector versus the growing number of private providers of higher education in many countries.

Some of the profound changes in higher education in the last decade have taken place at an international or continental level. The changes in the higher education of European countries are most remarkable. The sudden need for a complete overhaul of the higher education systems in Central and Eastern Europe after 1989 have mobilized all European countries to start serious policy debates about the need for an

overhaul of higher education in Europe. It was realized that the time was ripe for a large-scale initiative to achieve more convergence and harmonization in European higher education. The Bologna Process which involves now governments, higher education institutions, students, and international organizations has turned out to be the most effective lever for change that Europe has so far known in higher education for centuries.

In the long run, the Bologna Process is likely to influence access policies and practices in many other higher education systems in other continents. Many countries in Africa, Asia and Latin America are in close relations with European countries through globalization and internationalization processes, and the change of higher education structures, diplomas and accreditation are likely to affect their policies and practices. It is most likely that the broadening of access in many third world countries will be characterized as well by greater diversity of their higher education institutions and by a greater flexibility of movement between higher education institutions within national borders and beyond them.

Diversification constitutes a common feature of widening access to higher education in most countries. But diversification by itself is not suffice to turn a higher education system into a mass-oriented one. While there is no optimum structure for higher education systems, massification and diversification cannot achieve equality of opportunities unless they are accompanied by the development of flexibility within systems to enable students to progress between different levels and sectors within national jurisdictions and between countries. Flexibility turns to be a most meaningful feature for ensuring greater access, and particularly greater equity in higher education.

It is difficult to predict nowadays the future development of higher education due to the growing complexity of the underlying forces that influence the expansion and diversification of higher education systems. Nevertheless, it seems that higher education will become even more diverse in the future through the establishment of new higher education providers and the creation of various consortia and partnerships between universities for research an/or teaching purposes. At the same time, mobility of students across countries will decrease horizontal diversity between many national higher education systems.

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