



United Nations
Educational, Scientific and
Cultural Organization



International Institute
for Educational Planning

Trends in diversification of post-secondary education

N.V. Varghese
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Contents

List of abbreviations	6
List of tables	6
Introduction	7
1. Defining diversification	8
2. Level of courses offered in PSE institutions	9
3. Reasons for diversification	13
3.1 Diversification due to academic drift – from ‘knowledge as knowing’ to knowledge as operational	13
3.2 Diversification due to democratization	14
3.3 Diversification due to globalization, the knowledge economy, and changing demand for skills	15
3.4 Diversification due to the expansion of secondary education	15
3.5 Diversification due to growing specialization	15
4. Forms of diversification: Institutional	17
4.1 Universities	17
4.2 Colleges/non-university institutions	18
4.3 Tertiary short-cycle institutions	19
4.4 Post-secondary non-tertiary institutions	20
5. Forms of diversification: Ownership	23
6. Forms of diversification: Distance learning	25
7. Forms of diversification: Programmes of study	26
8. Forms of diversification: Clientele	27
8.1 Overseas students	27
9. Conclusions	29
References	30
Other titles on external quality assurance and higher education	34

List of abbreviations

IIEP	International Institute for Educational Planning
ILO	International Labour Organization
IUT	Instituts universitaires de technologie (University institutes of technology)
ISCED	International Standard Classification of Education
NUI	non-university institution
NUTI	non-university tertiary institutions
OECD	Organisation for Economic Co-operation and Development
PSE	post-secondary education
UNESCO	United Nations Educational, Scientific and Cultural Organization

List of tables

Table 1.	Level of courses offered in PSE institutions	11
Table 2.	Classification of PSE Institutions	21

Introduction

Higher education is traditionally associated with university education. Historically, universities have played a central role in generating knowledge and transmitting it from generation to generation. As access to universities in the developed countries used to be quite limited, they were considered an exclusive domain for the elite. The understanding of the importance of education to development became widespread only after the Second World War. This view has encouraged the expansion of higher education, mainly through public institutions. In the developing world, universities have (especially in the post-independence period) 'symbolized national pride and self-respect' (Coleman and Court, 1993) and they remained elite institutions with limited access until the 1990s.

The expansion of higher education started as a linear process, but began to diversify primarily in response to varying demand emanating from different stakeholders. As the market increasingly demanded readily employable graduates – a 'finished product' approach – in different sectors of the economy, the demand for education shifted from theoretically oriented to more occupation-related study programmes in order to produce a more vocationally trained labour force. Universities were increasingly seen as too rigid, overly academic, less oriented toward occupational preparation, and elitist. The traditional universities, given their elite orientation, could not satisfactorily cater to these varied demands for study programmes linked to the skills demanded in the labour market.

The growing demand for a type of education different from that traditionally offered in the universities (Grubb, 2003) required the implementation of alternative modes of delivery, and led to the development of a plurality of institutions and a diversity of providers and study programmes. In fact, OECD countries were arguing for an expansion of higher education to reach a stage of massification, and later of universalization of tertiary education – tertiary education for all (OECD, 1998). Needless to say, when the system becomes mass-oriented or universal, it cannot maintain a unitary structure. This has become obvious as a substantial share of tertiary education is now provided outside universities and in institutions that may or may not grant a degree.

The category of 'tertiary education' is included under the broader term 'post-secondary education' (PSE). PSE includes all forms of education after the secondary level. Most courses offered today are at the tertiary level; those that are not, are classified as 'non-tertiary post-secondary'. This paper reviews both tertiary and non-tertiary levels of post-secondary education. It attempts to analyse the trends in the diversification of post-secondary education, focusing on the diversity of providers, programmes, and clientele.

Section 1 looks into different definitions of diversification; *Section 2* discusses PSE course levels; *Section 3* reviews the reasons for diversification; and *Sections 4–8* give an overview of different forms of diversification. The final section draws some conclusions of the study.

1 Defining diversification

Diversification of higher education is the process by which a system becomes more varied or diverse in its orientation and operations. It reflects a deviation from a uniform and rigid system (universities) to a flexible system that can accommodate varying demand within a country from a multiplicity of providers. Diversification consists therefore in the diversity of institutions offering opportunities to pursue post-secondary education, diversity in study programmes and in the student body or clientele, and diversity of ownership and control of provision (Teichler, 2008). It can also be related to structural and cultural aspects linked to institutional missions or academic programmes (Fairweather, 2000).

Some authors (e.g. Birnbaum, 1983) have analysed diversity of higher education into various elements, such as: structural diversity, reflected through organizational dimensions; programmatic diversity, reflected through curricula; procedural diversity, through modes of teaching; reputation diversity, through perceived differences in status and prestige; constituential diversity, through types of students served; and values and climate diversity, reflected through the internal cultural and social environment. It can be difficult, however, to identify and classify institutions or systems based on these attributes, and diversification may reflect several elements at a given time.

Diversity can exist both *between* and *within* institutions. Discussions on diversity between institutions deal with issues relating to mission, student clientele, size, source of control, resources, and the question of whether an institution is part of a state system and how strong the ties to this system are. Diversity within institutions relates to instructional and research practices, curricula and degree programmes, and the quality of degree programmes.

One possible result of the process of diversification is institutional differentiation (Neave, 2000). 'Differentiation' refers to the splitting up of units and the emergence of new units within an existing system (Vught, 1996). When a higher education system becomes diversified, it is likely that the institutions will become increasingly differentiated. Diversification also results in differentiation in the organizational sub-units (Teichler, 2008), such as departments or research units, and their functional sub-units, such as study programmes, within the (national) system of higher education. Other dimensions include horizontal and vertical differences, formal and informal elements, institution size and range of disciplines.

Huisman, Meek, and Wood (2007) attempt to measure diversity empirically, focusing on the core business of universities such as teaching and research, institutional size, forms of institutional control, range of disciplines offered, degrees awarded, and modes of study. Some of these characteristics are covered in the OECD (2005) report *Education Policy Analysis*, which also considers questions related to modes of financing, vocational orientation, and the extent to which institutions serve their regional community.

All of these elements lead to a definition of diversity in terms of the presence of distinct forms of post-secondary educational institutions and groups of institutions within a state or nation which have different and distinctive missions, educate and train for different lives and careers, offer different styles of instruction, are organized and funded differently, and operate under different laws and relationships to government (Trow, 1995; Meek, 2000).

2 Level of courses offered in PSE institutions

As noted above, 'post-secondary education' is a common term used to denote all study programmes beyond the secondary level (International Standard Classification of Education [ISCED] 3 level). Post-secondary education has two distinctive components: tertiary education and non-tertiary education. Tertiary education refers to all programmes offered at the ISCED levels 5A, 5B, and 6 (OECD, 2008). The non-tertiary level refers to all programmes offered at the ISCED 4 level. Many institutions offer courses below the tertiary level; nearly 90 per cent of the continuing education colleges offer post-secondary courses at the non-tertiary level (ISCED 4), for example. Most PSE institutions offer courses at the tertiary level (ISCED 5 or above). Those offering vocationally oriented programmes closely linked to the demands of the labour market provide courses at the ISCED 5B level. Other academically oriented institutions offer courses at the ISCED 5A level. Almost without exception, non-university tertiary institutions (NUTI) do not provide courses in advanced research programmes (ISCED 6).

It is difficult to categorize non-university tertiary institutions based on their orientation and what is expected of students. Graduates' preferences sometimes differ from the orientation of the institution they have attended. While it is true that the transfer rate from community colleges to universities is lower than might be expected in Canada and the United States, in France nearly 60 per cent of graduates from the *Instituts universitaires de technologie* (IUT) go on to pursue university degree programmes rather than immediately entering the labour market (OECD, 2005). Many students would like to get a degree from a university, since it may secure them a better future salary than would a NUTI qualification.

Today, most countries are trying to harmonize degree structures so as to increase comparability across countries. The move, especially among European universities, is towards the development of the three-tier, Bachelor-Master-Doctorate structure, following the Bologna Process. A Bachelor's programme most commonly lasts three or four years, whereas a Master's normally takes between one and two years. The doctorate, a PhD in most cases, may take an additional three to four years, depending on the country. This structure currently exists for instance in Brazil (Bacharelado, Mestrado, Doutorado), Ghana (BA, MA or diploma, doctorate), India (BA, MA, PhD), Ukraine (*Bakalavr*, MA and Specialist's degree, *Kandydat nauk*), and the United Kingdom (BA, MA, PhD).

Besides these academic degrees, several countries offer different certification courses below the Bachelor level, among them the Associate's degree in Cambodia, the *Jun-gakushi* in Japan, and the foundation degree in the United Kingdom. Non-academic diplomas exist in Egypt, Ghana, the Russian Federation, and South Africa. And sub-degree certificates, often for professional entrance, as well as sub-degree diplomas can be found in Germany, Nigeria, Papua New Guinea, the Russian Federation, South Africa, and the United Kingdom, as elsewhere.

Another case, the tertiary education entrance certificate, resists classification since, although usually granted upon completion of secondary education, it can be classified as post-secondary non-tertiary, for example if acquired in the continuing education sector. At the other end of the spectrum, some countries offer academic degrees beyond the doctorate,

like the second doctorate in Germany (Habilitation), the Russian Federation, and Ukraine (both *Doktor Nauk*). *Table 1* gives an overview of the degrees that exist in several countries.

Many countries have a degree structure of postgraduate, graduate, and undergraduate levels. In addition to these, many countries offer diploma programmes at a different level. For example, a postgraduate diploma is above a Bachelor's but below a Master's degree. Some countries also offer courses to obtain a certificate that may not necessarily be of tertiary level. Such courses represent post-secondary education, but are not equivalent to the tertiary level.

Table 1. Level of courses offered in PSE institutions

Level	Doctorate		Master's degree		Bachelor's degree		Below Bachelor's degree	Certificate
Country	2nd Doctorate	1st Doctorate	Master	Other	Bachelor	Other		
Brazil		Doutorado	Mestrado		Bacharelado	Licenciatura (for teachers)		
Cambodia		Doctorate	Master's	<i>(Diploma)</i>	Bachelor's	Licence	Diplôme universitaire de technologie (DUT) / Diplôme d'étude juridiques professionnelles (DEJP)	
China		PhD	Master's		Bachelor's		Associate's Degree	
Egypt		Doctorate	Master's	Diploma	Bachelor's		Diploma	
France		Doctorate	Master's	Master's 1 (Diplôme d'études approfondies or DEA) / Master's 2 (Diplôme d'études supérieures spécialisées or DESS)	Bachelor's	Diplôme national de technologie spécialisée (DNTS) / Licence professionnelle / Licence	Diplôme universitaire de technologie (DUT) / Brevet de technicien supérieur (BTS) / Diplôme d'études universitaires scientifiques et techniques (DEUST) / Diplôme d'études universitaires générales (DEUG)	
Germany	Habilitation	Promotion	Master's	State and ecclesiastical degrees (<i>old degrees</i>)	Bachelor's	<i>(Old degrees)</i>	Degrees granting the entrance to some professions / degrees entitling to the title 'state-certified'	
Ghana		Doctorate	Master's	Graduate Diploma	Bachelor's	Diploma	Higher National Diploma	Certificate / Diploma
India		Doctorate	Master's		Bachelor's	Diploma		
Jamaica	Professorship	Doctorate	Master's		Bachelor's	Diploma in Teaching	Associate's Degree / Diploma/Certificate	
Japan		Doctorate (Hakushi)	Master's & Diploma (Shushi)		Bachelor's (Gakushi) / professional degree (Igakushi) / medical degrees (Juigakushi/ Shigakushi)		Associate's Degree (Jun-gakushi) / Specialist's Degree (Senmon-shui)	

Table 1. (cont.)

Level	Doctorate		Master's degree		Bachelor's degree		Below Bachelor's degree	Certificate
Country	2nd Doctorate	1st Doctorate	Master	Other	Bachelor	Other		
Nigeria		Doctorate	Master's		Bachelor's	Higher National Diploma / Certificate in Education / Professional Certificate	Ordinary National Diploma	Diploma / Certificates
Norway		Doctorate	Master's		Bachelor's	Høgskolekandidat (old degree)	Vocational Certificate	
Papua New Guinea		Doctorate	Master's		Bachelor's	certificates / diploma		
Russian Federation	Doctor of Science (Doktor Nauk)	Candidate of Science (Kandidat Nauk)	Master's (Magistr)	Specialist's Degree	Bachelor's (Bakalavr)	Diploma of Incomplete Higher Education (Diploma O Nepochnom Vysshem Obrazovanii)	Certificate of Incomplete Higher Education	
South Africa		Doctorate	Master's		Bachelor's (universities)	National Diploma / National Certificates	National Certificate (Vocational)	
Ukraine	Doctor of Science (Doktor Nauk)	Candidate of Science (Kandydat Nauk)	Master's	Specialist's Degree	BA (Bakalavr)		Junior Specialist's degree	(Qualified worker)
United Kingdom		Doctorate	Master's	Postgraduate Certificates / Postgraduate Diploma	BA (Honours) / Graduate Certificates / Graduate Diploma	Ordinary Bachelor's Degrees / Diploma of Higher Education / Foundation Degree		Certificates of Higher Education
United States		Doctorate	Master's	Education Specialist / Certificates and Diploma of Advanced Study	BA / First Professional Degree / Advanced Certificate	Associate's Degree		Vocational Certificates

3 Reasons for diversification

Enrolment in higher education increased from 28.1 million in 1970 to 150 million in 2007 (UIS, 2009), but expansion was regionally uneven. There seems to be a positive correlation between system expansion and diversification – that is, those systems that diversified expanded faster than those that did not. For example, diversification was more widespread in the developed countries, and the gross enrolment ratios in higher education doubled and even trebled in the developed world between the 1980s and 1990s. This can be contrasted with the slow expansion of higher education in the less developed countries, where diversification has been limited. It can also be argued, however, that those systems that expanded were forced to diversify. It is difficult to ascertain whether expansion caused diversification or whether diversification led to the expansion of the system. The relationship between expansion and diversification seems to be bi-directional and mutually supportive.

Among the developing countries, the East Asian countries have a more diversified system and experienced faster expansion of higher education. In many of the least developed countries where the existing institutional provisions were not in a position to accommodate the increasing social demand for higher education, this was not the case. When the mode of delivery and provision of services became diversified through private institutions, distance learning institutions and trans-border providers, higher education was able to expand even in the least developed countries of Africa (Mohamedbhai, 2008).

Teichler (2008) attributes diversification of higher education to ‘drift theories’ (the drift towards vocational courses), to increased flexibility (towards soft models and broad study ranges), and to cyclical theories, assuming that some structural patterns and policies come and go due to different factors of influence. Cerych and Sabatier (1986) attribute diversification to the labour requirements resulting from technological developments and conditions arising from a move from an elite to a mass higher education. We will examine some of the reasons for diversification below.

3.1 Diversification due to academic drift – from ‘knowledge as knowing’ to knowledge as operational

Varying demand for different types of higher education can be broadly classified into two types: (1) that arising from a concern for knowledge production, and (2) that arising from a concern to meet the immediate requirements of the production sectors. With the emergence of the knowledge economy, it is widely believed that the future growth potential of the economy depends on its capacity to produce knowledge. The knowledge economy relies strongly on knowledge and places greater value and emphasis on knowledge production – that is, research and development (R&D) activities. The number of researchers and research expenditure (R&D expenditure as a share of GDP) has been increasing in recent years, notably in the developing world, where the number of researchers increased by 50 per cent between 2002 and 2007, while the number from the developed world increased by only 9 per cent (*University World News*, 22 February 2010).

But the immediate demand is, perhaps, more for the use of knowledge in production rather than for knowledge production per se. It seems the market today favours the development of knowledge that is instrumental and operational. That is, the emphasis appears to be more on developing skills and competencies rather than insight and reflection. This represents a shift in our conception of 'knowledge', from 'knowing as contemplation to knowing as operation' (Barnett, 1994: 15), and this shift in emphasis towards operationalism has institutional implications in terms of training and knowledge use.

'Operationalism' implies producing operatives for managing the economy: it views knowledge as a commodity to be transacted in the marketplace and graduates as products to be used in the production process. Operational skills are defined and specified by labour markets, which in turn need to be developed by higher education institutions. This process of close interaction with the productive sectors will ultimately reshape higher education curricula.

Thus, the new order demands that students both know things and know how to do things. Institutions of higher education are therefore increasingly focusing on the production of knowledge as a market good and a saleable commodity. In this view, operational knowledge transmitted by tertiary institutions helps to widen market operations. In the process, tertiary institutions are being transformed from peripheral institutions to major economic institutions incorporated in the mainstream of production.

3.2 Diversification due to democratization

Democratization is another argument for diversification. Post-secondary education is no longer perceived as an elitist privilege, but rather as a right and even an obligation (Neave, 2000). The egalitarian and democratic values prevailing in most societies promote the equality of opportunities not only at the entry level but also in achievement – that is in the attainment of a degree. Efforts to bring a larger number of students from disadvantaged groups into the fold of higher education result in a more diversified clientele. The evolving social origin of the student body also influences aspirations, motivation, interests, and the financial ability of students to continue in the system. More often than not, students from poorer socio-economic backgrounds will be looking towards PSE as a passport to getting a job immediately after graduation.

When the higher education system was small, serving roughly 4 to 5 per cent of the relevant age group (as late as the 1960s), it essentially served the upper class (Trow, 1974). When the system expanded to accommodate around 10 and 20 per cent of the age group, it began to cater to the upper and middle classes. Finally, the share of students from lower socio-economic groups increased in enrolments when the system became massified or moved towards universal levels by the end of the last century. The groups seeking higher education became diversified, and higher education courses began to adapt to their varying tastes and interests. As the demands of students from different socio-economic groups and their immediate reasons for seeking higher studies shifted from the notion of higher education as an intellectual pursuit to its market value, the type of courses offered and the programmes of study developed in universities began to evolve.

The changes in curricula, responding to multiple demands, and in course structures, adapting to students' career expectations, are the direct result of increased diversity. Forms

of instruction are moving away from formal and face-to-face interactions to new ways of transmitting knowledge and skills that rely on the use of information and communication technologies (ICTs). This multiplicity of requirements could hardly be met within traditional institutions. Therefore, diversification is seen as a means by which PSE systems prepare themselves to cope with the challenges that result from a diversified clientele and demand.

The above discussion shows that the diversification of the higher education system can be analysed according to the clientele to which it is catering. Trow (1974: 4) notes that 'as the system grows, it emerges from obscurity of the relatively small elite system with its modest demands on national resources, and becomes an increasingly substantial competitor for public expenditure'. When the system grows, the relationship with the state becomes more important, especially if the state continues to be the major source of financing for higher education. This may give scope to systems to eventually rely on non-state funding support.

3.3 Diversification due to globalization, the knowledge economy, and changing demand for skills

With the transition towards knowledge-based production, economies are increasingly realizing the importance of higher education in promoting knowledge production (i.e. R&D), and absorbing technological advances. The gains in international competitiveness are the result of a highly qualified and trained pool of professionals. The reliance on a knowledge economy is also associated with a shift in employment prospects from manufacturing to service sectors and an increase in the qualification levels of employees.

The skill requirements and qualification demanded for job entry are also high and rising. Studies show that, in countries such as Canada, nearly 70 per cent of all new jobs will require a post-secondary level of education (ILO, 2004). It can be argued that when production became more knowledge intensive, the demand for higher educated persons in the labour market increased, and this in turn increased demand for higher education. The persons considered most qualified were not then primarily the liberal education graduates, but rather graduates of a programme imparting practical, applicable knowledge, and knowledge-based technologies (Hanson, 2008).

It has been observed that 'the demands of a growing, upwardly mobile (or at least upwardly aspiring) population and the needs of an increasingly competitive, technologically sophisticated economy' (Johnstone, 1998: 3) are responsible for the expansion and diversification of higher education. Again, according to the OECD (2008) study, the growing importance of knowledge in development is one of the primary factors influencing the diversification of higher education.

3.4 Diversification due to the expansion of secondary education

The success of the Education for All (EFA) movement in fostering enrolment in primary and secondary education has led to even greater pressure for higher education to expand. This is sometimes referred to as the 'pipe-line effect' (Goedegebuure and Meek, 1997: 309). This pressure is especially important in developing countries where primary and secondary levels of education are fast expanding and a growing proportion of school graduates decide to join tertiary education institutions. The expansion of education at the secondary level increases

the social demand for higher education, and, as we have seen, this demand is leading higher education to diversify into different forms of post-secondary education. The demand for higher education is higher in those countries where secondary education has already expanded.

3.5 Diversification due to growing specialization

Diversity could also be related to the growing specialization of the academic field, which may be institutionalized either within a university or outside the university structure. Institutional arrangements for carrying out research vary among countries. In some countries, such as the United Kingdom and United States, research takes place in universities; in other countries, such as France, national agencies such as the National Centre for Scientific Research undertake research; while in others still, national academies are separate from the higher education system, as existed in the USSR (Neave, 2002). In some of the Asian countries there has been a proliferation of R&D institutes outside the traditional university structure. These can be private R&D institutes, regional R&D institutes, or research associations such as the Council for Scientific and Industrial Research in India, the Rubber Research Institute of Malaysia, the Metal Research and Development Centre in the Philippines, or the Singapore Institute of Standard and Industrial Research. In most cases, these institutions carry out research in selected areas and are relatively free from teaching responsibilities.

Higher education systems need to respond to prospective changes and future challenges, and develop greater capacity for innovation. The capacity to respond to new developments, foreseeable or not, becomes more important for every post-secondary education system and each single institution. Diversification is again seen as a prominent means to reach this, based on the assumption that a diverse system with differing institutions bears the greatest potential for various and adequate innovations. Specialized institutions can respond to these specific requirements faster than others.

4 Forms of diversification: Institutional

The trends in higher education diversification have developed to the point where a clear definition of what constitutes PSE is debatable. It can mean part- or full-time courses accommodating young and older students; or research universities offering graduate and postgraduate level degrees; or universities that focus more on undergraduate teaching than on research; it can also mean polytechnic or vocational colleges that offer professional courses and study programmes. These institutions can be privately or publicly funded.

The early decades of the post-Second World War period in Europe witnessed the expansion of higher education in response to the growing demand for an educated labour force. The next phase saw a move towards diversification and the emergence of the non-university sector.

Over a period of time, non-university institutions (NUIs) expanded their share in enrolment and became increasingly recognized as part of the higher education system. Then came the private providers. The public institutions of higher education became autonomous and at times recovered part of the cost from students through tuition fees (Goedegebuure and Meek, 1997). In Eastern and Central Europe, diversification became widespread with the establishment of private institutions of higher education.

Higher education systems in many developing countries of Africa and Asia have been shaped by the influence of colonial powers; and many have established universities modelled on those of Europe and the United States. Yet universities have remained elite institutions focused on imparting academic disciplines and have relied on public funding. Diversification was a slow process, especially since there was little pressure or demand for diversified skills in the marketplace. According to Assié-Lumumba (2006), the financial crisis and general financial constraint led to the failure of many reforms, among them diversification in the 1970s and the 1980s. Nonetheless donor agencies played an important role in facilitating diversification. In other words, the paucity of public funds encouraged the growth of the non-state sector (private) higher education in Africa, contributing to a three-tier system – universities, polytechnics, and colleges. Many of the new institutions are privately funded and they offer courses mainly in career-oriented and job-related programmes such as in business administration, information technology, and other professional subjects.

Based on a review of institutions offering post-secondary levels of education in different countries, the present study adopts a classification of PSE institutions into four categories: (1) universities, (2) colleges/non-university institutions, (3) tertiary short-cycle institutions, and (4) post-secondary non-tertiary institutions.

4.1 Universities

As noted at the beginning of this paper, higher education was traditionally associated with universities, which could be considered the apex of the PSE system. This category includes institutions generally providing tertiary education up to the highest academic levels and awarding degrees. Universities of course vary in their orientation and focus: from prestige

universities with a strong focus on academic research to basic teaching universities, or professionally oriented universities (Barnett, 2003) including service universities.

In general, the top-tier universities and most prestigious institutions are strongly rooted in research, and very often closely associated with the type of research carried out (Grubb, 2003). Chinese universities under the 985 Project and the 211 Project (OECD, 2007), the Russell Group universities in the United Kingdom, and the Ivy League universities in the United States are good examples of prestigious and research-focused universities. In countries such as France, on the other hand, the *Grandes Écoles* are also very prestigious but not focused on research.

The 'teaching universities' focus more on instruction, conduct less research, and are, in general, less prestigious. This said, distinctions along these lines may not systematically apply to all countries and may be controversial. Nevertheless, the importance attributed to prestigious institutions, as well as the introduction of university excellence initiatives in several countries, is likely to maintain the distinction (Sadlak and Liu, 2009).

'Service universities' specialize in offering short-term courses. These institutions emerged during the economic crisis and the downsizing of public funds to universities (Cummings, 1998). (Some traditional universities have also incorporated service functions.) The Republic of Korea started a service university based in large part on funding from private sources (Ryu, 1998). In Norway, the recent efforts to decentralize higher education led to the development of two parallel sectors – the university sector and the regional sector. The university sector concentrates on basic research, while the professional colleges are responsible for professional education and applied research important to that region (Tjeldvoll, 1998).

The emergence of service functions within a traditional university can create disequilibria between disciplines and at times threaten the faculty, which stands at the crossroads of an uncertain future. The 'academic staff in social sciences and humanities have more to fear than their colleagues in business management and computing sciences' (Welch, 1997).

Among universities, there is a great variety of existing structures. In the United States, research universities, professionally oriented universities, and community colleges co-exist, while in France, there are the *Grandes Écoles*, universities, and the *Instituts Universitaires de Technologie* (IUTs). The latter were created within universities but provide shorter (two-year) applied courses. In contrast, the Brazilian system formally differentiates between research-oriented universities and teaching-oriented university centres (Schwartzman, 2004; World Bank, 2002). On the other hand, in German and Cambodian universities, for example, such distinctions are hardly applicable. This is not to say that universities in these countries do not show any differences – Germany even introduced a national excellence initiative – but rather that the distinctions along the lines of research and/or prestige are much less developed than in other countries.

4.2 Colleges/non-university institutions

This second category comprises institutions that also confer academic degrees, but which are more focused on undergraduate studies. In some countries, colleges are affiliated to universities, in cases in which they do not have the legal rights to award degrees. As with universities, the colleges can also be categorized into two groups: academically or vocationally oriented

colleges. The colleges in India are, for instance, academically oriented and mostly undergraduate institutions, whereas the French IUTs exemplify a vocational orientation. This said, the IUTs defy classification because, although professionally oriented, about two-thirds of their graduates pursue further studies at the university level (Le Nir, 2008). Thus in practice, the IUTs resemble more academically oriented colleges than they do vocationally oriented ones.

Of relatively recent origin, non-university systems are more practical in nature and vocationally oriented: they represent community colleges in Canada and the United States; polytechnics in the United Kingdom; and *Fachhochschulen* in Germany. Training functions are thus carried out by university alternatives. Sometimes these arrangements are referred to as 'short-cycle' or non-university institutions. The OECD (1973) classified these trends into three groups:

1. the multipurpose model, corresponding to the US pattern of community colleges and the first two-year programme of undergraduate education;
2. specialized model institutions, offering vocationally oriented, short-cycle courses in continental Europe;
3. a binary model of polytechnics, offering degrees distinct from, but comparable to, those offered by universities (this type gave rise to the development of non-university sectors in tertiary education).

Some of these institutions acquired a status close to that of universities; although, maintaining their specificity in orientation and focus, they remain distinct from traditional universities.

4.3 Tertiary short-cycle institutions

The third category concentrates for the most part on technical and vocational education as well as degrees below the Bachelor level. Institutions within this category include the Jamaican community and multi-disciplinary colleges, the Japanese colleges of technology, the technical schools in the Ukraine, and technical institutes in Egypt. It is difficult to categorize the multiplicity of institutions belonging to this classification. In general, these institutions offer courses between the post-secondary, non-tertiary, and the Bachelor levels, and they include institutions that are non university level, such as 'tertiary short-cycle education', 'alternatives to universities', and 'sub degree education'. Although referred to as 'tertiary short-cycle education', a few programmes in this area can be similar in duration to higher degree-level programmes, but many of the programmes usually imply an amount of work of less than 180 credit points (Kirsch, Beernaert and Nørgaard, 2003). Studies in these institutions do not depend on further courses of study and do not necessarily lead to further higher education. Therefore, they represent a cycle of their own and lead to a completed certification.

The non-university sector has existed for decades, although its rapid expansion is a recent phenomenon. Initially termed short-cycle higher education (OECD, 1973), it later became an alternative to universities (OECD, 1991). The non-university institution (NUI) in the post-secondary education sector (OECD, 1991) differentiates between a short-cycle multipurpose NUI, e.g. community college; short-cycle specialized NUIs, offering short, more vocationally oriented courses in limited subject areas; and 'binary' NUIs, which are distinct from

those universities but grant similar degrees to those of British polytechnics. Some systems are unified, such as those of Australia or the United Kingdom, and some are binary systems, such as those of Canada, Germany, and the Netherlands (Goedegebuure and Meek, 1997).

The OECD (2005) distinguishes non-university tertiary education on the basis of:

1. goals – whether vocational preparation or a wider range of learning is the aim;
2. levels of instruction – basic vocational preparation or higher-order occupational skills;
3. service to local communities – locally relevant research and local access.

4.4 Post-secondary non-tertiary institutions

This fourth category refers to institutions that operate above the secondary level but below the tertiary level, and that confer either sub-degree vocational certificates or higher education entrance degrees. Since this level of education covers a very heterogeneous group of institutions and programmes, it is difficult not to denominate by default. With regard to the ISCED classification, 'post-secondary non-tertiary' is retained since delineation from the secondary and the tertiary education sector seems the most common characteristic of such institutions. Institutions that can be assigned to this category are technical colleges in Papua New Guinea, the specialized and upper vocational and technical schools in Germany, and the vocational and technical schools in the United States.

The Chinese classification system is a good illustration: China has research universities that are part of the top-tier universities and teaching universities. There are four-year colleges, which focus mainly on undergraduate education, and two- and three-year colleges, which provide courses that lead to associate degrees; these are tertiary short-cycle institutions. China also has junior colleges, which are post-secondary but non-tertiary education institutions. Countries such as Brazil, Cambodia, France, Egypt, Germany, Ghana, India, Jamaica, Japan, Nigeria, Norway, Papua New Guinea, the Russian Federation, South Africa, Ukraine, the United Kingdom, and the United States have similar institution types, although their names may vary. *Table 2* provides a detailed picture of institutions belonging to these categories in different countries.

Table 2. Classification of PSE Institutions

Type of institution	1. Universities		2. Colleges/non-university institutions		3. Tertiary short-cycle institutions	4. Post-secondary non-tertiary educational institutions
Country	1.1 Top tier universities	1.2 Teaching universities (university centres)	2.1 Academic-oriented colleges	2.2 Vocational-oriented colleges		
Brazil	Research universities	Teaching universities (university centres)	Multiple and single faculty institutions	Centres for Technological Education / Escolas técnicas		
Cambodia	Academies	Universities	Institutes / independent schools			
China	985 Project and 211 Project universities	Universities (research institutions)	Four-year colleges	Short-cycle colleges		Junior colleges
Egypt	Universities / institutions & academies				Middle and higher technical institutes	
France	Grandes écoles	Universities	Classes préparatoires aux grandes écoles (CPGE)	Instituts universitaires de technologie (IUT) / sections de technicien supérieur (STS)	Specialized vocational colleges	(Pre-university courses)
Germany	Universities and equivalents / colleges of art & music / universities of applied science			Berufsfachschule & Berufsschule (vocational schools - both partly) / Berufsakademie (vocational academy) / Fachschule (trade and technical school) / Verwaltungsfachhochschule (college of public administration) / Schule des Gesundheitswesens (health sector school)		Technische Oberschule / Berufsoberschule / Fachoberschule / Abendschule / Kolleg – (vocational and upper secondary schools – all partly)
Ghana	Universities / university colleges		Polytechnics			Technical & Vocational Resource Centres / secondary schools / technical schools / technical institutes / vocational schools / training centres / other post-basic education training institutions
India	Universities (central & state) / deemed universities / institutions of national importance		University colleges	Institutes / polytechnics		

Table 2. (cont.)

Type of institution	1. Universities		2. Colleges/non-university institutions		3. Tertiary short-cycle institutions	4. Post-secondary non-tertiary educational institutions
Country	1.1 Top tier universities	1.2 Teaching universities	2.1 Academic-oriented colleges	2.2 Vocational-oriented colleges		
Jamaica	College of Agriculture, Science and Education / Edna Manley College of the Visual and Performing Arts / University of the West Indies / G.C. Foster College of Physical Education and Sports		University of Technology / teacher colleges	Community colleges / multi-disciplinary colleges		Secondary high schools / commercial and secretarial institutions
Japan	Universities & colleges (Daigaku)			Junior colleges (Tanki Daigaku) / College of Technology (Koutou Senmon Gakko) / specialized course schools (Senmon Gakko)		Miscellaneous schools (Kakusyū Gakko) / test-coaching schools (partly)
Nigeria	Universities		Specialized colleges / monotronics / polytechnics / colleges of education			
Norway	Universities / specialized university institutions (vitenskapelige høyskoler)		University colleges / other private higher education institutions		Vocational colleges	
Papua New Guinea	Universities / specialized institutions of higher education		Technical colleges / primary teacher training colleges			
Russian Federation	Universities / academies / institutes		Tekhnikums / Uchilishcha / Colleges			
South Africa	Universities	Comprehensive universities / national institutes of higher education / universities of technology / University of South Africa / private institutions			Further education and training colleges	
Ukraine	Universities / academies/ conservatories		Institutes / colleges		Technical schools	
United Kingdom	Russell Group universities	Universities / university colleges		Further education colleges (some former polytechnics)		(Access courses)
United States	Ivy League universities	Universities / colleges / community colleges			Career and technical schools	

5 Forms of diversification: Ownership

The public–private classification is a cross-cutting classification. All the categories of institutions described above can be in either the private or the public sector. The state played a dominant role in the development of higher education in most countries, to the extent that there was a ‘state monopoly on tertiary education’ (World Bank, 2002: 69). This was true of all regions except Latin America and some countries in East Asia such as Indonesia, Japan, the Philippines, and the Republic of Korea, among others. During and following the period of the structural adjustment programmes of the 1980s, the role of the state was questioned and market operations in higher education were promoted. The market operations in higher education can be characterized by two trends, namely the privatization of public institutions and the emergence of the private higher education institutions (Varghese, 2004). Privatization implies the application of market principles in the operation of higher education institutions, even when ownership rests in the public domain. Private institutions, on the other hand, denote the growth of the non-state sector in higher education.

Privatization can imply full pricing of the services with no funding support from the state, or quasi-privatization with partial funding by the state. The latter is more common. Privatization of public institutions have taken different forms:

1. Cost recovery of support services: many public utility and support services and student support systems are contracted out to private agencies on a full-pricing basis. The core teaching function is subsidized.
2. Cost recovery or cost sharing: cost recovery is effected mainly through levying fees from direct beneficiaries. This is sometimes supported by student loans.
3. Corporatization of universities: some universities have established companies or corporations with operational autonomy to generate additional income. The corporatization of public universities allows them to borrow money, acquire investment shares, and enter into business ventures to meet a major share of operating expenses.

Private higher education institutions are of different types. Daniel Levy (Bjarnason *et al.*, 2009) developed a typology of private institutions as elite and semi-elite, non-elite, religious and cultural, for-profit, etc. In the context of diversification, private higher education institutions can be differentiated based on their orientation and sources of funding (Varghese, 2006):

1. State-supported private institutions: some private institutions of higher education receive funding support from the government. The support can be minimal or substantial.
2. Not-for-profit private institutions: private non-profit institutions are owned and operated by trusts that rely heavily on endowments and fees collected from the students. Most of them are self-financing institutions. Some of the best universities in the United States, such as Harvard, MIT, Princeton, Stanford, and Yale, are private and have large endowment funds.
3. Religious agency-supported private higher education institutions: Christian and Islamic organizations are active in providing private higher education in different regions. The

Roman Catholic Church is active in Africa, Asia, Europe, and Latin America; the Protestant Church is active in pioneered private universities in the United States. Islamic organizations are more active in countries such as Egypt, Indonesia, and Malaysia.

4. For-profit higher education institutions: some private institutions by design operate at a profit. Some of the private for-profit institutions are run by corporations and trade the stocks and shares of educational institutions (Ruch, 2001).

Many of the private institutions of higher education operating in developing countries are for-profit institutions. They mostly rely on student fees as a major source of financing, offer courses in market-friendly subject areas, and at times are affiliated to universities based abroad. Private universities are growing faster than public institutions and are increasing their share of total enrolment.

Private higher education institutions can also be cross-border or national institutions. In many instances, cross-border institutions integrate host countries through private higher education institutions. The independent branch campuses of renowned public universities operate under regulations applicable to private institutions in the host countries. The cross-border institutions (Martin, 2007) are becoming important in terms of size and prestige, especially in some of the developing countries.

6 Forms of diversification: Distance learning

Distance learning has assumed an added significance of late and includes correspondence courses, open universities, virtual universities, online universities, and the like. Distance learning has become larger than the traditional university sector and more students enrol than in any public university sector in some countries. For example, the Open University is the largest university in the United Kingdom, enrolling around 180,000 students – more than 5 per cent of total tertiary enrolment in the country. The Indira Gandhi National Open University of India enrolled around 2 million students in 2008 – about 15 per cent of total tertiary enrolment in India. The China Central Radio and TV University enrolls about 2.3 million – close to 10 per cent of total tertiary enrolment in China. Sukhothai Thammathirat Open University in Thailand enrolls around 181,372 students – around 10 per cent of all tertiary students in Thailand. The Anadolu University in Turkey enrolled 884,081 in 2004, accounting for nearly half of all tertiary enrolment in the country.

It is important to make a distinction between what is desirable and what is technologically feasible. There is a basic difference between the use of technology in developing and developed countries. Developed countries use technology primarily to improve the effectiveness of teaching and learning, to individually tailor instruction, and the like. In developing countries, technology is used to improve access to schools and universities at a modest cost. Over the recent past, distance education has expanded very fast in the Asian region. China, India, Indonesia, Pakistan, the Philippines, the Republic of Korea, and Sri Lanka, among others, have open universities at the national and sometimes the regional or provincial levels (Johnstone, 1998).

Different types of distance education institutions exist: (1) single-mode institutions, which focus exclusively on distance education; (2) dual-mode institutions, which offer both distance and face-to-face education simultaneously; and (3) a consortia or a group of institutions that collaborate to provide distance education (Altbach, Reisberg and Rumbley, 2009). Of all types, open universities continue to be the most important category. The Indira Gandhi National Open University in India, the University of South Africa, the University of Phoenix in the United States, and the African Virtual University are good examples of distance modes of delivery of educational services. Among these, the African Virtual University, initially launched as a project in 1997, has now turned into an inter-governmental organization working with partner institutions in more than 27 African countries.

7 **Forms of diversification: Programmes of study**

One of the important forms of diversification relates to the change in courses and study programmes, which have diversified for a number of reasons. As previously discussed, diversification is the result of two perspectives on higher education: knowing as contemplation and knowing as operation. Knowledge as operation is market-friendly, whereas knowledge as contemplation is more research-friendly. In the recent past, markets have exerted a strong influence on the form and content of courses offered by higher education institutions.

Relevance has become an important consideration and an influencing factor in study programmes. Relevance is very often defined in terms of the skills demanded in the labour market. Governments are interested in curricular changes to align discourses in higher education closer to the requirements of the production sectors of the economy. In the process, 'practically oriented programmes and fields of study, as well as pedagogical approaches stressing "real world" applications have seen an appreciable rise in popularity' (Altbach, Reisberg and Rumbley, 2009: 103).

With the emergence of the private sector, study programmes seem to have proliferated in non-traditional areas. Private institutions need to attract students to raise funds in order to survive. Private, 'no frills' institutions adopt a 'supermarket' philosophy – pile them high and sell them cheap. However, students are only willing to pay for studies if they are in an area that will lead to paid work immediately after graduation. Therefore such institutions offer study programmes in finance and accounting, informatics, and the like, and universities in several countries offer courses in design, dance, drama, music, catering, hotel management, and so on.

Traditional universities have diversified their courses and study programmes. Many of them have introduced market-friendly courses on a full cost-recovery basis, and it has become a source of generating additional income. Some universities offer incentives (additional payments) to staff members who teach in these study programmes in addition to their regular teaching job.

8 Forms of diversification: Clientele

With the expansion of higher education, there has been a shift from elite to mass higher education. In fact, with massification, students from elite origins are becoming a minority in enrolment. Students from a middle-class background, who constitute a majority, envisage higher education as a passport to obtaining a good modern-sector job. A major survey of nearly 250,000 students and 550 institutions of higher education in the United States from 1966 onwards indicated the change in student perceptions about their motivation to seek higher education (Astin, 1991). The results indicate that the major change between the 1960s and the 1990s is an increasing preference for business jobs and a declining preference for teaching jobs. 'Increased student interest in business is accompanied by a strengthening of materialist and power values and a decrease in student interest in education, social sciences, arts, humanities, nursing, social work and allied health. It is accompanied by declining altruism and social concern' (Astin, 1991: 132). Such a preference is also reflected in the choice of subject areas for studies among students and is in line with the market demand for graduates.

'The students of the 1920s were wet, wild and wicked. The students of the '30s were somber and radical. Students in the late '40s were mature and "in a hurry". The undergraduates of the '50s were silent. The students of the late '60s and early '70s were angry and activists. The students of the 1980s were self-concerned and career-driven' (Levine and Hirsch, 1991: 119). While developing a meaningful philosophy of life was especially a premium in the 1970s, the more recent past has shown an increased interest in money, power, and status.

The share of adults is increasing in many universities; most of them on a part-time basis. In some countries, no formal distinction is made between part-time and full-time students and both categories of students obtain the same degree. In some countries, a distinction is made on the basis of the cost – public subsidy will be less for part-time courses and students or based on student workload (Tight, 1994). Part-time students have become a majority seeking post-secondary levels of education in any country, primarily due to the lifelong nature of education, and this group proves to be more reliable to generate income. However, there is criticism against the recruitment of part-time students on a larger scale, since many believe that academic concerns are taking a backseat, and one fears that the status of the university is inversely related to the share of adults recruited in the student body (Davies, 1995).

Women students outnumber men students in higher education in many universities, especially in developed countries. It is pointed out that, in some instances, some of the institutions are lowering admission requirements for men, though none will admit publicly to doing so (Fiske, 2000). The increasing presence of women within universities is due to the fact that a larger number of girls are completing secondary school education, and with higher scores. A larger number of those who succeed are also willing to seek higher education. More importantly, a shift from an industrial to a service economy is also associated with appointing women to what were traditionally male jobs.

8.1 Overseas students

The influx of overseas students is another change to be noted in the recent past, and many universities are diversifying their courses to suit the requirements of the overseas student market. The number of cross-border students recently increased; nearly 2.7 million students pursued cross-border education in 2005, and this number will increase to 7.2 million by 2025 (Bohm *et al.*, 2002). The most familiar pattern of cross-border student flow used to be from developing to developed countries, and North America and Western Europe continue to be favourite destinations for most students from any region except Central Asia. The United States attracts the single-largest share of foreign students (22 per cent) followed by the United Kingdom (11 per cent), Germany (10 per cent), France (9 per cent), Australia (6 per cent), and Japan (4 per cent). The fast expansion in numbers of foreign students was experienced by Australia in the 1990s and New Zealand in the 2000s.

According to the OECD (2006), total enrolment represents 28 per cent in New Zealand, 19.9 per cent in Australia, 16.6 per cent in the United Kingdom, 11.2 per cent in Germany, 11 per cent in France, and 10.6 per cent in Canada. At the research level, in countries such as New Zealand and the United Kingdom, more than two-thirds of students are from foreign countries. This change in student composition has implications for the expansion of PSE, since many of them have a demand for market-friendly courses.

In general, there is a social divide among the students attending traditional universities and new non-university tertiary institutions (NUTIs). The latter may not be motivated to pursue higher studies; they may be dropouts from the 'traditional' higher education institutions; a good share may be from a lower socio-economic background (OECD, 1991). The admission requirements also may be lower than those for the university sector. There may also be more part-time teaching staff with lower academic degrees, a greater teaching load, low research opportunities, less job security, and fewer promotion possibilities (OECD, 1991). In many cases, the share of foreign students in host countries (developed countries) from the sending countries (mostly developing countries) has been increasing and is now more than 50 per cent (Gardner, 2010).

9 Conclusions

PSE includes all forms of education pursued after the secondary level – both tertiary and non-tertiary levels of education. This paper has analysed the trends in diversification of post-secondary education focusing on the diversity of providers, programmes, and clientele. The expansion and diversification of the system have evolved simultaneously and been mutually reinforcing. Expansion reflected a move from elite to mass and further to universal PSE. Diversification reflected the capacity of the system to respond to the immediate demand arising from the labour market. Discussions on the reasons for diversification indicated that academic and economic reasons were of equal importance. Through diversification, the system has become more responsive to labour market requirements and has increased the range of choice available to learners.

The general classification of diversification in PSE institutions has followed the four following categories: universities, colleges/non-university institutions, tertiary short-cycle institutions, and post-secondary non-tertiary institutions. Of these, all except the last offer courses leading to certification at the tertiary level. These types of institutions, although given different names, exist in most countries. In most, the non-university sector is expanding quickly, although the university sector still accounts for a major share in enrolments. The share of the non-university sector varies from one-fifth and two-fifths of all students enrolled in tertiary education in many countries, including Brazil, Germany, Ghana, Japan, the Russian Federation, and the United States, among others. In some countries, enrolment in the non-university sector comes close to 50 per cent, such as in France, Jamaica, and Nigeria for instance, and even surpasses the half mark, as in Norway. The fourth category offers courses mostly in technical and vocational areas, which, while they may not lead to any certification at the tertiary level, are useful for job seeking.

It can be argued that diversification is a process necessarily associated with the expansion of a system, on the one hand, and with deliberate efforts to position post-secondary education in relation to the demand emerging from the labour market, on the other. Diversification also provides a safety valve for governments to escape from increasing demand for investing public resources in higher education. In many an instance, states have succeeded in transferring the financial burden from the government to the diversified institutions, and the institutions have consequently succeeded in transferring it to the students and their households. From a national point of view, while it is necessary to diversify the PSE system to cater to the immediate requirements of the market, it is important to continue to reinforce and protect the contribution of higher education to the long-term goals of economic development and social equity.

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The booklet

Higher education has traditionally been associated with university education. A growing demand for higher education necessitated its diversification. Post-secondary education (PSE) includes a diversified system of institutions, providers, and study programmes offered after the secondary level of education. The expansion and the diversification of the system moved hand in hand, and it denoted a move from elite to mass higher education. The non-university sector is expanding rather quickly in many countries. Based on a review of PSE in several countries, this paper adopted a classification of diversification of PSE institutions into four categories: (1) universities, (2) colleges/non-university institutions, (3) tertiary short-cycle institutions, and (4) post-secondary non-tertiary institutions.

It can be argued that diversification is a process necessarily associated with the expansion of a system, on the one hand, and labour markets, on the other. Diversification can help governments transfer the financial burden of education from the state to households. This paper argues that while it is necessary to diversify PSE and to cater to immediate skill requirements, it is important to continue to reinforce and protect the contribution of higher education to the long-term goals of economic development and social equity.

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