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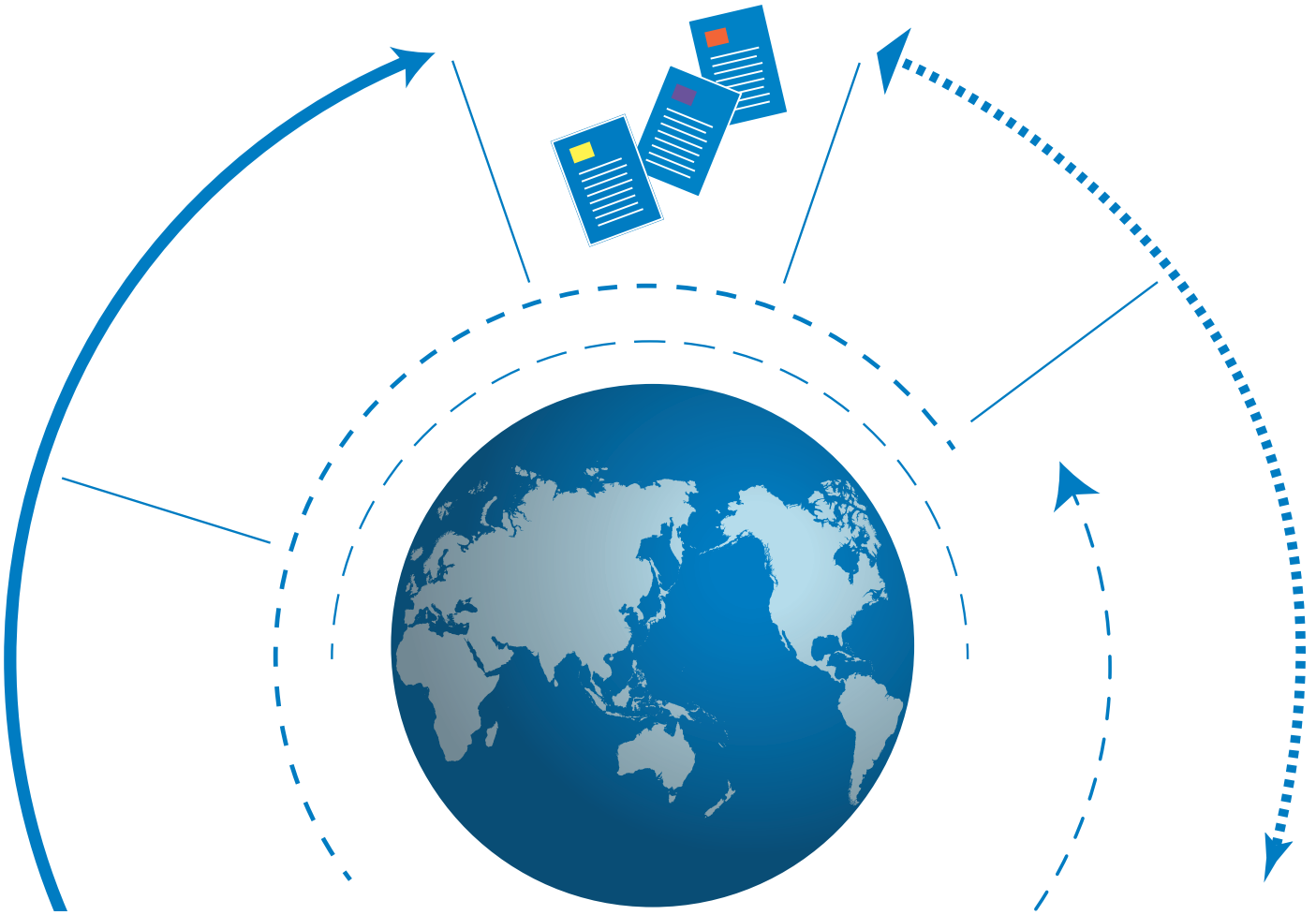
The rationale for higher education investment in Ibero-America

José Joaquín Brunner



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PREFACE

Tertiary or higher education is a key driver of social and economic progress. This is particularly true in an increasingly knowledge-based economy and society, where higher education plays a decisive role in the creation and dissemination of high-level knowledge, as well as in putting it to use for the benefit of the society.

Higher education has gained importance on national agendas, as it generates both economic and non-economic benefits for societies as a whole and for individuals. From a macroeconomic perspective, higher education can play a decisive role in the upgrading and diversification of the economic structure. The creation and dissemination of knowledge is a driver of innovation, competitiveness and productivity gains. This is particularly relevant for Latin America which is in search of a more sustainable growth model based on endogenous engines of growth that would reduce its dependence on external sources. From a social point of view, higher education contributes to social progress by enhancing social mobility and social cohesion and supporting an inclusive pattern of growth. Finally, from an individual perspective, higher education endows individuals with better training and more sophisticated skills, therefore increasing their prospects for better paid and higher quality jobs and favouring their inclusion in labour markets.

One of the main debates around higher education in Latin America is related to its financing. An increasingly globalised higher education landscape puts competitive pressure on institutions faced with the need to improve their performance in order to attract students and meet international standards. Additionally, some of the main challenges of higher education in the region remain unsolved, mainly those related to the quality, pertinence and access to higher education. Finally, a rising middle class demands higher quality public services that also increase opportunities in a broad sense across socioeconomic groups. All these factors require that more financial resources are allocated to higher education so that its potential impact on economic and social progress can be achieved.

This working paper contributes to the debate around the financing of higher education and calls for a fair distribution of the costs of higher education between the private sector (including students and their families) and the public sector, allocated according to the ratio of private and public benefits and externalities that it generates. In particular, it indicates that approximately half of the benefits derived from higher education are private while the other half are social benefits and public externalities. However, several bottlenecks and inefficiencies limit the benefits generated by higher education institutions in Latin America. Overcoming these limitations will be critical to strengthening the impact and benefits of higher education, as well as to legitimating a more balanced funding pattern from public and private sources.

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RÉSUMÉ

Un point central du débat sur les politiques d'éducation supérieure ou tertiaire a trait au financement de ce secteur. Trois questions majeures alimentent les discussions entre gouvernements, chercheurs, étudiants, experts et membres de la société civile à travers le monde : qui doit financer, pour qui et comment. Et l'Amérique latine ne fait pas exception. Les chefs d'État et de gouvernement se sont prononcés à plusieurs reprises sur ce sujet lors des sommets ibéroaméricains. Les enceintes universitaires et les pavés des rues des principales villes de la région ont également servi de tribune aux étudiants et professeurs réclamant davantage de moyens financiers pour les universités. Le document présent plaide pour un partage du financement du système éducatif supérieur entre l'État et les particuliers, c'est-à-dire les étudiants et leurs familles, en fonction des bénéfices privés et sociaux générés. Le modèle de distribution des coûts (1:1) entre le privé et le public s'appuie sur le calcul économétrique des bénéfices respectifs générés, qui se partage de façon égale entre bénéfices privés et bénéfices sociaux ou externalités publiques. La conclusion qui découle de cette analyse consiste à suggérer une diversification des sources de financement des Institutions d'éducation supérieure (IES) de manière à garantir un partage égal des coûts entre l'État (les contributeurs) et les particuliers (ménages ou familles et étudiantes/diplômés). Ceci n'est valable bien entendu qu'à condition que le système éducatif fonctionne de façon optimale et génère effectivement les bénéfices attendus par les individus et la société. Les obstacles qui entravent un tel fonctionnement doivent être levés. Il est du ressort de l'État d'allouer les ressources nécessaires pour parvenir à ces objectifs, et de mettre en œuvre des politiques publiques qui permettent aux institutions de répondre aux exigences et standards proposés.

Classification JEL: I23, I28.

Mots-clés: Éducation tertiaire, bien publique, bénéfice publique, bénéfice privé, dépense publique

ABSTRACT

A key higher education policy question is about the financing of this sector. Who, why and how higher education should be paid for are debated around the world by governments, the academic community, students, experts and civil society. This is true of Ibero-America. The meetings of their heads of state or governments have, on various occasions, pronounced on this issue. And within the institutions themselves and on the streets of the principal cities in the region, students and professors have voiced their demands for greater funding. This document advocates the need for shared higher education funding – between the state and the private sector, (including students and their families), in a proportion that corresponds approximately to the private and social benefits generated. The proposed public/private cost allocation (1:1) is based on econometric calculations of the respective benefits generated by tertiary education, with approximately one half of the total being private benefits and the other half social benefits and public externalities. From this it follows that HEIs should be funded in the same proportion, diversifying their sources so that the state (taxpayers) and the private sector (households or families, students and graduates) provide 50% each. But the above only makes sense if higher education can ensure that it provides the anticipated private and social benefits and public externalities. The bottlenecks that stand in the way of achieving these expectations have to be removed. So the State should allocate resources in terms of reaching these objectives, and implement policies that encourage institutions to reach the proposed outcomes and standards.

JEL classification: I23, I28.

Keywords: Tertiary education, public good, private benefits, social benefits, government expenditure

I. INTRODUCTION

I.1 The multiple benefits of higher education

Tertiary or higher education is essential for individuals and contemporary society. It contributes to the economic, social and cultural development of nations, with the formation of skills or human capital, the construction of a knowledge base, and its transference and dissemination (OECD, 2008a, Vol. 1:13). And its contribution can be defined in even more specific terms.

Economic research has shown that higher education generates a combination of individual and social benefits, which are monetary and non-monetary, direct and indirect, short and long-term.[1] Individuals gain directly from the human capital they have acquired after secondary education – they have greater employment possibilities, and receive a wage premium in the labour market for this. The customary way of measuring this benefit is by calculating the private internal rate of return (Psacharopoulos, 1995). In addition it has been shown that better educated individuals receive broad non-market benefits, in terms of health (including those of the partner and children), fertility, efficient consumption patterns, higher saving rates, greater choice including partner selection, and greater satisfaction (cognitive and non-cognitive) in the many activities in which they participate. Further, the most recent literature identifies additional benefits such as greater life expectancy and higher degrees of "happiness" (Harmon, 2011).

Thus, more generally, it can be concluded that individuals educated beyond the secondary level benefit not only from access to better paying occupations but that these occupations provide greater opportunities for self realisation, satisfactory social interactions and independence. Higher, particularly university, education can provide greater occupational prestige; reduce reliance on welfare services; improve decision making capacities; and reinforce long-term thinking. Oreopoulos & Salvanes estimate, for the United States, that up to three quarters of the effect of higher/university education in terms of life satisfaction is due to non-pecuniary effects (Oreopoulos and Salvanes, 2011).

But higher education benefits society as much as individuals. McMahon has shown that on the one hand, it produces measurable market externalities such as greater investment in physical capital, higher tax receipts, an easier diffusion of new technologies, slowing of population growth etc. while on the other, there are positive non-monetary effects such as better public health, stronger institutions and the rule of law, greater participation in voluntary work, philanthropic donations, greater respect for human rights, lower levels of crime, as well as

1. McMahon, 2009; Haveman & Wolfe, 2007. Mora et al, 2007, Vossensteyn, 2004; World Bank, 2002. For the corresponding definitions see McMahon, 2011:Ch.2, and Psacharopoulos, 2009.

positive indirect effects on the environment such as less deforestation, water contamination and declines in poverty (McMahon, 2009:Ch.5; Oreopoulos and Salvanes, 2011). Other social sciences, such as sociology, political science and the humanities provide other equally important justifications for investments in higher or tertiary education, but these do not lend themselves, directly or indirectly, to an easy representation of their monetary value. For example, the impact on mobility and social cohesion; the practice of citizenship and preparation for adult roles outside the productive sector; children's education and the transfer of cultural capital; the development of the modern culture of secularism and pluralism; the density of public debate; innovation in the territory of ideas and social practices; and reflexivity about the character of late modernity and critical analysis to live an examined life (Scott, 2012; Giddens, 1990).

Empirical and analytic research on higher education fully supports the hypothesis that there are ample private and social benefits, as well as public externalities. To illustrate, individuals with tertiary education in OECD countries earned on average in 2010, 55% more than individuals with only completed secondary education. This differential oscillates between double (200%) in the case of Hungary and 25% for New Zealand. More, the differences in favour of those with higher education grow with age, depending in part on the choice of professional career, type of institution (university or non university) where they studied, and the field of study from which they are graduates. Their wage premium has been maintained or grown, even though the number of adults with higher education (ages 25-64) has increased from 21% to 30% between 2000 and 2010 (OECD, 2012:143-151).

In terms of the non-private externalities of tertiary education, it is estimated that they could be greater than private benefits, if non-monetary social benefits are included. In other words if benefits are included that are realised by others in the society and not "by those who do the investing in education, whether it be students, families, or researchers. These externalities can be either monetary or non-monetary spillover benefits to others. Education externalities looked at from the reverse side of the coin are merely that portion of the market and non-market benefits realised by the individual that are due to the education of others".[2]

2. McMahon, 2009:2504. The author's classification of benefits is essentially between private and social benefits/externalities. The first are "direct market and non-market private benefits" while the second include "indirect private market and non-market effects and the one hand and, on the other, direct and indirect non-market social benefits. In this extended version, social benefits are the public goods produced by higher education. Social benefits of higher education emphasize the benefits of higher education to the society that are externalities, that is, benefits that spill over to others, including future generations, that are beyond the private benefits of higher education to the individual". His thesis, discussed in the text, claims that the conventional calculation of the rates of return to higher education grossly underestimates the social benefits that are used to justify public investment in this sector. In brief, he argues that "the analysis of the total private and social benefits of education in relation to the costs shows that the total social rates of return to investing more in higher education are very high in relation to the opportunity costs of the funds". In the main text (above), his conclusion about the proportionality of benefits is used as a tentative basis for the analysis of higher education in Latin America where the "total externalities come out to be 52% of the total benefits of higher education. These consist of 42% of the private market and private non-market benefits plus the direct social benefits. This 52% is not a social rate of return. It is an estimate of the percent of the total benefits that

Private benefits are often measured in aggregate terms for nations and regions of the world and, when compared to social benefits, the latter are systematically lower (see Table 1).

Table 1. **Returns to investment in education by level, full method, latest year, regional averages (%)**

	Social			Private		
Region	**Primary**	**Secondary**	**Higher**	**Primary**	**Secondary**	**Higher**
Asia*	16.2	11.1	11	20	15.8	18.2
Europe/Middle East/North Africa*	15.6	9.7	9.9	13.8	13.6	18.8
Latin America/Caribbean	17.4	12.9	12.3	26.6	17	19.5
OECD	8.5	9.4	8.5	13.4	11.3	11.6
Sub-Saharan Africa	25.4	18.4	11.3	37.6	24.6	27.8
World	**18.9**	**13.1**	**10.8**	**26.6**	**17**	**19**

Note: *Non-OECD.

Source: Psacharopulos, G. and Patrinos, H.A., 2004: 114.

This is because "estimates of social returns to education, as commonly found in the literature, ignore non-income benefits of education (for example, improved health) and the possibility of positive externalities from education, such as productivity spillovers, lower crime, reduced use of social services, increased civic participation, and so on" (Patrinos & Psacharopolous, 2011:9). It is much more difficult to measure social benefits, particularly those that function as direct and indirect non-market effects, related to the democratisation of societies, broadly understood (civic and electoral participation, functioning of public institutions, political stability, respect for human rights, tolerance, less cynicism etc.); with economic growth, use of available technologies, welfare of the population; and with the protection of the environment. Many of these benefits are subject to considerable disagreement particularly in terms of their link – causal or associative, direct or indirect – that might exist between the expansion of higher education and/or the number of graduates in the labour force and the growth of countries measured by per capita income. Thus an OECD study summarises the state of the art at the beginning of the 21st century in the following terms: "the multitude of models and databases used to assess the impact of education on growth have produced mixed results, with some showing a strong effect and others indicating no effect at all" (OECD, 2008a:Vol.1.3.1.; OECD, 2001).

Be that as it may, the most recent complete and sophisticated accounting of social benefits and externalities demonstrates benefits which are significantly greater than those often cited in the literature, with some showing social benefits reaching 52% of the sum total of benefits from higher education.[3] This is a key issue: in terms of public policy and public resource allocation for

are social benefit externalities. It is an estimate of the percent of the total investment in higher education that needs to be publicly financed if economic efficiency is to be achieved"; on the contrary, "if privatization should proceed much beyond 48 to 50% of total investment costs, questions can be raised about higher education's service to the public good and about whether overall economic efficiency can be achieved" (McMahon, 2009:3229).

3. This is the same proportion as that of McMahon, and which will be used as a tentative criterion for the analysis of higher education in Ibero-America. He concludes that the "total externalities come out to be

higher education, the calculation of externalities has become decisive. For it is largely on the value attributed to social benefits and externalities that the size of the subsidy a State can legitimately provide to this level of education depends. This gives rise to the paradox that "estimating the value of the externalities associated with higher education is arguably the most complicated area in the economics of education literature, yet it is also a critical component for public policy in this area" (Chapman & Lounkaew, 2011:15). However an adequate measure of these benefits and externalities involve complex technical issues which are fully explored in the specialised literature (Chapman & Lounkaew, 2011; Tilak, 2011; McMahon, 2009, 2006).

Thus the relationship between private and social benefits in higher education posited by McMahon is taken as a working hypothesis in this paper. With this, it is assumed that *cost sharing* between the state and private groups (families, students, graduates) should act as a guiding principle of public policy also in the field of higher education in Latin America. The latter should be judged in terms of both individual and social costs as *inputs* as well as the expected benefits as *outputs*. These cost/benefits proportions taken from the specialised literature, will now be applied to Latin America and will serve as a guide by which to judge the proportion of higher education expenditure that should be funded by the State, if countries wish to create public goods that a society has the right to expect, and from private sources, given the direct benefits received, over the long term, from the acquisition of a recognised higher education credential.[4]

With this in mind, the present study explores the why and how of Ibero-American higher education funding with special reference to Latin America. The *first* section describes and analyses the organisation and provision of tertiary education in the region, noting the predominantly private character of the political economy of national systems and the high private rate of return to human capital investments. The *second* section identifies the key bottlenecks that inhibit or limit the full realisation of the expected higher education social benefits and externalities. Specifically, we study the impacts of educational underachievement in the acquisition of cognitive skills and on economic growth; of early abandonment of higher education, the massification of educational credentials and their changing market value; the production and use of scientific and technical knowledge in the region, and their role in the emerging global market society. The *third* section expands this discussion of the most important bottlenecks by examining the role of higher education institutions in the public sphere and their apparently limited impact on different aspects of public policy, civic and political rights, and the construction of reflexive societies. The *fourth* section looks at the costs of higher education and trends of public funding modalities in tertiary education in the region. The text is based on an extensive literature review, and relevant data are introduced through appropriate figures and tables.

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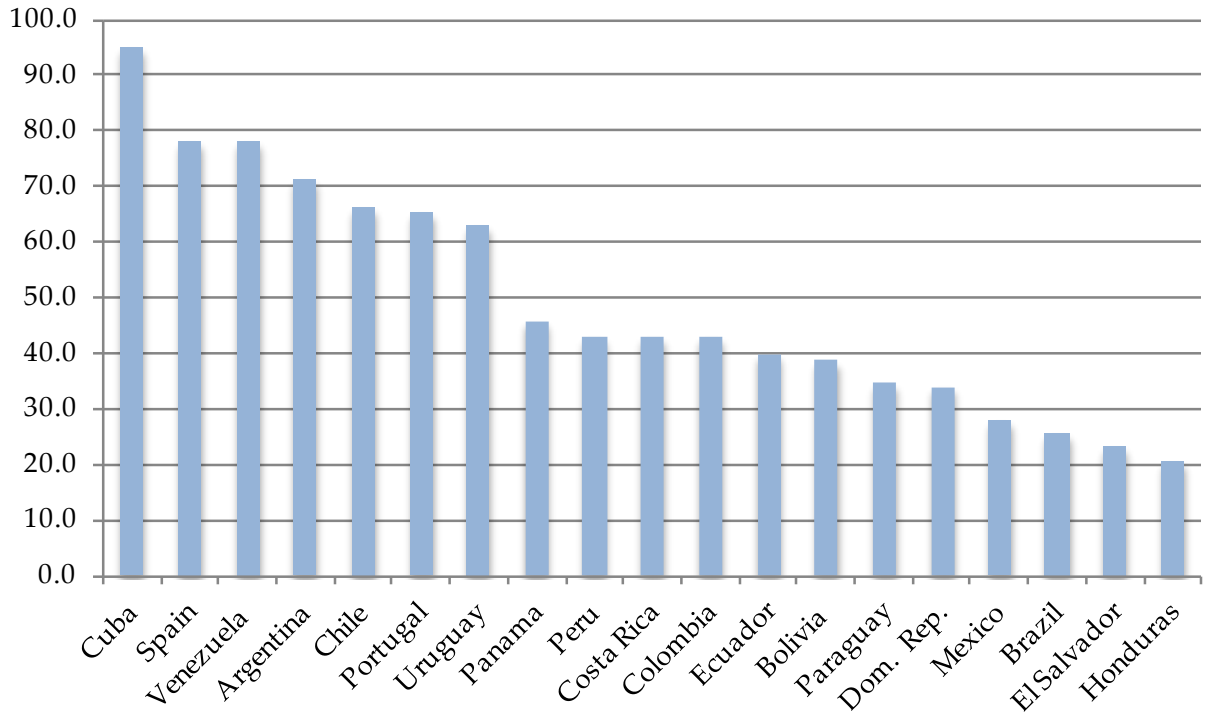
4. This view of shared costs can also be found in Johnstone, 2006, 2004; Barr, 2004, 2002.

II. CURRENT DYNAMICS: MIXED PROVISION, HIGH RETURNS

II.1 Organisational structure of higher education provision

Ibero America's educational expansion has been varied. Today there are around 16 000 HEIs consisting of nearly 4 000 universities or equivalent institutions, with a regional average gross participation rate of less than 50% of the appropriate age cohort enrolled in higher education or 23.7 million students (Brunner & Ferrada, 2011:Chs. B and C). Although countries have very different coverage rates, only a few are elite systems following Trow's classifications (Trow, 2010), with the majority in the massification phase, and some already at the universal phase (see Figure 1).

Figure 1. **Participacion in terciary education**
(gross enrolment ratio, latest year available)

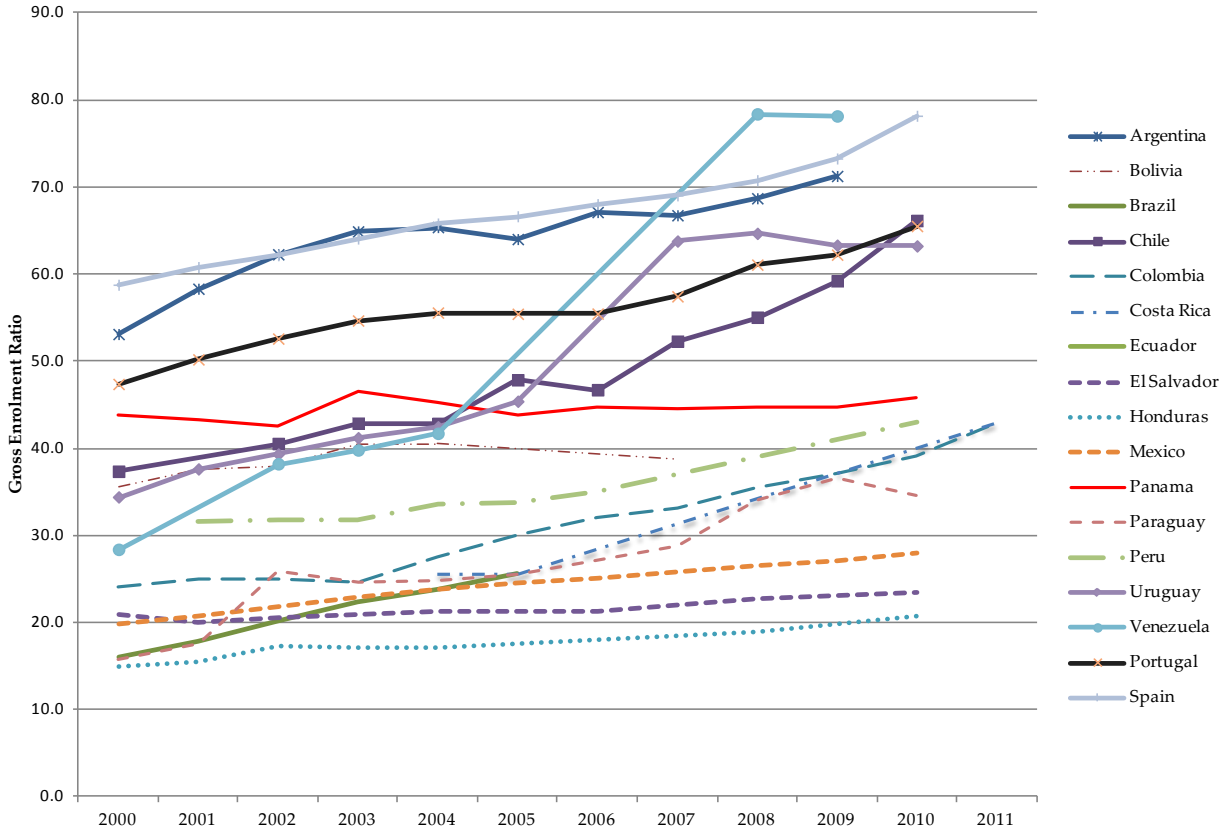


Source: UIS Data Centre.

The increase in enrolment and the participation rate over the last decade has been remarkable (see Figure 2), illustrating the high and sustained demand for tertiary education. This trend is fed by the growing number of young people who complete secondary education (BID, 2013; CEPAL,

2012: Section 1.3) with high expectations to occupy professional and managerial positions in their society, with an important and growing supply of places for post-secondary studies and up to now positive private rates of return to professional and technical human capital investment.

Figure 2. **Evolution of Participation in Tertiary Education (gross enrolment ratio, 2000-2011)**



Source: www.uis.unesco.org/Education/Pages/tertiary-education.aspx - Argentina 2009.

This heterogeneity in higher education reflects the very diverse institutions and programmes that make up the supply platform for this service. Very few HEIs are research universities; of the 4 000 working universities (approximately two-thirds being private), less than 2% fall into this category measured by the production of internationally registered scientific articles during the years 2006-10.[5] Meanwhile most Latin American HEIs are teaching-only institutions with no scientific-technical production. In between there exists a third category of universities with incipient or very low production.

Most Ibero-American countries have dual tertiary education systems, with a proportion of students enrolled in long-term academic programmes (type 5A, ISCED 1997) and the remainder in shorter vocational or training programmes, (5B). The first type dominates, with most students in study programmes leading to careers/occupations in the service sector of the economy (i.e. education, communications, humanities, social sciences, and commerce, administration, and law, social and personal services). The shorter vocational-training

5. Brunner & Ferrada, 2011:125, with current data for the period 2006-10.

programmes are likely to have open enrolment, less reputation, varying quality and provide graduates with a smaller wage premium than 5A institutions (García de Fanelli & Jacinto, 2010).

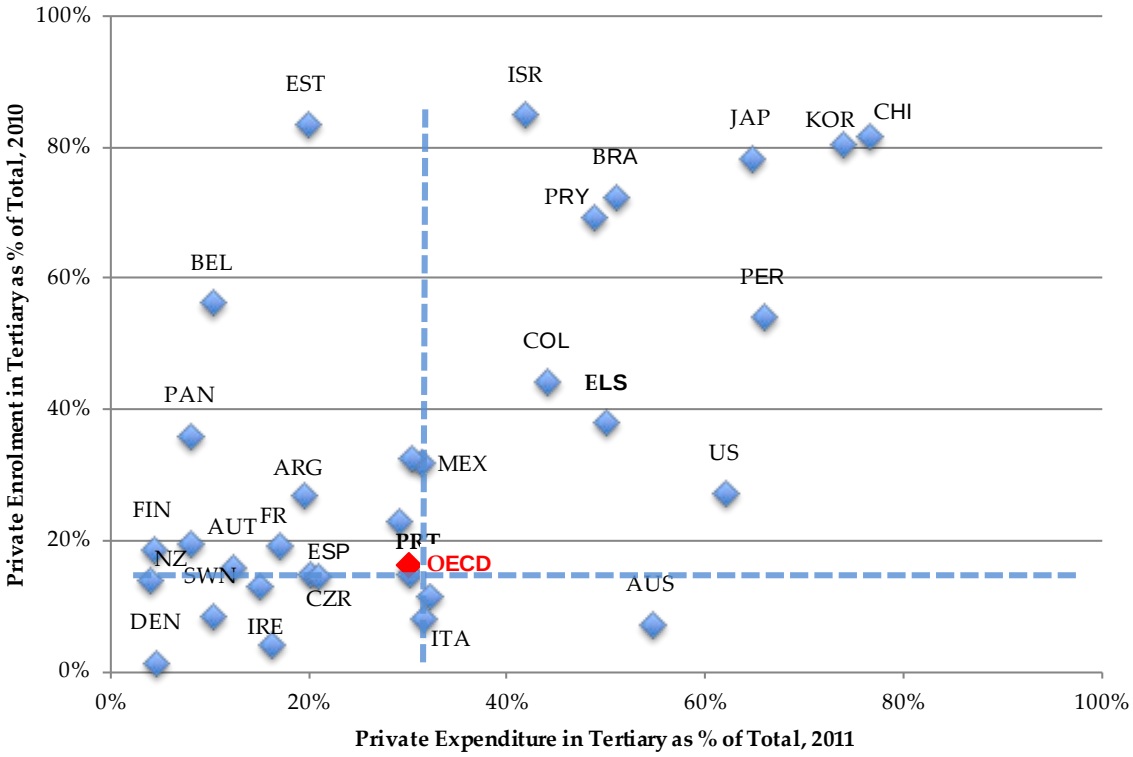
In sum, the idea of the modern university – from Kant, Humboldt and Newman to Hutchins and Ortega y Gasset, has been swamped in Latin America, diversifying into hundreds of post-modern institutions with distinct missions and sizes; types of ownership, control and management; programme qualities; selectivity levels; commitment to their environment, local roots or international projection; social composition of their student bodies; expenditure per student, and relations with the state, civil society, and different stakeholders (Brunner, 2012a, 2012b).

II.2 The trend toward a privatised political economy of higher education

The most striking characteristic of Latin America's higher education is the growing weight of private supply and finance in total enrolment and national educational expenditure. In fact more than half of Latin America's total enrolment in higher education – the greatest proportion in the world (Levy, 2011) – is in the private sector. And there are estimates that for each USD 100 spent on higher education in the region, around USD 40 are from private sources.

If a sample of national systems from different regions are distributed according to the two key dimensions of privatization – funding *(axis x*) and enrolment (*axis y*) – the resulting diagram (see Figure 3) shows the exceptional weight of the northeast quadrant for Latin America, i.e. the quadrant of highest privatisation, in contrast to the OECD countries which, with few exceptions, are to be found in the southwest quadrant with the least privatisation and with the greatest weight of public institutions. It follows that for the part of the world with the greatest private funding and enrolment, there is a vigorous development of what has been called "academic capitalism" (Slaughter and Rhoades, 2004); with private HEIs, marketing of their activities, credentialism, the commodification of educational services and institutional competition; the need for institutions to generate income from the commercialisation of their own activities, by tuition fees, the sale of knowledge services and products; and combined with the 'taylorisation' of academic work and, in general, the diffusion in public universities of managerialism and New Public Management practices (Brunner, 2010:Part 1). This transformation of higher education has been accompanied by a vigourous discussion in the Iberoamerican specialised literature (Brunner, 2012a, 2012b, 2009, 2002; Gazzola y Didriksson, 2008; García Guadilla, 2012, 2004; Ordorika, 2004, 2002; Leher, 2010; Gentili, Frigotto, Leher & Stubrin, 2009; López Segrera, Brock, Dias Sobrinho, 2009; Tünnermann, 2008b; Trindade, 2006; Schugurensky & Davidson-Harden, 2003; Torres & Schugurensky, 2002).

Figure 3. **Share of private expenditure and share of private enrolment in tertiary education, OECD and Ibero-American countries, 2010-11**

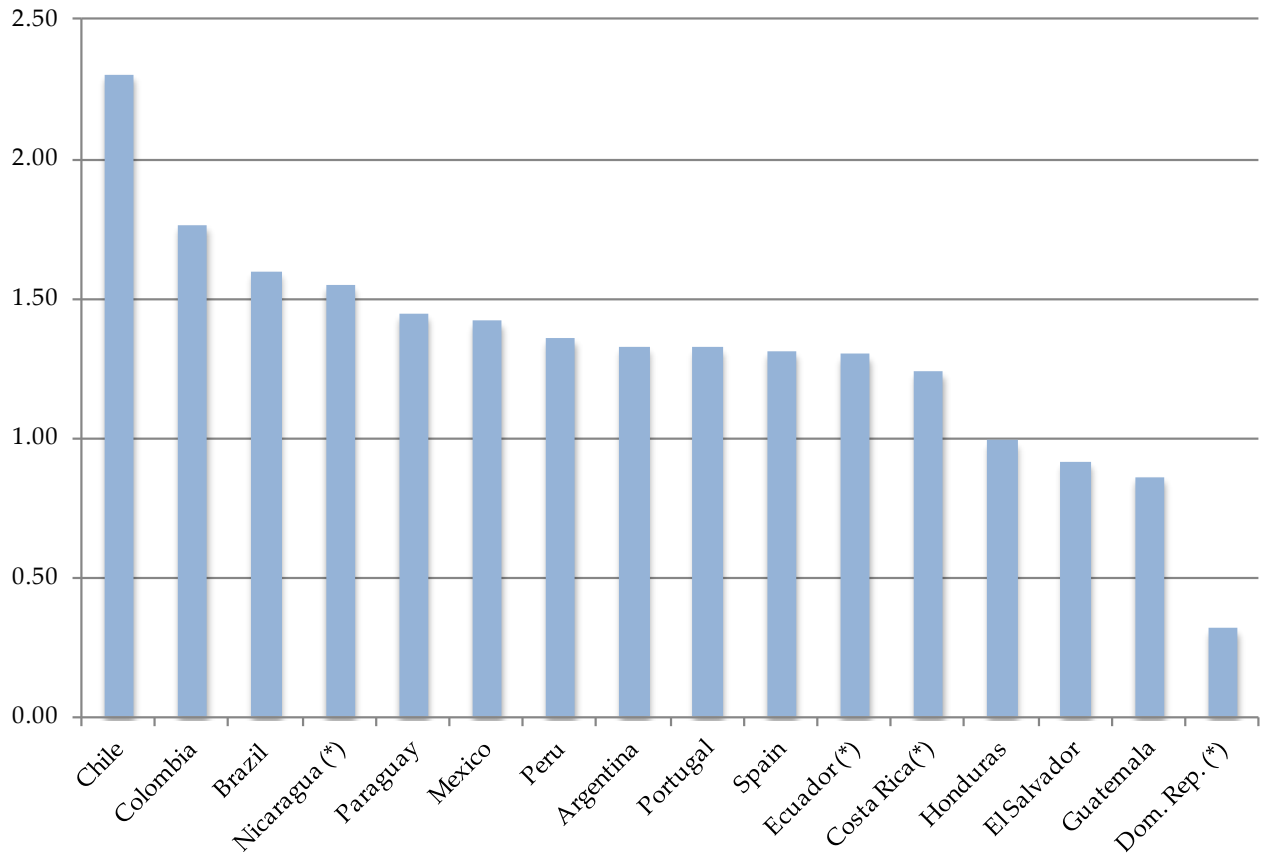


Sources: 1. Private Expenditure - On the basis of OECD, Education at a Glance 2012. Indicator B.3, Table B3.2 Relative proportions of public and private expenditure. Brasil and Colombia: Brunner & Ferrada 2011 (National reports); El Salvador, Panamá: Álfaro, López 2007; Paraguay: UNESCO 2007; Perú: UNESCO, Global Education Digest 2009. 2. Private Enrolment - On the basis of UNESCO, Global Education Digest 2012. Enrolment in Public and Private Institutions, www.uis.unesco.org/Education/Pages/tertiary-education.aspx - Argentina 2009.

For a group of countries where there is comparable information, the total amount of higher educational investment is slightly below OECD average, which is 1.5% of GDP. This group includes Argentina, Spain, Mexico, Paraguay and Peru. However there are also countries that have an investment above OECD average (see Figure 4) consisting, for example, of Brazil, Chile and Colombia.[6] As previously shown, in a number of countries among which are Chile, Colombia, El Salvador, Guatemala and Peru, private expenditure is greater than public expenditures, while in other countries (Costa Rica, Dominican Republic, Ecuador, Mexico and Paraguay) private expenditures make up a substantial proportion of all higher education expenditures. Only a small number of countries are below the level of one percentage point of GDP. So in most Ibero-American countries, taking into account their national product and development levels, both private and public sectors are making a substantial effort to fund HEIs. Moreover a significant number of countries in the region have increased their investment in tertiary education during the last decade, at the same time as many economies experienced vigorous growth during this period.

6. Cuba is not included for statistical reasons.

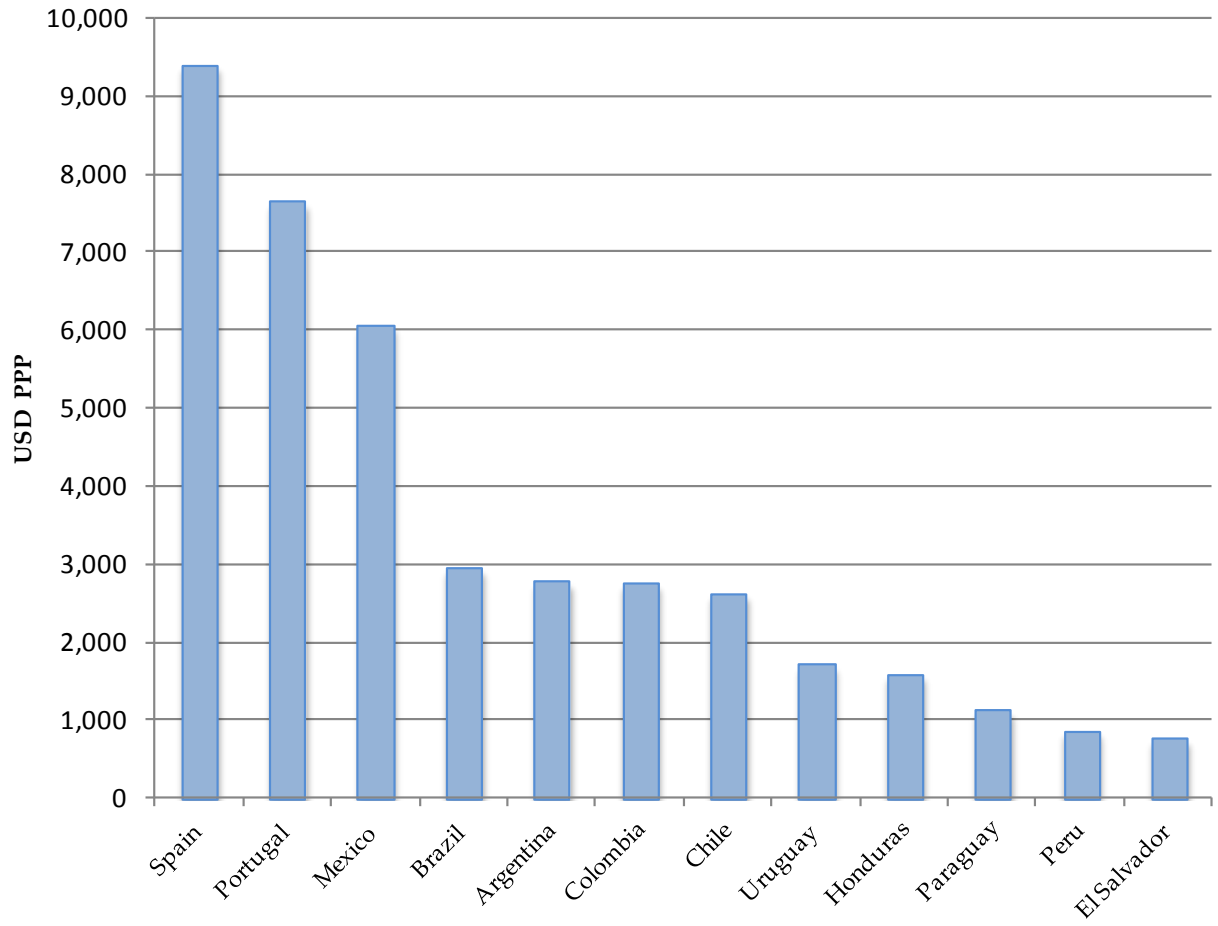
Figure 4. **Expenditure on tertiary education as % of GDP (latest year available)**



Source: UNESCO, Global Education Digest 2012.

But in spite of these positive signs and continuing trends, public expenditure per student continues to be low in most Ibero-American countries. In fact, in Latin American countries with comparable information per student expenditure ranges between USD (PPC) 800 per annum in El Salvador and Peru to USD (PPC) 6 000 per student/year in Mexico; these figures are below those of the OECD countries, which range from USD (PPC) 7 000 per student/year in the United Kingdom to USD (PPC) 27 000 for Norway. The two European Ibero-American countries are usually to be found in the bottom part of the comparison, with per capita expenditure between USD (PPC) 8 000 and USD (PPC) 9 000 (see Figure 5).

Figure 5. **Public expenditure per student (in USD PPP, 2009-10)**



Source: UNESCO, Global Education Digest 2012.

Particularly in Latin America a substantial effort is being made to fund higher education by households, justified above all by the returns that individuals make from their human capital investment coupled with non-monetary rewards such as status, increase in social capital, personal security, marriage opportunities, etc. which such investment can bring about.

From the beginning, according to a recent study for ten Latin American countries, tertiary education graduates obtain salaries from employment that are considerably higher than secondary school graduates. The study finds that "for the complete sample, the hourly salary for a young university graduate is 70% higher than a secondary school graduate. The premium is highest among adults where a university graduate earns 140% more than a secondary graduate". These data, according to the same study, "are consistent with trends documented in the literature about returns to education in Latin America, especially among adults. On the one hand […] there is an important decline in returns to secondary education. The premium paid by the labour market for adult secondary education graduates, when compared to those with only primary school education, has continued to decline, especially between the middle and end of the 1990s. The trend applies to both adults and youth. The higher education premium shows clear increases for adults although it decelerated toward the end of this period. For highly educated youth the

wage gap increased during the 1990s, then stagnated and then fell during the 2000 decade" (Bassi, Busso, Urzúa & Vargas, 2012:23-24). In the case of Chile, it has been estimated that at the end of 2009, the average income of the best educated group (university education at the 5A Level) was 59% greater than for those with credentials from a Technical Training Centre (CFT) or a Professional Institute (IP); 76% greater than for those who attended a tertiary education institute but left without an official qualification; by 185% compared to those with a complete secondary education and 278% greater than for those who did not complete secondary education" (Urzúa, 2012:10).

When examining private benefits to higher education, measured by the internal rate of return, the Ibero-American data show, with few exceptions, that the wage premium is much greater than in developed countries (Psacharopoulos, 2007) and other regions, above the world average (Psacharopoulos y Patrinos, 2004). Recent research confirms the positive rates of return for the Ibero-American countries, with private returns of the order 15% to 25% as will be shown later, which compares well with private returns for most OECD countries that range from between 4% and 7% but which nevertheless exceed alternative private investment returns such as bank deposits (Psacharopoulos, 2007:12). A rapid, but by no means exhaustive or completely comparable, review of rates of return in the Ibero-American countries between 1999 and 2010 shows the following results: Argentina, 21.7%; Brazil, 22.6%; Chile, 23.5%; Costa Rica, 12.8%; Mexico, 15.0% and Uruguay, 19.4% (Valenzuela & Duryea, 2011). These figures can be complemented with similar data from Colombia, 17% or more (Hernández, 2010); Ecuador, 16.4% (Machasilla et al., 2009); El Salvador, 18.3% (IDB, 2006); Spain, 8.2% (Psacharopoulos, 2009); Honduras, 15.7% Raudales & Ortega, 2010); Nicaragua, 14,6% (IDB, 2006); Panama, 15.8% (IDB, 2006); Paraguay, 14.9% (IDB, 2006); Peru, 21.6% (Yamada, 2006); Portugal, 22.7% (Psacharopoulos, 2009); and Venezuela, 16.3% (IDB, 2006).

So great are private rates of return that it would be expected that there are substantial social benefits also following McMahon's estimates (McMahon, 2009:pos. 3166). The latter could make up as much as half of the total benefits generated by higher education and which, if in this range, would be enough to justify a significant public investment, possibly at the same level of income generated from tuition fees and other private contributions.

III. ARE SOCIAL BENEFITS AT THE SAME LEVEL? IDENTIFYING CRITICAL BOTTLENECKS

On the basis of evidence discussed in this section, it will be put forward as a hypothesis that the social or public benefits in Ibero-America associated with higher education (direct and indirect, monetary and non-pecuniary), do not fulfil their full potential, particularly in Latin America. This is due to the existence of critical bottlenecks that inhibit, limit and weaken their development. These critical points, gathered from a selective survey of the relevant literature, are those that should be considered by both policy makers and HEIs themselves in order to bring social benefits and public externalities in line with private benefits from higher education.

III.1 Cognitive skills and learning outcomes

It is claimed that the low quality of Latin American education in general, measured by the achievements of students in international tests for example, goes a long way to explaining the region's low growth in the last four decades when compared to other regions in the world (Hanushek & Woessmann, 2012). Assuming that there is a positive association between schooling and economic development and taking into account only learning achievements, various authors (inter alia Hanushek & Woessmann, 2012, 2007; Barro, 2001) argue that it is misleading to only concentrate on years of schooling, as does much of the current literature, and ignore the gains from learning, for this fails to understand the importance of human capital for development. That is, the inability of the educational system to disseminate cognitive skills among the population, would explain why Latin America, with considerable human capital (measured by years of schooling) when compared to other regions, shows a mediocre economic performance.[7]

Without entering here into a discussion about its basic argument and the measurement used for cognitive abilities, this hypothesis can be extended in two key directions to help the analysis of social benefits of higher education.

On the one hand, it can be maintained that as the process of massification continues with increases in tertiary education participation rates, so there will be a greater number of students coming from households with little economic and cultural capital, and lacking the social networks necessary to expand their horizon of opportunities. Of the Latin American countries that participated in the most recent PISA test, between 30% (Chile) and 70% (Peru) of their respondents aged around 15, do not achieve a minimum satisfactory performance in the test of cognitive skills for reading and which are essential for further education (OECD, 2010:50).

7. This claim has lost some of its weight with improved economic performance during the last decade.

According to Raftery and Hout's hypothesis of maximally maintained inequality (MMI) (Raftery & Hout, 1993) and Lucas' hypothesis of effectively maintained inequality (EMI) (Lucas, 2001, 2009), these results exemplify how once the advantaged socio-economic groups exhaust their own benefits from the expansion of tertiary education, groups ranked below in terms of social class or category, begin to enter tertiary education also (MMI) while the first continue to retain for themselves the best opportunities (EMI). These dynamics of socio-academic selection reproduce social inequalities existing at the base of society along increasingly higher levels of the education system. Eventually they manifest themselves as a socially regressive distribution of students among HEIs of differing qualities. In brief, the large inequalities that characterise Latin American societies – among the highest in the world (Goñi, López, & Servén, 2011) – are acting within educational systems that inhibit a potentially positive impact on social mobility and the distribution of opportunities and life chances.

On the other hand, it can be argued that this chain of substandard learning from household to school to higher education, culminates in the poor performance of adults, demonstrated for example in the International Adult Literacy Survey (IALS) administered in 1998, in which Chile (as the only Latin American participant) and Portugal (the only other participant from the Ibero-American region) obtained worryingly low scores. While only 5% of the Chilean sample (aged between 15 and 64) admitted they were unable to read or write, nevertheless almost a half was judged not to have achieved the minimum skills for functional literacy; Portugal was also poorly evaluated. It is reported that these respondents, with severe deficiencies in processing and understanding information, would be severely limited in their labour opportunities and productivity, as well as being at a considerable disadvantage as citizens and social actors in contemporary societies (Manzi et al., 2008). When IALS results are compared by educational level achieved, Chileans aged 15-64 with higher education received lower or at best similar scores in the three different text scales (prose, documents, quantitative) as those of the average secondary school graduate from OECD countries. The same pattern is found with Chileans between the ages of 20 and 25 who had completed their higher education (OECD/Statistics Canada, 2000:22-23, 28-29). Finally, the IALS study shows that for both Chile and Portugal, adults that hold professional or managerial positions fall into the two lowest document comprehension levels – 58.8% and 64.0% respectively – compared to 23.1% for the other participating countries; still worse, one in five of Chilean managers or professionals and more than one in three in Portugal, do not achieve the minimum level for the tested skills (Level 1) (OECD/Statistics Canada, 2000: 170).

III.2 Credentials and their market value

The poor educational scores, particularly of students from vulnerable households, schools or HEIs, are associated with two additional risks that are also critical weaknesses that hinder tertiary education's potential social benefits and public externalities.

First, a large proportion of tertiary students, possibly 50% or above, abandon their studies or professional careers, before obtaining a credential. Previously the only OECD country showing a similar pattern was the United States (Harvard GSE, 2011). In Chile, for example, it is estimated that the average dropout rate is about 54%, being higher in the new private than public universities, particularly pronounced in humanities and law, although female desertion rates are

lower than those for males (González et al., 2005). The situation is similar in Colombia where according to an official study, "from the time when the Ministry of National Education has been measuring cohorts on a regular and homogenous basis, the dropout rates have been between 45% and 50%, which implies that around one of each two students that enters the system does not complete his/her studies" (Ministerio de Educación Nacional de Colombia, 2009:67). A recent Latin American Higher Education UNESCO Institute (IESALC) report records the following country dropout rates: Dominican Republic, 76%; Bolivia, 73.3%; Uruguay, 72.2%; Brazil, 59%; Mexico, 53%; Venezuela, 52% and Honduras, 49% (González, 2007:159).

Further, those students that do finish their degree, habitually do so by exceeding by up to a year or more the time prescribed by the curriculum. This increases the cost of the degree and delays entering the labour market. In fact gross graduation rates[8] are low in Latin America, fluctuating by country between 2% and 23.2%, distinct from Spain and Portugal where the corresponding figures are 41.1% and 46.5%, the latter figures being relatively close to the other OECD countries (OECD, 2012:67). The gap between graduation rates on both sides of the Atlantic reflects not only internal inefficiencies of the HEIs, but also different degree structures, programme organisations and curricula architecture.

As the Bologna process, even with its limitations (Michavila, 2013), is slowly implemented, so Latin America is being effectively separated from Europe with regard to the organisation of higher education; while in Europe the first degree (Level 5A) takes between three or four years, in Latin America an undergraduate degree or professional qualification is between five to six years. More time implies a greater risk of dropping out but in addition, Latin American degrees are specialised, rigid in execution and dense in terms of the quantity of information and codified knowledge that they seek to transmit to students, who are expected to record and repeat it.

The specialist orientation of Latin America's higher education – often described as anachronistic and instructivist, geared to memorising information rather than practicing reasoning skills – represents an additional obstacle to the full realisation of tertiary education's external public benefits. So not only is there a massive waste of talent through high dropout rates, and increasing student costs because of the excessive duration of degree programmes, there are also widespread mismatches between the type of specialised professional training provided by universities and labour market demands for broader skills, greater know-how, adaptive behaviour and employability.

Equally important there is a mismatch between routine cognitive skills based on content and which form the bulk of the current academic curricula, and higher order cognitive skills which are increasingly required at work, such as the capacity to apply knowledge to resolve concrete problems, analysis and synthesis, critique and the creation of concepts and designs, etc.

Further, recent research on the dynamics of occupational markets in the region, underline the importance of socio-emotional skills, such as: "*i)* attitudinal capacities (that combine the ability to collaborate and cooperate with others such as controlling emotions, avoiding negative

8. "Gross graduation rates refer to the total number of graduates (the graduates themselves may be of any age) at the specified level of education divided by the population at the typical graduation age from the specified level" (OECD, Glossary of Statistical Terms. http://stats.oecd.org/glossary/detail.asp?ID=5376).

reactions at work); *ii)* taking responsibility and understanding compromise within the framework of the organisation's objectives and completion of assigned tasks; and *iii)* abilities related to client attention (friendliness, good presentation, respect, among others)" (Bassi et al., 2012:153). These skills do not appear to be a focal point for current higher education curricula, nor constitute a priority in the teaching methods of HEIs, particularly universities. However, their development is often part of the pedagogical concerns of the more established non-university HEIs offering ISCED 5B programmes.

Last, the information gathered by the Proflex survey (Mora, 2004), shows that Ibero-American universities give scarce importance to pedagogic methods and practices that promote creativity, entrepreneurship and innovation in spite of being topics which are continuously celebrated in academic speeches and rhetoric. This is likely to contribute to an even greater differentiation of internal rates of return according to socio-economic origin, school trajectories and the type of HEI in which the title or degree is obtained.

Massification of tertiary education – in terms of students, graduates and also dropouts – together with programme proliferation in high demand areas, and the heterogeneous academic quality and relevance for the labour market, have often been accompanied by state, market and institutional management failures. As a result questions have been raised about, on the one hand, whether private rates of return in higher education are a suitable indicator to capture new emerging challenges and, on the other, if under these conditions it is possible to fully realise the social benefits and public externalities expected of tertiary education.

For the moment, in different countries in the region there exists, as mentioned above, a broad concern with respect to the link between higher education and the labour market. Although research shows that there has been an increase in the average rates of return to higher education since the beginning of the 1990s[9] there are persistent questions about whether: *i)* this trend will hold or has begun to subside, as it might be supposed from indications coming from several Latin American countries; *ii)* is valid only for graduates with the appropriate credential or also for dropouts, who by definition do not complete their diploma; *iii)* holds equally for all professional and technical fields; *iv*) affects all students following the same programmes/careers independent of institutional prestige, differential social composition of undergraduates, per student expenditure, geographic location; and *v)* applies equally to graduates from different social classes, ethnic groups and gender. There are arguments and evidence from sociology and economics to reply negatively to each of these questions.

In particular, there is no doubt that in this part of the world – as in developed countries – private rates of return and hypothetically also social benefits of higher education are subject to

9. See for example the work of Sánchez Páramo & Schady, 2003; Behrman, Birdsall & Szekely, 2007; Manacorda, Sánchez Páramo & Schady, 2010 cited in Bassi, Busso, Urzúa & Vargas (2012:17). According to these authors, "returns to education increased in all countries for adult workers, except in Venezuela. Among youth the results are mixed with an increase in the majority of the countries and a fall in four in the sample (Honduras, Brazil, Venezuela and México). The greatest increase in the wage premium in favor of the university educated was in Uruguay. For the complete sample the growth of the wage premium was 25 percent for adults, while the decline for young people was 8 percent" (Bassi, Busso, Urzúa & Vargas (2012:26).

the sheepskin effect (Hungerford & Solon, 1987; Mora, 2003; Mora & Muro, 2008; Crespo & Reis, 2009), referring to the material on which the final course grade was originally recorded. That is, graduates with a credential obtain a greater return than those with incomplete tertiary education studies. One reason for this effect could be that those who have completed their course work, demonstrably possess greater ability than those who do not complete their studies, as is apparent in the case of self-efficacy, a key socio-emotional skill which is much in demand by employers (Bassi et al., 2012:103). The fact that most students who enter higher education do not graduate represents a net loss in years of education in comparison to those that complete their study programmes; but it implies, too, indirect losses in terms of social benefits. Thus it would appear that the sheepskin effect is in fact significant.

However in some countries, between 1996 and 2006 the increase in real income for young university graduates seems to have been close to zero, a situation that has been documented in Chile (Urzúa, 2012:10; Sapelli, 2009). According to one author, this could be due, alternatively, to an increase in the supply of individuals with tertiary education or to the reduced quality of the latter, although it is stated to be empirically difficult to distinguish between both phenomena. The author also records differences in labour participation and incomes between graduates from similar programmes offered by different HEIs, compared to dropouts from the same institutions. He concludes that for a portion of the student population, particularly those who do not complete their degrees, their participation in the tertiary education system does "not imply a better economic situation than if he or she had not gone through it", so that higher education contributes to social mobility only if quality students have the ability to use it and their studies culminate with a credential recognised by the labour market (Urzúa, 2012:10; Sapelli, 2009).

Thus HEIs with high attrition can directly impact student wage premium expectations in the labour market, thus failing in one of the most important public externalities, *i.e.* the contribution to social mobility. In addition it has been suggested (Brunner, 2009:382-384) that graduates with little possibility of being incorporated as professionals into the labour market and so enjoying the main advantages of a professional occupation – such as relative work autonomy, authority based on expert knowledge, a substantial wage premium together with the deference that comes from acquiring this status by meritocracy – could lead to various new ancillary semi-professions, where in spite of their degrees, graduates really do not belong to the professional class.

III.3 Knowledge production and transfer: the new geopolitics of knowledge

It is widely agreed that one of the most valuable public activities of HEIs, especially universities, is their development and transfer of knowledge to the economy and society. Indeed this is one of the principal justifications for public investment in HEIs (Weber & Duderstadt, 2010), so that it is sometimes claimed that all research and knowledge creation should be funded publically because they result in public or quasi-public goods; their social benefit is far greater than any private benefits that might result from research. Above all for developing economies that are trying to competitively become part of the global knowledge society, universities have special relevance. "In a knowledge intensive society, the research university is a key institution for social and economic development. Since the establishment of the University of Berlin in the early 19th century, many institutions have embraced the concept of linking science and research

to national goals of modernisation" (Mohrman, Ma & Baker, 2008). This model, originating with Humboldt at the beginning of the 19th century, has become the organisational paradigm for a university, and holds the greatest reputation among academics. It is said that Latin American countries need to proceed more firmly in this direction if they want to become a part of the global knowledge economy, given that they score poorly in world competitiveness indices and in terms of a knowledge-intensive economy (see Table 2).

Table 2. **Progress towards the Knowledge Economy and strength of its components pillars, 2011**

Country	KEI Rank (over 146 countries)	KEI Index	Economic Incentive Regime	Innovation Index	Education Index	ICT Index
Spain	21	8.35	8.63	8.23	8.82	7.73
Portugal	34	7.61	8.42	7.62	6.99	7.41
Chile	40	7.21	9.01	6.93	6.83	6.05
Barbados	41	7.18	4.96	7.62	7.27	8.87
Uruguay	46	6.39	6.60	5.94	5.99	7.02
Costa Rica	51	5.93	6.76	6.19	5.43	5.34
Brazil	60	5.58	4.17	6.31	5.61	6.24
Argentina	63	5.43	2.09	6.9	6.36	6.38
Panama	65	5.3	5.26	5.13	5.16	5.67
Mexico	72	5.07	4.88	5.59	5.16	4.65
Peru	74	5.01	5.48	4.11	5.25	5.18
Colombia	76	4.94	4.25	4.68	5.28	5.57
Venezuela	86	4.2	0.42	5.33	5.36	5.71
Cuba	87	4.19	1.44	5.05	7.93	2.34
El Salvador	88	4.17	5.05	3.1	3.53	5.00
Dominican Republic	90	4.05	3.96	3.56	3.89	4.79
Paraguay	91	3.95	3.58	4.07	4.26	3.9
Ecuador	98	3.72	1.74	3.95	4.47	4.72
Guatemala	99	3.7	4.16	3.61	2.26	4.79
Bolivia	100	3.68	2.11	3.31	5.49	3.80
Honduras	109	3.08	3.34	2.63	3.13	3.24
Nicaragua	115	2.61	3.93	1.67	2.98	1.88

Source: The World Bank, Knowledge for Assessment Methology 2012. Available at http://info.worldbank.org/etools/kam2/KAM_page5.asp.

Notes: KEI: Knowledge Economy Index is calculated based on the average of the normalised scores on four pillars - economic incentives regimes, education, innovation and ICT. It ranges between 0 and 10.

Economic Incentive Regime: considers three variables - tariff and non-tariff barriers, Regulatory Quality and Rule of Law.

Innovation: considers three variables - Total Royalty Payments and receipts, Patent Application granted by the US patent and trademark office, Scientific and Technical Journal articles.

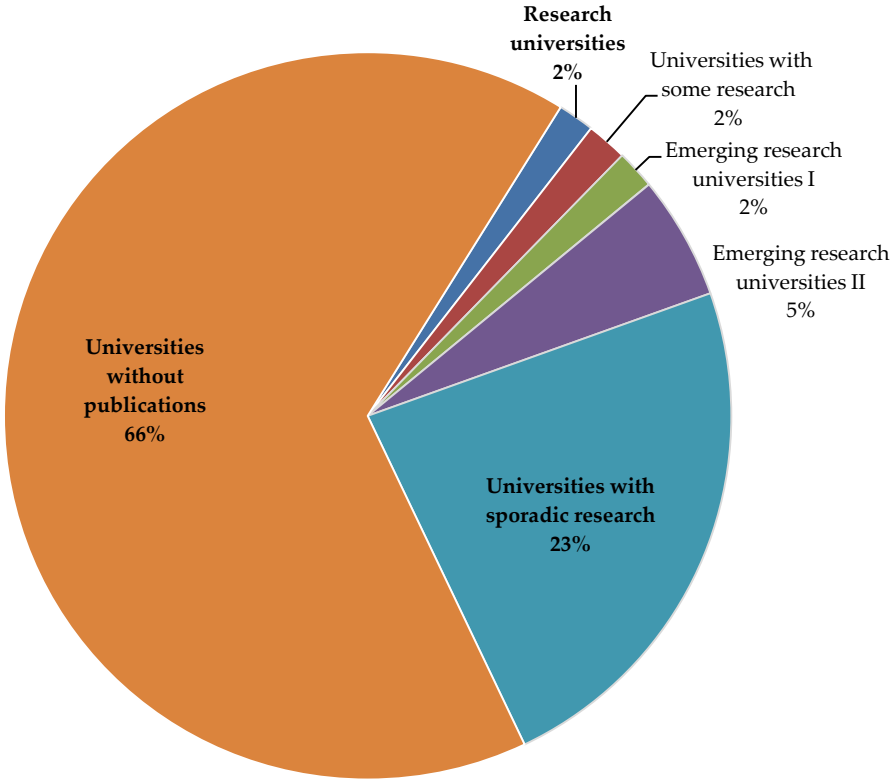
Education: average of normalised scores of adult literacy rates, secondary enrolment, tertiary enrolment

ICT: Information and Communication Technology. Average of normalised scores on three variables - Telephone, Computer and Internet penetration (per 1 000 people)

According to Mohrman, Ma and Baker (Mohrman, Ma & Baker, 2008:5-6),"research universities are institutions with a high priority on the discovery of new knowledge and the production of Ph.D.s in a wide range of disciplines. While research universities also educate undergraduates, train professionals for a wide range of positions, provide service to society, and engage in applied work and technology transfer, their distinguishing feature is the production of new knowledge especially (but not exclusively) in science and technology areas. To achieve this mission, research universities must provide the necessary infrastructure – libraries, laboratories, technicians, and administrative support – for conducting scholarly work at the highest levels." How many such universities are there in Latin America? Leaving aside such demanding criteria, and the criteria developed by the Carnegie Foundation Classification of HEIs[10], and relying only on the volume of scientific output, very few of the 4 000 Ibero-American universities can be described as research universities. (see Figure 6). In fact less than 2% have a level of scientific output registered on international databases during the period 2006 to 2010 that would justify placing them into this outstanding category. In addition there are universities with some research but not equivalent to that of research universities (around 1.8% of the above total), around 7% of universities initiating research, i.e. emerging universities (a category wherein it is possible to distinguish two groups according to their level of initial development) and 23% of universities with a minimum, sporadic research activity. The remainder – as high as 67% – are teaching-only universities and do not register any piece of research in international databases during the five-year period. Moreover, Ibero-American academic research is limited, concentrated in a few countries and within those countries, in a few select institutions. Thus it seems fair to conclude that this source of higher education externalities is restricted indeed and undeveloped in the region.

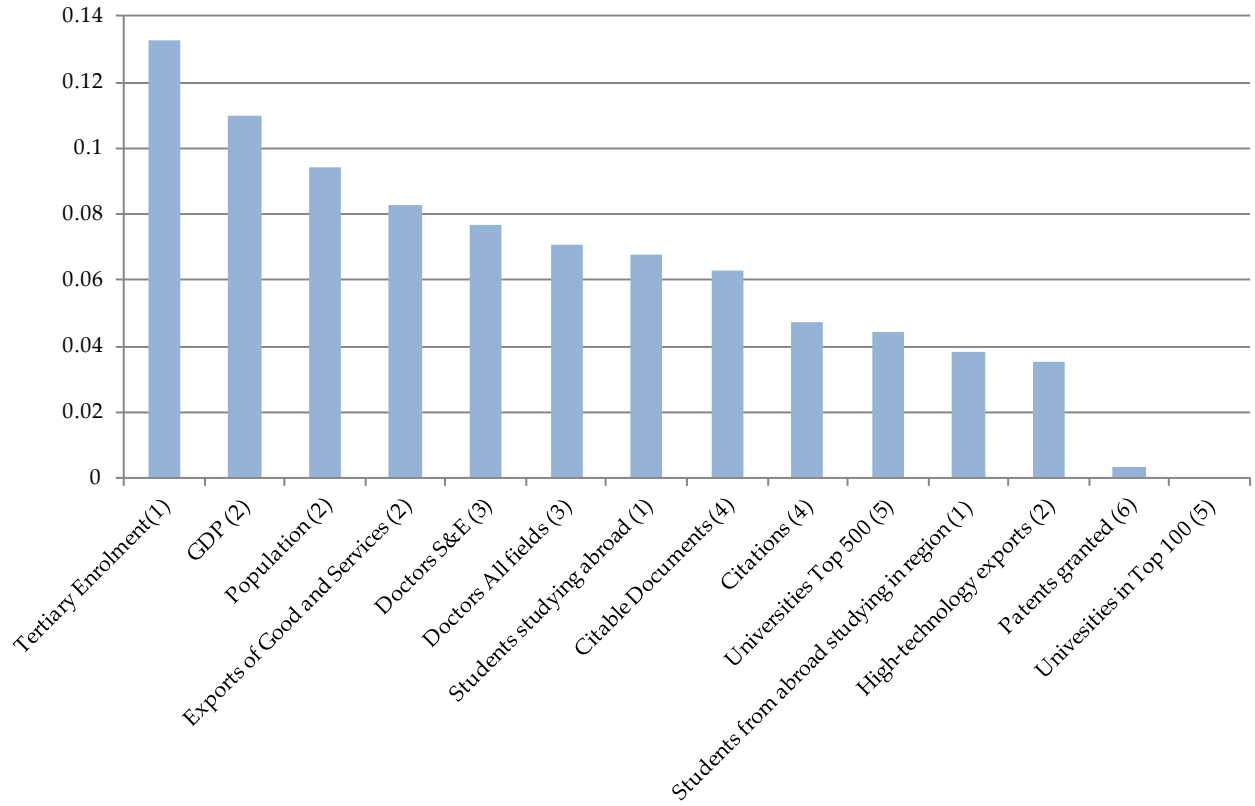
10. See The Carnegie Classification of Institutions of Higher Education at http://classifications.carnegiefoundation.org/.

Figure 6. **Ibero-American universities: Classification according to scientific publications** (percentage of universities with published documents in scholarly journals, 2006-2010)



A further way of illustrating these dimensions to measure Ibero-American participation is a range of knowledge variables, to be found in Figure 7. Whereas Ibero-America's population is 11% of world population, variables for production, transfer and utilisation of knowledge are significantly lower, with one major exception, that is, enrolment in tertiary education. Particularly poor is Ibero-America's performance in variables such as top 100 world-class universities (none), internationally registered patents (0.3%), inbound mobile students (3.8%) and world share of citations to scientific and technical documents internationally registered (4.7%).

Figure 7. **Ibero-America: Contribution to the Global Knowledge Society**
(selected indicators, % over world total, 2009-11)



Sources: UNESCO. Global Education Digest 2012 (available at UNESCO Data Centre, UIS), World Bank. World Development Indicators 2011, National Science Foundation. Science and Engineering Indicators 2012, SCImago Country Rankings 1996-2011, available at: www.scimagojr.com/countryrank.php, Academic Ranking of World Universities, 2011, US Patents and Trade Office 2011 available at: www.uspto.gov/web/offices/ac/ido/oeip/taf/cst_utl.htm.

In sum, the production, transfer and use of advanced knowledge, widely considered to be one of the principal sources of higher education's public benefits is severely limited in Ibero-America, as the specialised literature on the development of science, technology and innovation in the region confirms (OEI, 2011; Lemarchand, 2010; Santelices, 2010, Moreno & Ruiz-Nápoles, 2009).

IV. HIGHER EDUCATION AND THE PUBLIC SPHERE: ADDITIONAL BOTTLENECKS

A further critical aspect to generating social benefits and public externalities by HEIs has to do with their contribution to the development of citizenship, institutions and democratic culture, quality and the public deliberation, through the training of human skills and the dissemination of knowledge. Only indirect and qualitative measures have been identified to assess the contributions of HEIs to these crucial features of modern societies.

IV.1 The Cordoba Reform ideology and the critique of pure reason

In Latin America there is a strong tradition – beginning with the Cordoba reform of 1918 - according to which the university has the role of mobilising society against various types of authoritarianism and in favour of the dispossessed, social equality, the rights and liberties of persons, anti-colonialism, and the construction of communities based on solidarity, the distribution of wealth, power and prestige. The principal features and ideological content of the Cordoba reform were political, social, academic and cultural; it was essentially an anti-oligarchical generational movement, for national affirmation, with a middle-class outlook and a particular revolutionary romantic impetus of an enlightened generation, who considered the university to be the centre and intellectual vanguard of society, and proposed it should be self-governing and act as the intellectual conscience of its epoch.

Following Tünnermann (Tünnermann, 2008b), the main assumptions of the Cordoba Reform were:

- University autonomy in terms of policy, teaching, administration and economics (financial independence);
- The election of university management and authorities by the university community, with teachers, students and graduates as members of its governing bodies;
- Competition for professorships and courses;
- Uncensored instruction;
- Voluntary class attendance;
- Free, non-paid, education;
- Academic reorganisation, creation of new schools and modernisation of teaching methods; active teaching, improving cultural training of professionals;
- Students social assistance services, democratisation of university access;
- Link with the national education system;

- University extension, strengthening of the social function of the university, diffusion of university culture to the people and concern for national problems;
- Latin American unity, struggle against dictatorships and imperialism.

Many of these principles continue to influence Latin American student movements and form part of the predominant ideology of academic groups in the majority of countries in the region. By strongly asserting the social benefits and public good aspects of higher education, and claiming that they are a semi-automatic outcome of the functioning of public universities governed democratically by the three major groups (faculty, students and graduates) and of economic autarchy – a result of the benevolent financial support of the State (ideally consecrated in the Constitution or law) – the Reform ideology places all its weight on public externalities and social returns in exchange for public investment in public HEIs. Thus the calculation of costs and public benefits has been and remains a crucial issue in the debate over higher educational policy in Latin America.

One of the complications of this debate is the difficulty of making such calculations. On the one hand, there is a lack of transparency and information about the effective costs of universities, while on the other, there is the difficulty of evaluating the benefits of these functions, especially those at the heart of the Cordoba reform, such as its (potential) contribution to the unfolding of democracy, the liberation of the masses, Latin American unity, the struggle against despotism and authoritarianism, the democratisation of elites, strengthening public discussion and the processes of policy formulation etc.

A full accounting of these claims would have to use available metrics, and identify the indirect effects of technical and professional human capital formation and of the generation, transfer and diffusion of advanced knowledge. This is not the purpose in this paper, but there is information which could illuminate these issues, and which can usefully be listed: *i)* the existence of open and solid democratic systems using the battery of indicators found in the Democracy Index of the Economist Intelligence Unit or in Freedom House; *ii)* the quality and effectiveness of national policy, government and institutions using the World Bank's Worldwide Governance Indicators; *iii)* the quality and effectiveness of State leadership and economic regulation measured by different variables contained in the Global Competitiveness Report of the World Economic Forum and/or the Doing Business Ranking of the World Bank; *iv)* the comparative progress of nations using the World Bank Knowledge Assessment Methodology to produce a country specific or regional Knowledge Index, as discussed above; *v)* the development of technological capacities using the Technological Achievement Index developed by the UNDP; *vi)* the ability of countries in preserving the sustainability of the environment measured by the Environmental Performance Index. Related to the latter, most recent on this list, McMahon cites studies that show a positive correlation between the level of diffusion of higher education (20 years previous), and lower air and water contamination and deforestation today, so countering the negative impact of GDP growth on these variables and probably also on global warming (McMahon, 2009: pos. 2854 and following).

The available evidence suggests that Latin American HEIs are not providing the externalities and socio-political and cultural benefits claimed, and this is partly confirmed by the low positions occupied by the region in most of these indicators or subindices with reference to

political stability; the rule of law and respect for the civil and political rights of persons; ineffective policies; failures in the conduct, co-ordination and regulation by the state; delays in the diffusion of digital technology and the new literacies and cognitive skills necessary for their management; the deterioration of the environment and the existence (over various decades) of ineffective macroeconomic and social policies which are reflected in the persistence of inequalities and poverty (although this appears to be declining in a number of countries); and the lack of universal social coverage and the heterogeneous quality of health, education, and housing services and social insurance.

Some observers suggest that the ideology of Cordoba Reform and its continuation to the present have negatively affected the development of tertiary education systems in the region, by impeding the modernisation of public universities and in particular their governance and capacity to adapt to changes in their environment, so blocking the realisation of those externalities and social benefits that were expected from the established universities in the region.

Quite early, the best Ibero-American sociologist of his era, José Medina Echavarría, distanced himself from both the Cordoba model, which he called "militant", and its opposite as being "cloistered" as an ivory tower, in favour of a third option, the "engaged" university as he called it. He wrote that the "militant university" has no filter by which to protect itself from the noise of the street and so reproduced within itself all the conflicts and passions found in the world outside. Scientific work disappears and what remains are shouts replacing reason, he said. The openness of university activities to the world – and the only way to influence it – can only be in the form of an "engaged university", neither militant nor cloistered. The "engaged university", claimed Medina Echeverría, is that institution which faces today's problems as issues for rigorous scientific analysis and affirms that it has something to say about them from this perspective only (Medina Echavarría, 1967:169). On the contrary, often Latin American universities, rather than contribute to the public debate, and so to the formulation of policies and the democratic development of their societies, end up disorientated, absorbing the street noises that invade the academic dwelling, without distancing themselves from the turbulences and divisions of their environment.

IV. 2 Institutional governance and stimulating environments

There are essentially two necessary conditions for higher education to achieve its potential and provide market and non-market social benefits (direct or indirect, short- or long-term); *first*, that institutions possess systems of corporate governance capable of aligning the functions and behaviour of the institution with the public interest; and *second*, that the national system operates within an environment that favours these objectives. In mixed systems, with strong private provision of higher education as is the case in most Ibero-American countries, and most public universities committed to the Cordoba reform ideology, these conditions are difficult to achieve.

In terms of HEIs corporate governance (Schuetze, Bruneau, Grossjean, 2012), both public and private universities in Latin America need to undertake deep reforms so that they can manage their institutions in the context of an unsettled environment continually presenting new demands and challenges (Locke, Cummings, Fisher, 2011). According to one author, "… in the

sphere of HEI policy and corporate governance, the accumulated tensions have to do with the processes of construction and the exercise of institutional power. The old conceptions of university power, crystallised in various forms of government and distinct codes which structure these institution's power relations, based on notions such as institutional autonomy and internal political stability, have come to confront in recent years the need not only for the reform of the power structures themselves but the very notion of HEI's institutional power, under the principles of accountability and organisational effectiveness. It means establishing a new framework not in terms of the traditional governance structures, but essentially builds a new institutional governance" (Acosta, 1998:132).

For Latin American public universities, with a collegial-bureaucratic governance structure[11], the critical point is the veto power of internal groups who inhibit the possibility of substantive change (Salmi, 2012; Acosta, 2009, 1998; Samoilovich, 2008, 2006).[12] For this reason it is vital to reconfigure corporate governance, create university boards for strategic direction and the ability to designate rectors with real leadership functions and the power to bring organisational change as has occurred in Japan, some German *länder*, Denmark, Finland, Australia and Portugal (Salmi, 2009; Fielden, 2008). This might require changes to the official statutes of state universities, in order to provide greater autonomy and social responsibility (Peña & Brunner, 2011:34), so distancing themselves from the Cordoba Reform model, and transforming themselves into entrepreneurial organisations with new management capacities along the lines suggested by New Public Management (Locke, Cummings, Fisher, 2011; OECD, 2008a:Cap.3; Amaral, Fulton & Larsen, 2003; Maasen, 2003).

Private universities require equally deep changes but in a different direction. They should improve their corporate governance by giving it greater legitimacy, as in the long run institutions cannot rest solely on proprietary control and some form of private contract between principal and agent. Private university governance requires greater academic legitimacy, compelling institutional authorities to create influential advisory bodies such as an academic senate that, in general, do not exist in private HEIs.

Most important, HEIs require a policy environment and institutional arrangements that are conducive to the generation of social benefits, including public externalities. This environment must meet three conditions: *i)* an effective governance structure for the national system, that is how to guide and co-ordinate the three dimensions of Clark's triangle[13] and the

11. Brunner, 2011a; Acosta, 2009, who claims: "The curse of Weberian bureaucracy has closed the circle; the bureaucratization of all areas has been trapped in time with the attention and practices of Mexican academics, who dedicate a growing proportion of their time to different bureaucratic tasks. *Homo academicus* has become *homo burocraticus*, that is the academy has now been bureaucratized".

12. For an early, well-known analysis, see Acton, 1961.

13. Clark, 1983. Clark's triangle is a diagrammatic representation of the principal forces that combine to make possible the governance and co-ordination of national higher education systems. These forces are organised around the vertices of the triangle and are respectively, the national government (state); markets (for students, academics, resources and prestige or reputation; and the HEIs themselves with their internal power dimensions. For the application of Clark's triangle in the field of higher education see Brunner, 2009:59-66 y 305-31, as well as Pusser, 2008; Jongbloed, 2003.

relationship of HEIs to their diverse stakeholders (Jongbloed, Enders, Salerno, 2008); *ii)* adopting institutional arrangements at the national or system level to ensure effective quality control procedures both of HEIs and their study programmes (Dill & Beerkens, 2012; Lemaitre & Zenteno, 2012), and to provide stakeholders, particularly students, with the information they require to make realistic choices and decisions; and *iii)* adequate public funding modalities and instruments to finance these systems which must ensure, in each country, levels of investment consistent with expected private and social benefits from higher education.

V. THE HIGHER EDUCATION COST SPIRAL AND THE NEED FOR COST SHARING

Of the three key dimensions noted above – effective system governance, quality assurance arrangements and funding – it is the latter that is crucial to guide the system toward the full realisation of social benefits and public externalities. From this perspective, there are two main issues: *first*, how to contain costs and the cost spiral that afflicts higher education systems, and improve accountability; and, *two*, how to diversify income sources in order to share costs and make available new modalities and instruments for HEI finance.

V.1 Cost structure and mode of transmission

It is well known that HEIs' costs, particularly in the more complex institutions associated with research, are continually growing and command increasing proportions of national income and household expenditures (Martin & Carter Hill, 2012; Martin, 2009; Jacobs & van der Ploeg, 2005; Ehrenberg, 2000). Baumol and others argue that HEI costs increase because of external macroeconomic forces – mainly, the increasing wage costs associated with a person-intensive service sector, including higher education, whose productivity nonetheless is relatively fixed. This phenomenon is known as Baumol's disease, for there is a chronic pressure on improving university or tertiary level salaries, thus ensuring that their well trained human capital will remain there (Baumol and Blackman, 1995). On the other hand, William Bowen, who also examined this issue, proclaimed the rule that the increase in HEI costs is the result of internal decisions – *i.e.* not-for-profit institutions like universities spend all the funds they can command as part of quality competition (Bowen, 1980). There is no agreement about which of these hypotheses provides the better explanation of cost inflation (see for example Martin & Carter Hill, 2012), but there is little doubt that taken together they describe an almost universal phenomena.

Siegfried and Getz, for example, give various reasons, internal to HEIs that might explain this inflationary trend: costs continuously increase because the product itself is changing to a mix of more expensive disciplines; the scarcity of industry-specific inputs; inflated expectations about quality held by academics and administrators; and the costs associated with public regulation (Siegfried & Getz, 1991: 261-392). In general, the cost spiral is closely related to competition for prestige (Brunner, 2006), encouraged by a number of additional drivers: pressure to improve and expand infrastructure; the impact of national and international university league tables; greater internationalisation of HEIs; funds for need-based scholarships, particularly in the case of selective universities, and for merit-based scholarships when universities are attempting to improve their selectivity; increasing costs of cultural extension services; the growing investment

in academic publicity; new obligations of becoming socially and environmentally responsible corporations, and the acquisition of rapidly changing technologies with little increase in productivity for the moment.

This last issue – technology – is a crucial component of future higher education policy. If public policy wishes to reduce or contain the increasing costs of higher education, then the incorporation of digital technology is often trumpeted as a saviour for teaching and learning. But for the moment the unit costs for classroom teaching are more likely to increase than decline. Larger student audience or the use of cheaper teachers rarely increases quality – rather it is more likely to reduce it. The "technology" of the classroom is less an instrument than a whole "mode of knowledge transmission" (MT), parallel to modes of knowledge (Mode 1 and Mode 2 [Hessels & van Lente, 2008; Nowotny, Scott & Gibbons, 2001]). University instruction or classroom teaching can be denominated Mode 1, characterised by an organised curriculum (contents, sequence, time), communication based on the actual presence of the lecturer and so is highly time-intensive for teachers and students; supported by specific texts, examined in academic contexts, formally certified by official diplomas and with increasing per student costs (linked to the combined Baumol and Bowen effects).

What is needed is not a slow incremental innovation within the framework of Transmission Mode1 but a paradigm shift, that changes the mode of transmission in all its dimensions, that is, the emergence of new education and learning processes, similar to what other disruptive innovations[14] produce and so restructure the underlying technological and funding model. As stated in an article about Carnegie Mellon's Open Learning Initiative, "educational technology can be a key component [...], but only if it leverages the results and methodologies of learning science to create transformational innovations that fundamentally change the way higher education is developed, delivered and improved year-after-year" (Thille, 2008:73). For that effect, it is necessary to imagine new higher education scenarios, perhaps like those that Vincent-Lancrin describes: "Post-secondary studies become demand driven and mostly market driven. The two main innovations are: 1. that learners define their own course of study from across all available courses throughout the global post-secondary education network and design their degrees themselves; 2. that higher education institutions increasingly form partnerships, including with industry. E- learning develops strongly in this scenario, as well as other means of education. The training content becomes more standardised and possibly embedded in technology and media (e.g. modular learning objects or edutainment through partnerships with the games industry). The provision of and market for lifelong learning becomes very large, especially as education takes a multiplicity of new forms. Most research is carried out outside the higher education system and faculty in mostly teaching institutions become less qualified than today but use more sophisticated teaching techniques" (Vincent-Lancrin, 2004:160).

Anyway, public policy needs to create an environment that makes possible, first, greater transparency and a growing sophistication about cost calculations and university productivity;

14. "As the name implies, disruptive innovation represents such a departure from the status quo that many, including those who do not normally oppose change, view it as alien or even damaging" (Massy, 2010:27).

second, explore different ways to restrain costs; third, the most important, using adequate incentives and funding that will support the search for new modes of transmitting knowledge based on digital technology for course, departments, faculties, institutions and the system as a whole. In parallel, there should be strict obligations for HEIs to provide financial information with public accountability, so that corporate governing bodies are subject to scrutiny and must respond to their various constituencies – students, staff, graduates, external stakeholders and the appropriate State organisations.

Ibero-America, as discussed, is a region where private agents – students, graduates, households and other private entities – actively participate in the funding of private benefits generated by the tertiary education sector and of their spillover effects in the form of social, market and non-market, benefits. The principal source of funding comes from the payment of tuition fees to private-sector institutions, for undergraduate programmes as well as masters, professional certificates and diploma courses. These institutions generate around 90% of their income from such fees. In turn, public HEIs, with the exception of Chile and particular institutions in some countries in the region, do not charge for undergraduate courses, limiting themselves to minimum fees and to higher values only in the case of some postgraduate programmes. As noted above, Latin America is the region with the greatest proportion of HEIs' income from private sources in the world, although the greatest number of students at private HEIs is in Asia (Levy, 2011).

One of the principal justifications today for cost sharing and the diversification of funding is the massification of enrolment, given that costs per student are increasing more rapidly than the unit costs of the economy, the difficulties of raising taxes and the intensification of competition for public funds, first among the different levels of education and second with other social sectors (health, pensions, housing and poverty) (Sanyal & Johnstone, 2011; Sanyal & Martin, 2006; Johnstone, 2006; Vossensteyn, 2004).

The squeeze on public funds has increased to the point that the OECD has made the following recommendations with regard to higher education funding:

"Provide public subsidies for tertiary education studies in public or private institutions, but without bearing a top-heavy share of the costs, since there are significant private benefits to tertiary education.

Charge tuition fees to students, especially if limited public funding rations the number of students, jeopardises levels of spending per student, or restricts financial support for disadvantaged groups. Savings from cost-sharing can be used for broadening access to tertiary education through strengthened student support systems.

In countries with little tradition of tuition fees, launch a public debate to help clarify whether:

- heavy reliance on public money is sustainable;
- private benefits are so low as to justify low fees, especially of the more affluent students;
- higher fees for more affluent students could consolidate the student support system;

- Consider tuition fee stabilisation policies to ensure cost containment and moderation.
- Allow institutions to differentiate tuition fees across courses to make systems more responsive to student and employer preferences and generate efficiency gains" (OECD, 2008b).

However the crucial question remains: Who shall pay for the public good? (Lebeau et al, 2012). For while there are deficits and limits to higher education's generation of social benefits and public externalities, public funding continues to be an imperative. In fact, it is impossible today to find a higher education system that is funded exclusively by those who appropriate the private benefits it produces.

Economists give three reasons for using public funds to finance tertiary education: externalities, equity and capital market imperfections. Tilak suggests that economists he describes as "structuralists, welfare economists […] who believe in the philosophy of welfare state" will argue in favour of the state playing a dominant role in funding higher education (Tilak, 2011:142). These economists argue that higher education creates social benefits which are greater and above private benefits in relation to growth, social cohesion, the transmission of values and the development of knowledge on its own terms (McMahon, 2009, 2011; Haveman & Wolfe, 2007; Mora et al, 2007; Vossensteyn, 2004; World Bank, 2002; Psacharopoulos, 2009; Oreopoulos and Salvanes, 2011). Nicholas Barr concludes that "these arguments suggest that taxpayer subsidies to higher education should be a permanent part of the landscape" (Barr, 2004).

However the measurement of social benefits and public externalities is less sure than similar calculations for private benefits, so that how funding should be split between public and private sources is moot. Above, it was suggested that perhaps a tentative working public/private investment ratio should be 1:1, assuming that HEIs in Ibero-America produce also a similar mix of private and social benefits as in OECD countries.[15] But as shown in previous sections, it might be more realistic to accept that in Ibero-America, especially Latin America, the social benefits and public externalities are hampered by institution, government and market failures. From this it should not be concluded that private investment must increase and still further replace public investment. Indeed greater public investment in HEIs is required to fully realise these social benefits and externalities, but under specific conditions and using particular funding modalities,

Also in favour of greater public investment in Latin America's tertiary education is the fact that governments need to promote greater access for disadvantaged groups, with scholarships, student loans (which the capital market would not fund on its own), and the overall policy of creating more, and more equal, opportunities for professional and technical studies (García Guadilla, 2008:22-23). Further, governments should use public resources leverage to encourage the public good (benefits and externalities) with subsidies as incentives (Dill, 2005; Barr, 2004, 2002; Pusser, 2002:105-126).

15. The average ratio of public/private resources in the OECD is 2:1, as most of the tertiary education systems are predominantly public as part of the welfare state, which is completely distinct from Latin America.

V.2 Public funding modalities

Which modalities and instruments should a government use to allocate resources and create incentives that encourage tertiary education social benefits and public externalities? Until recently the most common method, practiced in Latin America and other parts of the world, has been a combination of history or inertia, by providing increments to or maintaining the previous budget according to the economic cycle and national budget negotiations (Riveros et al, 2008; Garcia Guadilla, 2008). These resource allocation decisions are centralised, political-bureaucratic decisions, with subsidies based on enrolment in different professions or careers, weighted by overall or staff costs. Funding is normally delivered as block grants or to fund specific budgetary line items.

In Latin America automatic transfers or grants are often accompanied by supplements, such as those for competitive research funds, resources for specific objectives or institutional projects for investment in infrastructure and equipment, improvements in teaching and management, or different incentives such as resources to pay for tuition and fees (especially for post graduate programmes) and/or for stimulating institutions to diversify their funding sources through the selling of knowledge services and products. For most public HEIs in the region, these supplementary resources are relatively small, except in Chile, and so have little impact on the incentive context within which institutions operate. Rather, the political context created by direct funding and automatic transfers encourages adversarial relations or clientalism between universities and governments and reinforces bureaucratic inertia. If subsidies are not linked to performance results, compliance goals or objectives then there are no effective stimuli to encourage changes to the HEIs.

On the contrary, since the end of the last century, as a result of weak incentive structures, public policy and institutions in Latin America have suffered from a series of deficiencies. Arocena & Sutz (Arocena & Sutz, 2001:Part 2) provide a list of these deficiencies, most of which continue until today. For example, they note the lack of *policy* continuity; the delinking of HEIs from the productive sector; HEIs that cater to low-income students without providing adequate facilities or training; the decline in the value of state contributions (although in various countries in the region the trend has recently reversed itself); inefficient use of human resources and material; a surge of private institutions but with poor quality and which often mislead about the education offered; insufficient links among teaching, research, extension and service provision. Also academic staff with a lack of well-prepared teachers and unsatisfactory remunerations, and high dropout and repetition rates in particular programme areas. And lack of adequate policies and funding for extension services and dissemination resulting in inconsistent interactions with the community. Finally, these authors mention little planning for the optimisation of the management of public funds; insufficient administrative capacity of academics in management positions, particularly at intermediate levels; poor financial skills; wasted resources in certain large and complex institutions; inappropriate forms of administration; slow and bureaucratic decision making; legal restrictions on modernising state universities.

Any policy which attempts to enhance private and social benefits, including public externalities, will have to be backed up by a substantial change in the funding of HEIs. Policies need to create a different environment in order to provide the proper incentives. There are two

converging paths. *First* student support (credit and scholarships), which allow them to choose institutions and pay all or a significant proportion of the appropriate fees. *Second*, to finance the institutions themselves in a new way, abandoning block-grant funding based on historical patterns and replacing them with different funding formulae such as performance contracts, competitive funds, payments for results, and quality-related funding. For research it will be necessary to expand and deepen funding through competitive project funding, funding of excellence programmes and/or centres, advanced scholarship programmes, and funding of applied research initiatives linked to regional development priorities (Jongbloed, 2010; Shattock, 2008; Salmi, 2007; Salmi and Hauptman, 2006).

In sum, one of the most positive actions that can be taken by Ibero-American governments, above all in Latin America, to change the mediocre, slow moving and status quo maintaining environment and encourage the generation of social benefits and public externalities of higher education to its full potential is to use financial incentives to encourage institutions to concentrate on performance, results and impact. This can be achieved by replacing non-conditional subsidies by competitive grants allocated through specific formulae or performance contracts linked to the achievement of goals, or setting conditions for any additional allocation (i.e. above the current level) of public resources. These mechanisms would help change the environment in which HEIs operate. The reform of European higher education funding, although being developed in very different circumstances, points in a similar direction. And beyond Latin America and the OECD countries, similar policies are being pursued worldwide (Armstrong & Chapman, 2011; CHEPS, 2011; Altbach, Reisberg, & Rumbley, 2009: 66-87).

VI. CONCLUSIONS

The present document has suggested the need for shared funding of higher education, in proportion to the ratio of private and public benefits and public externalities that it generates. As a guide, it was considered helpful to use a cost ratio 1:1, based on econometric calculations of the benefits derived from tertiary education, which indicate that approximately a half of the benefits derived are private while the other half are social benefits and public externalities. It follows that the funding of higher education should be diversified and guided by the same ratio that is between the state (taxpayers) and the private sector (households or families and students/graduates).

Consistent with this perspective, it will be necessary for HEIs to work effectively to generate benefits to fulfil their potential, so that this funding pattern from public and private sources can be justified. Given the evidence that has been analysed, it seems reasonable to conclude that in Ibero-America most HEIs have not reached the expected provision of benefits. This is principally because of a series of bottlenecks and critical malfunctions that reduce their capacity to generate both private and social benefits. In terms of private benefits, although today the average is high in most countries in the region, there is the strong possibility that with the massification of higher education and current teaching arrangements, a growing number of young graduates from non or scarcely selective HEIs, and with little or no prestige, in technical programmes or professional careers that are oversubscribed, could witness their investment in human capital decline as a result of a falling internal rate of return. For social benefits and public externalities, it is estimated that various dysfunctions of HEIs limit their impact on mobility and social cohesion, national development, the strengthening of democracy, the education of citizens, the role of educational institutions in the public sphere and, in general, their contribution to the public good.

Systems with a mixed supply, but with a tendency to either public or private concentration, should be concerned about HEIs funded exclusively either by public or private resources. A system which is based only or mainly on public funds, runs the risk of restricting opportunities to a minority – because of costs – or alternatively to enlarge enrolment but with poor quality education. That is, the State could decide to concentrate its resources on a small group of selective universities, with a high per student expenditure, and finance the other public HEIs very modestly; this is already the situation in a number of Latin American countries. In the opposite case, where HEIs are funded completely from private sources (principally tuition and fees), it becomes very difficult to generate social benefits and public externalities, as these institutions have to cover all their internal costs without public support. Under the private-only funding model it is extremely difficult for an HEI to set up research units, doctoral programmes,

undertake pedagogical innovations, and more complex interrelationships with their environment.

The best higher education funding option is for there to be a balance, at the levels of both system and institutions, between public subsidies and private income; and this depends on government policy. By using public policy instruments, incentives and persuasion a government could encourage public HEIs to diversify their funding toward private sources and ease the way for private not-for-profit HEIs to participate in the distribution of public subsidies. In both these cases, the state should attempt to achieve these objectives by employing resource distribution modalities which will help to create a stimulating higher education environment, attractive to both types of HEI, so that they develop the capacities needed to generate an optimal level of private and social benefits, including public externalities.

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