The future of higher education in BRIC countries: a demographic perspective

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In regard to the development and reform of higher education (HE), recent and projected evidence suggest that enrollment growth is likely to be slower than it is at present (or even negative) as a result of ageing populations. The case of the BRIC countries is particularly interesting for the study of the impact of demographic changes on HE because these countries show considerable diversity regarding their demographic transition. This paper explores how demographic changes are likely to affect the demand for higher education in BRIC countries. I argue that these countries are now facing a great expansion of enrollment but, given declining fertility levels, diversification of the HE clientele will become a common strategy. But diversification of the student population will place a new and complex set of demands on HE institutions, and equity in higher education in the near future will depend on how HE systems are structured in these countries.

Keywords: Higher education. Demographic transition. BRIC countries.

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Introduction

Global demographic transition has transformed the economic and demographic life cycles of individuals and have rearranged populations in ways that were unimaginable 100 years ago (KIRK, 1996; LEE, 2003). Demography has thus become an object of interest in many areas, such as economics and health, for example, and population changes are a central issue in the field of education. Despite the importance of these changes, demographic researchers in the specific area of the development and reform of higher education (HE) seem to have shown limited interest in the topic. Likewise, the impact of current and future demographic changes on higher education has not been sufficiently explored by education researchers.

Because student flows and their collective compositions are largely influenced by demographic trends, changes in population dynamics have become a central issue in educational policy planning (HÜFNER, 1981; WILLEKENS, 2008). Considering the pace and extent of population changes, it is very possible that, in the long run, developed countries will face stagnation (or even decline) in the participation of the traditional age group (18-24) in higher education.

Recent and projected evidence suggest that growth in enrollment is likely to be slower (or even negative) in most developed societies as a result of ageing populations. The clientele (college students) will therefore tend to be older and more diverse than in the past (HÜFNER, 1981; MURDOCK; HOQUE, 1999; TROW, 1976; VINCENT-LANCRIN, 2008). Therefore, this scenario might challenge HE institutions (HEIs) and they may increasingly attempt to halt the decline in enrollments by diversifying both their clienteles and the educational products they offer.

In the developing world, the case of Brazil, Russia, India and China (the BRIC countries) is particularly interesting for the study of the impact of demographic changes on HE. In 2010 these four countries accounted jointly for 42 percent of the world's population and approximately 30 percent of the world's land mass (WORLD BANK, 2011). Nevertheless, they show considerable diversity regarding the stages and velocities of the demographic transitions. Of these four countries, only Russia is experiencing an absolute population decline, for example, while the other countries are still going through growth in their populations, despite a clear trend toward zero or negative growth in the future (UNITED NATIONS, 2011).

It is therefore urgent to ask how demographic changes will affect the demand for higher education in the BRIC countries. With such changes, will clientele in HE systems become more diverse in terms of their ethnicity and socioeconomic status? What challenges can the BRIC countries expect to face in short-term and long-term population changes? This paper is aimed at answering these questions. The discussion on the impact of demographic trends on HE systems is important because it has implications for the capacity of the BRIC countries to sustain their economic growth and the possibility of advancing the social development of their populations.

This study is divided into four parts: The first section presents the state of the relationship between demographics and higher education; the second briefly surveys the current and

prospective characteristics of the population in the BRIC countries; the third discusses the implications of population changes for HE systems in BRIC countries; and the fourth summarizes the evidence presented in the paper and draws conclusions and implications.

Demography and its impact on higher education: the state of the art

Demography and its impact on HE participation rates

Many factors may be seen as decisive in determining HE participation rates: both the anticipated levels and rates of student enrollment depend on various factors that determine individual demand (HÜFNER, 1981). Labor market prospects are among the major factors taken into consideration by university graduates when they make their rate-of-return calculations for the future (CARNOY, 2011a). Other decisive factors that affect demand for education include changing occupational structures, student interests and motivations, unemployment rates among youth, and even cultural forces such as the women's movement (TROW, 1976). However, we argue in this paper that demography also plays an important role in determining future trends in higher education, although few studies have gone into this possibility.

Everything held constant, demography directly affects higher education enrollment because the size of 18-24 age cohorts helps determine the number of college students. However, this relationship between population growth and higher education enrollment levels is not as direct as it may seem at first glance. Enrollment rates in higher education also depend on the different entry rates, persistence rates, distribution of admissions among relevant groups, and average length of studies (VINCENT-LANCRIN, 2008).

With the convergence of demographic trends worldwide toward low fertility rates and high life expectancy, it can be predicted that most societies will face a reduction in the size of the age-cohort population going to college, that is, the 18-24 age group (UNITED NATIONS, 2011). In addition, migration flows will also play a key role in determining participation rates in higher education. International student mobility has been increasing steadily and is expected to grow further (MARMOLEJO et al., 2008). However, the equity implications are clear: the future flow of college student mobility between rich and poor countries will depend heavily on the overall quality of HE institutions in poor countries vis-a-vis those in rich countries (RITZEN, 2007).

Despite the increasing importance of flows of migrant students, demographic trends in developed countries and their impact on the 18-24 age group have not meant fewer numbers of HE students because the diversification of enrolled participating students has compensated for decreasing population trends. Therefore, in response to a reduction in the size of the college-age population, future HE strategies will take into account a more diverse clientele (HÜFNER, 1981; MURDOCK; HOQUE, 1999; TROW, 1976; VINCENT-LANCRIN, 2008). Non-traditional learners (especially older persons, women and lower-middle-class youth) and international students will play a key role in the HE systems in many developed countries

(ALTBACH et al., 2009). Therefore, predictions of upcoming trends in HE enrollments will have to consider not only the effects of declining populations, but other relevant demographic considerations as well, such as the changing composition of the student population by gender, age and socioeconomic group.

Demography and the diversification of higher-education clienteles

Demographic changes should be understood not only as quantitative, but also as related to the composition of the populations involved. Overall, recent and projected changes in population dynamics suggest that growth in enrollment is likely to slow down in most societies (HÜFNER, 1981; MURDOCK; HOQUE, 1999; TROW, 1976; VINCENT-LANCRIN, 2008). In response to this change, HEIs will be engaged in much more active efforts to recruit non-traditional students of all kinds. Among countries that are already seeing smaller college cohort sizes, such as Japan and Korea, one strategy of HEIs has been to try to halt the fall in enrollments by diversifying the institutions' clienteles and the educational products they offer (VINCENT-LANCRIN, 2008).

In spite of this trend to broaden access of different population groups to HE-level, challenges arise when minorities are incorporated into the systems. In most cases the students do not have equal access to high-quality institutions as compared with elite students, and their graduation probabilities are lower than those of traditional students (ALTBACH et al., 2009; CARNOY, 2011c). Therefore, inclusion of under-represented groups in HE systems will require that these systems be capable of effectively recruiting, maximizing retention of such students and aiding them as well as developing the corresponding fundraising strategies (CARNOY, 2011c; MURDOCK; HOQUE, 1999).

In short, we argue that, despite the fact that there is a global trend toward fewer numbers in the regular college-age population (18-24 years) due to fertility transitions, demography will still play a central role in providing insights for HE policy planning involving compositional effects.

Specifically in the case of the BRIC countries, future trends in participation rates and the diversification of student populations are central issues because, with the exception of Russia, these countries are still going through rapid demographic transitions. In the next section, we will present relevant demographic indicators that will shape the future demand for HE in these countries.

Demography and HE indicators for the BRIC countries: current and future trends

In this section we will briefly describe the main demographic trends in the BRIC countries that are relevant for understanding future challenges for HE systems. These trends include fertility rates, age structures, dependency ratios, female labor force participation, numbers of students and school life expectancy at the college level. Despite the increasing importance of migration flows of international students and their potential for determining future trends

in HE systems in BRIC countries, this issue will not be explored in this paper, for two main reasons. First, this type of analysis is limited due to the difficulty of acquiring comparable and accurate data for BRIC countries for many points in time. Second, since projections of future migration flows are subject to a high degree of uncertainty, the implications for policy that can be drawn from such analyses are limited.

Fertility trends

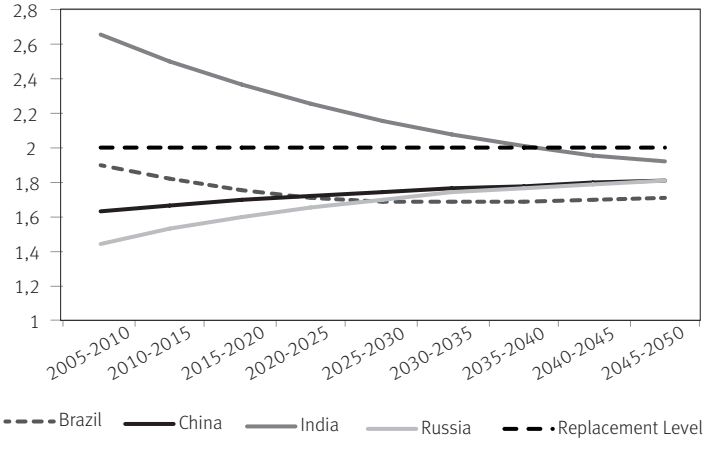
In terms of the future population trends of countries still in the processes of demographic transition, the central role of fertility rates is widely recognized by demographers as the most relevant factor for explaining changes in age distribution during these transitions (NOTESTEIN et al., 1960).

Among the BRIC countries, Russia has had the most discrepant and singular history in terms of fertility trends. Russian fertility patterns have been characterized by a low and sustainable level and by irregular fluctuations in birth rates (KHARKOVA; ANDREEV, 2000). In contrast, Brazil, India and China have shared a similar pattern of changes in fertility since the 1950s. The case of India shows a rapid fertility transition alongside broad regional differences in fertility decline (GUPTA; MARI BHAT, 1997). The fertility transition in Brazil began in the late 1960s and has become rapid and widespread among regions in the country. As a result, Brazil has begun a sustained process of population aging (CARVALHO; GARCIA, 2003). Following a different pattern, the Chinese fertility transition can be viewed as a special case, as the country underwent a sharp decline in fertility in a relatively short time period. This is regarded as a result of an "induced fertility transition," made possible through strong government intervention in family planning activities since 1970, and has also been influenced by accelerated socioeconomic development (TIEN, 1984).

By 2050, all the BRIC countries will show fertility transitions below replacement level. Graph 1 shows projected Total Fertility Rates (TFRs) for the BRIC countries between 2005 and 2050.[1] Estimates from 2010-2015 onwards are provided by United Nations Projections (UNITED NATIONS, 2011). India is the only of the BRIC countries that does not currently have low fertility levels, but projections suggest that it will face a rapid decline in fertility in future years. Despite the likelihood of at least some level of recovery of fertility levels in Brazil and China, and also despite a slight increase in Russia, all the countries are expected to have TFRs below replacement level by 2050. If held constant for a long period of time, this fertility pattern will lead to declining population sizes.

[1] The Total Fertility Rate is the average number of children a woman would bear over the course of her lifetime if current age-specific fertility rates remained constant throughout her childbearing years.

GRAPH 1
Total Fertility Rates (TFRs)
BRIC countries – 2010-2050



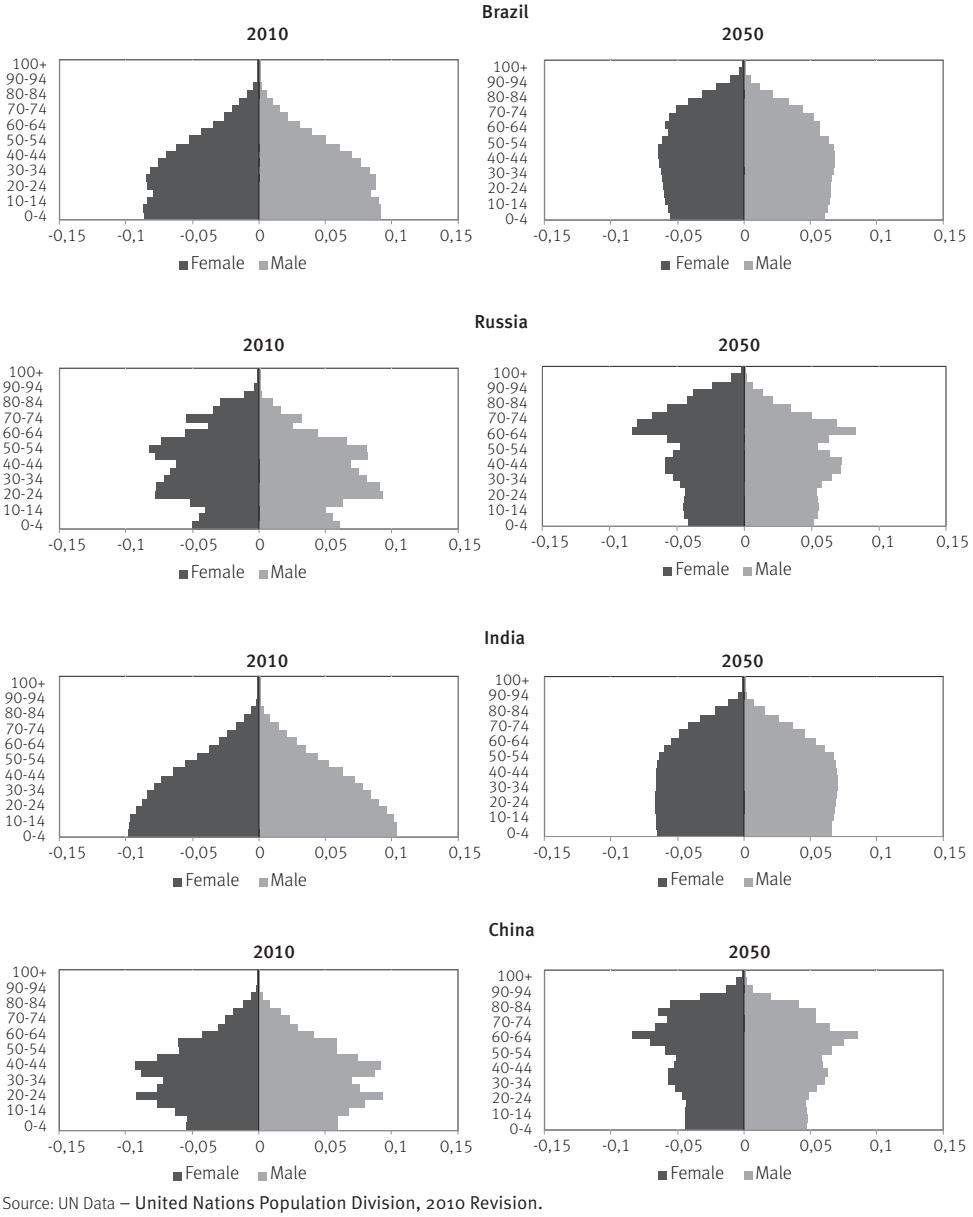
Source: United Nations (2013), medium variant.

Shifts in age structure

Together with fertility transitions, changes in age distribution can be considered among the most relevant population indicators for predicting the future impact on higher education. At the first stages of a fertility transition the number of children decreases but the share of the working-age population increases, due to past high fertility levels (LEE; MASON, 2009). Therefore, changes in age distribution are relevant for HE systems because, all else being held constant, temporary increases in working-age population positively impact the demand for HE.

By 2050, BRIC countries will become increasingly aged. Graph 2 shows the estimated share of population in each age group according to sex for the BRIC countries in 2010 and 2050 (UN Medium Variant Projection Estimates). Graphs are presented on the same scale to ensure comparability. In terms of the population pyramids, an ageing population is recognized by its straight base and rectangular format. In 2010, India had the youngest population of the BRIC countries, with many children and few elderly people. This gave India's age distribution a true pyramidal shape. Brazil had the second youngest population, and the base of its population pyramid shrank as the number of working-age individuals increased vis-a-vis numbers of children and elderly persons. For China and Russia, this decrease in the young and child-age groups was already clear in 2010. By 2050, all the BRIC countries will have ageing populations.

GRAPH 2
Composition of the population, by age group and by sex
BRIC countries – 2010-2050



Source: UN Data – United Nations Population Division, 2010 Revision.

Dependency ratios

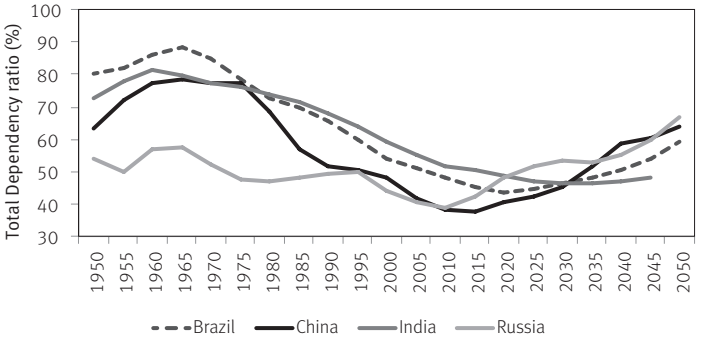
As we stated above, BRIC countries will undergo significant changes in their age distributions by 2050, toward ageing populations. Another important demographic indicator

for future trends in higher education is the Total Dependency Ratio. This indicator consists of the ratio between the number of dependents (elderly persons and children) and the number of working-age adults (LEE, 2003). The fall in dependency ratios as the result of fertility transition is called *demographic dividend* because it creates opportunities for investment in economic development and human capital (BLOOM et al., 2003). In terms of perspective for higher education, the lower dependency ratio that occurs during demographic transition can be seen as a unique opportunity for governments to invest heavily in education and promote economic growth. Not all the BRIC countries will be able to take advantage of the fall in dependency ratios and thus promote high levels of investment in education.

Graph 3 presents the total dependency ratios for the BRIC countries from 2010 and estimations for 2050 provided by the United Nations (Medium Variant). The demographic dividend is illustrated by a decrease in the dependency ratio. When this indicator reaches its lowest level, the demographic dividend reaches the maximum, that is, the lowest number of dependents (children and elderly) per working-age adult. It is clear that, from the BRIC countries, only India will still be facing a demographic dividend by 2050. The demographic dividend is projected to last in Brazil until 2020 and until 2015 in China when dependency ratios will start to increase. The demographic dividend had ended in Russia by 2010, and now this country will present increasing dependency ratios.

The evidence above shows that India will be able to benefit from its demographic dividend until 2050 by having a large working-age population. Educational policy-making should therefore take advantage of this favorable demographic context by ensuring high participation rates in higher education and by increasing its quality. In contrast, the demographic dividend in Brazil and China is falling rapidly, and in Russia it is now non-existent. Hence, in the long run, strategies by and for HEIs in these countries will aim to compensate for this decline by increasing the participation rates of non-traditional population groups (such as women, older individuals and minorities).

GRAPH 3
Total dependency ratio
BRIC countries – 2010-2050



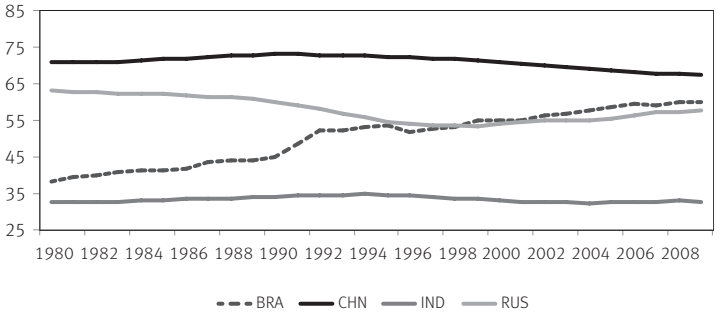
Source: United Nations (2013), medium variant.

Female labor force participation

Another important indicator for delineating future trends in HE is female labor participation. Human Capital Theory predicts that, as women enter the labor market, they may invest more in education in order to guarantee their own competitiveness. Likewise, if more women are investing in education, they are more likely to participate in the labor market. Hence, trends in female participation in the labor market may predict (or be predicted by) increases in HE participation.

Graph 4 presents the trends in female labor force participation rates for the BRIC countries from 1980 to 2009. China has the highest level of female labor force participation of the BRIC countries, and India has the lowest. According to Bhalla and Kaur (2011, p. 6), "While fertility has been declining and approaching international norms for India's level of development, labor force participation (LFPR) of females in India lags considerably behind the 'norm'". For Brazil, this indicator has been increasing since 1980, and female labor market participation rates in this country have exceeded those observed in Russia. In terms of the future trends, we can expect that female labor force participation will increase in the BRIC countries, even if differences in level and pace remain, as a result of modernization and gender equality in the labor market (GOLDIN, 2006).

GRAPH 4
Female labor participation rate
BRIC countries – 1980-2009



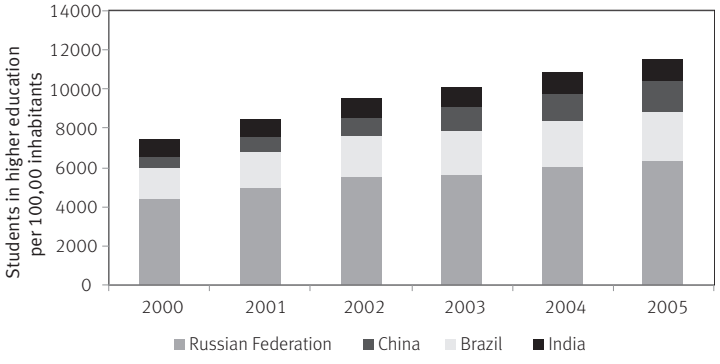
Source: United Nations (2013).

Trends in HE indicators

All these changes in demographic components – fertility, changes in age structure, demographic dividend and female labor participation – have brought about a significant increase in the number of students in higher education in all the BRIC countries.

Graph 5 shows the number of students in higher education per 100,000 inhabitants between 2000 and 2005. Among the BRIC countries, Russia has the highest number of students in HE, followed by Brazil, China and India. China shows the fastest-growing number of students over this period.

GRAPH 5
Students in higher education
BRIC countries – 2000-2005



Source: Unesco (2012).

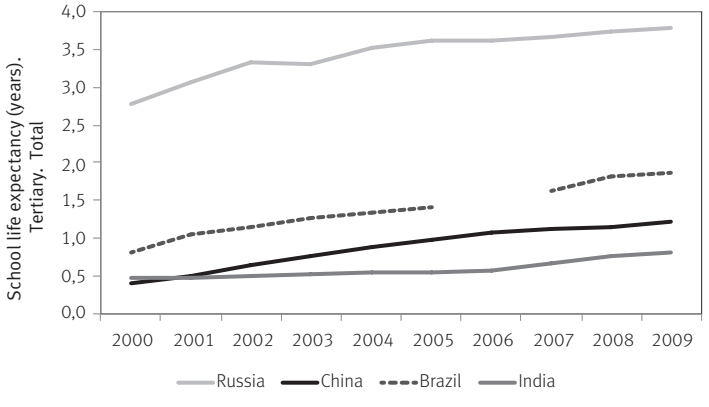
Besides the number of students, another important indicator of a given country's capacity to provide higher education is its *school life expectancy*. This indicator can be interpreted in a way similar to the concept of "life expectancy at birth," in that it represents the average number of years spent in higher education. The indicator thus reflects the number of students who drop out during college and the number who stay in school beyond the standard number of years of study (between four and five years). The higher a country's school life expectancy, the better is the ability of its system to retain students.

Graph 6 shows school life expectancy at the HE level for the BRIC countries between 2000 and 2009 as reported by UNESCO Statistics. Data from 2006 for Brazil were not available. According to this graph, the BRIC countries are experiencing increases in HE life expectancy, and it could be inferred that there has been progress in their ability to retain the students in school. However, the four countries show remarkable differences in their levels of this indicator. Brazil, India and China have considerably lower levels than Russia, with India having the lowest. Therefore, initiatives aimed at increasing student participation in higher education are urgent for Brazil, India and China, especially because these countries currently show a demographic dividend. When dependency ratios for these countries start going up, the opportunity to see large numbers of students from the traditional age group earning college degrees will have passed.

Summarizing the evidence, Box 1 provides a comparative analysis of current and future demographic trends for the BRIC countries in fertility, dependency ratios and female labor force participation. It also shows measures of access and permanence in HE systems, specifically, numbers of students per 100,000 inhabitants and school life expectancy. This box shows that BRIC countries are dissimilar with regard to their demographic indicators, but that they are all likely to have ageing populations by 2050. Meanwhile, the population dynamics of each country will impact its HE system in a particular way. For example, India is still facing high population growth, whereas Russia is currently in the last stage of a demographic transition. This will impact

not only the demand for access, but also the composition of the HE students in terms of age, and their ethnic and socioeconomic indicators. At present, this issue is of particular importance for Russia and it will become crucial in the medium term for Brazil and China and in the long run for India. HE policy makers in BRIC countries should therefore be concerned with the pace of future demographic trends and their impact on equity in higher education.

GRAPH 6
School life expectancy at HE level (total)
BRIC countries – 2000-2009



Source: UNESCO (2012).

BOX 1
Summary of current and future trends in demographics and HE indicators
BRIC countries

Country	Current stage of the Demographic Transition			HE indicators	
	Fertility	Dependency ratios	Female labor force participation	Demand for higher education (1)	School life expectancy at the tertiary level
Brazil	Advanced/ late stage	Minimum level by 2020	Rapid and consistent increase over time	Second highest level	Second highest level and also experienced improvement, but has a large gap compared to Russia
Russia	Already finished	Minimum level in 2010	High level with a slight tendency of decrease	Highest level among BRIC countries	Highest level and has increased over time
India	Medium/ Advanced Stage	Minimum level by 2040	Low level and stable over time	Lowest level among BRIC countries, but increased over time.	High growth of school life expectancy over time but still lags behind Brazil.
China	Advanced/ late stage	Minimum level by 2015	High level with a slight tendency of decrease	Third highest level and with a high rate of increase	Lowest and stagnant level.

Source: Unesco (2012); United Nations (2013); World Bank (2011).
(1) Number of students enrolled per 100,000 hab.

How demographic forces will affect HE systems in the BRIC countries?

As stated in the previous section, with the exception of Russia, the BRIC countries are now facing a great expansion in enrollments. However, these expansion patterns will become even more complex given declining fertility levels, which will tend to reduce the size of the 18-24 age group. As a result, diversification of the HE clientele is expected to become a common strategy among BRIC countries, by incorporating older adults and minorities who may have not had a chance to attend college previously. However, the success in merging traditional and non-traditional students will depend on the ability of BRIC HE systems to incorporate more diverse clienteles. We should therefore expect that issues regarding inequality and equity in higher education will become more important in the future than they are at present. In this section we will describe how HE systems are currently structured in BRIC countries and discuss the implications of demographic changes for equity in higher education.

We argued above that the increased diversification of HE clienteles and the ongoing organization of features of the countries' HE systems may impact equity. Although HE systems are highly differentiated internally at present, the incorporation of previously excluded population groups will bring about even further increases in inequality. HE systems in the BRIC countries show more similarities than differences in their ability to ensure equity at the HE level. Therefore, in order to compare the impacts of demographic prospects on the HE systems in the BRIC countries, we try to answer the following questions for all four of these countries:

- How have the BRIC governments responded recently to the expansion of HE demand?
- Have HE students in the BRIC countries been selected to specific types of HE institutions or to prestigious majors according to their social class?
- Are there policies in BRIC the countries to enable the access and permanence of low-SES students?
- How are the financial systems in the BRIC countries currently structured? Are there inequalities across demographic groups?

We will address these questions in the following subsections.

Expansion of HE demand and privatization in BRIC countries

In response to the rapid and sustained demand for higher education since the 1990s, new institutions have been implemented in the BRIC countries, existing ones have been expanded, and distance-learning options have been extended. But, most importantly, they have allowed a private HE sector to supplement or even replace spaces previously occupied by the public sector (ALTBACH et al., 2009; CARNOY, 2011b). Therefore, privatization is a prominent characteristic of HE systems in BRIC countries despite the fact that there are significant differences among the countries in the size of their private sectors. Russia, for example, has the smallest participation of the private sector, but this participation has been growing rapidly since the early 2000s. It increased from 7 percent in 2000 to 14 percent in 2008. The share of private enrollments in HE was 20 percent in 2008 for China and 30.7

percent for India in the same year. For Brazil, this share was approximately 75 percent in 2007 (PROPHE, 2011).

Some researchers claim that, in general, the uncontrolled implementation of private institutions has exceeded the State's ability to monitor them and ensure quality (CARNOY, 2011b; KAPUR, 2010). This seems to be the case in BRIC countries, since there is evidence that the considerable expansion of private institutions, especially in Brazil and India, has compromised quality (CARNOY, 2011b).

On the basis of future population trends in BRIC countries, we argue that the privatization of education could seriously compromise the future of HE systems in these countries. First, because, given current demographic trends, the demand for HE will not continue to increase indefinitely, nor, in the long run will the current unbridled expansion of private HEIs correspond to the size of the expected student population. Although a diversification in HE clientele can be expected, future population trends are not likely to keep pace with or exceed the growing numbers of institutions. Besides the probable inadequacy of uncontrolled expansion of private HEIs in contexts of ageing populations, privatization may also negatively affect the increasing numbers of non-traditional students in HE systems. Since there is, in general, a strong relationship between SES and participation in higher education (HOSSLER et al., 2007), increased privatization could reduce the participation of these population groups or even select them into low-quality institutions.

BRIC countries and segregation in institutions and majors, according to SES

Future equity trends in HE are heavily influenced by the association between the quality of the high schools that students attended and their chances to participate in high-quality institutions and highly competitive majors. In other words, students who receive a high-quality secondary education are most likely to enter the best HE institutions and the most prestigious and competitive courses (CARNOY, 2011b). This association has been quite strong in the BRIC countries (CARNOY, 2011b). Given this scenario and the future pace of diversification of HE demand due to population changes, we expect that the majority of students who come from low-SES families and low-quality high school institutions will be unable to enter prestigious universities and majors. Hence, HE systems in these countries will have to propose mechanisms to solve this upcoming inequality issue.

Cost-sharing policies in HE and their implications for BRIC countries

Another important impact of demographic trends on HE policymaking in BRIC countries is the implementation of cost-sharing policies. In order to absorb increasing numbers of both traditional and non-traditional students, HE systems in these countries have been relying even more on tuition and student fees, even in public institutions (particularly for traditional students) (CARNOY, 2011b). This scenario may have a considerable impact on students and their families, especially among minority groups (ALTBACH et al., 2009). Heckman (2005), for

instance, shows that fees operate inequitably in different geographical areas in China, since fees in the rural sectors are approximately double those charged in urban settings. Heckman concludes that fee-based systems in China reduce access to education. Likewise, in the cases of India, China and Brazil, high tuition has prevented students from low socioeconomic backgrounds from enrolling in the most demanding courses and consequently from acquiring high-quality education (CARNOY, 2011b). Given the expected increase in diversification of HE student populations in the future, this will be a crucial agenda issue for policy making.

Equity policies in BRIC countries

The upcoming demographic trends and their impact on HE systems for the BRIC countries towards highly diversified clienteles -- will challenge the ability of the State to ensure the access and participation of low-income and minority students. The organization of HE systems in terms of affirmative action, tracking, cost-sharing and even equality of opportunities in secondary education may certainly be influenced by the diversification of demand. However, an inadequate response on the part of HE policy makers to this increasing demand by previously excluded groups will clearly have equity implications.

The BRIC countries have recently adopted affirmative action policies in response to increased social demand. In Brazil, public-high-school graduates and African descendants are now guaranteed a certain quota of the enrollments at some public institutions, and the government has provided scholarships and loans to enable the participation of poor students in higher education. India has provided access to low-income students in HE by charging reduced fees for certain targeted castes and tribes. In spite of these steps, India's HE system can be considered the most segregated among the BRIC countries because differential tuition rates are charged and access to some high-quality institutions is restricted on the basis of students' castes or tribes.

These initiatives to provide new socioeconomic groups in BRIC countries with access to higher education can only be seen as positive. And the trend toward further diversification of clienteles due to demographic changes seems inevitable. Nevertheless, the question of whether current policies will be sufficient to ensure access to a more diverse clientele in the long run remains unanswered. Solutions will depend on the political willingness of governments and on the aspirations and voices of the populations.

Box 2 shows the main characteristics of HE systems in BRIC countries from an equity perspective. These countries have generally attempted to develop policies to incorporate broader clienteles, but enormous differences in the quality and effectiveness of the programs still persist. Given demographic changes in the future, it becomes urgent for policy makers to discuss strategies that will serve more diverse clienteles.

The implications and importance of incorporating demographic changes in HE policy are clear: if policies are not adequate, the situation can seriously compromise both economic growth and social development in BRIC countries.

BOX 2
Summary of the current structure of BRIC HE systems regarding equity policies

Country	Differentiation					Rationalization (Cost-sharing)
	Expansion trends	Mass vs. Elite.	Equity	Tracking	High school sorting by SES	
Brazil	Mostly in the private sector; some recent initiatives to expand public slots (REUNI)	Elite goes to public universities, whereas the mass of HE students go to private universities (most of them for profit)	Loans, fellowships, affirmative action/quotas	No	Yes	Public HEIs are free, whereas priv7ate HEIs charge fees.
Russia	Expansion through charging fees within public institutions; massification of higher education in Russia has resulted in the devaluation of tertiary education	Elite and mass goes to public universities, but there is an elite hierarchy within public HEIs.	Grants and loans on the basis of per-capita ratios	No	Yes	Test scores determine whether a student must pay tuition or no in public universities
India	Mostly in private sector with low quality in response to the heavily population growth	Elite goes to public universities, whereas the mass of HE students go to private aided HEIs. Private unaided and "deemed" universities.	Tuitions are set and differentiated by caste and also quality (within the casts there is also heterogeneity). There are some affirmative programs by charging reduced tuition rates.	Yes (low)	Yes	Cost-sharing is spread out among public and private HEIs.
China	Expansion of world-class universities		Enrollment plan (by province).	Yes (high)	Yes (not as much pronounced as the other countries)	Test scores determine whether a student must pay tuition or no in public universities

Source: Carnoy (2011); Hossler et al., (2007).

Conclusion

The role of higher education in the prospects for future development in the BRIC countries is quite clear, and demography plays a central role in shaping HE systems. The BRIC countries are undergoing substantial expansion in their systems. Where progress toward broader social inclusion has occurred in these countries, diversification of student body compositions has placed a complex new set of demands on institutions of higher education.

In this paper we have presented future demographic trends and their impact on HE systems in the BRIC countries. Rapid transition in these countries has brought on both challenges and opportunities, and will continue to do so. But country-specific choices will define how these opportunities are to be exploited. Policies to ensure equity in HE, in terms of access, permanence and quality, will be crucial for addressing the demands of more diverse clienteles. Policy makers should therefore incorporate demography into their policy prospects.

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Resumo

O futuro do ensino superior nos países BRIC: uma perspectiva demográfica

No que se refere ao desenvolvimento e às reformas no ensino superior, evidências recentes e projetadas sugerem que o crescimento nas matrículas irá, provavelmente, desacelerar (ou mesmo decrescer) como resultado do envelhecimento populacional. O caso dos países BRIC é particularmente interessante para o estudo do impacto das mudanças demográficas sobre o ensino superior, uma vez que estas nações apresentam considerável diversidade em relação à sua transição demográfica. Este artigo explora como as mudanças demográficas poderão afetar a demanda pelo ensino superior no grupo BRIC. Argumenta-se que estes países estão enfrentando uma grande expansão nas matrículas, mas, dado o declínio nos níveis da fecundidade, a diversificação da clientela do ensino superior tornar-se-á uma estratégia comum entre estes países, gerando um conjunto completo de demandas para as instituições

de ensino superior, sendo que a equidade neste nível de escolaridade, num futuro próximo, dependerá de como o sistema educacional terciário será estruturado nestas nações.

Palavras-chave: Ensino superior. Transição demográfica. Países BRIC.

Resumen

El futuro de la educación superior en los países BRIC: una perspectiva demográfica

Con respecto al desarrollo y a las reformas en la educación superior, evidencias recientes y proyectadas sugieren que el crecimiento en las matrículas probablemente pasará por una desaceleración (o incluso reducción) en función del envejecimiento poblacional. El caso de los países BRIC es particularmente interesante para el estudio del impacto de los cambios demográficos sobre la educación superior, una vez que estas naciones presentan una considerable diversidad en relación a su transición demográfica. Este artículo explora cómo los cambios demográficos podrán afectar la demanda por educación superior en el grupo BRIC. Se argumenta que estos países están enfrentando una gran expansión en las matrículas, pero en función de la reducción en los niveles de fecundidad, la diversificación de la clientela de la educación superior se convertirá en una estrategia común entre estos países, generando un conjunto completo de demandas para las instituciones de educación superior; en un futuro próximo, la equidad en dicho nivel de escolaridad dependerá de cómo el sistema educacional terciario se estructurará en estas naciones.

Palabras clave: Educación superior. Transición demográfica. Países BRIC.

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