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Higher Education Expansion in Brazil, Russia, India, and China

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Synonyms

Massification of higher education

Definition

Growth of higher education system in absolute and relative numbers; increase of participation in higher education of relevant age cohort population.

Introduction

Despite the differences in political, social, economic, and cultural histories, Brazil, Russia, India, and China share the common characteristics. The BRIC countries are very large in terms of population, territory, and economy. Each country has great economic and political influence in the regions, as well as dominance in education sphere (Altbach et al. 2013). They are emerging markets as their economies have been rapidly growing for the last decades while remaining lower middle income or upper middle income countries (World Bank 2016). The experience of these countries is critical for understanding the higher education system dynamics in large countries with limited resources.

Rapid Expansion

Higher education systems in BRIC are the largest after the USA. In total four countries accumulate 39% of world's tertiary enrolment (UNESCO Institute for Statistics 2016). The increase of students' number is very rapid in comparison to the world average. The world's student population has increased for 2.9 times since 1990, while China's for 8.7 times, India's for 5.9 times, and Brazil's for 4.9 times. The exception is Russia where the student enrolment has raised less than the world's average, only for 1.4 times due to the very high base.

Figure 1 shows the pace of expansion of higher education in BRIC. Russia is one of the most massified higher education systems in the world. Expansion has already started since the early Soviet Union and has increased its pace after 1995. According to UNESCO statistics, gross enrolment ratio (GER, ratio between overall enrolment and number of population of relevant age cohort) in tertiary education is 77% in Russia. Brazil, China, and India have turned toward "mass" systems as well. Brazil's higher education

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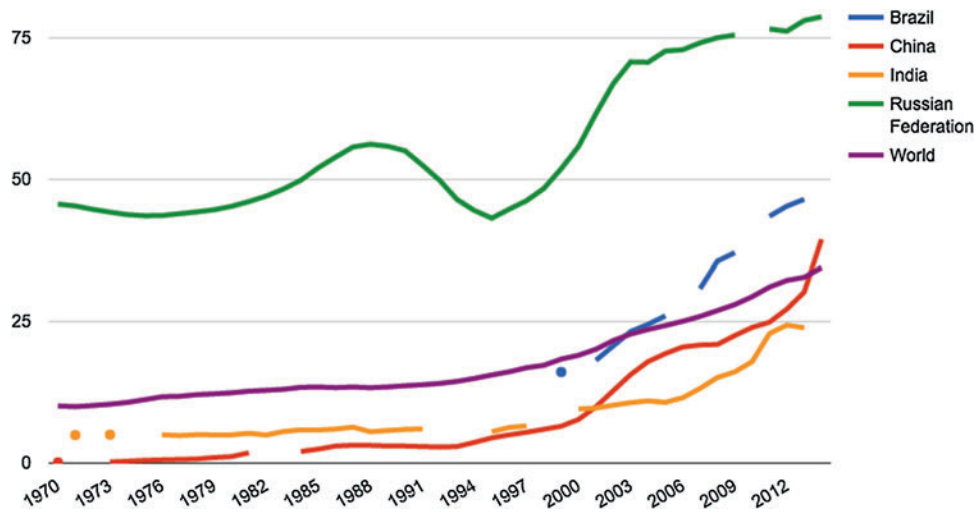

Higher Education Expansion in Brazil, Russia, India, and China, Fig. 1 Gross enrolment ratio in BRIC countries, tertiary, 1970–2012 (Source: UNESCO Institute for Statistics 2016)

expanded from 16% in 1999 to 46% in 2013. China and India started expansion from the "elite" system in early 1990s. The pace of expansion is dramatic. China raised participation from 3% in 1990 to 30% in 2013, India from 5% to 23%.

We analyze expansion in BRIC higher education according to four key questions. Firstly, what are the factors that drive expansion and transformation and changes in higher education in BRIC countries? Secondly, what are the financial resources of the expansion? Then, how has the expansion transformed system stratification in terms of institutional and spatial heterogeneity? And finally, how do BRIC countries deal with equality issues in mass higher education systems?

Drivers of Changes

The state plays the influential role for each country's socioeconomic development although it varies according to the history. Shared communist past in Russia and China is reflected in the formed model of state capitalism, while post-colonial Brazil and India have developed free-trade capitalist system with tendency toward social democracy (Carnoy et al. 2013).

The state as a central power and four forces are considered to shape changes in the BRIC higher education (see also Carnoy et al. 2013). The prevalent role of state in the BRIC countries is reflected in all described below forces, thus making the state the key for exploration of transformations in the BRIC higher education (Carnoy et al. 2013, pp. 17–26).

Firstly, it is the increase of rates of return to higher education at individual and national level that pressures higher education expansion in the BRIC countries. Knowledge-intensive global economy promotes high payoff for higher level of education stimulating governments to expand number of university graduates.

Secondly, popular demand for higher education is determined by high social mobility, better employment, and economic success. Different social groups expect government to increase supply of higher education. As state legitimacy is associated with population well-being, level of employment, and economic growth in general, legitimacy may increase or decrease depending on results of higher education policy (Ibid).

Furthermore, the need for "global legitimacy" drives the expansion of higher education (Meyer et al. 1992). Meyer et al. (ibid) hypothesizes that every society and every national state goes through isomorphic transformations in

accordance with "global norms" and Western perception of progress as a dominant idea. Mass higher education system is considered as one of the global norms, and the state expands higher education system for global legitimacy. Moreover, Carnoy et al. (2013) mentions that ideology of globalization determines the concept of quality as well. The "world class" universities race provides an explicit example. Thus, the most influential rankings promote Anglo-American model of research universities that stimulate governments of developing countries to design system and particular universities similarly to the ideal type.

Finally, higher education institutions with their diverse interest pressure state policies. They are interested in the growth of the higher education sector and exercise their influence to convince the society and politicians in importance of the expansion.

Funding of Expansion: Privatization of Costs

Regarding expansion, one of the most significant peculiarities of the BRIC countries is the scope of privatization. Tuition fees in public and private sectors of higher education have been major sources of expansion. High returns on higher education have determined high demand of population, and growing economy provides abilities for households to pay for education (Carnoy et al. 2013).

Russia and China, as the most of post-communist societies, have implemented tuition fee track as a form of cost-sharing (Johnstone 2004). In addition to establishment of private universities, public higher education institutions (HEIs) have been allowed to attract not only state supported students but also tuition fee paying students. Thus, higher education is appeared to be free as public good although majority of students pay for it.

In Russia, the share of students paying tuition fees in all enrolment has achieved 61% since 1991. In public HEIs, there are only 47% of state supported students although the number of private HEIs has enlarged to about 340 out of about 900 HEIs comprising only 15% of students (FSA 2015). In China, the government increased its funding for higher education; however, the cost-sharing strategy has supported expansion as well. 700 private HEIs were allowed to offer 4-year degrees, and now the private sector holds about 22% of the total enrolment (Carnoy et al. 2013, p. 115). According to HEIs' diversification strategy adopted in 1997, both public and private HEIs charge all students regulated tuition fee (Carnoy et al. 2013, pp. 75, 111). Today the share of HEIs' revenues from tuition and other student fees is about 35% (Wang and Yang N.d.).

India and Brazil have chosen another way and shifted the cost of students in private institutions. Private sector is growing not only in terms of the number of HEIs but also in term of share of enrolment. In India private higher education plays a key role because private HEIs comprise about 50–60% of enrolment (Schwartzman 2015, p. 23).

Brazil had a significant role of private HEIs even in 1970s because 60% of enrolment was in private sector. In 2013, the share is even higher. About 75% of students are in private universities (Ibid, p. 32). Brazil also represents a specific case as it has refused to open public universities for private investments, thus public HEIs are not able to charge tuition fees. Yet, the private-public ratio has been changing in Brazil. Though the private sector growth contributed expansion in the twentieth century, the new federal reform is aimed to significantly increase the student body in public sector (Verhine and Dantas N.d.). Thus, the diversification of finance resources in BRIC higher education and shift to students' payments underlie the trend to greater diversity at institutional and regional level.

Regional Differentiation

The higher education expansion is also associated with the increase of variation between regions "in terms of the size and structure of regional tertiary systems, college access, the relative opportunity to attend elite research universities, and the funding levels applied to higher education"

(Wang and Yang N.d.). China is the only non-federal state within BRIC countries. Yet, all of them consist of the regions that differ in socioeconomic development, population, and territory.

In general, the size of regional higher education systems reflects the variation of wealth and population within the regions. As Verhine and Dantas (N.d.) notes, most of the HEIs are located in the South-eastern regions which have the highest population and income.

In China, the size of student enrolment also varies significantly. The smallest Tibet system is 50 times smaller than Jiangsu higher education system that enrols 1.67 million students (Wang and Yang N.d.). Yet, the main aspect of regional differentiation is student access variation. In 2014, the average ratio of students per 100,000 residents was 2488. In Beijing and Tianjin, it was 5469 and 4346, respectively, while in Qinghai, it is 1162. According to Wang and Yang (Ibid), regional inequality of access is indicated by the higher school students to college students' ratio. In 14 out of 31 regions, number of high school students is 1.5 times higher. The highest is in Qinghai that was 3.1 in 2014.

In India, the enrolment rate varied from 56% in Chandigarh to below 15% in Chhattisgarh in 2014 (Tilak N.d.). In Brazil, the gap is lower. The enrolment rate varied from 10.8% in the North to 19.6% in the South. While in the Federal District the enrolment rate is more than 30% (Todos pela Educação 2015). Russian higher education is concentrated in the central regions and the capital. In Moscow and Saint-Petersburg, age cohort participation in higher education is two times higher than average (Froumin and Leshukov N.d.).

In China, the gap between total revenues in the richest and poorest regional higher education systems was about 30 times in 2013 (Wang and Yang N.d.). Expenditure per student varied from about 50,000 RMB in Beijing to less than 12,000 RMB in Anhui, Henan, Gansu, Fujian, Shandong, Heilongjiang, which is lower than the national standard.

In BRIC countries, leading research universities are not equally distributed. For example, in Russia there are 20 leading universities out of 45 located in Moscow and Saint-Petersburg. In China "[t]here is a high concentration of selective universities in certain regions, which leads to regional variation in access to high quality tertiary education. For instance, 13 provinces has only one 'Project 211' institution, two provinces have two, four provinces have three, four provinces have four; while Beijing has 26 and Shanghai has nine 'Project 211' institutions" (Wang and Yang N.d.). In Brazil "in the state of São Paulo, Brazil's most populous and economically powerful state, four of the best regarded public universities account for nearly 36% of Brazil's published scientific articles and enrol nearly 30% of the country's Ph.D. students" (Verhine and Dantas N.d.).

Institutional Differentiation: Elite and Mass Sectors

Higher education expansion brings institutional differentiation (Trow 1973). System stratification resulted in shaping small groups of elite universities and large mass segment with students with very different background. Both "natural" forces (e.g., market) and well-directed government's efforts increased institutional diversity in BRIC higher education.

In BRIC countries, two major factors influence the differentiation. On the one hand, the pressure to develop "world-class" universities results in most elite universities receiving more subsidies. On the other hand, the growing demand and the development of private higher education have resulted in differentiation.

The subsidized elite sector reflects the pressure too. The elite universities receive several times higher funding per student than mass HEIs. The subsidies primarily support research. The noted examples are excellence initiatives that are aimed at "world-class" university building in China and Russia. China's Project 985, Project 211, Project 2011, and Russia's 5-top-100 program invest large funds in support of the small group of elite universities. In China, this movement is associated with soviet type policy approach that is "commanding heights strategy":

> The central authority keeps its control over elite research universities and key resources for higher education development, while loosening its grip on the mass of higher education institutions and decentralizing them towards local governments (Wang and Yang N.d.).

The resource gap between mass and elite segments is increasing. In China, 73 elite universities affiliated to the Ministry of Education received 57% higher funding per student in 2011 (Ibid). In Russia, 35 leading universities received about 43% of all funding on majority of public HEIs in 2015 (Abankina et al. 2016). Such active investing in elite universities is suggested to be a result of governments' belief in influence of externalities of the elite sector development (Carnoy et al. 2013).

Also, the gap between mass and elite segments has increased due to private education expansion. The differentiation in higher education is determined by the ability to pay and direct finances of households. It is a result of two simultaneous processes. On the one hand, elite private institutions raise the tuition fees as education there is "better." Thus, they exclude students that are not able to pay. On the other hand, mass HEIs accept students from low social class at low tuition fees. Hence, the quality of mass sector is considered to decrease (Carnoy et al. 2013).

Brazil and India also have national leading universities. For example, in Brazil it is the University of São Paulo. In 2013, this university spent about 25,000$ per student comparing to federal universities and municipal HEIs, which spent about 13,000$ and 5,200$ per student, respectively (Verhine and Dantas N.d.).

Equity in Access to Higher Education

BRIC countries are complicated in terms of social stratification and equality. Besides the high level of income inequality in BRIC countries, they have complex ethnicity. Russia is multinational society with about 200 ethnic groups and 50 minority languages. There are about 56 ethnic groups and about 300 languages in China. Brazil has high level of racial inequality, though there is no clear division between ethnic, racial, and linguistic groups (Schwartzman 2015). It is contrary to India where social inequalities based on traditional institutions of caste and ethnicity.

Participation in higher education for disadvantaged groups is lower in India. According to National Sample Survey (2007–2008), gross enrolment rates in higher education is 11.54% for scheduled castes (SC), 7.67% for scheduled tribes (ST), and 14.72 for other backward communities (OBC) (Joshi 2015, p. 133). The government has developed mechanisms of affirmative action. According to the Constitution, all disadvantaged groups can enrol by the quota (reservation) in both public and private HEIs. The central government has implemented reservation of 7.5% in HEIs for STs, 15% for SCs, and 27% in HEIs under central government for OBCs (Joshi 2015, pp. 135–136). In Brazil, there is a gap between participation in higher education for different ethnic/racial groups. White students' net enrolment is 24%, and non-white students' net enrolment is only 10%. Also there is visible income stratification in Brazil's higher education. Participation rate in bottom income quartile is 5%, while in top income quartile is about 40% (Verhine and Dantas N.d.). The government implements special measures to overcome access inequality. According to the law, federal universities have 50% quota for students from minority groups and low-income families. Moreover, the "University for All" program has been providing scholarships for low-income families in private HEIs since 2002 (Balbachevsky 2015).

China tries to provide equal chances to access higher education for low-income families, minorities, and rural students. There are special quota, special institutions, and system of additional points for the exam (Schwartzman 2015). Nevertheless, the gap between urban and rural student participation in higher education is very high (about 5.6 times) (Zhang and Liu 2005).

Although in Russia the average level of participation is very high, the income stratification is evident as well as access inequality through geographical perspective. Urban students had 1.7 times more chances to enrol to a university than rural students (Dubin et al. 2004).

Discussion and Further Research

The fast pace of the expansion in BRIC higher education makes it an important case for investigation of the high participation systems of higher education (Marginson 2016) (particularly in large countries). System differentiation, social stratification, and socioeconomic outcomes are the major research issues in emerging high participation systems of higher education. Yet, there are specific features of BRIC countries that might bring insight in higher education research. Looking at BRIC countries' legacy and socioeconomic trends, we highlight several important topics.

Institutional theories of path dependence are promising areas of focus in comparative research of Brazil, Russia, India, and China. Paralleling and opposing colonial past of India and Brazil and communist legacy of Russia and China help to explore modern institutes of BRIC socioeconomic systems. It is particularly valuable for higher education research where trends of convergence are becoming well defined, while national peculiar properties are more and more disregarded (see in Carney et al. 2012). Communist and colonial legacy highlights not only public/private balance in higher education but also the role of higher education as a function for social mobility, relation with labor market, vocational-academic dichotomy, and other phenomena that shape "rules of a game" in higher education.

Economic growth and changing labor market in BRIC countries present an intriguing case for comparative research of the linkages between the higher education expansion and economic outcomes from this angle; higher education expansion is tied with economic growth through human capital concepts (Becker 1962). The debates on effects of higher education system expansion on economic system and labor market are not closed.

We mentioned perception of quality of higher education that in BRIC countries is shaped by global legitimacy and ranking game (Carnoy et al. 2013). However, we cannot pass by students' education outcomes, gained knowledge, and competence development. In contrast to the USA and Western European countries, the research on education outcomes is limited in BRIC countries. The first attempts to assess differences in quality are presented by the study on engineering education in Russia and China (Kardanova et al. 2016). The question is not specific for BRIC countries particularly, although the focus on engineering education is considered especially important for BRIC higher education research (Carnoy et al. 2013).

One of the most important and interesting questions is the future of higher education in the world where Anglo-American model is competing with local models and approaches in different countries. The increasing power of BRIC countries and further expansion of higher education can challenge the dominant university model. Is Anglo-American university model sustainable even when student population in BRIC higher education exceeds 50% of all world student body? How further growth of higher education in BRIC countries will change "global model"? Answering these questions might bring insights to the complex research of global convergence and divergence in higher education and beyond.

Cross-References

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- ▶ Isak Froumin
- ▶ Jandhyala Tilak
- ▶ Katherine Kuhns
- ▶ Maria Dobryakova
- ▶ Martin
- ▶ Prashant Loyalka
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