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The concept of public goods, the state, and higher education finance: a view from the BRICs

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Abstract Because higher education serves both public and private interests, the way it is conceived and financed is contested politically, appearing in different forms in different societies. What is public and private in education is a political–social construct, subject to various political forces, primarily interpreted through the prism of the state. Mediated through the state, this construct can change over time as the economic and social context of higher education changes. In this paper, we analyze through the state's financing of higher education how it changes as a public/private good and the forces that impinge on states to influence such changes. To illustrate our arguments, we discuss trends in higher education financing in the BRIC countries—Brazil, Russia, India, and China. We show that in addition to increased privatization of higher education financing, BRIC states are *increasingly* differentiating the financing of elite and non-elite institutions.

Keywords Affirmative action · Cost differentiation · Externalities · State legitimacy

The most difficult issues of political economy are those where goals of efficiency, freedom of choice, and equality conflict.

James Tobin, 1970

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Introduction

Higher education has historically been viewed as both a public and a private good, and higher education financing has been at the center of the debate over this definition (see, for example, Donahue 1989; Stiglitz 1999). As others have noted, education inherently serves both private and public interests (Levin 1987; Marginson 2007). It serves private interests by enhancing the capacity of individuals to gain economic and social benefits. It also has public value because more highly educated individuals are likely to increase others' productivity (Romer 1994) and to embrace the fundamental tenets of a tolerant democratic society, which benefits all citizens (Mill 1869).

Because higher education serves both public and private interests, its conception and financing is contested politically, appearing in different forms in different societies (Kaul and Mendoza 2003; Marginson 2007). When seen this way, what is public and private in education becomes a political–social construct (Mansbridge 1998; Menashy 2011), subject to various political forces, primarily interpreted through the prism of the state. Mediated through the state, higher education's construct can change over time as its economic and social context changes.

According to Samuelson's classic definition (1954), a public good is characterized by nonrivalrous consumption—its consumption by one individual does not detract from consumption by another individual—and non-excludability—it is difficult if not impossible to exclude an individual from enjoying the good (Stiglitz 1999). According to this definition, the public good aspects of the knowledge individuals acquire in higher education are those that others in society get to consume—for example, co-workers who pick up some of the higher educated individual's knowledge or fellow citizens treated more tolerantly and fairly because of the knowledge the individual acquired. Thus, a principal issue in the public/private good controversy is social efficiency. If there are significant economic and social externalities associated with increasing the number of higher education graduates or if imperfect capital markets pose barriers to socially optimal levels of investment in higher education, public interest demands levels of state subsidies that would provide adequate higher education for the public good.

This economic approach is useful heuristically, but much of the value of externalities ultimately depends on ideology (what "society" defines as having social value), and ideology, in turn, depends on political power relations. If the political decision process is truly democratic and pluralistic, and full information is equally available to all individuals, the value of externalities could closely reflect the sum of the values individuals living in a society place on them. But this democratic, full information political model is rarely realized. In most societies, economic power and state power are closely entwined. The state (the political system) places a value on externalities that reflect these highly unequal power relations and the asymmetric influence, even in a democracy, of economically powerful groups in defining the value of externalities associated with certain types of higher education.

Equity has also played a role in the debate: lower social class families may face especially large financial, informational, or other disadvantages in gaining entry into higher education. The most important of these is that higher social class families impart academic advantages to their children before and during their schooling that are less available to children of lower social class families. If a society values fairness and places social and political value on ensuring desired levels of equity, the public aspect of education would include financing it in ways that mitigate such disadvantages (Koski and Reich 2006). This equity argument has been extended to make education as a whole—including higher

education—a human right, situating it completely in the public space, available for all at public expense.[1] Again, social preferences for equity are mediated through the state, and depending on power relations in the state, the state can interpret what "equitable" financing means in terms of higher education as a public and private good.

In this paper, we analyze how the state's financing of higher education can shape it as a public/private good. We also analyze the forces that impinge on states to influence such changes. We do not pretend to "prove" empirically the model we propose. Our goal is to understand the dynamics of higher education developments over the past 20 years. The paper is therefore largely suggestive.

The analysis is also somewhat different from the "privatization" discussion, although related to it. We focus more on how higher education is paid for than on the types of institutions students attend. Yet, we do discuss that there are many ways of "privatizing" the costs of higher education, and some of these—such as promoting private institutions charging tuition to absorb enrollment expansion—could be considered as shifting education even more toward a private good than, for example, cost sharing in public institutions.[2]

In our discussion of higher education as a public/private good, we focus on the somewhat narrower issue of higher education financing, and we do so using the example of the BRIC countries—Brazil, Russia, India, and China. The BRICs are particularly interesting in studying shifts in the definition of higher education as a public/private good for several reasons: forty percent of the world's population lives in these four countries; their university systems have expanded enormously since 1995; they have all redefined the public/private nature of their systems; and before the early 1990s, in two of the BRICs (China and Russia), higher education was totally publicly financed and managed. The BRICs are not necessarily typical of developing countries, but they represent a broad range of interesting and important examples of how nation-states are funding their higher education expansion and the implications this has for the private/public good debate in terms of social efficiency and social equity.

Although we center our analysis on the state, it is not feasible to formulate a single theory of BRIC state behavior to explain the way BRIC States respond to the pressures for higher education expansion and quality improvement. State theories are generally situated in the particular historical contexts of each society (Carnoy 1984), and the four BRIC countries have very different political, economic, and social histories. This makes it difficult to come up with a single, unified theory of state behavior for the BRICs.

Nevertheless, for all their different histories, in today's globalized network society (Castells 1996), BRIC states do have in common that they reproduce political power

[1] Tobin (1970) has argued, for example, that societies may choose to provide basic education to all in the spirit of commodity egalitarianism.

[2] Although the shift to direct private financing (tuition) does shift political perceptions of higher education as a public or private good, there are important differences between paying tuition to public and to private institutions. Paying for publicly owned services does not imply that the services are therefore "private." State-owned hospitals and universities and petroleum companies can and do charge for the goods and services they provide. Public ownership conveys a level of public accountability for how these institutions behave that differentiates them from private firms. Similarly, privately-owned institutions subsidized (and regulated) by the state are still "private" in that they are owned by private individuals and accorded property rights different from state-owned entities. Students attending and employees working for private and public higher education institutions generally have different "rights" accorded them by the state. Nevertheless, paying for public services does make them more "private" than when they are free: the individual buyer plays a role in deciding how much of that good to use. Similarly, government subsidies (and regulations) of privately owned firms makes them more "public" than when they are free (or obliged) to respond only to market forces.

largely by seeking political legitimacy, that they seek this legitimacy largely domestically but also internationally, and that they consider their higher education policies as playing a potentially important role in achieving legitimacy. All states need to reproduce political power to survive, and various theories of the state present different views of how political power is reproduced—whether the mass of voters is in control of that reproduction; whether it is powerful interest groups lobbying the electorate; whether political power resides in those who control capital, and through capital, the economy; or whether power resides directly in the structures of power, including knowledge, the means of communication, ideology, and the state's control of the means to repress dissent (see Carnoy 1984, for a summary).

Our main argument is that these states use the expansion of education, including university education, to simultaneously promote capital accumulation, economic growth, and political legitimation with the mass of families who want to enhance their children's employability and social mobility (Offe 1973). We contend that the public/private nature of higher education is played out in this political economic context. Education also helps realize the self-interest of the state actors (including the intellectual elites in public universities) to increase state revenue and reproduce state power (Weiler 1983). Different groups in the state bureaucracy may have different views on how best to reproduce state power—that is, how to keep control of the state's revenue and how it is to be used—but ultimately competing bureaucratic groups are situated in a state that must legitimate itself or collapse. Expanding education and reforming it serves the state because more and better education—in the state's collectivity of competing bureaucrats' view—increases the probability that workers find jobs, gives workers the hope that they and their children can move up the social and economic ladder, and simultaneously increases the profitability of capital through higher worker productivity, which in turn, increases state revenues and bureaucrats' power and legitimacy. How higher education ends up serving private and public interests is part and parcel of state bureaucracies legitimizing their own power.

It is fair to ask whether in a globalized economy global rather than national social constructions dominate nation-states' choices in financing and shaping their higher education systems. A number of recent analyses of higher education financing in developing countries have focused on the shift from central and regional government funding of universities to a reliance on private tuition paid by students and their families either to private or public institutions (World Bank 2000; Altbach and Levy 2005; Altbach et al 2009; Tilak 2008). This shift and other aspects of higher education expansion in developing countries has been linked to a neo-liberal hegemonic globalization of economy and culture (Marginson and Ordorika 2010).

Our analysis allows that globalization has had an important impact on national state policies and that part of its impact is probably mediated through favorable neo-liberal views toward directly privatizing education through the expansion of privately run, privately paid for schools and universities and increasing the share of education costs collected through tuition in public institutions. However, in the case of the BRICs, we stress another important impact of globalization, namely its effect on the economic payoff to higher education, particularly certain programs of study in higher education.

Our analysis also suggests that in terms of society's preferences for equity, which is an important part of the public–private debate, the state's shift from a more public to a more private definition of higher education could produce more rather than less fairness in the way the state distributes its resources, particularly when—as in the case of three of the BRIC countries—only a moderate proportion (and therefore higher income segment) of the population has access to higher education. Given that merit-based admission (academic

performance in secondary school and higher education entrance tests) tends to favor students from higher socio-economic class families (Astin and Oseguera 2004),[3] equity considerations suggest that those who are inherently favored in getting access to high private payoffs associated with higher education should be "taxed" for that advantage in some way, either up front by paying directly for higher education or by being taxed appropriately on the private economic gains from higher education, or both.[4] In either case, to achieve greater fiscal equity, such tax revenues would have to be redistributed in some form to services or subsidies for lower income groups.

At the same time, charging tuition—the more popular form of taxing higher education investors—could pose financial barriers to students from low-income families, who may therefore view it as inherently unfair. This helps explain why states concerned with a social preference for equity may simultaneously shift to charging tuition in universities and implement affirmative action and subsidy programs for disadvantaged groups in both public and private universities.

Given our framework for how the shaping of higher education as a public and private good is played out in the contested political terrain of the state, we make the case that the state's distribution of both higher education places and public resources going to higher education among different social class groups provides one important and meaningful basis for discussing higher education as a public/private good. In effect, the process of collecting and spending public resources to fund higher education suggests how the state crystalizes power relations in its shifting provision of higher education as a public/private good, and, simultaneously, helps us understand the contradictions this crystallization generates as higher education continues to expand.

The shift to direct private financing

Four decades ago higher education in three of the BRIC countries (all but Russia) was accessible to a limited few, and, except in Brazil, essentially free to all students who attended. Today, the four countries have, in one way or another, either implemented cost–sharing by introducing tuition fees in public universities, or by allowing higher education to become more of a "private" good through the expansion of publicly regulated or essentially independent private universities. The main point is that BRIC states have shifted the responsibility for funding young people's higher education directly to them and their families.

China

Of all the world's countries, China has made the most radical transformation of its higher education system in the shortest period of time. The state closed down the university

[3] In the United States, "Perhaps the principal obstacle to access to highly ranked institutions among poor and underrepresented students is the system of selective admissions which favors students who perform well on standardized admissions tests and who have high grade point averages (GPAs) from secondary school" (Astin and Oseguera 2004, p. 323).

[4] The traditional European model of providing free public higher education and charging relatively high marginal income taxes on the middle class to pay for it was not a particularly successful strategy for redistributing the economic gains from higher education to lower income groups, for the reasons of pre-higher education disadvantage discussed above (Bourdieu and Passeron 1977).

system during the Cultural Revolution in the 1960s (the state defined higher education as having negative public value). Universities were reopened in the 1970s and very gradually expanded enrollment. Higher education was completely free, but restricted. By 1996, only about 3 million (three and four-year degree) students, attended postsecondary institutions. At that point, the state's political views concerning the economic and social role of higher education changed. Enrollment was allowed to increase to 24 % of the age cohort, or about 27 million students, by 2009, of which 14 million were in four-year institutions (about 15 % of the age cohort). The basic sources of financing for higher education in China also changed substantially—from a system that was paid for mainly by direct government contributions (83 % of funding; much of the rest came from other monies raised by universities, not tuition) in 1990 to one in which just less than half (49 %) of the funding came from direct government contributions and about one-third (33 %) came from tuition and other student fees in 2009.

Today, 80 % of students attend public institutions and pay fees covering part of the total costs of their education. The proportion of fees to total costs depends on the tier of the institution and is lowest for the most expensive elite institutions. The remaining 20 % or so attend "overflow" private institutions that charge higher tuition fees (which are also set by the government) but are characterized by lower costs per student. Although onerous for many families, cost sharing was argued by policymakers to be necessary to support higher education expansion (Min, 2004). Average fees in public and private institutions rose by approximately 4–5 times from 1997 to 2006. Then in 2007, explicitly conscious of potential political backlash from further tuition increases, the State Council fixed tuition at 2006 levels for 5 years such that they would no longer increase but rather continue to differ systematically by province, university tier, and, to a smaller degree, by field of study (State Council 2007).

India

India's higher education system is still influenced by its British colonial legacy and by its structure as a federal system, with considerable political power over educational policy in the states (Carnoy and Dossani 2013). In 1985, there were less than 6 thousand colleges with about 4.5 million students; by 2009–2010, there were more than 32 thousand colleges with 17 million students (of which about 14 million were undergraduates). Despite such massive growth, the proportion of the age cohort attending bachelor degree programs has remained relatively low (as in China), reaching about 15 % in 2009–2010.

An increasing proportion of students attending public colleges in India pay tuition (in some states, tuition revenue is more than half the public budget for higher education) and the rapidly increasing number of "unaided" private colleges that rely exclusively on tuition. Expansion and the shift to private funding have been mainly the product of a political patronage system in the Indian states (Carnoy and Dossani 2013). Private higher education accounts for about four-fifths of enrolment in professional programs and about 60 % overall. Private engineering colleges accounted for almost 90 % of the annual student enrollment in 2011–2012 (Planning Commission 2012; Carnoy et al. 2013).

At the same time, India has legislated national affirmative action that benefits 50 % of Indian students designated as "disadvantaged" classes. These students pay the lowest level of fees (or no fees in some states) even in private unaided institutions. All institutions are required to admit one-half their students from such designated groups.

Brazil

Like India's higher education system, Brazil's is heavily influenced by its particular colonial legacy, which made it a late starter in providing university education and with a higher proportion privately financed than in other Latin American countries. By the 1970s, private enrollment was already 60 % of the total. Private institutions increasingly absorbed the expansion after 1997. Enrollment in the higher education system as a whole increased from 1.8 million students in 1995, of which 1.1 million were in private institutions, to 5.4 million students in 2010, of which 4.0 million were in private institutions. Today, about 75 % of enrollment is in private institutions (INEP 2000, 2008, 2011).

Brazil's system is very different from the other BRICs in three important ways: First, public universities have traditionally been essentially free (similarly to the other BRICs in the 1980s) and continue to be free of tuition. Second, a high fraction (even higher than in India) of university and other post-secondary students attend fee-for service, unsubsidized private institutions. Third, some of those private institutions are religious-based, almost all Catholic. Thus, in terms of defining higher education as a private good, Brazil has relied heavily on enrolling students in privately owned, tuition-charging institutions, many of them for-profit, only moderately regulated by the state.

Recently, Brazil passed affirmative action legislation requiring federal universities to admit disadvantaged minority students who attended public high schools on a quota basis. The Brazilian government also provides scholarships (*ProUni*) to these same types of students to attend private universities.

Russia

Russia's current university system was largely in place by the 1980s, with high levels of youth enrollment by developed country standards, completely free for students (by law, under the Soviet Constitution) and organized to meet the demands of a command economy. Many universities were linked directly to particular industries. As the command economy went into economic and political crisis in the late 1980s and early 1990s, funding for higher education declined by about 40 % and enrollment declined by about 10 %. To support "excess demand" for university places, The Yeltsin government changed the Constitution during the government's revenue crisis to allow public universities to admit fee-paying students (Brainerd 1998). As the economy began recovering in the mid-1990s, Russia witnessed an enormous enrollment increase over the next 12 years. Eventually, the state also allowed for private higher education institutions. By 2008, Russia had one of the world's highest percentages of young people enrolled in higher education (76 %).

The Russian government continued to allocate government paid ("budgeted") places to universities for different fields of study. Tuition-based financing had a particularly large effect on highly demanded fields of study such as economics and business, so that by 2006, almost one in two students in public institutions was paying tuition. In addition, private institutions served increasing numbers of students. By 2011–2012, about 17 % of students were in private higher education.

How much do the BRIC countries spend on higher education?

One of the direct effects in three of the BRICs of expanding enrollment by shifting to increased direct private financing of higher education was to reduce average costs per

student (Brazil and China) or maintain them at a low level (India). We estimated public spending for students attending public institutions and the average tuition paid in public and private institutions for the first decade of the 2000s to suggest the kinds of changes taking place in spending per student in recent years.[5]

Figure 1 shows these estimates in 2005 purchasing power parity (PPP) dollars (adjusted for differences in living costs between countries). Brazil spends about the same per student as developed countries such as France, Italy, and Spain in 2000. India spends a low 2005 PPP$1,400 per student, including private tuition fees. Adjusted for inflation, Brazil, China, and India (slightly) reduced average spending per student in 2000–2009 (Brazil sharply because of the drop in average tuition paid in private institutions), but Russia used increasing petroleum revenues in the 2000s to increase spending per student from low levels in the 1990s.

Much of the drop in higher education spending per student in Brazil, China, and India has come from a "composition effect." As more students enrolled, low cost (and lower quality) institutions absorbed a greater proportion. In China, this meant the rapid growth of non-elite public institutions and eventually low quality private institutions. In Brazil and India in the 2000s, it took the form of a rapid increase of low-cost, generally low quality private institutions. Thus, the mass of "new" students was largely absorbed in low spending per student institutions, and this drove down average costs per student in higher education.

Why were the BRICs able to increase cost sharing?

During this period of rapid expansion, all four BRIC countries moved in a variety of ways away (China, Russia) or further away (Brazil, India) from a free, highly subsidized public good conception of higher education. One argument is that they did so because of a global ideological change regarding the state's role in the economy, driven mainly by the United States and Great Britain and supported by important national agencies such as the World Bank and International Monetary Fund. There is evidence that the 1980 s saw such an ideological shift and that it influenced economic restructuring in Brazil, India, and Russia in the early 1990s. Shifting ideology therefore probably played some role in the decisions to shift to private financing in higher education (Serra and Stiglitz 2008; Edwards 1998).

However, in terms of our notion of state legitimation, a better explanation of how globalization influenced higher education financing in the BRICs is rooted more in objective economic conditions—namely, globalization and the information revolution increased worldwide (and national) demand for higher educated labor. Together with the shift in China and Russia from command to market economies, this increased the relative incomes of (young) BRIC university graduates, in turn pressuring BRIC states to expand the number of places in higher education institutions. In addition to this direct pressure, the boom in information technology probably convinced states that investing in higher education had a high social payoff, particularly in terms of increasing average productivity in the labor force and therefore economic growth.

Nevertheless, the BRIC states in the 1990s were hardly prepared to take on the total cost of greatly expanding their universities. The BRICs had lower per capita incomes in the mid-1990s (China and India, much lower) and had less developed fiscal systems to increase revenues than the developed European countries had in the late 1960s, when they began their

[5] In China, we used only public spending per student, although costs are slightly lower in private institutions. The estimates are more approximate in Brazil and India because of the large number of fee paying students and the relatively little that is known about how much students pay privately for higher education.

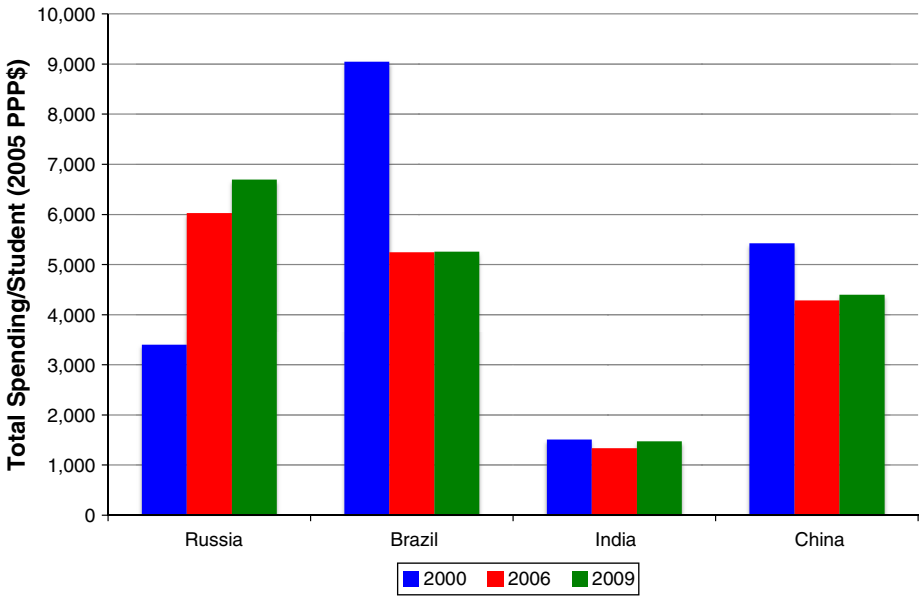

Fig. 1 BRIC Countries: total of private plus public spending in higher education per student, by country, 2000–2009 (in 2005 PPP dollars). *Source* Authors' estimates based on national data sources and OECD, Education at a Glance, 2001, 2002, and 2011

latest higher education expansion. Russia was in a major recession in the early and mid-1990s. BRIC governments needed to rely on private tuition payments to be able to afford expansion.

From a social efficiency standpoint, policymakers in the BRIC countries might also have been justified in moving away from the highly subsidized public higher education model if private returns to higher education were rising rapidly (China, Russia), moderately (India), or already very high (Brazil). The willingness of (mainly higher income) families to pay for higher education would reflect their perception that their children realize much higher earnings as graduates. Even lower income families should be more likely to accept paying tuition when payoffs appear high. If families' perceptions regarding payoffs shifted enough, BRIC states could maintain political legitimacy while taxing families directly for higher education services.

Private rates of return to higher education in the BRICs over the past 25 years appear to have increased rapidly (China), increased (Russia), remained constant at a fairly high level (India), and declined slowly from very high levels (Brazil), all in the face of substantial increases in the absolute and relative number of graduates. The payoff also rose relative to the payoff to higher secondary school. Except for India, which has the lowest fraction of the age cohort in higher secondary schooling among the BRICs, the payoffs to higher education now exceed the payoffs to completing higher secondary schooling (Table 1).[6]

We also found that the payoffs to engineering and business graduates were higher in all the BRICs than the average rates of return shown in Table 1. The great expansion of private unaided colleges in India has been in engineering and business, and in Russia, the main expansion of paid places in public universities has been in business and economics.

[6] Not all the rates we show were corrected for selection bias, but selection bias should probably be declining as a higher fraction of the age cohort attends and graduates from university.

The rapidly increasing average payoffs in China and the historically very high payoffs in Brazil to completing university have made it easier for the state in those countries to charge tuition in all fields of study.

Such high (and rising) rates of return accentuate the value of higher education as serving private interests, giving the state options to shift financing of higher education to (mainly elite and higher middle class) families without jeopardizing the state's political legitimacy. Social externalities associated with the expansion of higher education in these societies are still likely to be positive, and public pressure still exists to keep higher education free. The BRIC states have in various forms all indicated concern that too high tuition will lead to underinvestment in higher education, or simply a political reaction as increasing numbers of students from lower income families gain entrance to lower tier (often private) universities but have difficulty paying tuition. India and Brazil have legislated affirmative action programs that cover both public and private institutions; China has kept tuition rates fixed for the past 7 years; and Russia tightly controls the tuition public and private universities can charge and has kept up the number of budgeted (free) places in universities despite a declining youth population. However, the states in all four countries have opted to expand higher education places rapidly rather than at the much slower rate had higher education been made free to all.

The trend toward increasing differentiation

In addition to shifting to extensive private financing, at least three of the BRIC states have politically "negotiated" their definition of higher education as a public/private good through explicit policies that *increasingly differentiate financing between elite and non-elite institutions.*[7] In part BRIC states maintain legitimacy with economically more powerful groups by continuing to favor high-income families with much larger than average public subsidies to attend university. In the new financing configurations, this takes place mainly through the process of increased cost differentiation between elite and non-elite universities.

Increased financial differentiation results from a complex set of global and domestic political pressures. Superimposed on BRICs major expansion of enrollment at lower average cost per student was a new global "imperative": in the first decade of the 2000 s, countries were increasingly defined in terms of the quality of their education systems. This included the quality of their higher education institutions. As "world powers," China and Russia were especially sensitive to this imperative, and they began investing heavily in their elite institutions to attain "world class" status.

The "world class university movement" and the focus on developing expensive, research based elite universities could serve the state's domestic legitimacy in several ways: (1) such universities are perceived to contribute significantly to economic growth by producing cutting-edge scientific research and highly trained cadres—less democratic (more "permanent") regimes, such as those in China and Russia, can take a longer-term view of economic growth and its impact on their political legitimacy; (2) developing prestigious institutions potentially helps legitimize the state as a national power, assuming that higher ranking in university league tables has political meaning domestically; and (3) investing in elite universities can help the state maintain legitimacy with some privileged groups in society by subsidizing their

[7] India has elite universities that spend much more per student than non-elite institutions, but they do not appear to be receiving increasing funding per student relative to mass institutions. Nevertheless, the gap may be increasing in India because of declining spending per student in private colleges that we could not measure.

Table 1 BRIC countries: private rates of return to secondary and higher education, 1980s to 2008 (percent per year of schooling)

Country/level of education	1980	1990	1995	2000	2005	2008
Brazil Secondary	16	12		12		2[c]
Brazil University	20	25		23		25[c]
China Secondary		4	5	6	10	
China University		3	6	9	20	
India Secondary	20		14	6[b]	12	
India University	13		12	12[b]	12	
Russia Professional[a]			6	7	3	
Russia University		5	5	6	10	6

Sources Brazil: Psacharopoulos (1985, 1994); authors' estimates using 2000 census data and 2008 household survey data. China: Johnson and Chow (1997), Li (2003), de Brauw and Rozelle (2006), Heckman and Li (2004), Zhang et al. (2005); authors estimates for 2005 based on the 1 % national population survey data for 2005. The results shown were estimated using a censored least absolute deviations (CLAD) model, with dummy indicator variables for level of education completed—these estimates correct for the censoring of wages at zero (i.e., the estimates account for the fact that many persons do not work and earn wages), but do not correct for other types of selection bias. India: Psacharopoulos (1985), Duraisamy (2002), Dutta (2006); authors' calculations using India National Household Survey, 2006. Russia: Brainerd (1998), Gorodnichenko and Peter (2004), Denisova and Kartseva (2005); authors' calculations using Russian Longitudinal Monitoring Survey, 2004–2006 and 2006–2008

[a] Post-secondary, non-university

[b] Males only—rates of return to secondary school have traditionally been much lower for males than females in India, so the secondary school rate of return in 2000 is not comparable with other years

[c] Household survey data are less reliable than census data, so these estimates, particularly the ROR to secondary school, may be biased

children to attend high cost public universities—this keeps relatively high levels of public spending flowing to high-income families even as the state makes these same (as well as less elite) families pay for higher education that used to be free.

Therefore, in addition to the "composition effect" that reduces average spending per student in China, India, and Brazil through enrollment expansion mainly in low cost, low quality institutions, real (corrected for inflation) spending per student in their mass institutions in the 2000s also tended to decline. Further, in China, Brazil, and Russia, the gap between spending in elite and non-elite institutions has increased.

In China, spending per student in elite institutions was about 20 % higher than non-elite universities (about 3,200 constant (2008) Yuan) in 1997, but doubled by 2007, and increased substantially after 2007 (Fig. 2).

Since tuition and other fees have been fairly similar between elite and non-elite public institutions, discrepancies in total spending per student across these institutions throughout the first decade of the 2000s were largely due to differences in the size of government allocations to each type of institution. The central government has earmarked major financial support for elite institutions.[8]

[8] "Project 985" has provided the designated top 9 universities in China, as well as the next 26 (in the first stage, 28 in the second stage) institutions with close to 60 billion Yuan between 1999 and 2008 for improving quality. Specifically 27.5 billion Yuan was allocated in the first stage (1999-2001), 30 billion Yuan in the second stage (2004–2008), and an as yet undisclosed amount in the third stage (2010-onwards) of the project. Project 211, which was initially implemented in 1994, well before the expansion of the system, has also provided most of the 100 plus Ministry-run (elite) institutions (including the Project 985

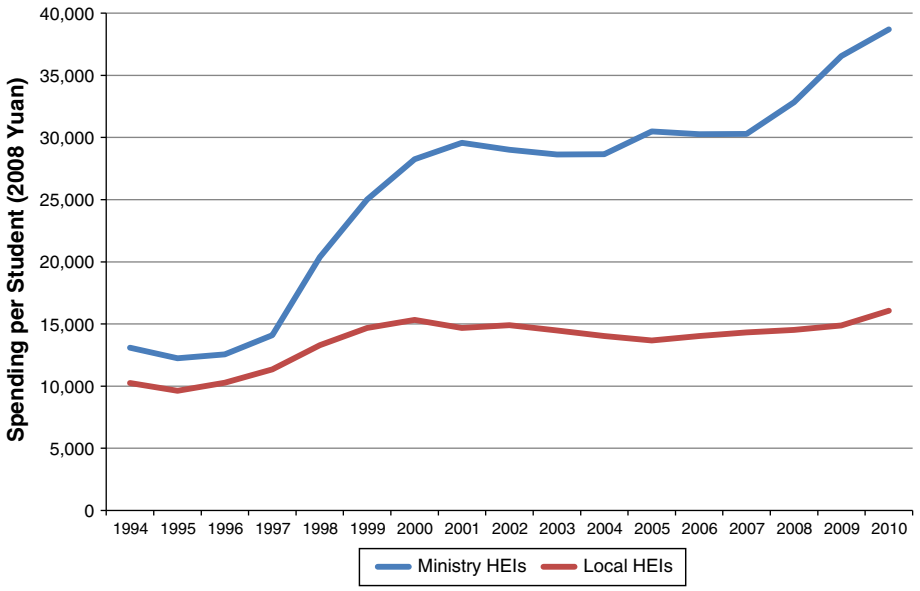

Fig. 2 China: spending per student by type of institution, 1994–2010 (2008 Yuan) (Includes 3 and 4-year degree granting higher education institutions). *Source* NBS, various years. National Bureau of Statistics of China 2010.

As both public and private non-elite (local-level) institutions have had far fewer funds to work with than elite (Ministry-level) institutions, they have been motivated to keep costs per student down. Indeed, the student-faculty ratio in Chinese higher education institutions has risen rapidly during the expansion, doubling from 8 in 1993 to more than 17 in 2008 (NBS various years).

India's enrollment expansion strategy in the early 2000s was also a steady reduction in public spending per the total students in higher education until the middle of the decade when it began rising (Fig. 3).[9] These data do not include the increasing private spending per student, so they only indicate that average public spending per the *total* number of students in the 2000s declined somewhat, and that public spending per engineering student fell by about one-half.

Full costs are recovered for most professional programs in private institutions and, significantly, also in public institutions (Agarwal 2006). Tuition fees remain low in central universities (usually attended by the highest scoring students), but they are quite high in many state universities. In the late 1990s, nearly 50 % or more of the operating budget of many state universities, such as Madras University (50.4 %), Bangalore University (63.7 %), and Punjab University (50.4 %) came from student fees (Carnoy et al. 2013; Beteille 2008).

A high percentage of non-elite engineering students are in private institutions, so we can estimate spending per these students from fees in private colleges. We

Footnote 8 continued
recipients) with close to 19 billion RMB (until 2011) for improving institutional capacity and developing key disciplines. See {http://english.people.com.cn/90001/6381319.html} September, 2011.

[9] It is difficult to get overall spending per student data in India, so our estimates of increasing differentiation are limited to engineering colleges/universities. They should be viewed as approximate.

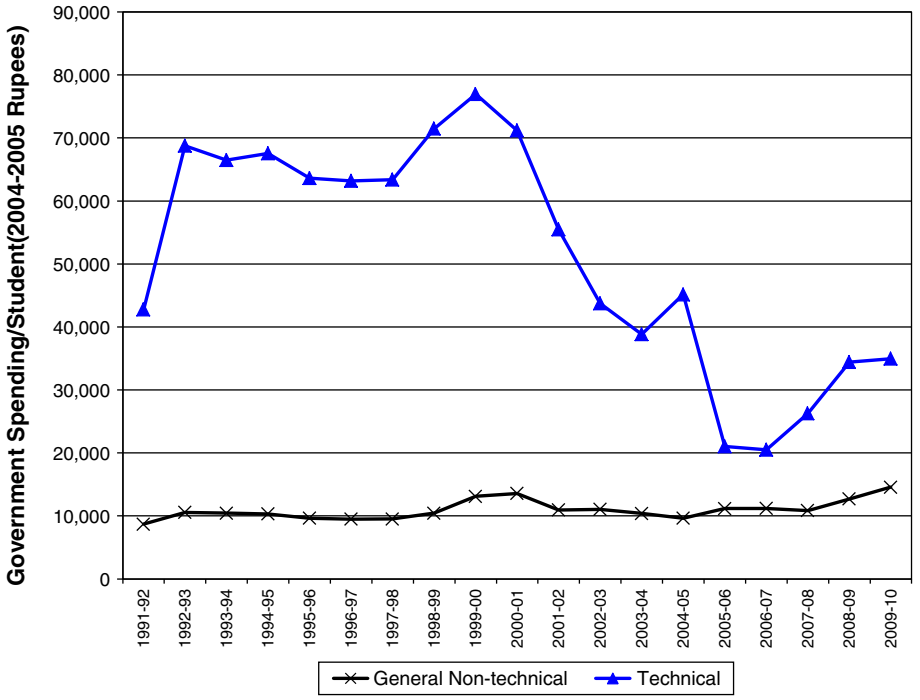

Fig. 3 India: public spending per student in technical education and total higher education, 1991–2009 (in Rs.). *Source* Calculated from the Ministry of Higher Education and Development (various years), and UGC, *Annual Reports* (various years). Budgets for university education cover all students other than technical students. Technical education budgets are for technical colleges and universities and cover categories of students other than just engineering and computer science—these other categories of students represent about 13 % of all technical students in 2009

gathered data on fees from the web sites of various states in 2008 and again in 2012. Our estimates of average tuition fees set by several states for private unaided engineering colleges in 2006–2007 and in 2011–2012 suggest that tuition did not increase in real (corrected for inflation) terms in the past 5 years, except at in some expensive top private institutions.

India also has a relatively small number of elite technical institutions. The currently sixteen Indian Institutes of Technology produced about 7,000 graduates in 2008. Entry into the IITs is extremely limited, by special examination, and graduates are considered competitive with graduates from elite undergraduate programs in the developed countries. Spending per student in the IITs is also much higher than in other public institutions. The allocated budget per student for the seven original IITs in 2008 was about US$3,100 per student (government data collected by authors; see also Banerjee and Muley 2007). This is almost certainly an underestimate. Using budget data from an institutional survey we undertook in 2009 in two IITs and one national institute, we calculated the average spending per student in those three institutions as $8,000 in 2009 dollars.

Spending per student is much lower in institutions serving the mass of engineering and computer science students. The difference in India is probably greater than the difference in China, and elite Indian students are subsidized more than in China, except for the very highest cost Chinese institutions (such as Tsinghua and Peking Universities). Yet, spending

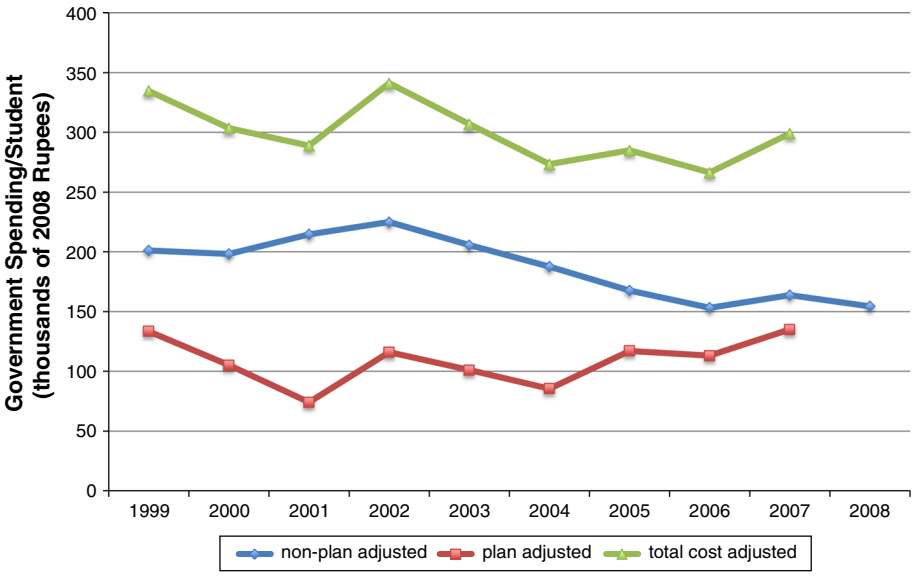

Fig. 4 India: trends in spending per student in indian institutes of technology, 1999–2008 (2008 rupees). *Source* Banerjee and Muley (2007), Fig. 2.34, and Ministry of Human Resources and Development (various years). *Notes* In addition to the government grants to IITs as shown, students pay fees that go directly to each IIT. According to Banarjee and Muley (Table 2.12), fees represented about 10 % of plan and non-plan grants in 2005 at IIT Mumbai, probably typical for IITs. There is not evidence that fees have risen in real terms since 2005 (see their Figure 2.23)

on operating costs per student in the IITs appears to have increased much more slowly than in elite Chinese institutions in the past 10 years (Fig. 4).

Since average spending per student (public plus private) for the mass of students in non-elite engineering institutions probably stayed about the same in 2006–2011, the difference between the spending per student in the IITs/NITs and the (much lower) spending in the other aided and unaided technical colleges apparently has not been increasing. The Indian government has chosen to expand rapidly the (small) number of students attending elite professional institutions rather than limiting their number and increasing how much is spent per elite institution student.

The average spending per higher education student in the Brazilian system is equal to the public spending per student in public institutions—federal, state, and municipal—plus the average tuition student pay to private institutions.[10] There are other contributions to private education budgets, namely the subsidies provided by the various Church sponsors of private institutions, but these data are unavailable. The percentage of total revenues these contributions represent is small, according to one study (Hoper Educacional 2009). Figure 5 shows the official figures for spending per student in the years 2000–2010 in public institutions and our estimated average tuition paid based on Hoper Educacional's estimates of tuition paid in 2000–2011. All the figures are adjusted for inflation.

[10] Hoper Educacional's study of spending and revenues in Brazil's private education sector shows that in 2009, 85–90 % of revenues came from tuition.

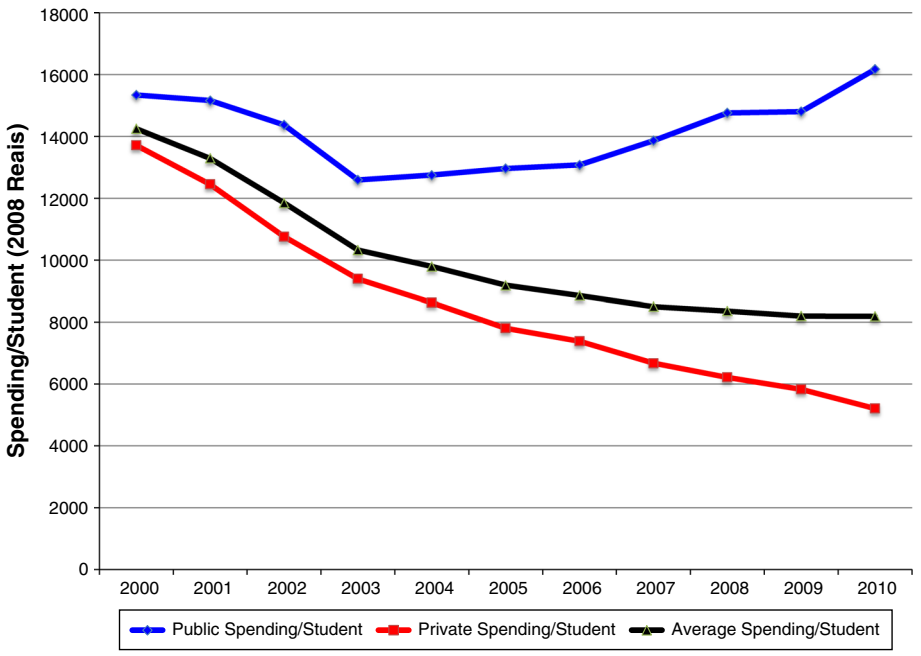

Fig. 5 Brazil: public spending per public higher education student, average private tuition in private higher education, and average spending per student, 2000–2010 (2008 Reais). *Source* Private tuition from Hoper Educacional 2009. Public spending per student from INEP [http://portal.inep.gov.br/estatisticas-gastoseducacao-despesas_publicas-p.a._precos.htm] Accessed August 4, 2012. Average spending per student estimated by weighting public spending and private tuition per student by percent enrollment in public and private institutions

There are a number of reasons that average tuition levels declined in private institutions, including a changing composition of low-cost and high-costs fields of study in public and private institutions, increasing numbers of private institutions in the marketplace that increased competition and drove down tuition, and possibly because expansion means attracting lower income students. This suggests that part of the declining costs per student in the private sector is probably due to absorbing increasing numbers of new students in institutions that have lowered costs by lowering quality (for example hiring more part-time, less-well prepared instructors and increasing class size).

Like the other BRICs, Russia provides more public financing to elite institutions than to the non-elite institutions. In addition, the large number of students paying fees is a second source of differentiation: paying students are charged higher tuition fees in the elite public institutions. The elite institutions not only get more public funding per student, they are also likely to have more revenues per student from tuition.

Government spending per higher education student corrected for inflation increased in Russia until 2009. Although elite institutions have always existed in Russia, in the 2000s, the Russian government moved to officially designate one group of institutions as "special" (Category A). Thirty-eight Russian institutions are in this special category. They include the two traditional leading institutions—Moscow State and St. Petersburg State Universities—seven Federal Universities (to be eventually increased to 12), which have been or are in the process of being formed in various regions by combining groups of existing local institutions, and 29 universities that have been designated as National

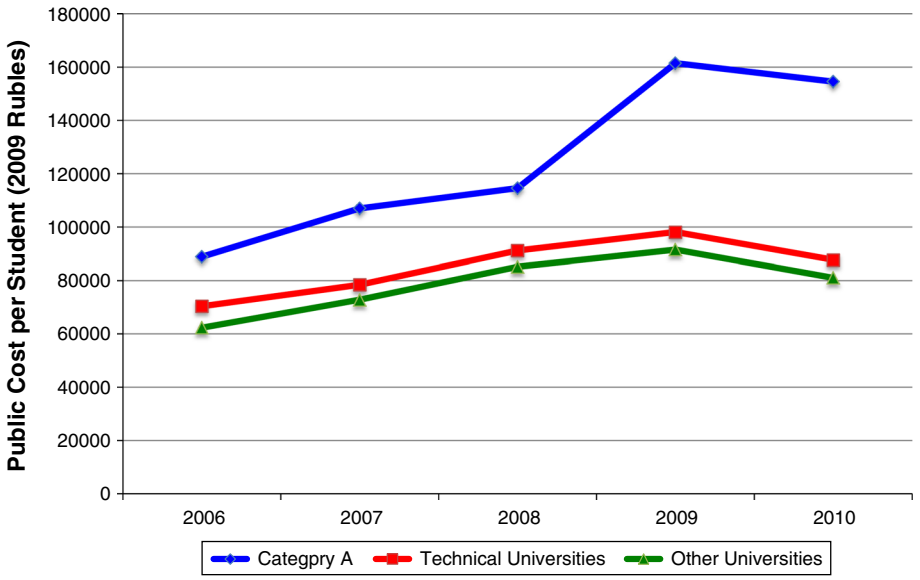

Fig. 6 Russia: estimated public spending per "budget place" student in public higher education, by category of university, 2006–2010 (2009 Rubles). *Source* Estimates made for this study by the Economics Department, State Research University Higher School of Economics, from data supplied by the Ministry of Education

Research Universities (NRUs).[11] They are expected to become "leading" or even "world class" institutions.[12]

Figure 6 shows how public spending per student in the different types of institutions has risen in recent years, corrected for inflation. The change in spending pattern in 2008 conforms to the government's decision to put major financial resources into improving this group of 38 elite institutions through increasing spending for education and research infrastructure, for academic mobility and staff development Special decrees issued in 2008 emphasized additional financial support for the development of these universities (Russian President's Office 2008a, b).

Discussion

We have argued that the public/private nature of higher education is shaped through the political prism of the state. We suggest that beginning in the 1990s—reluctantly or not—in every BRIC country, families were apparently willing to pay much of the bill for access to higher education rather then wait for the state eventually to expand the number of "free"

[11] Universities must compete for this status by submitting a detailed plan of their disciplinary advantages and their research and infrastructure development plans. The designation of NRU status is usually for 5 years, renewable for another five based on success of following initial plan. The first five years of funding also requires a 20 % cost-share on the part of the institution. The goal of an NRU is to conduct actively other educational and research activities, integrating both of these functions within the institution. The NRUs are supposed to conduct a wide spectrum of fundamental and applied research that would lead to efficient transfers of technology to the national economy.

[12] Detailed data on spending for different types of universities and tuition revenues are only available for these years.

places using public revenues. At the same time, BRIC central and regional states apparently were implicitly able to get the public to accept that the public sector did not have sufficient funds to respond reasonably quickly to rapidly growing demand.

Thus, in the trough of the post-Soviet early 1990s recession, the Russian public accepted a change in the constitution allowing public universities to accept tuition payments. The Chinese public went along with a decree in China in the mid-1990s that all students would pay tuition. In India, regional states promoted and the public accepted the creation of private colleges in lieu of rapid growth of public college enrollment (Carnoy and Dossani 2013). And, in Brazil, as a continuation of an earlier tradition of private institutions as major players the higher education system, public university expansion slowed in the late 1990s, and for-profit private institutions surged, again with little resistance until quite recently. For both capital owners and the public as a whole, we contend, higher private rates of return made the large "externalities" argument associated with providing free public education both less necessary and less compelling politically. In terms of equity preference, as private rates of return increased, it may have also become more obvious to the public at large that the externalities argument for free elite public universities had served a certain class of citizens to appropriate public revenues for its private use.

We also argued that an important aspect of how the BRICs redefined the "public" nature of higher education was to increase the spending on elite university students (except in India, where it was already very high compared to non-elite colleges) and to allow the spending on the mass of newly incorporated higher education students to fall (except in Russia). In all the BRICs, the public subsidy to students in elite universities, the vast majority from high social class families, is much higher than in mass universities and colleges.

There are potential political pitfalls (contradictions) in redefining the public/private aspects of higher education in this way. For one, expanding higher education enrollment in such mass, low-and-declining-quality institutions risks creating major gaps in employability and income between an elite few and the mass of fee-paying students (driving down the average rate of return to higher education). The graduates of such mass institutions might blame the state for their plight, even if the institutions are privately owned. Capital owners might also become dissatisfied with the quality of skilled workers produced by the higher education system.

This strategy can also conflict with changing preferences for social and income equality. If public funding for higher education is allocated to various social class groups in an increasingly unequal fashion it could exacerbate inequality of economic opportunity.[13] Such increasing differentiation is typically justified by an argument that economic and social externalities to investing in higher social class groups are increasing over time. Indeed, the implicit argument for spending heavily on developing "world class" institutions is precisely that in today's global information economy, the value of high quality university education (and research) is much higher than in the past. If all social groups benefit from the externalities, the equity implications of increasingly differentiated public spending are less clear. Yet, because of rising private rates of return that are associated with the global knowledge economy, particularly to studying business and engineering, the political persuasiveness of such claims may not be as great as in the past.

[13] Higher social class groups have a disproportionately higher likelihood of entering elite institutions than lower social class groups. In the BRICs, for example, higher social class groups are more likely to take and score higher on university entrance exams because they have more resources in the home and greater access to higher quality pre-tertiary schooling.

The second type of issue arises from an increasingly differentiated system of private higher education institutions. In countries that rely heavily on private institutions for expanding enrollment (Brazil and India), increasing differentiation means either that (1) more elite institutions are able to provide "better" education by charging higher tuition, effectively increasingly excluding those students unable to pay, or, alternatively, that (2) for non-elite institutions to provide education to lower income students at lower tuition, the quality of their education must steadily decrease. In either case, the quality of education received is increasingly differentiated on the basis of ability to pay, so access to subsequent economic opportunities is determined directly by family finances. We observe both types of equity issues in the BRICs—mostly the first in China, a combination of the first and second in India and Brazil, and a different combination of the first and second in Russia. Further, having placed Brazil and India's higher education systems increasingly in the hands of private owners (with private interests) could also create serious political issues for those states should private rates of return decline.

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References

Agarwal, P. (2006). *Higher education in India: The need for change*. ICRIER Working Paper No. 180.

Altbach, P., & Levy, D. (Eds.). (2005). *Private higher education: A global revolution*. the Netherlands: Sense Publishers.

Altbach, P., Reisberg, L., & Rumbley, L. (2009). *Trends in global higher education: Tracking an academic revolution*. Chestnut Hill, MA: Boston College Center for International Higher Education.

Astin, A., & Oseguera, L. (2004). The declining "equity" of American higher education. *The Review of Higher Education, 27*(3), 321–341.

Banerjee, R., & Muley, V. (2007). *Engineering education in India*. Mumbai: Energy Systems Engineering.

Beteille, T. (2008). *India's higher educational expansion in the global knowledge economy*. Stanford, CA: Stanford University Graduate School of Education (mimeo).

Bourdieu, P., & Passeron, J. C. (1977). *Reproduction*. Beverly Hills, CA: Sage Publications.

Brainerd, E. (1998). Winners and losers in Russia's transition. *American Economic Review, 88*(5), 1094–1116.

Carnoy, M. (1984). *The state and political theory*. Princeton, NJ: Princeton University Press.

Carnoy, M., & Dossani, R. (2013). Goals and governance of higher educaton in India. *Higher Education*, *65*(5): 595–612.

Carnoy, M., Loyalka, P., Dobryakova, M., Dossani, R., Froumin, I., Kuhns, K., Tilak, B. G., & Wang, R. (2013). *University expansion in a changing global economy: Triumph of the BRICs?* Stanford, CA: Stanford University Press.

Castells, M. (1996). *The rise of the network society*. London: Blackwell.

Commission, Planning. (2012). *Approach to the twelfth five year plan, 2012–2017*. New Delhi: Government of India.

de Brauw, A. & Rozelle, S. (2006). *Reconciling the returns to education in off-farm wage employment in rural China*. Stanford, CA: Freeman-Spogli Institute, Stanford University (mimeo).

Denisova, I., & Kartseva, M. (2005). *Advantages of education in engineering: Estimates of returns to educational specialization in Russia*. Moscow: National Research University Higher School of Economics, Working paper WP3/2005/02.

Donahue, J. D. (1989). *The privatization decision: Public ends, private means*. New York: Basic Books.

Duraisamy, P. (2002). Changes in returns to education in India, 1983–94, by gender, age-cohort and location. *Economics of Education Review, 21*, 609–622.

Dutta, P. V. (2006). Returns to education: New evidence for India, 1983–1999. *Education Economics, 54*, 431–451.

Edwards, B. (1998). Neoliberalism and educational reform in Latin America. *Nature, Society, and Thought, 11*(4), 471–488.
Gorodnichenko, Y., & Peter, K. S. (2004). *Returns to schooling in Russia and Ukraine: A semiparametiric approach of cross-country comparative analysis*. University of Bonn, Institute for the Study of Labor (IZA), Discussion Paper, No. 1325.
Heckman, J., & Li, X. (2004). Selection bias, comparative advantage, and heterogeneous returns to education: Evidence from China in 2000. *Pacific Economic Review, 9*, 155–171.
Hoper Educacional. (2009). *Análise setorial do ensino superior privado do Brasil*. Sao Paulo: Hoper Educacional.
Instituto Nacional de Estudos e Pesquisas (INEP). (2000, 2008, 2011). *Sinopse Estadistico da Educacão Superior*. Brasilia: INEP.
Johnson, E. N., & Chow, G. C. (1997). Rates of return to schooling in China. *Pacific Economic Review, 2*, 101–113.
Kaul, I., & Mendoza, R. U. (2003). Advancing the concept of public goods. In I. Kaul, P. Conceicao, K. L. Goulven, & R. U. Mendoza (Eds.), *Providing global public goods* (pp. 78–111). Oxford: Oxford University Press.
Koski, W. S., & Reich, R. (2006). When "adequate" isn't: The retreat from equity in educational law and policy and why it matters. *Emory Law Journal, 56*(3), 547–618.
Levin, H. M. (1987). Education as a public and private good. *Journal of Policy Analysis and Management, 6*(4), 628–641.
Li, H. (2003). Economic transition and returns to education in China. *Economics of Education Review, 22*, 317–328.
Mansbridge, J. (1998). On the contested nature of the public good. In W. Powell & E. Clemens (Eds.), *Private action and the public good*. New Haven: Yale University Press.
Marginson, S. (2007). The public/private divide in higher education: A global revision. *Higher Education, 53*, 307–333.
Marginson, S., & Ordorika, I. (2010). *Global hegemony in higher education and research*. New York: Social Science Research Council.
Menashy, F. S. (2011). *Education as a private or a global public good: Competing conceptual frameworks and their power at the world bank*. Unpublished PhD dissertation, University of Toronto.
Mill, J. S. (1869). *On liberty*. London: Longman, Roberts, & Green.
Min, W. F. (2004). Chinese higher education: The legacy of the past and the context of the future. In P. G. Altbach & T. Umakoshi (Eds.), *Asian universities: Historical perspectives and contemporary changes*. Baltimore, MD: The John Hopkins University Press.
Ministry of Human Resource Development (MHRD). (various years). *Analysis of budget expenditure on education*. New Delhi: Bureau of Planning, Monitoring & Statistics.
National Bureau of Statistics of China. (2010). *2009 China educational finance statistical yearbook*. Beijing: China Statistics Press.
National Bureau of Statistics of China (NBS). (various years). *China educational statistical yearbook*. Beijing: China Statistics Press.
Offe, C. (1973). The capitalist state and the problem of policy formation. In L. Lindberg, R. Afford, C. Crouch, & C. Offe (Eds.), *Stress and competition in modern capitalism*. Lexington, MA: DC Heath.
Organization for Economic Cooperation and Development (OECD). (2001, 2002, 2011). *Education at a glance*. Paris: OECD.
Psacharopoulos, G. (1985). Returns to education: A further international update and implications. *Journal of Human Resources, 20*, 583–604.
Psacharopoulos, G. (1994). Investment in education: A global update. *World Development, 22*, 1325–1343.
Romer, P. (1994). The origins of endogenous growth. *Journal of Economic Perspectives, 8*(1), 3–22.
Russian President's Office. (2008a). *Presidential decree 716*. http://graph.document.kremlin.ru/page.aspx?960170. Accessed January 7, 2014.
Russian President's Office. (2008b). *Presidential decree 1448*. http://graph.document.kremlin.ru/page.aspx?977443. Accessed January 7, 2014.
Samuelson, P. A. (1954). The pure theory of public expenditure. *Review of Economics and Statistics, 11*, 387–389.
Serra, N., & Stiglitz, J. (Eds.). (2008). *The Washington consensus reconsidered: Towards a new global governance*. Oxford: Oxford University Press.
State Council of China. (2007). *Opinions on establishing and improving the policies for subsidizing students in universities of regular undergraduate education, postsecondary vocational schools and secondary vocational schools from families with financial difficulties*. Beijing: State Council of China. (in Chinese).

Stiglitz, J. E. (1999). Knowledge as a global public good. In I. Kaul, I. Grunberg, & M. A. Stern (Eds.), *Global public goods: International cooperation in the 21st century* (pp. 308–325). New York: The United Nations Development Programme.

Tilak, J. B. G. (2008). Transition from higher education as a public good to higher education as a private good: The saga of the Indian experience. *Journal of Asian Public Policy, 1*(2): 220–234.

Tobin, James. (1970). On limiting the domain of inequality. *Journal of Law and Economics, 13*(2), 263–277.

University Grants Commission (UGC). (various years). *Annual report*. New Delhi: UGC.

Weiler, H. N. (1983). Legalization, expertise, and participation: Strategies for compensatory legitimation in educational policy. *Comparative Education Review, 27*(2), 259–277.

World Bank. (2000). *Higher education in developing countries: Peril and promise*. Published for the Task Force on Higher Education and Society. Washington, DC: World Bank.

Zhang, J., Zhao, Y., Park, A., & Song, X. (2005). Economic returns to schooling in urban China, 1988 to 2001. *Journal of Comparative Economics, 33*, 730–752.