

Beyond Education for All: Meeting the Human Resource Needs of Economic Development

Wahiduddin Mahmud^a

^a IGC Bangladesh (contact: wahiduddin.mahmud@theigc.org)

Working
Paper

February 2014

**International
Growth Centre**

London School of Economics
and Political Science
4th Floor,
32 Lincoln's Inn Fields
Houghton Street
London WC2A 2AE
United Kingdom

For media or
communications
enquiries, please
contact mail@theigc.org

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Introduction

Education is an effective vehicle for enhancing human capabilities and for promoting social and economic development in many ways. This paper particularly focuses on linking education to human resource development as an input to raising productivity and accelerating growth in less developed countries. There is evidence to suggest that human capital formation, most ostensibly through education, facilitates investments in physical capital, enhances the development and diffusion of new technologies, and raises output per worker.² However, there are many complex issues regarding how education effects human capital formation and economic performance and how these effects interact with the level of economic development in the country-specific contexts. Education reforms need to be informed by an understanding of these issues.

The global education goals, with their emphasis on the quantitative indicators such as the enrolment rates or the number of years of schooling, may have led to too narrow a focus in linking education to human resource development. While many low-income countries have made remarkable progress towards achieving universal primary education, new challenges have emerged. There are serious doubts about the content and quality of education indicating the need for a paradigm shift in education towards learning and skill development. To keep pace with increasingly competitive and globalized markets and rapidly changing technologies, education systems need to be geared towards developing well-balanced human resources with appropriate skills and flexibility for adjustment. Increasing attention will need to be paid to post-primary education and skill-training in order to consolidate the gains made in elementary education and also to benefit from the “youth bulge” resulting from the demographic transition taking place in large parts of the developing world.

As economic growth creates demand for workers with higher education and better skills, education policymakers will need to pay increasingly more attention beyond primary and post-primary education to tertiary education as well. However, while basic levels of education can be justified as part of overall social and human development, the issues are much more complex for higher levels of education. This is where linking education to human capital formation, labour market outcomes and the overall development strategy becomes important. There are several

¹ This paper draws on the presentations made at the plenary meeting of the UN Committee for Development Policy held during March 21-25, 2011 and at an Expert Group meeting on education organised by the Office of ECOSOC Support and Coordination held on March 18, 2011, at the UN headquarters in New York. The author is indebted to Alice Amsden, Sakiko Fukuda-Parr, Frances Stewart, Ricardo Ffrench-Davis and other participants of these meetings for valuable inputs and suggestions for improvements.

² See, for example, Barro and Sala-i-Martin (1995), Levine and Renelt (1992), Hanushek and Woessmann (2007).

issues that require particular consideration, such as what kind of higher education will meet the need for skills, who should pay for such education and how it should be provided (public or private), how the equity concerns can be addressed, and how the problems of educated unemployment and the brain drain of highly skilled professionals should be managed. Beyond the goal of “education for all”, a whole range of second-generation challenges thus emerge. There is also a need for rethinking global support for education in the light of these emerging issues.

Education Systems and Development Strategies

The expansion of education programmes in developing countries has been justified on grounds of high social and private returns to investments in education, which are well recognized in the case of primary education. Expenditures in schooling, along with ensuring access to education for the poor, have been expected to contribute not only to increasing productivity but also to reducing poverty and income inequality. While the importance of basic education at the primary level should continue to be recognized, there is now evidence that the returns to higher education have tended to increase in many developing countries during the last two to three decades (Psacharopoulos 2006, Bourguignon and Rogers 2008). In some countries, including those in South Asia, the returns to education are sometimes found to be even higher at the tertiary level compared to primary and secondary levels (a reversal of findings from earlier studies).

Nevertheless, programmes for expansion of education have not always been found to result in higher economic performance. There are various explanations regarding why the estimated high returns to education for households or individuals are not translated on the aggregate into substantial economic growth.³ It is possible that the demand for educated labour comes, at least in part, from individually profitable yet socially wasteful or unproductive activities. For example, in countries with poor governance and widespread corruption, the talent of the educated persons may be diverted to unproductive rent-seeking activities (Murphy, Shlefer, and Vishney 1991). Moreover, schooling quality may be so degraded that it does not raise cognitive skills or productivity. This could be consistent with education contributing to higher wages if such education serves as a signal to employers of some innate ability or simply as a screening device. Yet another reason may be that, in economies with little technical progress and economic change, the expansion of the supply of educated labour could cause the rate of return to education to fall rapidly due to stagnant demand.⁴

Policymakers in less developed countries are thus faced with a challenging question: How should the education system be organized so that the expansion of education is matched by creation of opportunities for productively utilising a better educated workforce? In other words, how can education be a vehicle for a take-off in innovation and economic growth? This perspective requires that educational policies be seen as an integral part of the overall

³ See, for example, Hanuschek (2003), Pritchitt (2001), Kruger and Lindahl (2001) and Psacharopoulos and Patrinos (2002).

⁴ This seems to be the reason why the World Bank argued some years ago against investment in higher education in Africa, recommending that governments focus their efforts only on primary and secondary education (Samoff and Carol, 2004)

development strategy. In particular, education and training systems need to be recognized as key in any development strategy aimed at increasing labour productivity and promoting technological diffusion and global competitiveness.

In the developing countries that are poised to benefit from a “demographic dividend” in terms of a youth bulge, the challenge for the education systems is to leverage the advantage of rapid growth in the labour force.⁵ This youth bulge, combined with the successful campaigns for universal primary education, is leading to huge increases in the supply of semi-educated labour. There is enormous potential for utilising this workforce productively by expanding post-primary education and training on the one hand, and by creating commensurate employment opportunities on the other hand. There is also an opportunity for further gains in economic growth and labour productivity through skill-biased technological changes, given the limited capacity of low-income countries to increase productivity through physical capital accumulation. An opposite scenario is one of so-called “jobless growth” or even economic stagnation with the huge numbers of primary school graduates finding that they have nowhere to go.

Less developed countries facing resource constraints may face a choice to educate their citizens either ‘widely’ or ‘deeply’. The “wide” or “universal” approach seeks to provide the same basic education to the country’s entire population without emphasising higher education initially. In contrast, the “deep” or “elite” approach concentrates on providing the most talented individuals quality higher education at home, while giving somewhat less attention to universal education at primary and secondary levels. South Korea provides an example of the first approach, India of the second approach and China lying somewhere in between. The contrasts in the education pyramids resulting from the different approaches can be seen to be even more striking in the case of formal technical education, with South Asia having in fact an inverted pyramid emphasising only higher level skills.

The alternative approaches in the educational systems have implications for the patterns of development and income distribution. In East Asia, the achievement of high economic growth driven by manufacturing exports and without worsening of income distribution is attributed in part to a universal approach to education. On the other hand, India’s ability to take advantage of the new possibilities in high-tech information services largely resulted from its long-standing investments in higher education. In fact, India’s success in IT-related export is sometimes interpreted as a new model of service-sector-led growth supported by high quality professional education. The popular belief in the existence of this new model is supported by the fact that (a) services have been the main source of economic growth in South Asia, particularly in India, for the last 25 years; (b) the average level of workers in the service sector in South Asian countries is higher than in industry; and (c) in addition, the fastest growing services have been the most education intensive (Dahlman 2010).⁶ There are, however, doubts about the sustainability of this kind of skill-intensive service-led growth. The supply and quality constraint in higher education as well as the market constraint in service exports may threaten to choke economic growth unless

⁵ In these countries, the age-structure of the population resulting from recent decline in the fertility rates is such that the labour force will grow faster than the population in the coming decades.

⁶ The average years of education in services, compared to industry, ranged from 10 per cent higher in Sri Lanka to more than double in India and Pakistan, see Bosworth and Maertens (2010).

there is faster growth in manufacturing.⁷ India's IT industry is said to be already suffering from a 'Bangalore bug' – an Indian version of the so-called 'Dutch disease'. For many less developed countries, it may also be difficult to achieve enough agglomeration of high-level skills in order to utilize such skills efficiently.

There are important lessons to be drawn from the experiences of countries following different approaches to their education systems. The contemporary less developed countries can take advantage of whatever potential they may have in accelerating growth based on higher education, such as by promoting high-tech activities, especially IT-related service exports.⁸ But this should not take attention away from the fundamental objective of increasing the overall quality of the workforce through the expansion of more basic education and training. China and Vietnam, for example, expanded primary and higher education simultaneously, recognising that success required both universal literacy and a cadre of highly skilled individuals capable of absorbing advanced technology.⁹

According to some recent estimates, more than half of the labour force in South Asia and Sub-Saharan Africa was either illiterate or did not complete primary education (Mahmud 2011). Many countries in these regions that are now poised for higher economic growth are likely to experience a rapid increase in the demand for better-educated workers. As mentioned earlier, the successful campaigns for universalising primary education now provides an opportunity for producing huge numbers of semi- and medium-skilled workers, particularly through further education and skill-training for the primary school graduates. An analysis of education and skill levels of workers across the hierarchy of jobs in both manufacturing and service sectors show that there can be large benefit from such a transformation of the work force in a growing economy.¹⁰

Education Quality, Skills and Labour Market Outcomes

The links between a country's education system and its economic performance are mediated through labour market outcomes, such as reflected in the supply-demand match for skills, productivity gains and earnings premiums related to additional years of schooling, and the overall pattern of employment of the educated workforce. If the education systems and the associated social and economic environments are such that education adds little to a worker's

⁷ India shares with the other South Asian countries, in particular, Pakistan, Bangladesh and Sri Lanka, the structural characteristics of having a relatively low share of manufacturing in GDP compared to East Asia; see Mahmud and Chowdhury (2008).

⁸ In doing so, there may be a deviation from the typical East Asian model of educational expansion followed particularly in South Korea, which expanded and universalized elementary education, followed by secondary education, and only after achieving this, shifted its emphasis to the expansion of higher education; see Kim and Lee (2006).

⁹ Cf. Stiglitz (2006), p. 32.

¹⁰ For such an analysis in the Indian context, see Chadha (2004).

competence, productivity or earnings, not only there will be low propensity of people to acquire education but also investments in education will represent largely a wastage of resources. The opposite of this is a virtuous circle of education leading to productivity growth and increase in earnings, feeding back to faster growth of demand for (and more investment in) education.

A missing link in this virtuous circle of education and economic performance is often the quality of education. While school enrolment and completion rates are easier to measure and has been a major focus, one key dimension of education has received much less attention: quality learning.¹¹ There are studies that demonstrate empirically and causally that it is the cognitive skills of the workforce – and not school enrolment or number of years in school as such – that are strongly related to individual earnings, distribution of income, and economic growth (see, for example, Hanushek and Ludger Wessmann 2007).

Various competency tests for school children in many parts of the developing world, especially in Africa, show what may be called a learning crisis. For example, 45 per cent of grade three students in English medium schools in Uganda and 23 per cent of grade three students learning in French in Mali were found unable to recognise a single letter. And it is not just an African phenomenon. A recent study on Pakistan shows that 30 per cent of the 15 to 16 year olds in school cannot read the text of a basic story nor can do division.¹² Yet, some countries are found to do better than others. For instance, only 20 percent Zambian women who finished fifth grade can read a simple sentence; that number is 80 percent in Malawi and 90 percent in Ethiopia.¹³ This suggests that it is possible to improve learning outcomes even in countries with very low average income levels. The quality of primary education is important not only to justify investments in higher education, but also to improve education quality at all levels, since the quality of higher education depends on improved early education.

An important problem that needs to be addressed by education reforms is that of educated unemployment, resulting in large part from skill mismatches. There is an apparent paradox here. Not only higher education has been increasing rapidly in many developing countries, but also there seems to be excess demand for such education. The evidence of excess demand can be seen from several factors: the increasing and higher rates of returns to education at the tertiary level relative to lower levels, the rapid proliferation of private higher education, and an increasing number of students opting to study abroad. Yet, the unemployment rates can be high among educated and skilled workers – even higher than in the rest of the workforce. In explaining this phenomenon, education planners have to address a number of questions: Is expansion of higher education leading only to more educated unemployment because of absence of appropriate signalling by the labour markets? What kinds of skills are in shortage? What reforms in the education systems are needed to make the college graduates employable on the one hand, and to address the skill shortages, on the other?

¹¹ It may be noted that improving the quality of education did feature as one of the six global educational goals adopted at the UNESCO World Education Forum of April 2000; See http://www.unesco.org/education/efa/ed_for_all/background/07Bpubl.shtml.

¹² Figures cited in Winthrop (2010).

¹³ Figures are from Boissiere (2004).

To some extent, higher open unemployment among educated youth may be explained by higher reservation wages and longer transition periods into a stable job. But the explanation mostly lies in skill mismatches, which may be due to low and uneven quality of higher education, outdated curriculum and learning methods, provision of public higher education without regard to the labour market demands, and rigidities in the labour markets. To satisfy social demand for higher education, governments often go for expansion of higher education of the generalist type, which costs less per student compared to technical and professional education. Moreover, public resources are allocated too thinly to ensure quality education. Outdated curriculum does not generate students with the knowledge or skills demanded by the market, leading to the co-existence of unemployment at the national level and skill shortages in specific industries or locations. It is true that in many poor economies, with little technical progress and economic change, the demand for graduates and skilled labour remains low. At the same time, in many countries, the prevailing systems of higher education do not seem to incorporate enough importance of offering vocational, technical and employability skills that could directly lead to better labour market outcomes.¹⁴

The extent and nature of problem of supply-demand mismatch can be seen from the education and skill profiles of the educated unemployed across many developing countries. In India, for example, not only graduate unemployment is a serious problem, but also the extent of unemployment is found to increase with the level of education.¹⁵ Again, the available information from Latin America and the Caribbean region suggests that workers with higher education attainment do not necessarily enjoy better employment outcomes than those with less education (Mahmud 2011). With some exceptions like Argentina and Costa Rica, educated workers in these countries are generally found to suffer higher levels of open unemployment than workers with 0 - 5 years of schooling. One reason may be that less educated workers are more likely to suffer from disguised unemployment rather than open unemployment.¹⁶ It is also noteworthy that in the majority of these countries including Brazil, Mexico and Chile, workers with 10 to 12 years of schooling are found to experience higher rate of joblessness compared to workers with tertiary education (13 years of schooling or over). This suggests that higher education beyond the secondary level does improve the employment prospects. However, the reverse is true in some of the other countries, namely, Bolivia, Ecuador, Nicaragua, Panama, Peru and Venezuela. The countries with lower income per capita and with lesser diversified economic activities in the region are likely to experience higher rates of unemployment among the more educated workers, suggesting that the recent expansion of higher education capacity has not been matched by the creation of demand for more educated workers. These varying experiences across the countries point out the importance of developing a skilled labour force in parallel to and in coordination with developments in the productive sectors.

The need for skill training of those who are already in the workforce is another key element in meeting the skill needs of economic growth. This is particularly important for the South Asian countries and some countries in Sub-Saharan Africa which are experiencing

¹⁴ In a study based on interviews with multinational companies in India, only one quarter of the engineering graduates were found suitable for employment by the companies; Farrell, et al. (2005).

¹⁵ For evidence on India, see Ghose (2004) and Agarwal (2008).

¹⁶ Another reason is that workers with fewest years of schooling tend to be older because of the recent expansion of school enrolment in many countries and that older workers tends to have more stable jobs.

accelerated economic growth but have a labour force currently consisting of a majority of illiterate or low-skilled workers. Without further training, these workers will be ill-equipped for occupational mobility associated with economic growth. Post-school learning is an important source of skill formation that accounts for as much as one-third to one-half of all skill formation in a modern economy (Heckman 1999). In many developing countries, much of this learning takes place in informal settings outside of educational institutions, often as apprenticeship and workplace training. As a result, educational technocrats and policymakers who commonly equate skill formation with classroom learning tend to neglect ways of fostering such learning and skill formation.

The skill mismatch in the labour market is also related to a country's capacity to take advantage of opportunities in the global markets, such as through technology adoption and development of new export industries. Many technologies imported by the less developed countries from more advanced countries may not find suitable local workers, hence causing labour mismatches. Adapting these technologies to local conditions require even more skills. It is the function of the government, then, to establish the policies and institutions to mitigate the mismatch and to make sure that the imported technologies are eventually adapted to local conditions, which will require new skills and education content. Without technological improvement, returns to schooling will remain low, so that the establishment of research and development that induces innovation also ensures the continued demand for quality education.

Technological and skill development need to be in conformity with the pattern of growth that is envisaged. In particular, greater integration of national economies into the global economy has made trade and foreign investment policies critical tools for the developing countries to stimulate growth and determine the types of knowledge and skills that are needed (such as in respect of the job-specificity or technical versus generic nature of skills). It is interesting to note that the number of jobs that are categorized as technically knowledge-intensive such as engineers, researchers and software designers still accounts for a small share of all jobs in the developing countries. This may indicate the presence of a skill gap still to be closed by these countries compared to the developed countries.¹⁷ Nevertheless, the education systems in many of the less developed countries will still primarily have to focus on improving the skill levels of the vast majority of workers belonging to the lower levels of the education pyramids, including the post-primary level.

Looking Ahead: Education Reforms and Global Support

National and international efforts have made considerable progress in pushing enrolment rates in primary education to near universal level in large parts of the developing world. At the same time, national educational systems have to cope with a faster pace of technological developments and the accompanying needs of a more skilled and adaptable labour force. Primary education alone, even if efficiently managed, does not provide individuals with skills that are highly rewarded in the labour market – critical thinking, communication and social skills. Existing education systems in many developing countries are also suffering from a so-called learning

¹⁷ In the US, this category of jobs is estimated to be around 20 per cent of all jobs in 2010, according to US Bureau of Labour Statistics.

crisis due to low quality of education, starting from early education but permeating through all levels of education. While the importance of the basic education at the primary level should continue to be recognized, education reforms need to pay more attention to increased access to post-primary education and skill training and to quality improvement across the board.

In achieving universal primary education, many less developed countries already face funding constraints, which will become even more severe if the focus of educational goals is to be widened. Educational reforms will have to look for ways of making educational spending more cost-effective. In an average developing country, students are found to take much longer than 5 years of primary schooling to become functionally literate or numerate.¹⁸ Given the importance of early learning, improving the quality of basic education system can thus be the first step toward making the entire education system more cost efficient. In respect of post-primary education, technological change requires more varied and more frequent training. There are many cost effective options available for delivering such education, including distance education, blended learning, IT-based instruction, and short duration professional courses. Planning for higher education also involves many difficult trade-offs: between the size of the higher education, its quality, its capacity to widen access, and its fiscal cost.

Educational reforms have to also deal with the institutional and governance aspects. Connecting higher education and training systems with the labour markets will need reorienting the public system of higher education, reforming the regulatory framework for the private provision of education, and building effective industry-academia partnerships (as well as pathways between the formal and informal systems). A related question is whether low-income countries should aim at establishing *national universities* that try to consciously link up with the so-called global network of centres of excellence. The issues here are whether there will be enough scale economies to ensure quality, and whether it will lead to brain drain and a high degree of separation of higher education from the rest of the economy. Instead, there may be a case for building universities more strongly rooted in the context of the local economy with emphasis on problem-solving, where problems are taken from the domestic reality?¹⁹

Educational planners may look for opportunities for regional collaboration in higher education. One option is to set up regional universities, and additionally, to link these with national universities through collaborative network agreements. Regional universities may develop advanced research in niches where they reveal strength or in areas where regional demand is strong. An example of a regional university is the newly established South Asian University in New Delhi which is sponsored and funded by the governments of the SAARC member countries. Another example is the recently established Asian University for Women located at Chittagong in Bangladesh, which is funded by a global consortium of private and public organisations. Thus, while the former represents south-south cooperation through pooling of resources, the later is supported by faculty and funding from developed countries. There is also increasing commercial presence of foreign universities in low-income countries in the form

¹⁸ Hanushek and Woessmann (2007).

¹⁹ The question of relevance of curriculum is important for lower levels education as well. In Ethiopia, the government of Meles Zenawi realized that most of the children going to rural schools today will still be farmers when they grow up, so it has been working to redirect curriculum in order to make them better farmers.

of franchises, joint programmes and full local presence. The pros and cons of such trade in education services, along with the existing barriers, need closer scrutiny.

The potential negative effects of the out-migration of highly skilled manpower from the developing countries – the so-called brain drain – are well recognised.²⁰ But there may be some positive aspects the brain drain as well. One argument is that the prospects of highly paid jobs abroad may lead to more investment in skills, resulting in a more highly educated domestic workforce – the so-called beneficial brain drain (Mountford 1007; Stark, Helmenstein and Prskawetz 1998). There is also the prospect of benefiting from a reverse brain drain (or brain gain) by attracting back the emigrant skilled workers. In the case of post-liberalization China, most of the initial FDI came from the business people of ethnic Chinese origin. In India, a large number of highly skilled professionals who have built their careers in the Western countries are now relocating themselves to the country of their origin. It has even been suggested that the so-called ‘brain circulation’ in a globalised market for skilled workers should be seen as an opportunity and not as a threat.²¹ Temporary migration of labour can help the labour-exporting less developed countries both in terms of inward remittances and skill-training. Much will depend on the policies of the developed countries as well as the prospect of introducing facilitating WTO rules in future. An example of pro-active policies in this regard on the part of developed countries is a recently introduced scheme in Japan which allows temporary migration from a number of developing countries for apprenticeship in skill-training.

An appropriate role for the private sector in human resource development remains another important policy concern. The participation of the private sector can help the education-labour linkage by providing more market-oriented skill training, while reducing the government’s fiscal burden in education spending. In some countries, the sector has provided technical training courses along with nationally recognized licenses to trainees and has also directly placed them in employment. The Republic of Korea, for example, has established a qualifications act, which allows the national technical qualifications system set up by the Government to be supplemented by certification of qualifications issued by the private sector. In turn, private sector involvement in vocational education and training is assisted by the policy that supports industry level training through the Employment Insurance Scheme (EIS) administered by the Ministry of Labour. The EIS supports training and re-training of workers through a tax on firm level wages.

There are also important equity issues to be addressed. Increasing returns to higher education along with unequal access may potentially lead to a deepening of income and social

²⁰ The extent of the problem varies greatly from country to country: the proportion of graduates living abroad varies from 4.3 percent for India and 3.8 percent for China to 47 percent for Ghana and 45 percent for Mozambique to 85 percent for Jamaica and 89 percent for Guyana; Docquier and Marfouk (2006).

²¹ A related phenomenon that has received far less attention is an increase in the number of students from developing countries pursuing higher education in the developed countries as can be seen from the UNESCO statistics. This phenomenon raises a number of questions regarding whether educational outsourcing (and realising the benefits from foreign education subsidies) can be a cost-effective alternative to domestic investments in higher education, whether foreign schooling results from a lack of investments in domestic schooling or from the prospects of higher-paid jobs abroad and how large is the permanent loss of internationally trained students.

inequalities, particularly in the developing countries that are enjoying rapid growth. In these countries, there is evidence of increasing earning differentials between highly educated people and other workers, often exacerbated by global trends in technology diffusion and competitiveness (Carnoy 1999; Bourguignon and Rogers 2008). The public education systems have not often been able to respond efficiently to increasing demand, let alone extend access on an equitable basis. While the increasing participation of the private sector has helped address part of the problem, it may have sometimes created other problems, including those of quality and equity. Finding an optimum combination of tuition fees, scholarships and loans is not easy, given limited resources and institutional capacity constraints. Access to higher education is also determined by what happens to the pipeline of qualified entrants. For example, how far children from poor households can compete in a merit-based system of entry into higher education will depend on their access to *quality education* at the primary and secondary levels. So far the policy focus has been on getting these children to school in the first place.

There is clearly a need for a rethinking of national education policies and international support for such policies in the light of the emerging challenges. Education and aid experts have already begun to focus international attention on the learning outcome and quality of primary education (Filmer, Hasan and Pritchett 2006). Many developing countries, particularly the Least Developed ones, face serious resource gaps even in achieving universal primary education, let alone focusing attention to the expansion of post-primary education and to quality improvement. There is a need for creative ways to meet this financing gap, such as by harnessing at the global level private streams of financing to complement official education aid (as has happened to some extent in the case of global health initiatives). Assistance needs to be provided in conducting learning assessments on the basis of international standards and in collecting good, comparable and detailed information on learning outcomes.

The equity aspects of educational strategies need to be reemphasised. Studies have shown that in most developing countries, the degree of access to education has replaced landownership as the main vehicle of inter-generational transmission of poverty and inequality. The time may have come to shift emphasis from the global agenda of “education for all” to providing access to quality education and to higher education for the children from disadvantaged families. And, why not even think of setting up “universities for the bottom half”?

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