

GLOBALISATION AND EDUCATION

This paper examines the links between globalisation and education and discusses appropriate roles for government in reconciling the processes of globalisation with education and training systems. It addresses two empirical questions and one policy question.

The empirical questions are:

1. Do the quantity and quality of education and training determine whether and how countries can participate in the processes of globalisation?
2. Do the processes of globalisation affect the demand for education and training and do they affect the supply of education?

The policy question is:

What type of public policies can effectively reconcile human resource development (HRD) and the processes of globalisation in order to obtain the maximum impact on development?

The questions are answered:

- (a) by reviewing the literature,
- (b) via new econometric analysis, and
- (c) via a case study of the automobile industry in South Africa.

The key findings are:

- Contrary to much of current thinking amongst education support organisations, there are many positive and effective links between secondary and tertiary education and training systems on the one hand, and economic globalisation processes in developing countries on the other. For instance, foreign automobile companies in South Africa have direct links with tertiary education institutions.
- This applies to trade, where further education allows a country to specialise in higher value-added production processes, and beyond to foreign direct investment (FDI) and migration. Foreign investors require and provide educated and trained employees. Emigrants tend to be educated accordingly.
- Finally, the role of the government is becoming increasingly important in implementing appropriate policies and institutions that can align human resource development with the opportunities in and consequences of economic globalisation processes. Without a strong role of government, market and coordination failures will leave education and training systems increasingly disconnected from the realities shaped by globalisation. Thus, an active and intelligent role for government, is required in tune with the private sector.

Synthesis of the literature

The existing literature on globalisation and education is rich. We narrow the survey by defining globalisation as a set of economic processes:

- trade in goods and services (including education itself)
- private cross-border finance (e.g. inward foreign investment in assembly operations or in the education sector)
- migration (e.g. teachers/nurses).

We focus on four key aspects of education to achieve human capabilities:

- schooling (primary and secondary)
- tertiary education
- vocational training
- foreign education.

The following briefly summarises how education and training affect the participation of countries in economic globalisation processes (see Table 1):

- Good quality schooling is helpful in promoting trade and inward investment but not sufficient to guarantee competitive products and services for which continued upgrading and training is required.
- Vocational training and tertiary education are helpful in attracting (manufacturing) FDI, but need to be appropriate and include engineering and other technical skills.
- Primary and secondary schooling has little effect on the probability of migration. Instead, the literature suggests that South–North emigration is concentrated in certain occupational groups often with tertiary education. South–South flows between neighbours (e.g. Mozambique–South Africa, or Burkina Faso–Côte d’Ivoire) might be different in nature.
- A pool of well educated nationals abroad can act as a source of exports of goods and services, and as a source of diaspora investment.

The following briefly summarises the effects of economic globalisation processes on education (see Table 2).

- Trade and FDI can have a positive effect on the supply of education and training. This is both direct (more training) and indirect (available resources). However, the overall effects are more positive in countries that are already relatively well endowed with education to start with.
- While the migration of teachers leads to a direct loss in teaching capacity, the overall effects tend to be positive through network effects on trade in goods and services and through remittances, at least in those settings where the policy framework enables the capturing of these benefits. This suggests a targeted solution to compensate for specific challenges arising from emigration.
- Foreign provision of education might help an economy, but there are issues related to universal access and accreditation, and this has implications for negotiations under the General Agreement on Trade in Services (GATS).

Current forms of economic globalisation have put new requirements on education and training (different types in different countries) opening up a potential wedge between supply and demand of education if education and training systems are not sufficiently responsive or pro-active. Good quality and appropriate education is amongst the main drivers of competitiveness and successful participation in globalisation processes. But it is widely acknowledged that there are market

Table 1 Effects of education on participation in economic globalisation processes

Affected globalisation process	Mode of achieving human capabilities (explanatory variable)			
	Schooling	Vocational education	Tertiary education	Foreign education
Trade (exports)	A year of primary schooling tends to raise wages by more than a year of secondary schooling Schooling leads to higher growth and productivity (and thus exports), but macro effect disputed Good quality schooling is basis for further education and training, and also for entrepreneurship	To upgrade to higher value added exports and remain competitive Entrepreneurship skills relevant for marketing of commodities Communication and leadership skills for participating in global value chains	Determines structure of exports Important for participating in services exports Can help to achieve offshoring of research and development (R&D) and innovation	Foreign education and networks have externalities on trade in goods and services
Private cross-border financial flows (Inward FDI)	Correlation between schooling and inward FDI	Technical and engineering skills for manufacturing FDI; little effect in simple assembly operations	Availability of technical and engineering graduates facilitates manufacturing and other strategic asset seeking FDI	Expatriates/ courses in natural resources industry Might lead to diaspora investment
Migration (emigration)	Little effect from primary education, moderate effect from secondary	Trained doctors, nurses, teachers and IT specialists in demand	Strong effect on emigration, but in particular (skilled) occupations/ countries, and depending on accreditation	Students stay abroad for work; skilled foreigners associated with multinational enterprises (MNEs)

and coordination failures in providing education, and the market for training is also characterised by market failures.

Market and coordination failures are likely to be greater due to the emergence of globalisation processes. Globalisation has meant an increase in the development of technology, technology flows across countries and increased fragmentation of production processes worldwide. This has required an ever greater need for information flows to manage and take part in the processes of globalisation. Lack of information is precisely at the heart of market and coordination failures. So, in times

when technology moves faster around the world, there is an increased need to be up to date with the latest needs for human resource development in order to solve market failures which would prevent an optimal match between demand and supply of skills.

The crucial issue is to ensure that the supply of education and training is in tune with the new demands arising from globalisation. Hence the need for appropriate policies and institutions that can align human resource development with the opportunities in and consequences of economic globalisation

processes. Table 3 shows that the following policy issues have emerged:

- It is crucial for economic development to build appropriate education and training programmes that link-in with the trade structure of the country. Good quality schooling is the basis, but is not sufficient on its own.
- Appropriate education and training programmes require measures or institutions which will include the private sector in planning and executing training programmes – best practice examples exist in the literature. The ease with which this can be done will depend in part on the geographical concentration and number of players, and in part on whether governments are supportive of private sector development generally.
- While foreign firms tend to train more, investment policies are usually not linked to human resources development. It could be helpful to screen investment policies for their impact on human resources development (e.g. amount

Table 2 Effects of economic globalisation processes on education

Measure of globalisation (explanatory variable)	Affected mode of achieving human capabilities:			
	Schooling	Vocational education	Tertiary education	Foreign education
Trade	Effects are more positive in countries already well endowed with skills	Positive incentives to training to remain competitive	Positive stimulus (see e.g. South Korea)	Education services are increasingly traded; developed countries (US, UK, Australia) control most of market, but developing countries emerging
Private cross-border financial flows (Inward FDI)	Effects are more positive in countries already well endowed with skills The effects of FDI are more positive when absorptive capacity (human capabilities) is higher	Unambiguously positive effect; foreign firms need to train more because they operate at technology frontier and are relatively export intensive	Foreign provision good for economic development, but presents issues related to access and accreditation	Foreign investors require expatriates
Migration	Remittances might help to finance education Loss in teaching capacity worsens schooling	?	Loss in teaching capacity	Significant amount of students from developing countries seek education abroad

Table 3 Examples of development enhancing policies in the globalisation – education matrix

Measure of globalisation	Mode of achieving human capabilities			
	Schooling	Vocational education	Tertiary education	Foreign education
Trade	Promote basic skills on which firms can build	Phased liberalisation and export promotion hand in hand with developments in education provision	Prepare for trade in services negotiations, and liberalisation	Target diaspora
Private cross-border financial flows (Inward FDI)	Promote corporate social responsibility (CSR) for education	Involve the private sector, and kick start public private interactions	Promote public – private interactions	Target diaspora
Migration	Foster remittances for schooling by targeting diaspora Promote temporary rather than long-term migration	(negotiations on) Accreditation may facilitate migration	(negotiations on) Accreditation may facilitate migration	Develop own university system to keep students

of training, incentives to coordinate with local education institutions).

- Caution is required in dealing with education services in international trade negotiations, even though in some cases the education sector is already open for private firms, local and foreign. Foreign providers of education might help in economic development (e.g. providing operation fees) but are unlikely to account for the bulk of education of locals. On the other hand, a transparent framework might help to attract investment in the sector.
- Migration can bring benefits but also specific problems. This requires an integral approach to the problem, with solutions coming from more than one sector (e.g. promote investment opportunities using a good investment climate and coordinate this with targeted re-migration of the diasporas, something the Irish Investment Promotion Agencies did).
- Issues related to globalisation and education can be complex and appropriate solutions require more than sectoral (trade, migration, education, fiscal) policy solutions, for example:
 - setting up agencies that coordinate investment opportunities with migration decisions

Market and coordination failures in education and training

Market failures occur when the market fails to allocate its resources efficiently leading to sub-optimal outcomes. Most market failures relate to the presence of externalities in education and training and are due to the lack of information:

- A trainee may not recover all the benefits of educational investments; not be aware of future value or needs for certain educational investments; be excessively risk averse; lack access to certified training and capital markets.
- Firms may lack knowledge of best practice in training and might also be unable to fully appropriate the benefits.

Coordination failures occur when the effects of actions by one sector or firm depend on the actions by other sectors of firms, so that a coordinated approach is required:

- The education and training system itself can lack information on educational needs in industry (coordination and complementarities problem), for instance when countries wanting to take the advantage of global opportunities in IT lack suitable skills.

– operationalise the involvement of the private sector in skills development institutions; use the tax and incentives system to be in line with the development of the economy and the level of skills (e.g. Singapore).

New cross-country evidence on FDI and education

An apparent gap in the literature covered the effects of FDI on education. Our new econometric work has focused on the effects of FDI on skill inequality amongst countries. New growth models and international business studies predict that countries with few skills will tend to specialise in low skill intensive production, while countries with a high innovation rate and skill endowment will tend to specialise in the production of high skill intensive goods and will thus face the best prospects of sustained technological changes and productivity growth.

The econometric evidence confirms that FDI enhances skill development (particularly secondary and tertiary enrolment) in countries that are relatively well endowed with skills to start with. The way FDI affects skills development is often indirect, through the incentives for skills development in the form of higher taxes, faster technological progress and expansion of sectors. At the micro-level, the effects are more direct, as foreign firms provide more education and training or employ techniques requiring more advanced skills than local firms.

This has implications for national governments. In particular, developing countries with low skill endowments that attract investors would do well to actively coordinate their human resources policies with investor needs in order to bring the country to a higher skill path.

The importance of coordination of trade, investment and education policies is well known for countries such as South Korea or Singapore, but as our background evidence shows it also applies elsewhere, e.g. in Central America. In contrast to Guatemala and Honduras, Costa Rica has had consistent skill development policies that have delivered good education outcomes which have been able to attract not just garment assembly investors but also electronic investors who in turn, in coordination with local governments and institutes, attempt to develop skills providing incentives throughout the whole education system. The government's policies are more in tune with strategies of MNEs and are able to help overcome market and coordination failures.

Evidence from the South African automobile industry

Several of the broader issues of the literature survey were considered through the specific example of the South African automotive industry. This provides a useful case study, given the importance of knowledge and skills to investment decisions. It is a prime example of an industry that has sought to move from a strategy located within the context of import substitution to a strategy designed to take advantage of liberalisation and globalisation. In doing so, it has sought to move from a position in which quality and costs were not comparable with international benchmarks to one in which some South African produced vehicles can be viewed as 'world class'. Although the industry is not typical of South African sectors, it does reflect

an example of an important type: an industry at the leading edge of responses to globalisation.

The automotive industry was able to enter South Africa in the 1920s in part because of the existing state of skills in the country, which had resulted from responses to earlier processes of industrial development. The skills base combined with the presence of good infrastructure and a relatively large domestic market to encourage initial investment in the sector. However, although skills were in abundance, by the late 1970s it was evident that they were in need of upgrading. Here, the industry was to play a catalytic role in bringing about a national response to education and training weaknesses that ensured that skills development was broadly sufficient for the industry's needs. For instance, it is a major provider of skills development, both within its own workshops and through its partnerships with public providers. The industry has recently been at the forefront of business linkages with public further and higher education and training providers. Such programmes have brought staffing, additional resources and increased enrolments for institutions and so have strengthened their infrastructure.

The automotive manufacturers have also been important supporters of the new skills development system introduced by the Department of Labour. Automotive manufacturers are increasingly encouraging the spread of such practices to their supplier and dealer networks. Given the newness and therefore potential fragility of the new skills system, the strong participation of the automotive manufacturers in the new system has probably helped to promote the overall success of the system.

The South African policy strategies for skills and for industrial development are still relatively young and fragile. Nonetheless, they do appear to point to the scope that a developing country with comparative economic strength and state capacity has for positive interventions to support international competitiveness. This case study has also exemplified some of the crucial issues encountered when trying to coordinate education and training provision with investment decisions.

Conclusion

The literature review, the new evidence and the case study of South Africa tell a consistent story with respect to the links between FDI and education and training systems:

- The links between FDI and education and training are complex and cover not just primary education, but go beyond this to include secondary, tertiary and vocational education. A balanced and proactive approach to education is required to attract FDI and benefit from it in the form of enhanced human resource development. Good quality schooling is the basis, but is not sufficient on its own. Support at all education levels is needed.
- This support needs an appropriate and intelligent role by government in providing an environment conducive to training and education and responsive to, therefore in coordination with, the private sector. Appropriate human resource policies, with a better focus on how to encourage appropriate interaction between public and private sectors on education planning and provision, are required to overcome market and coordination failures present in various low-skill, low-income developing countries. More interaction seems trivial in theory, but it is not in practice (e.g. differences between East Asian and Latin American cases in dealing with education requirements for local and foreign investors, or

between provinces in South Africa, provide useful test cases and counterfactuals).

There were a number of other issues discussed in the survey related to education in GATS and migration and development, and are described in more detail in the background papers.

In conclusion, agencies with a desire to support education in a globalising world could support appropriate mechanisms or institutions that can coordinate private sector skill requirements with education provision, and develop modern curricula based on a balanced approach to education. They could do this by disseminating best practices on good coordination between private sector and education suppliers, and by supporting training and education systems for a selected number of occupations with a comparative advantage. They could also support assessments of the effects of education commitments in international trade negotiations on development goals and the attraction of more investment in the education sector. Finally, it is important to pay appropriate attention to all levels of education, not just the primary level. The literature survey and fieldwork uncovered important links amongst all levels of education and globalisation processes.

Project papers available from www.odi.org.uk/iedg/projects/glob_ed.html

More papers related to 'Globalisation and Education':

te Velde, Dirk Willem (2005) 'Globalisation and Education - What do the trade, investment and migration literatures tell us?' ODI Working Paper 254

www.odi.org.uk/publications/working_papers/index.html

te Velde, Dirk Willem and Xenogiani, Theodora (2005) Foreign Direct Investment and International Skill Inequality Draft July 2005

www.odi.org.uk/iedg/projects/FDI_&_Skill_Inequality.pdf

McGrath, Simon (Spring 2005) Globalisation, Education and Training: Insights from the South African Automotive Sector. Human Sciences Research Council, Pretoria

www.odi.org.uk/iedg/projects/Glob_edu_SA_automotive.pdf

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