Jeffrey James (2002) *Technology, Globalisation and Poverty,* Edward Elgar, 147 pages, ISBN 1 84064 484 2

It is sometimes doubtful whether any original material can be added to the endless stream of publications on globalisation. But this monograph by Jeffrey James is most welcome as it focuses on one of the key drivers, technology, and one of the key consequences, poverty, and thus engages with the important policy debates on the "digital divide". The book seeks to explain the link between globalisation and technology and how it impacts on the development of third world countries. More specifically, the objective of the author is to examine the influence of information technology on patterns of globalisation and to then question how such patterns can be altered so as to reduce the ever-increasing digital divide between rich and poor countries. The book is coherently structured in three parts, each containing two or three chapters. The first part attempts to conceptualise the influence of information technology on globalisation while the two further parts contain the empirical flesh of the book. Part Two provides numerous examples of technological changes and pro-poor modes of development in East Asian, Latin American and African countries. In the third part, James chooses to concentrate more specifically on Sub-Saharan Africa, a region that has consistently suffered from industrial and policy failures.

On the whole, this book is concise, clearly-written and contains a wealth of detailed empirical evidence regarding the nature of global poverty and pro-poor modes of technical integration in the global economy. For example, James recalls some well-known facts, notably, in the light of data from the United Nations Human Development Report (see http://hdr.undp.org), in developing countries most of those living below the poverty line reside in rural rather than in urban areas, are more likely to be female than male, and are highly unskilled, as illustrated by the case of Guatemala where the most deprived receive, on average only one year of schooling (page 73). The introduction of information technologies tends to exacerbate existing inequalities between as well as within developing countries. This is because advanced technologies have a pro-rich bias: they are essentially designed for developed countries rather than for developing countries. Countervailing pro-poor modes of technical integration are based upon the idea of "leapfrogging" earlier stages of development and frequently involve the active participation of NGOs. One initiative is to bring advanced communication technologies to remote rural areas, but in a manner that is suited to local socio-economic conditions. For example, the phoneshop system introduced by Grameen Telecommunications in Bangladesh in the second half of the 1990s sought to respond to the problem of access to basic telephony while developing an appropriate market infrastructure. It combined the introduction of advanced IT products (cellular telephones) with social innovation by specifically encouraging low-income women to become trading intermediaries. The company sold each woman a phone on a micro-credit. In turn, the women borrowers supplied the service to their entire village, and subsequently saw their income rise (page 80). A further mechanism is to promote the development of electronic commerce, as exemplified by PEOPLink, a non-profit organisation who became a crucial trading partner for rural artisans based in Latin American and Africa. In particular, it taught them how to use digital cameras and the internet to sell their goods.

James contends there is scope for breaking the costly process of becoming locked into a cycle of mutually determined increases in the sophistication of computer hardware and software (page 104). The digital divide may be bridged through the use of low-cost information and communication technologies suited to the needs of the developing world. For example, schools in the Philippines are using the Linux free open-source operating system to be freed from the cost of commercial proprietary software distribution and upgrades. James further argues that there is scope for developing countries to use alternatives to the internet itself, such as the PC-based FidoNet programs, but that there is limited awareness of such possibilities. He recommends the establishment of an institution whose function would be to collect and disseminate all the fragmentary information about low-cost information technology that is currently available (page 106).

The last part of the book discusses the case of Sub-Saharan Africa whose industrialisation has been tantamount to a colossal technological failure. This is characterised by accumulated deficits of various kinds: a lack of local investment capabilities, a lack of experience of how to ensure technology transfer, the absence of skills in design and production, and the inability to rapidly absorb these types of skills into a poorly educated workforce. A flawed donor-recipient relationship based on donor dominance and recipient passivity – itself a symptom of the institutional underdevelopment of the region – means that local institutions are bypassed in the process of designing and implementing adequate technology programmes. However, there are examples of successful technology cooperation and transfer such as those achieved by the Chinese-Tanzanian and Indian-Kenyan partnerships. These consisted of an intervention of consultant engineers with relevant knowledge of the local equipment at early stages of the project design. Some attempt to map out the patterns for the whole region would have added tremendous value to this last and certainly most interesting part of the book as it almost solely refers to the case of Tanzania and Kenya, and it remains unclear to what extent such best practices are present elsewhere. A wider range of examples would have been particularly useful since James closes on a broad perspective applicable to the entire region: using the Hirschmanian concepts of trait-making and latitudes, he finally concludes that development projects tend to require much more change in the existing socio-economic environment than is commonly supposed. Thus micro-scale institutional innovations and decentralisation would help reduce problems of risk and uncertainty and clear the path for the labour-intensive technology required in Sub-Saharan Africa.

One crucial question remains: from a theoretical and scholarly perspective, what contribution does this book make to the discipline of economic geography? Should it be dismissed on the grounds that it is not written by a geographer? I feel that there is much to learn from reading this book, not least because it offers a good illustration of the tensions and methodological differences that exist between the "new economic geography" and Krugmanian or "geographical economics". Indeed while there is plenty of evidence from James himself that spatio-institutional factors are important determinants of technological underdevelopment and poverty, he does not make explicit hypotheses on how relational assets, government strategy, or geographical scales impact upon the creation and diffusion of information technology. This oddity is in large part the result of the framework retained to analyse the link between technology and globalisation. The author essentially adopts the standpoint of a revised international trade theory, or new trade theory. One of the major messages of this school of thought is that the standard product cycle theory is ill-suited to explain comparative advantage, and that it is necessary instead to focus on the significance of transaction costs. Following Krugman, James argues that by reducing communication costs and information imperfections, information technology itself helps to create a global economic environment in which the Myrdalian patterns of cumulative causation will operate most intensively (page 61). The cited early decision by East Asian NICs to invest in ICT and the self-reinforcing process of technical change it has created is of course a highly valid case in point. But while a strong affinity certainly exists between development economists and human geographers on the issue of development, economists tend to underplay the significance of space itself in the production of the patterns they set out to explain. Consequently, the cultural and ideological explanations for the diffusion of technology merely remain implicit throughout the book. A contrasting example may be found in Manuel Castells' latest book which shows that the geography of the Internet is considerably dominated the United States. In 2000, the U.S. registered 25.2 Internet .com domains per 1,000 inhabitants, against 0.5 per cent in Brazil or 0.1 per cent in India. A further dimension is the spatial concentration of internet companies in large conurbations such as the Silicon Valley or New York, where dense and privileged networks are called upon to access venture capital. Dependency theory would suggest that such "enabling" virtues are absent from the relationship between the developed and developing world, with important consequences for the slow technological catching up of the latter. Recent trans-national actions such as those of the World Bank in establishing a Global Information and Communications Technologies Department (GICT) and the aforementioned Open Source Movement based on upfront agreements to the sharing of future software developments are crucial to develop and promote access to ICT in developing countries. Nonetheless "old economy" trade, as well as educational and skills development remain key concerns for the reduction of world poverty. Further action is needed to increase Africa's share of international trade notably through the dismantling of remaining protectionist barriers and the active sharing of knowledge within the world economy.

To do him justice, James is aware of the limitations of his book when stressing his willingness to "fully acknowledge the wide range of influences - sociological, political and economic - that provide the context in which technology exerts its ultimate influence on the global economy". But he also feels "that there is something to be gained by simplifying this hugely complex pattern of relationships" (page 53). Of course, social science cannot but simplify reality, and as we know, economists tend to dismiss variables that cannot be quantified. However, effective policy responses need to be designed in full awareness of complexity. This implies an intellectual responsibility amongst academics to develop integrated approaches through a commitment to interdisciplinary work. In this respect, some directions for further reading and research could have been suggested.

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References:

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