

Preface to the 2018 Re-issue of *Technological Change, Development and the Environment: Socio-Economic Perspectives*, C.A. Tisdell and P. Maitra (eds), Routledge, London and New York, 1988

I was delighted to know of Routledge's decision to re-issue the abovementioned title. On reading this edited volume again, I find that it is packed with material and ideas that are as relevant today as when the book was first published. Let me, therefore, indicate in this preface why the contents of this book are of current relevance.

The contribution of Priyatosh Maitra primarily assesses the views of Marx and Engels about the evolution of economic development and its social consequences. Attention is given (among other things) to the Marxian view that in the latter phases of capitalist economic development, capitalists (businesses) are increasingly forced to extend their markets internationally in order to maintain their economic surplus (profit). In our current situation, this is one of the factors driving greater economic globalization. Now that the structure of the Chinese economy has become more market-driven and capitalistic, it is not surprising that China appears to be following this development path. For example, consider its "One Belt, One Road" initiative commenced in 2017.

The ability of agriculture to provide sufficient food supplies sustainably for a rising global population and a world in which more individuals have higher incomes is subject to continuing debate. Mohammed Alauddin and Clem Tisdell examine some of the issues involved in the context of the development of food production in Bangladesh.

Nripesh Podder provides an interesting perspective on the nature of the evolution of new technologies. In the latter phases of this evolution, automation and cybernetics have become very important but were of little significance in earlier times.

Joseph Remenyi discusses the promotion and transfer of agricultural research, knowledge, and technology from developed to less-developed countries by focusing on the role of the Australian

Centre for International Agricultural Research (ACIAR) in this process. Foreign aid of this kind is continuing. The effectiveness and the consequences remain a matter for scrutiny.

Economic growth both facilitates and results in a substantial increase in demand for improved transport systems. This is highlighted by the amazing development of China's transport systems in the last 30 years or so. Hsu O'Keefe discusses the type of decisions about urban transport needed in China in the mid-1980s. Despite vast improvements in urban infrastructure, China has been unable to meet the rise in demand to use its urban roads, mainly due to greater private ownership of cars. Road congestion and air pollution from motor vehicles are a major problem.

Due to technological change, the nature and structure of agricultural industries have undergone considerable structural alteration in recent times, and this is continuing globally. For example, agriculture has become more capital-intensive, more commercialized, and the number of farms has declined due to the amalgamation of farms. Among other things, the contribution by Warren Musgrave outlines and examines several of these trends in Australia.

Habibullah Khan and John Zerby concentrate on the problem of measuring technological development in a macroeconomic context and provide and apply a suggested measure. Providing a satisfactory measure of technological change continues to be a major contemporary challenge.

On rereading the chapter by Anthony Chisolm, I found it to be of particular interest. It is especially relevant to the continuing debate about how to select appropriate policies to achieve sustainable development. For example, it is pertinent to the consideration of the application of the precautionary principle. The issue of the extent to which it is desirable to base decisions and policy on pre-commitment is canvassed, taking into account the views of Jon Elster (as expressed in *Ulysses and the Sirens*) and those of others. This aspect is of particular relevance to adoption of policies to address human-induced climate change. In this regard, long-term pre-commitment is important but is threatened by short-term opportunistic democratic decisions, such as those made by the Trump administration in the USA.

New technologies have significant consequences within the home for the nature of work, leisure, and social relationships, as well as for the design and functions of dwellings. David Darton and Gerard O'Neill use historical data to analyze and describe these consequential changes and predict future change. The trends which they observe have been reinforced by the rapid development of information technologies, mainly due to the digital revolution.

The development of these technologies has increased the possibilities of working from home, for example by telecommuting. Before the Industrial Revolution, much commercial production took place within the home (consider the prevalence of cottage industries) but this practice declined after the Industrial Revolution and eventually disappeared in more developed countries. However, following the development of new information technologies, the scope for undertaking commercial production at home has increased. P.H. Hall explores the factors which can be expected in this digital age to influence the frequency of working from home. It can be observed that new communication technology has provided individuals living in remote areas and those who are housebound (to a varying extent) to engage in commercial production by working from home.

The two chapters about the impacts of the development of information technology on banking, that by Hazel Suchard, is based on South African experience and the one by Rae Weston and Alan Williams consider Australian and New Zealand experiences. Their studies reflect the impact of new information technologies in the early stages of their application. Since then, further development of these technologies has had a profound effect on the nature of banking.

Jacobus Doeleman grapples with the question of technological path-dependence, its influence on the structure of societies, and the extent to which communities can control social and technological impacts of this change. His discussion is relevant to continuing debate about the significance for the future of social embedding.

R. J. Van Wyk continues the quest of Kahn and Zerby to find an improved measure of technological change and provides several suggestions about how such a measure might be developed.

It is a credit to the contributors to *Technological Change, Development and the Environment: Socio-Economic Perspectives* that their contributions still continue to be relevant. I am sure if my co-editor, Priyatosh Maitra was still alive, that he would be proud of this and that he would gladly join with me in extolling their achievements. I thank all of the contributors for their contributions to this book.

Finally, I would like to thank the publisher, Routledge (a part of the Taylor and Francis Group) for re-issuing this book and thereby making it available once again by including it in their Economics and Technology of Business series.



Clem Tisdell
School of Economics
The University of Queensland
Australia