Foreword: Challenges of Sustainability to Economics

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Sustainable development can be defined as a better quality of life for everyone, now and for generations to come. This is about meeting the needs of present generations without jeopardising the needs of future generations. It implies development that links economic development, protection of the environment and social justice in an integrated and mutually reinforcing way. Sustainable development focuses on:

- high levels of employment and social cohesion;
- a high level of environmental protection and responsible use of natural resources;
- balanced and equitable economic development;
- coherent policy-making in an open, transparent and accountable political system;
- effective international cooperation to promote sustainable development globally.

The European Council of the European Union adopted in June 2006 a renewed Strategy for Sustainable Development (SDS) for an enlarged EU. It builds on the Gothenburg strategy of 2001 and is the result of a review process that started in 2004. The renewed EU SDS sets out a single, coherent strategy on how the EU will more effectively live up to its long-standing commitment to meet the challenges of sustainable development. It recognises the need to gradually change our current unsustainable consumption and production patterns and move towards a better integrated approach to policy-making. It reaffirms the need for global solidarity and recognises the importance of strengthening our work with partners outside the EU, including those rapidly developing countries which will have a significant impact on global sustainable development.

The Council decisions of June 2006 were based on a Communication from the European Commission on the Review of the Sustainable Development
Strategy of 13 December 2005. This built upon the (Gothenburg) strategy adopted in 2001 that provided a first step, but since the challenges remained, the revised strategy recognised the need to make greater efforts in implementing the real changes needed to achieve sustainability. The new text identifies six key challenges: (i) climate change and clean energy; (ii) public health; (iii) social exclusion, demography and migration; (iv) management of natural resources; (v) sustainable transport; and (vi) global poverty and development.

Part of the strategy on sustainable development is about investing in the future. That also entails investing in research and development as is being done under the Framework Programmes for Research, Technological Development and Demonstration funded by the European Community. The 5th European Community Framework Programme for Research and Development funded the project TranSust (The Transition to Sustainable Economic Structures). This book is based on the results of that project, a project I had the pleasure to supervise when working at the Directorate General for Research at the European Commission.

What makes this project and book so interesting and worthwhile for policy-making on sustainable development? First and foremost, the book deliberately takes a practical approach to sustainable development, aiming at including contributions that address the practical implications of sustainable development and the various ways to operate the concept for day-to-day policy-making.

Secondly, this book is relevant since it addresses a wide range of issues relevant for sustainable development at a European level at considerable depth. The book includes an overview of the use of economic models, extending the debate to include the three dimensions of sustainable development – environment, economic development and social cohesion – while assessing the use of tax reforms in Africa to alleviate poverty, improve the environment and support economic growth. The book includes a fine, concise survey of the strategy on sustainable development of the EU noting the relevance of a broader view on welfare, the institutional context, and the occurrence of co-benefits and the role of innovation.

The book also includes a survey of energy–economy–environment models and the indicators for sustainable development that they cover. There is a chapter on the notion of abatement costs of climate policies, their use in partial and general equilibrium modelling and the appropriate translation of this information to decision-makers. There is a contribution on progress being made in including innovation as an endogenous process rather than ‘manna from heaven’ in economy–environment models. The contribution on tax revenues that can be recycled if carbon prices are raised over time compares nine different models to assess in particular the employment
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impacts. In doing so it gives guidance to the recent decision (March 2007) of the Council of the EU to reduce greenhouse gas emissions by 20 per cent in 2020 (compared to 1990) while trying to maintain high levels of employment. Another contribution provides a comparison of how the different economy–energy–environment models simulate carbon capture and storage and renewable energy technologies and the risks associated with carbon capture and storage. This is a timely topic in view of current discussions on the inclusion of carbon capture and storage in the EU’s emissions trading scheme for CO₂ emissions, and the Council conclusion from 8–9 March 2007 setting an EU target of a share of 20 per cent renewable energy by 2020. A final chapter explores the impact of the same set of taxes on carbon emissions, energy use and gross domestic product (GDP), closely examining the mechanisms at work in the set of underlying models thus examining the idea of decoupling energy use from economic development.

In sum, this book makes a fine contribution to the linking of economic development, protection of the environment and social justice in an integrated way and deserves credit for its explicit focus on practical ways of handling the notion of sustainable development for policy-making purposes.