PRESENTATION

ASSESSING THE SUSTAINABILITY IMPACT
OF TRADE LIBERALISATIONS

Sébastien Jean & Nina Kousnetzoff[1]

Sustainable development has been a growing concern in recent years. The Brundtland Report (1987), together with 1992 Rio Earth Summit are probably the two most salient events that have brought this issue to public attention. Yet, the concept of sustainable development is difficult to define precisely. The best-known definition is the Brundtland Report's one: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". In more concrete terms, it has become usual to think of sustainable development in terms of its three main dimensions: environment preservation, social equity and economic efficiency, taking into account the trade-offs between short term and long term objectives. In itself, spelling out the "pillars" of sustainable development is a valuable step towards an operational definition, but the concept remains ambiguous. In spite of these definitional difficulties, sustainable development has become an important concern of policy-makers. As of 2002, a Sustainability Impact Assessment (SIA) is supposed to be carried out on important new decisions of economic policy taken by the European Commission. In most international organisations, sustainable development is also regularly referred to.

The question of sustainability has been regularly raised in respect to trade policy decisions. This is probably partly because trade policy is one of the areas in which international negotiation and co-operation are most active. Another reason for raising sustainable development issues when dealing with trade policies is their acknowledged, significant distributive impact, between sectors and production factors, as well as between regions and individuals. The possible (negative as well as positive) impacts of trade upon environment is also well documented. Extending research on the consequences of trade liberalisation to include sustainable development as a key issue is thus justified, but it is a difficult task. Beginning in 1999, the European Commission began to develop a method for Sustainability Impact Assessment (SIA)[2]. In the

1. Sébastien JEAN, Editor, *Économie internationale*, Senior Economist, CEPII (s.jean@cepii.fr ; Nina KOUSNETZOFF, Senior Economist, CEPII (kousnetzoff@cepii.fr).
2. For details of this method in the case of WTO negotiations, see Colin Kirkpatrick, *Sustainability Impact Assessment Methodology : SIA Study of Proposed WTO Negotiations*, CEPII Working Paper 2003-19, December.

process of the revision and improvement of these SIA methods, the European Commission asked the CEPII to organise a workshop about the choice of the methodological tools to assess the sustainability impact of trade liberalisations. Based on this workshop, the present *dossier* proposes a brief overview of different approaches to SIA assessment. Given the comprehensiveness of the concept, it is by no means exhaustive. The main objective is to describe and discuss the types of tools available or likely to be developed for quantitative SIA analysis.

The common factor among the approaches presented in this *dossier* is the reliance on computable general equilibrium modelling. Computable general equilibrium models are indeed very useful tools for assessing the possible consequences of policy shocks with a widespread influence on prices, incomes and resource allocation.

Christoph Böhringer argues that computable general equilibrium models are particularly well-suited to carry out SIAs. A variety of trade-offs – including those involving the economic, social and environmental pillars of sustainable development – can be studied, because CGE models make it possible to represent not only the direct effects of the economic policies, but also feedback effects and chain reactions across sectors, countries, and over time. However, multiplying the dimensions of the analysis may involve computation difficulties and blur the understanding of the results. Christoph Böhringer presents the generic framework of the computable general equilibrium approach to SIAs, and illustrations based on the GEM-E3 model, used for assessing the cost of reducing greenhouse gas emissions. The author also points to various types of extensions likely to improve the usefulness of computable general equilibrium models in helping policy makers face the challenge of sustainable development. He shows how decomposition techniques are useful to gain a detailed understanding of the channels and mechanisms underlying a given result, as illustrated through the impact of a carbon tax. The analysis can also be more directly focused on the design of policy responses, by introducing optimisation calculation within the general equilibrium model itself. The model can then be used to determine the best-suited policy response in order to reach a given objective function (taking due account of sustainable development concerns). Finally, the author argues that general equilibrium assessments would gain greater credibility if more attention was devoted to assessing the robustness of the results, and the corresponding confidence intervals. Systematic sensitivity analyses are a very useful tool in this respect, and might allow computable general equilibrium models to be more credible for policy makers.

Joseph François' article deals with the impact of trade policies on the patterns of output, employment and wages, with special emphasis on adjustment costs. When studying the impact of trade liberalisation, the focus is often put on long-term benefit, and little attention is given to short-term adjustment costs. Although the recent debate about the link between trade and wage inequalities has widely shown how difficult sorting out the specific influence of international trade on the labour market is, it is possible to provide useful insights about expected adjustment requirements. In the framework of computable general equilibrium assessments, Joseph François proposes several structural impact indexes in order to do so. By

providing summary measurements of the extent of output or labour displacement, these indexes make it possible to gain a synthetic view of the extent of adjustments involved by a given shock. While they cannot by themselves replace a detailed analysis of the transition needed and of the specific difficulties possibly involved, these structural impact indexes can be useful to prevent static analysis from not giving any information about the structural change involved by a given shock. Systematically computing this kind of measurement of the extent of adjustment cost would be a first step toward better integrating sustainable development concerns in the assessment of trade policy shocks. The article illustrates the use of these indexes through an application to the EU enlargement.

Gender issues are among the important concerns to be addressed when dealing with sustainable development. Now, it is not clear how the impact of trade liberalisation might be distributed across men and women. Marzia FONTANA's article discusses this issue, and proposes a method to assess the effect of trade on women, at work and at home. The originality of this method is to incorporate the gender analysis within the computable general equilibrium framework, and to include explicitly household work and leisure in the analysis. This requires a significant amount of work, in particular in order to build "gendered" social accounting matrices, i.e. matrices dis-entangling women's from men's activities and revenues, and describing adequately household work ("social reproduction services") and leisure. The model must be adapted accordingly. Marzia Fontana illustrates this method by presenting an example of construction and utilisation of such a "gendered" computable general equilibrium model. This model is then applied to assess the impact of a widespread trade liberalisation both in Bangladesh and Zambia. The strong contrast between these two countries (in terms of factor endowments, but also in terms of socio-cultural norms and of labour market characteristics) paves the way for an interesting comparative perspective. Simulation results show that trade liberalisation would be more beneficial to women in Bangladesh than in Zambia, mainly due to the greater presence of women in the former's export-oriented sector. This article is a good example of how standard, computable general equilibrium methods can be extended to take into account additional dimensions of the impact of trade liberalisation. General equilibrium models are demanding in terms of data, but they can be adapted to fit a large variety of topics. In any case, their strength lies in the overall consistency of the method, in its robust micro-economic foundations, allowing agents adaptations to a new environment to be evaluated, and finally in the possibility of spelling out clearly all direct and indirect effects, facilitating a better understanding of the mechanisms at work.

A summary of the conclusions of the workshop, written by Nina KOUSNETZOFF and Sophie CHAUVIN, is finally presented. In addition to discussing various dimensions of SIA and the contribution that quantitative methods are able to offer in each of these dimensions, this summary recalls the conclusions reached for the benefit of policy-makers.

<div align="right">S. J. & N. K.</div>