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MIRAGE, UPDATED VERSION OF THE MODEL FOR TRADE POLICY ANALYSIS

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NON-TECHNICAL SUMMARY

The possible failure of negotiation in the Doha Round emphasizes how complex and controversial the stakes of trade policies are. Numerous new preferential agreements are in project, while the future of multilateral liberalisation remains unclear. In this context, delivering a rigorous and detailed quantitative analysis of a large scope of trade agreements is most useful, for policy-makers as well as for the public debate.

The MIRAGE model, devoted to trade policy analysis, builds on a twenty-five-year-old heritage of research in computable general equilibrium models and intends to take a new step toward a better analysis of trade policies. It describes imperfect competition and horizontal product differentiation in a rather standard fashion, but with an original calibration procedure, allowing the available information to be used more efficiently. The modelling is done in a sequential dynamic set-up, where installed capital is assumed to be immobile, even across sectors. Therefore, capital reallocation only results from the combined effect of depreciation and investment. It makes it possible to describe the adjustment lags of capital stock, and the associated costs. The model uses the GTAP 6.x database (see Dimaranan and Mac Dougall, 2005). In order to improve the description of trade policies main transmission channels, MIRAGE has three main distinctive features:

- ✓ FDIs are explicitly described, with a modelling both theoretically consistent (with agents' behaviour and with domestic investment setting), and consistent with the empirical results about FDIs' determinants and their order of magnitude.

- ✓ A notion of vertical product differentiation is introduced by distinguishing two quality ranges. Even though it remains rudimentary, this assumption is a first step toward taking advantage, in applied modelling, of the empirical progresses achieved in this domain during the last decade.

- ✓ Trade barriers are described by the MAcMap database (see Bouët, Decreux, Fontagné, Jean and Laborde, 2004), that provides with a measure of ad-valorem tariffs, advalorem equivalent of specific tariffs, tariff quotas and anti-dumping duties, at the bilateral level,

for 137 countries with 220 partners. Preferential agreements are taken into account in a quasi-exhaustive way. This information, available at the level of the 5,113 products of the HS6 classification, is used to describe the initial level of trade barriers, but also to build scenarios. Assumptions concerning the changes in these barriers can thus be made at the product level. Only then are these data aggregated in the model's nomenclature, according to a procedure designed to limit the extent of the endogeneity bias. As a result, MIRAGE is based on a description of trade barriers that, besides its precision, preserves the bilateral dimension of the information.

The present version of the model includes a few more specific features concerning agricultural sectors to adequately reflect trade policy changes: export subsidies variations in the European Union are computed considering the intervention price mechanism. Production quotas, land imperfect allocation across different crops, capital and land subsidies are also modelled. Labour forces are distinguished between agricultural and non agricultural labour types and supposed imperfectly mobile. The modelling of such mobility depends on the level of development of a region.

The dynamic framework has also been improved. The reservoir of labour is adjusted with respect to the United Nations forecast and the growth of the total factor productivity is computed to match the World Bank economic growth forecast. For developing countries, the migration from rural areas to urban areas is taken into account. These features should enable to better assess trade policy effects, especially in agricultural sectors.

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