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THE ICO ECONOMETRIC MODEL OF THE  
WORLD COFFEE ECONOMY

PROGRESS REPORT

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## **THE ICO ECONOMETRIC MODEL OF THE WORLD COFFEE ECONOMY**

### **PROGRESS REPORT**

1. The main objective of the current project is the construction of a new, forward-looking model of the World Coffee Economy by extending previous work undertaken by Dr. Mavrotas (jointly with A. Maizels & R. Bacon) in this area. In Maizels, Bacon and Mavrotas study (1997, Oxford University Press) a World Coffee Model was constructed (along with similar models for cocoa and tea) to carry out simulation analysis related to possible supply management policies by producing countries. Although the previous study has certain strengths as far as the whole analysis is concerned, its econometric analysis was in a way constrained by the relatively short time-period covered, particularly as far as the 1990s is concerned. More precisely, the previous econometric model of coffee was estimated by using coffee data for the period 1966-90 only, thus it was not able to capture the important developments in the coffee market which took place in the 1990s – namely, the set up of the Coffee Retention Scheme by the Association of Coffee Producing Countries in October 1993, the implications of the new Coffee Agreement of October 1994 as well as bad weather conditions in Brazil (see the frost of June 1994) among others.

2. The current study aims at bridging the above gap related to coffee modelling in previous studies. More precisely, the new model extends previous research on world coffee modelling in order to cover most of the 1990s by using data from the International Coffee Organisation, as well as from other sources, where appropriate. Furthermore, by adopting a robust econometric methodology, the study constitutes a clear departure from previous models in this area.

3. Regarding model structure, the new model consists of three main parts: the demand side, the supply side and a third part related to the determination of the world coffee price. A particular emphasis of the new study is on modelling the production side. The study treats the output and planted area of coffee by separate equations, the former reflecting a

short-run harvesting decision (constrained by the area of mature bushes), and the latter reflecting an investment decision. The determination of the world price will be the final part of the model by specifying and subsequently estimating world price to retail price link equations for major consuming countries and for Brazil, world price to producer price link equations for all major coffee producers and a world coffee price equation. Finally, a series of appropriate consumption, supply and stock identities are used to close the model. For further details concerning methodology issues, estimation procedure, etc., please refer to the presentation document (September 1999, document EB-3729/99).

4. Since the September meetings and the presentation of the model structure by the author, substantial progress has been made on the data front with the invaluable help of the ICO – Mr. Seudieu, Mr. Carvalho and Mr. Wattam were particularly helpful in providing the project coordinator with missing data on a number of important variables such as consumption, area harvested, etc., for the countries included in the project. Complete data has been also obtained on Vietnam, since the above important coffee producer was finally added to the initial list of coffee producing countries of the project.

5. Following the completion of the database, a preliminary data analysis was undertaken, followed by preliminary testing of the lag-structure in the relevant equations of the model, and we are now in the process of estimating demand and supply equations for individual countries within the context of a general-to-specific econometric approach (see presentation document for further details: September 1999).

6. In the following months the estimation stage will be completed so that the model solution can be derived. At the final stage, simulation scenarios will be tried to derive forecasts for crucial variables in the World Coffee Market (up to the year 2005 to take into account recent projections based on the FAO model).

7. It is notable that following the presentation of the main components of the new model by the author in the September meetings last year, a series of constructive comments were received by a number of commentators including Dr. Ernesto Illy (on the peculiarities of the German coffee market and their implications for coffee consumption), Mr. Ted Lingle (on the need to consider “hedonic” aspects of the world coffee market) and Mr. Jose Mario Diaz from the Economic Advisors Office, Colombian Coffee Federation (on recent work on the world market for washed Arabica coffees) among others. Comments received will be embraced, where appropriate, in the current project, so that the new model reflects recent developments in the world coffee market.