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ASSESSING THE RESULTS OF GENERAL EQUILIBRIUM STUDIES OF MULTILATERAL TRADE NEGOTIATIONS

by

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ABSTRACT

This paper is about what we can actually say about the Uruguay Round (UR) four years after implementation began, and how this compares to the calibration-based assessments that circulated at the end of the UR. The ultimate goal is to draw lessons on how to approach the assessment of the next round so that useful insights are extracted and misperceptions avoided. The paper first offers an overview of the CGE models employed or referenced by international organizations at the close of the UR. This is followed by a summary of the results of those models and a discussion of actual experience from UR implementation. Some conclusions from this exercise, and recommendations for assessment of the next Round (or if not technically another "round" of negotiations, then for the next sets of multilateral negotiations), are then discussed.

CONTENTS

"On two occasions I have been asked … 'Pray Mr. Babbage, if you put into the machine wrong figures, will the right answers come out?' I am not able rightly to apprehend the confusion of ideas that could provoke such a question."

Charles Babbage (19th century inventor of the first "computing machine")

I. INTRODUCTION

When economists model trade policy for the policy community (as opposed to modeling for the research community), they face two critical challenges. The first involves developing a reasonable, though stylized representation of complex policy, demand, and production relationships. The trade-off here is between keeping the model workable, and keeping it realistic enough to actually be useful to the policy community. Out of necessity, this involves compromises regarding the sector and region coverage of models, the modeling of production and demand, representation of complex commercial policies, and the design of policy experiments. The second challenge involves presentation and explanation of results. With computable general equilibrium (CGE) models (the class of models covered here), there is scope to gain useful insights about policy. Recent history has demonstrated that there is also great scope for misrepresentation and misunderstanding of the meaning of model-based results. While the body of CGE-based Uruguay Round studies did provide useful insights, in critical ways the economists involved failed to effectively communicate the meaning and limitations of these results.

The policy debate surrounding ratification and implementation of the Uruguay Round (UR) results was suffused with estimates of the effects of the round on individual countries and sectors. Prominent among the estimates highlighted were early OECD estimates that the agriculture component of the UR was worth US$ 200 billion annually and early WTO estimates that the entire UR package was worth over US$ 500 billion. If one reads the studies on which the US$ 200 billion and US$ 500 billion estimates are based (Goldin, Knudsen, and van der Mensbrugghe 1993; and Francois, McDonald, and Nordström 1993), the message is more complex. However, communications of the results of these studies did not effectively highlight important caveats and limitations linked to the estimates. Critical components of the UR were missing from all studies, while the estimates themselves were generally presented in broad ranges. In addition, these were preliminary estimates, made before the UR was concluded. Subsequent estimates, based on the actual UR agreements (which involved substantially less liberalization in certain areas, like agriculture, than had been anticipated), were revised downward substantially. In the end, the US$ 200 billion and US$ 500 billion estimates remained fixed in the public mind as the relevant measure of expected gains.

For these reasons (involving a mix of poor communication by economists and the institutional spin placed on the results), the message from studies of the UR

agreements that actually reached the public was that the UR was worth a certain amount of global income. Put euphemistically, a big cheque was in the mail for each WTO Member, who had only to cash it after UR implementation. This is not the correct message to carry from these studies, but it is the one that was received. This also means that there was some confusion about the timing and size of any benefits from UR implementation.

Like the last round, quantitative modeling, and the related exercise of measuring import regimes, will be an important source of information during future WTO negotiations. With all their shortcomings, these exercises serve an important function -- social cost-benefit analysis. The techniques are crude and stylized (while mystifying and complex at the same time), yet they do provide an insight into the reasons and motivation behind multilateral liberalization. Their limitations should always be acknowledged, as economists have other tools in their tool kit that can also be used, ranging from abstract theory to empirical evidence. There are important WTO-related issues that simply cannot be handled by large computational models such as the ones discussed here. Even so, at a bare minimum such modeling exercises do provide a framework within which policy makers can better understand the implications of their decisions.

This paper is about what we can actually say about the UR, four years after implementation began, and how this compares to the assessments that circulated at the end of the UR. The ultimate goal is to draw lessons on how to approach the assessment of the next round so that useful insights are extracted and misperceptions avoided. The paper is structured as follows. The next section, Section 2, is devoted to an overview of the CGE models employed or referenced by international organizations at the close of the UR. This is followed in Section 3 by a summary of the results of those models. A discussion of actual experience from UR implementation is provided in Section 4. Some conclusions from this exercise, and recommendations for assessment of the next Round (or if not technically another "round" of negotiations, then for the next sets of multilateral negotiations), are discussed in Section 5.

II. OVERVIEW OF THE MODELS

The most often cited quantitative studies of the overall effects of the UR were based on computable general equilibrium (CGE) models. In CGE models, the "whole" economy, for the relevant aggregation of economic agents, is modeled simultaneously. This means that the entire economy is classified into production and consumption sectors. These sectors are then modeled collectively. Production sectors are explicitly linked together in value-added chains from primary goods, through higher stages of processing, to the final assembly of consumption goods for households and governments. These links span borders as well as industries. The link between sectors is both direct, such as the input of steel into the production of transport equipment, and also indirect, as with the link between chemicals and agriculture through the production of fertilizers and pesticides. Sectors are also linked through their competition for resources in capital and labour markets.[1] Regional households (the final level of demand) are typically modeled as a single or composite household.

CGE studies of the UR were produced as the round began, during the round, and after the completion of the UR. We will focus here on a set of ex-post CGE studies. The studies we will focus on, often involving updates of earlier ones, are based on the actual UR agreements, whereas the ally cover different aspects of the Uruguay Round Agreement. Most were published collectively by the World Bank in a volume edited by Martin and Winters (1996). Most of the studies involved multilateral institutions (the GATT, World Bank, and OECD), though two were produced by pure academic research teams.[2]

Among the studies listed in Table 1, different studies focused on different aspects of the UR agreements. Goldin and van der Mensbrugghe (1996), for example, focused primarily on the Agreement on Agriculture. In contrast, Nguyen, Perroni, and Wigle (1995) covered almost all components of the market access package. Brown et al. (1996) also focused on services liberalization, while Goldin and van der Mensbrugghe (1996) emphasized agricultural liberalization and industrial tariff liberalization. Sectoral focus is discussed in the next section.

A. Sectoring schemes

The sectoral and regional structures of the studies in Table 1 ranged from 9 to 29 sectors and from 8 to 24 regions. The sector and region focus was, in practice, mainly determined by the study objectives and data availability. For instance, the Rural-Urban-North-South (RUNS) model of