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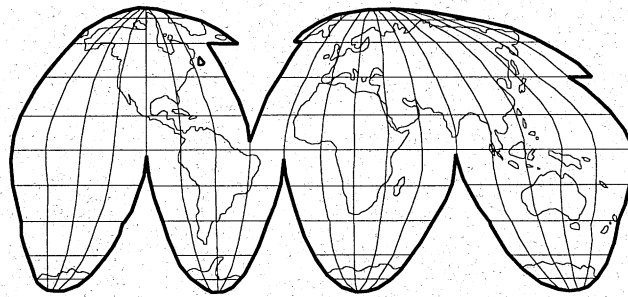
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# **Implications of the New Growth Theory to Agricultural Trade Research and Trade Policy**

Proceedings of a Conference of the  
International Agricultural Trade Research Consortium



Edited by Terry L. Roe

April 1997

**The International Agricultural Trade  
Research Consortium**

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**Proceedings of "Theme Day" session of the  
International Agricultural Trade Research Consortium  
Annual Meeting, December 1996**

**Edited by Terry L. Roe**

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## Preface

The International Agricultural Trade Research Consortium (IATRC) is a group of 160 economists from 16 countries who are interested in fostering research related to international trade of agricultural products and commodities and providing a forum for the exchange of ideas. Each winter the IATRC sponsors a "Theme Day" discussion on a topic related to trade and trade policy.

This volume contains the four main papers and one discussion paper that comprised the core of the Theme Day session of the December 1996 meeting of the IATRC in Washington, D.C. titled, *Implications of the New Growth Theory to Agricultural Trade Research and Trade Policy*. These papers should be viewed as "revised working papers." Policy recommendations and opinions expressed by the authors do not necessarily reflect those of the IATRC or its funding agencies.

The activities of the IATRC receive partial support from the Economic Research Service and the Foreign Agricultural Service of the US Department of Agriculture (USDA), from Agriculture and Agri-Food Canada, and from the IATRC members' home institutions.

The IATRC acknowledges the assistance of Laura Bipes of the University of Minnesota in arranging the conference and the work of Dr. Terry L. Roe, University of Minnesota and Mathew Shane, ERS/USDA in organizing the Theme Day program agenda.

A complete list of past IATRC conferences and related publications, including proceedings, commissioned papers and working papers, is available from Laura Bipes, Administrative Director, Department of Applied Economics, 1994 Buford Avenue, Room 231 ClaOff, University of Minnesota, St. Paul, MN 55108 or from the IATRC web site at:  
<http://www.umn.edu/iatrc>



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## Forward

This volume contains the four main papers and one discussion paper that comprised the core of the Theme Day session of the December 1996 meeting of the IATRC in Washington D.C. titled *Implications of the New Growth Theory to Agricultural Trade Research and Trade Policy*. The four papers are:

*The New Growth Theory: Its Logic and Trade Policy Implications*, by Richard E. Baldwin and Elena Seghezza,

*R&D Spillovers, Economic Growth, Convergence, and Divergence: A Time-Series Approach* by Hamid Mohtadi and Anusua Datta,

*On Turkey's European Trade Policy: How Desirable is A Status Quo* by Jean Mercenier and Erinc Yeldan,

*A Dynamic CGE Model of R&D Based Growth in the U.S. Economy: An Experiment Using the New Growth Theory* by Xinshen Diao and Terry Roe.

The discussion paper is:

*Implications of the New Growth Theory to Trade, Trade Research and Trade Policy*, by G. Edward Schuh.

These papers should be viewed as "revised working papers." Briefly, their focus and relationship is the following:

The Baldwin and Seghezza paper provides an overview of theory of endogenous growth with special emphases on trade, and with relatively more weight placed on the Romer R&D model of growth. Consistent with the Theme Day focus, they simplify the models to their essential features in order to show their strong policy - growth - trade implications. Emphasis is placed on the Romer type of model because of its relatively more clear structural features that identify the nature of non-rivalness and the partial excludability of new ideas, and the imperfect competition which is required in order to provide the necessary incentives for consumers to forego consumption and invest in new firms. Nevertheless, they conclude that little is known of the causes of growth which makes policy conclusions hard to draw. This is an excellent paper with an appendix to help those not familiar with these models to more quickly become familiar with their salient features.

The Mohtadi and Datta paper attempts to focus on the “facts” relating to endogenous growth, such as the presence of technological spillovers; is there evidence in support of one model relative to another and what is the nature of the convergence, divergence debate. The empirical section of their paper finds support for technological spillovers among OECD countries and find evidence in support of growth convergence. For other countries, particularly non-OECD countries, they find evidence for divergence.

I find it useful to think of the Ramsey-Koopmans-Cass model as an antecedent of the Mercenier and Yeldan framework, generalized and extended in two key ways. It is generalized in that it entails a global world economy with many final commodities and intermediate factors of production. It is extended in the sense that the new trade theory, with increasing returns to scale in the non-farm sector and consumer demand for product variety of the Dixit-Stiglitz type, is adapted to this inter temporal framework. Then, they calibrate the parameters of the analytical model to the economies of Turkey, Europe and the rest of the world as an aggregate. While this paper does not focus on endogenous growth per se, the model incorporates many of the key concepts common to models of endogenous growth and it reflects the state of the art in dynamic applied general equilibrium analysis of trade policy issues.

The fourth paper is an empirical application of the Grossman-Helpman-Romer model to an actual economy, the US. The empirical model considers several final goods sectors, employs the traditional Armington structure to account for intra-industry trade, and utilizes the social accounting matrix structure to calibrate many of its parameters. Consequently, this paper “fits nicely” with the Baldwin and Seghezza paper in that it extends and generalizes their discussion of the R&D based models while also providing some orders of magnitude to the growth effects of various policies. The theory upon which the empirical model is based makes a modest theoretical extension; we allow for the accumulation of differentiated capital, and as a result the model displays transition dynamics. The paper relates to the contribution of Mercenier and Yeldan in that we use the Dixit-Stiglitz structure to depict the monopolistic behavior of suppliers of intermediate capital variety. We refer to the paper as “An Experiment..” since only one source of growth is considered, and as the first paper noted, little is known about the causes of growth.

Surely, much remains to be done, both analytically and empirically in this area. Yet, it is our notion that the papers provide insights into the nature and direction that a body of future economy-wide analysis of trade and trade policy is likely to take. As such, the papers together capture a whole that is greater than just the sum of the individual parts.

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