

Center for Global Trade Analysis Newsletter

Robert McDougall, 15 years with Center for Global Trade Analysis



McDougall

The Center for Global Trade Analysis wishes to acknowledge the important contributions of **Robert McDougall**.

Robert McDougall joined the Center for Global Trade Analysis in late 1995. He had previously worked as an Economist with the Australian Productivity Commission. While in that job he was a key architect of the SALTER model of multi-region trade. SALTER had a strong Asian focus and was the intellectual predecessor of GTAP. Indeed, the first GTAP Data Base leaned heavily on the same sources and methods used to construct the SALTER data base. Therefore, hiring Robert as Deputy Director fifteen years ago was an easy decision to make!

Since his arrival at Purdue University, Rob has been the intellectual force behind the GTAP Data Base. When key decisions have to be made, Center staff and Consortium members alike immediately turn and ask: "What do you think, Rob?" His sound judgment and his commitment to open data base architecture have shaped the development GTAP. His intellectual contributions are also legendary.

On the data base front, we recommend reading his paper entitled: "[Entropy Theory and RAS are Friends](#)".

Rob has also had a major impact on the general equilibrium modeling undertaken in the GTAP Network. Here, two contributions, in particular stand out. The first involved substantial theoretical developments aimed at creating a new approach to multi-stage budgeting in the context of non-homothetic preferences. His [technical paper](#) on this subject addressed a long-standing problem in welfare analysis with the standard GTAP Model.

Perhaps Robert's most important contribution on the modeling front was his work, joint with Elena Ianchovichina, to develop a dynamic, general equilibrium model which comes to grips with the empirical facts underpinning international capital mobility. Nick-named [GDyn](#), this model is now widely used for recursive dynamic modeling of global economics issues.

Those who know Rob well, also have a great appreciation for his sharp powers of observation and his outstanding sense of humor. His short, to-the-point remarks are prone to cut to the core of an issue, and they often leave those who listened closely enough to catch them (not always easy) laughing heartily. One of his most popular lectures is interlaced with such humor. "[Uses and Abuses of AGE Models](#)" is a classic, must read.

In summary, the GTAP community owes a great deal to Robert McDougall. We thank him for having the courage to resign a secure government job 15 years ago, and embark on a risky, but exciting adventure with the Center for Global Trade Analysis!

Thank you, Robert!

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GTAP Resource Center Highlights

[Linking Partial and General Equilibrium Models: A GTAP Application Using TASTE](#)

By Narayanan, Badri G., Thomas Hertel and Mark Horridge

GTAP Technical Paper No. 29

CGE models are utilized for the evaluation of trade policy reforms, yet they are typically highly aggregated, limiting their usefulness to trade negotiators interested in impacts at the tariff line. Partial Equilibrium (PE) models used for disaggregate analysis lack the benefits of an economy-wide analysis required to examine the overall impact of trade policy reforms. This suggests the need for a PE-GE, nested modeling framework to support trade policy analysis. In this paper, we develop a PE model that captures international trade, domestic consumption and output, using CET and CES structures, market clearing conditions and price linkages, nested within the standard GTAP Model. In addition, we extend the welfare decomposition of Huff and Hertel (2001) to this PE-GE model to contrast the sources of welfare gain among models.

To illustrate the value-added of this model, we examine the impact of multi-lateral tariff liberalization on the Indian economy, with special focus on the auto sector, using PE, GE and PE-GE models. The PE model does not predict the change in overall size and price level for the industry well, while the GE model underestimates the aggregate welfare gain due to tariff averaging. It also fails to account for the change in industry composition resulting from trade reform. These findings are robust to wide variation in model parameters. We conclude that the linked model is superior to both the GE and PE counterparts. This approach has the potential to be the pre-dominant tool for the trade negotiators and trade policy analysts as it helps us deal with tariff-line level trade and protection data in an economy-wide welfare-analysis framework.

Migration and Growth in East and South-East Asia

By Walmsley, Terrie, Syud Amer Ahmed and Angel Aguiar

Forthcoming Conference Paper

East and South-East Asia face major demographic changes over the next few decades as many countries' labour forces start to decline, while others experience higher labour force growth as populations and/or participation rates increase. A well-managed labour migration strategy presents itself as a mechanism for ameliorating the impending labour shortages in some East-Asia Pacific countries, while providing an opportunity for other countries with excess labour to provide migrant workers that will contribute to the development of the home country through greater remittance flows.

This study examines the potential impact of increased migration on the East and South-East Asian economies, in light of these projected demographic changes. These potential impacts are analysed using a global dynamic simulation model, with migrant labour flows and remittances used to examine the impact of migration. The global dynamic migration model is based on the Dynamic GTAP (GDyn) model, developed by McDougall and Ianchovichina (2001) and the GMig2 model developed by Walmsley et al. (2007). The nature of both demographic changes and migration for individual countries and its effect on other countries justifies the use of a global dynamic economic simulation framework that can account for the factor and price changes that will arise from the substantial labour force changes induced by demographic transition and migration.

For the analysis, we develop a scenario that takes into account the impact of the demographic changes expected to occur in Asia over the next four decades to 2050. Population and skilled and unskilled labour forecasts are imposed exogenously, in combination with assumptions regarding growth, technological change and capital accumulation. The scenario also accounts for the impacts of the recent global financial crisis. We then allow migration in Asia to respond endogenously to the changes in wages resulting from the expected growth and demographic changes over the next four decades.

While migration would be unable to offset the economic impacts of the declining labour forces in the countries with shrinking populations, a more flexible migration policy, allowing migrants to respond to the major demographic changes occurring in Asia over the next 50 years, would be beneficial to most economies in the region in terms of real incomes and real GDP over the 2007-2050 period. Such a policy could deeply affect the net migration position of a country. Countries that were net recipients under current migration policies might become net senders under the more liberal policy regime.

GTAP Events

2011 African Short Course in Global Trade Analysis

"Introduction to Applied General Equilibrium Analysis in a Multi-Region Framework"

April 10-16, 2011 | United Nations Conference Center | Addis Ababa, Ethiopia

The objectives of this course are to introduce participants to a standardized framework for conducting global trade analysis in an applied general equilibrium setting, provide hands-on training with software that has been tailored to global trade analysis and give participants the opportunity to interact with economists working on global trade and resource use issues while becoming part of an international network.

A select group of 25 participants, representing 17 different nations, has been chosen to participate in this course.

For further information, please visit: www.gtap.agecon.purdue.edu/events/Short_Courses/2011-African/.



UN Conference Center
Addis Ababa, Ethiopia

14th Annual Conference on Global Economic Analysis

"Governing Global Challenges: Climate Change, Trade, Finance and Development"

June 16-18, 2011 | Ca' Foscari University of Venice, San Giobbe Campus | Venice, Italy

The overall theme of the conference is "Governing Global Challenges: Climate Change, Trade, Finance and Development" with minor sub-themes on environment and climate; trade; distributional and equity issues; dynamics and growth; energy supply and security; international health issues; poverty, employment and development; conflicts; natural resources supply and security; methodology; and software and data.

Registrations for this event are currently being accepted through April 30, 2011.

For further information, please visit: www.gtap.agecon.purdue.edu/events/conferences/2011/.



Ca' Foscari University of Venice
Venice, Italy

19th Annual Short Course in Global Trade Analysis

"Introduction to Applied General Equilibrium Analysis in a Multi-Region Framework"

August 6-12, 2011 | Purdue University | West Lafayette, Indiana, USA

The objectives of this course are to introduce participants to a standardized framework for conducting global trade analysis in an applied general equilibrium setting, provide hands-on training with software that has been tailored to global trade analysis and give participants the opportunity to interact with economists working on global trade and resource use issues while becoming part of an international network.

Applications for this course are currently being accepted through February 20, 2011.

For further information, please visit: www.gtap.agecon.purdue.edu/events/Short_Courses/2011/.



Purdue University
West Lafayette, USA

Center for Global Trade Analysis Activity

The Center for Global Trade Analysis staff and graduate students have been busy presenting and publishing the following:

Travel and Presentations

Alla Golub presented poster "Modeling the Heterogeneous Effects of GHG Mitigation Policies on Global Agriculture and Forestry" by Alla Golub, Benjamin Henderson, Tom Hertel, Steve Rose, Brent Sohngen. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, 13-17 December, 2010.



Golub

Alla Golub presented paper "Effects of GHG Mitigation Policies on Livestock Sectors" by Alla Golub, Benjamin Henderson, Tom Hertel, Steven Rose, Misak Avetisyan and Brent Sohngen. Presented at the International Agricultural Trade Research Consortium, Berkeley, CA, December 12-14, 2010.

Badri Narayanan Gopalakrishnan gave a talk on "The Global Trade Analysis Project", for the *Network and Complex Systems Talk Series* at the Cyberinfrastructure for Network Science Center, Indiana University Bloomington, USA, on December 6, 2010.

Badri Narayanan gave a seminar on "Impacts of Tariff Liberalization of Indian Auto Industry: Application of a CGE Model on disaggregated sectors" at Madras Institute of Development Studies, Chennai, India on November 12th, 2010.

Badri Narayanan gave a seminar on "International Trade and Pollution Abatement Costs in Indian Textile Sector" at Madras School of Economics, Chennai, India on November 12th, 2010 and South Indian Textile Research Association, Coimbatore, India on November 20th.

Hertel, T., W., M. Verma and D. Lobell (2010) "Biophysical and Economic Uncertainty in the Analysis of Climate Change Impacts on Agriculture", presented at the American Geophysical Union meetings, San Francisco, December 14, 2010.

Hertel, T., W. (2010) "Estimating the Gains from Trade due to Variety: Discussion", presented at the 30th Anniversary celebration of the International Agricultural Trade Research Consortium, Berkeley, CA, December 12, 2010.

Wally Tyner spoke at the Legislative Ag Chairs Summit in Phoenix, AZ on January 14 on the California low carbon fuel standard.



Tyner

Wally Tyner and Ismail Ouraich travelled to Rabat, Morocco, the week of January 17 for a workshop on Climate Change Impacts on Moroccan Agriculture.

About GTAP



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The Global Trade Analysis Project is coordinated by the Center for Global Trade Analysis, which is housed in the Department of Agricultural Economics at Purdue University.

The Center for Global Trade Analysis' mission is to provide leadership in economic policy analysis through better data, fostering collaboration, and research.

Guidance and financial support for the project is provided by the GTAP Consortium, which consists of national and international agencies, with further support provided by sales of the GTAP Data Base.

If you are interested in learning more about GTAP and the Center for Global Trade Analysis, please visit our website: www.gtap.agecon.purdue.edu.

