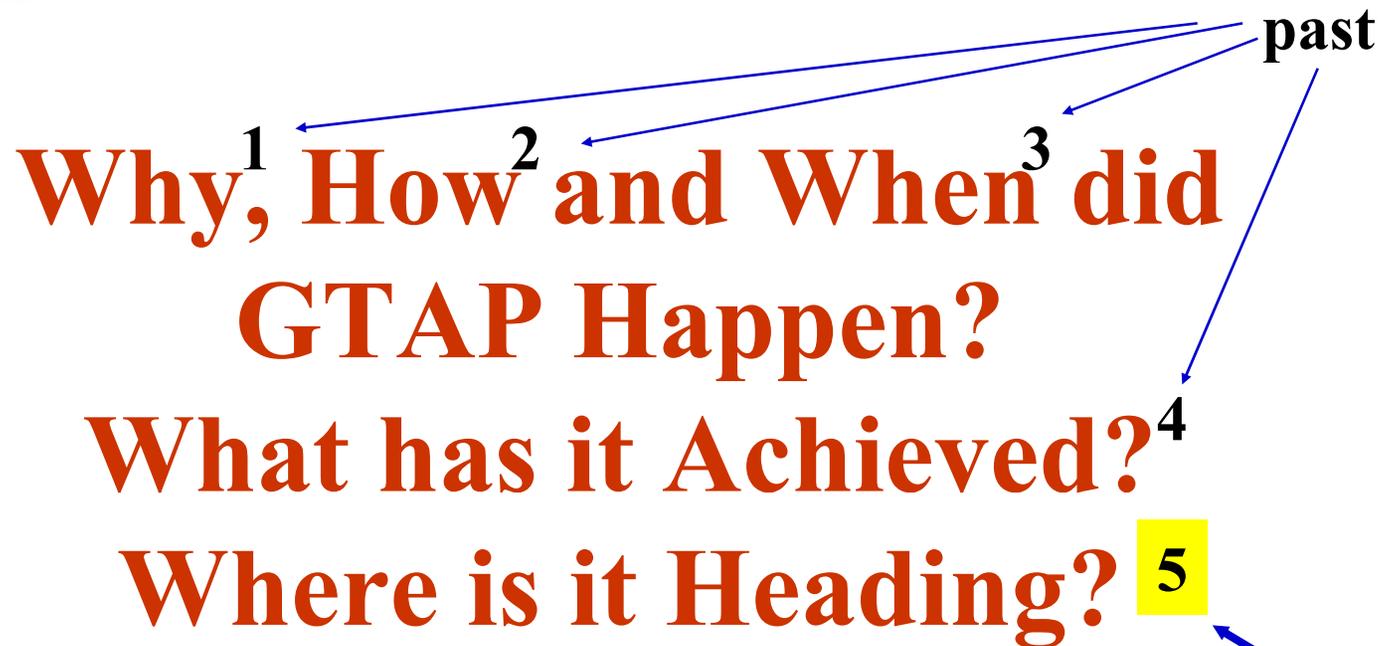


**Why¹, How² and When³ did
GTAP Happen?
What has it Achieved?⁴
Where is it Heading?⁵**



The diagram consists of blue arrows. One arrow points from the word 'past' to the superscript '1' in 'Why'. Another arrow points from 'past' to the superscript '2' in 'How'. A third arrow points from 'past' to the superscript '3' in 'When'. A fourth arrow points from 'past' to the superscript '4' in 'What has it Achieved?'. A fifth arrow points from a yellow box containing the text 'future PANEL' to the superscript '5' in 'Where is it Heading?'.

**So: this paper is
mainly about
GTAP's past**

**Alan A. Powell
Centre of Policy Studies
Monash University**

**future
PANEL**



CoPS

Overview (see Contents)

- Prehistory
- Getting Started
- Rapid Growth
- Data, Data, Data!
- Communication and Openness
- Training Courses in the use of GTAP
- Software

Left for
audience
to read
individually

All three are critical elements of GTAP's success

Overview (ctd)

- **Early Applications**
- **Expanding GTAP's Range**
- **Achievements to date**
- *Tom Hertel's Wish List*
- *Where to Now?*

**Left for Panel
discussion of GTAP's
future**

How it all started

In the mid-1980s, Dr. Tom Hertel became disillusioned with how CGE modeling was being conducted in Europe and North America.

Not only was the data unavailable publicly, there was no way to verify the results that economists were presenting at professional conferences.

His frustration led him to consider whether to continue in the field of CGE modeling or move on to another area.

— from the GTAP website,

<https://www.gtap.agecon.purdue.edu/about/history.asp>

Hertel's visit to Australia 1990-91

Why? he believed that the Australian experience in policy applications of general equilibrium modeling had been singularly successful, and he wanted to find out why.

Peter Dixon's view: AGE modeling flourished in Australia because it was the country with the **right issue, the **right institutions** and the **right model**.**

What about: the right people?

GTAP's potential supporters:

The USDA was a key player, and its Economic Research Service (ERS) was a logical ally. Among the international agencies, the World Bank was also a potential ally.

The first question was:

how to institutionalize their support?

This was a problem both for the agencies, who were not used to providing open-ended support for research, and for Purdue University, which was not accustomed to hosting consortia in which public agencies played a key role. Fortunately, Tom's boss at Purdue, Wally Tyner, an ardent supporter of GTAP, was able to convince the administration of the value of this undertaking, and, *after six months of legal wrangling* between Purdue and the World Bank, the GTAP Consortium came into existence.

Table 1

Foundation members of the GTAP Research Consortium

Institution	Representative at 1993 Advisory Board Meeting
Center for Global Trade Analysis Purdue University	Tom Hertel (Convenor)
World Bank (IBRD)	Will Martin
Economic Research Service (ERS) of the USDA	Matt Shane
Australian Industry Commission	Philippa Dee
Australian Bureau of Agricultural and Resource Economics (ABARE)	Vivek Tulpulé

Structure of GTAP Consortium 2006

[See Tables 2 & 3, pp. 6 & 7]

- **Publicly funded, based in academia**
- **Core support from 22 public agencies:**
10 international and 12 national, the latter located in 7 countries
- + 3 non-government:** **Purdue's Center for Global Economic Analysis**
MIT climate change group
One private consulting firm
- **Each represented on the Advisory Board**
- **Consortium provides bulk of source data as well as setting policy objectives**

International Agency Members of the GTAP Research Consortium 1997 and 2006

1997

2006

those listed on left, plus:

World Bank (IBRD)

Inter-American Development Bank (IDB)

World Trade Organization (WTO)

**International Food Policy Research
Institute (IFPRI)**

Asian Development Bank (ADB)

**Food and Agriculture Organization
of the UN (FAO)**

OECD Development Centre

**UN Conference for Trade and Develop-
ment (UNCTAD)**

European Commission

UN Economic Commission for Africa

+ 12 National Agencies (see Table 2) located in seven countries →

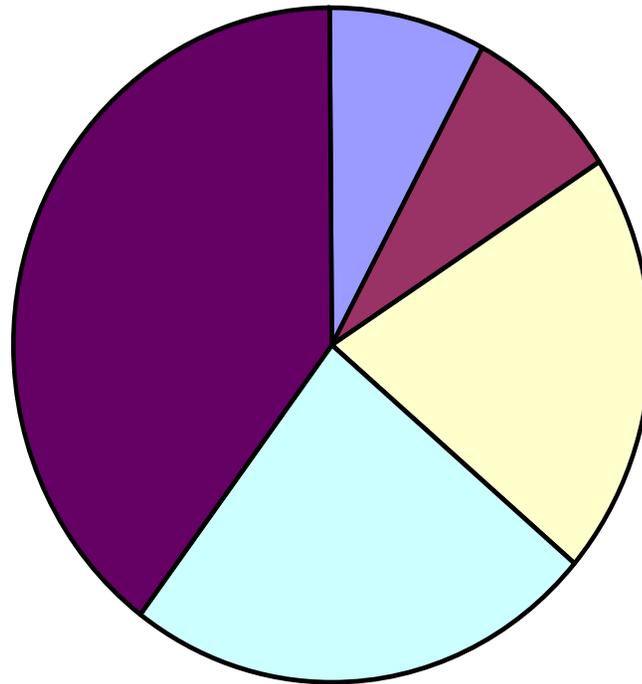
CoPS

Table 2

Members of the GTAP Consortium other than International Agencies, 1997 and 2006

1997	2006
<ul style="list-style-type: none"> • Agricultural Economics Research Institute (LEI-DLO) The Hague, The Netherlands • Australian Bureau of Agricultural and Resource Economics (ABARE) Canberra, Australia • Australian Centre for International Agricultural Research (ACIAR) Canberra, Australia • Center for Global Trade Analysis Purdue University, West Lafayette IN, USA • Danish Institute of Agricultural and Fisheries Economics (DIAFE) Copenhagen, Denmark • Economic Planning Agency Tokyo, Japan • Economic Research Service of the US Department of Agriculture (ERS) Washington D.C., USA • Electric Power Research Institute (EPRI), USA • Industry Commission (later Productivity Commission) Melbourne and Canberra, Australia • Netherlands Bureau of Economic Policy Analysis (CPB) The Hague, The Netherlands 	<ul style="list-style-type: none"> • Agricultural Economics Research Institute (LEI-DLO) The Hague, The Netherlands • Australian Bureau of Agricultural and Resource Economics (ABARE) Canberra, Australia • Centre d'Etudes Prospectives et d'Information Internationales (CEPII), Paris, France • Center for Global Trade Analysis Purdue University, West Lafayette IN, USA • Danish Research Institute of Food Economics (FOI) Copenhagen, Denmark • Economic and Social Research Institute (ESRI) Tokyo, Japan • Economic Research Service of the US Department of Agriculture (ERS) Washington D.C., USA • Environmental Protection Agency, Economy and Environment Division (US-EPA) Washington D.C., USA • Federal Agricultural Research Centre (FAL) Braunschweig, Germany • International Trade Commission (US-ITC) Washington D.C., USA • MIT Joint Program on the Science and Policy of Global Change Cambridge MA, USA • Nathan Associates, Inc Arlington VA, USA • Netherlands Bureau of Economic Policy Analysis (CPB) The Hague, The Netherlands • Productivity Commission Melbourne and Canberra, Australia • Research Institute of Economy, Trade and Industry (RIETI) Tokyo, Japan

2006 GTAP Consortium Members



Australia 2

Japan 2

N Eur 5: Dmk Ned 2 Fr Ger

USA 6

International 10

*GTAP Philosophy: One data set,
many models*

- **Economists generally prefer to develop their own models, but they are happy to blame someone else for the data!**
- **But in order *to be credible in the policy arena, the data are key.***
- **GTAP pools data base development efforts, while letting a thousand “modeling flowers” bloom.**

GTAP Data Base

- **Global coverage:**
 - **version 1: 13 regions and 37 sectors: 1993**
 - **version 6: 87 regions and 57 sectors: 2004**
- **Philosophy: Find the best person in the world to do the job and sell them on it!**
- **The GTAP research center establishes standards and coordinates work:**
 - Bilateral trade data/shipping margins: USDA**
 - Protection data: CEPII/OECD/WTO/IBRD/UNCTAD**
 - National data bases: national collaborators**

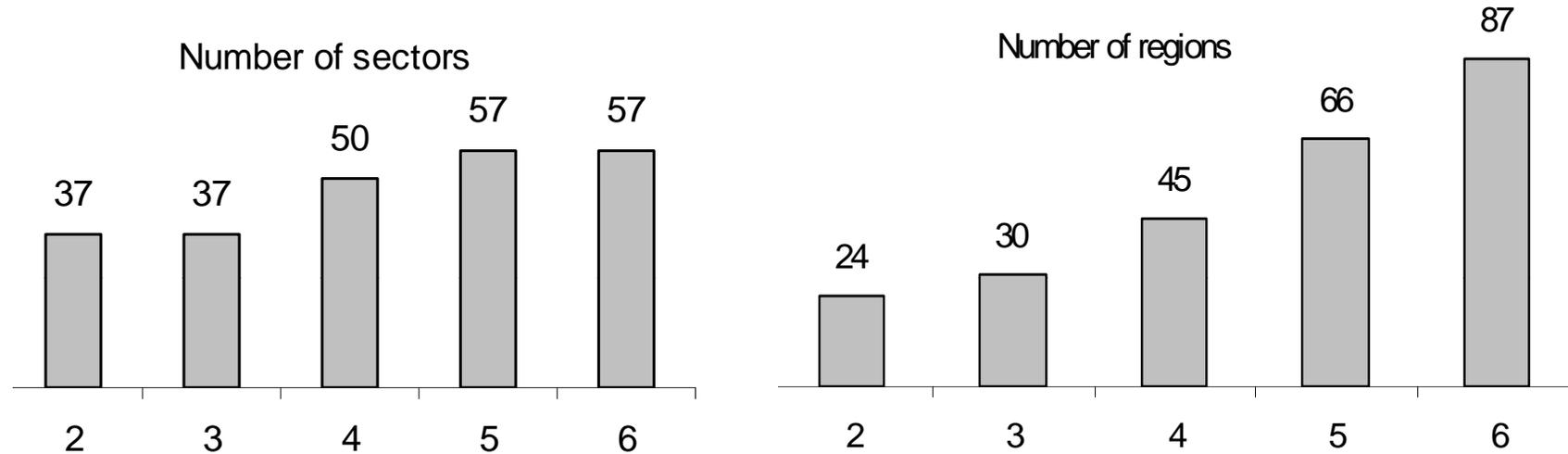


Figure 2: Increase of sectoral and regional detail in GTAP Data Bases 2 through 6

Release dates:

Data base version: 2 3 4 5 6
 1994 1996 1998 2001 2004



*Early GTAP Applications Appearing in
the 1997 GTAP Monograph**

Author/s	Application
Robert McDougall and Rod Tyers	Developing country expansion and relative wages in industrial countries
Donald MacLaren	An evaluation of the Cairns Group strategies for agriculture in the Uruguay Round
Linda M. Young and Karen M. Huff	Free trade in the Pacific Rim: On what basis?
Yongzheng Yang, Will Martin and Koji Yanagishima	Evaluating the benefits of abolishing the MFA in the Uruguay Round Package
Marinos E. Tsigas, George B. Frisvold and Betsey Kuhn	Global Climate Change and Agriculture
Carlo Perroni and Randall Wigle	Environmental Policy Modeling
George B. Frisvold	Multimarket effects of agricultural research with technological spillovers

* Source: Thomas W. Hertel (ed.) (1997), *op. cit.*

Expanding GTAP's Range

Since 1997, model & data extended to deal with contemporary issues:

- energy
 - the environment
 - international movements of labor
 - the Doha Round
-

Data base on

- Land Use
 - Green House Gases
- sponsored by the US EPA.

Terrie Walmsley at GTAP, together with:

- **Sussex University's Development Research Centre on Migration, Globalization and Poverty,**
- **the U.K. Dept for International Development, and**
- **the World Bank**

developed a *bilateral migration data base* ...

.... includes a 226×226 bilateral matrix showing home and host countries of world's 176.6 million international migrants. An aggregation is available as an 87×87 matrix in which home and host correspond to the regions of the GTAP 6 Data Base.

The essential ingredients of today's GTAP are:

- a data base giving factual evidence of the patterns of production and bilateral trade flows among regions around the world
- an international network of agencies and individuals contributing to this data base
- detailed information about taxes on trade flows
- a highly skilled central group of analysts at Purdue who reconcile disparate information into a global data base that is free from internal contradictions

- a **Consortium** supporting GTAP financially which includes most of the important international economic policy agencies (see Table 3), plus a dozen national economic policy agencies in seven countries (see Table 2)
- a **core AGE model** of world production and trade disaggregated into **87** regions and **57** sectors
- access to **software** that has been tailored to global trade analysis and which does not require programming skill

- a program of distance-plus-residential **intensive training courses** in applied general equilibrium analysis (centered on the core GTAP model and its supporting data base) which offers courses annually at Purdue, and which has held other courses in Europe, Africa, Latin America and South Asia
- a **large network** of researchers using GTAP as major tool for policy analysis who are linked via the worldwide web and who make use of, and contribute to, the GTAP web site
- extraordinarily insightful and energetic **leadership** of the Project by its **founder**, by its current **Director**, and by their **colleagues**.