IATRC

INTERNATIONAL AGRICULTURAL TRADE RESEARCH CONSORTIUM

Celebrating the First Thirty Years

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INTRODUCTION

At the December 2010 annual general meeting of the International Agricultural Trade Research Consortium (IATRC), the traditional Theme Day was organized as a celebration of the 30 year anniversary of that institution and was titled *Trade in Agriculture: So Much Done, So Much More to Do*. In the aftermath of that meeting a proposal was made that the 30 year history of the IATRC should be written while those who had lived through the full period were still available to provide the necessary institutional memory. The Executive Committee agreed and allocated $2000 to the project as a token of their serious support, while Alex McCalla, Ed Rossmiller and Laura Bipes agreed to see it to fruition. It soon became clear that in the tight fiscal environment of the time, further funding would not be forthcoming. Thus the team decided that if they did most of the work themselves they would be able to publish the results of their efforts as an e-book on the internet, but would not have the resources to produce any paper copies.

They also determined that in addition to the three major papers (unfortunately, the fourth major presentation by Valeria Csukasi, *Future Challenges in Agricultural Trade Negotiations*, is not available to us for inclusion in this manuscript) and the panel presentations at the 30th anniversary theme day, several other documents were available that detailed much of the rationale for the creation of the IATRC, its evolution and its output over the period.

The first of these documents is IATRC Objectives, Organization, Operations and Origins, the so called 'Blue Book', the latest edition of which is Edition VI dated April 2010. The Blue Book is a rolling record of the decisions taken at the meetings of the membership and the Executive Committee and a listing of the various outputs of the Consortium since its beginning. Since the Blue Book is revised and updated periodically and is publically available on the IATRC website

(http://iatrc.org/about/bluebook/BlueBook2010.pdf) it will only be referenced here as needed rather than being reproduced in its entirety.

The second of the documents is *An Analytical History of the IATRC* by Tim Josling, Alex McCalla and T. Kelley White, as requested by the Executive Committee and published in October 1997. It is reproduced here in its entirety.

Another pair of documents that add to the historical picture are the report dated December 2004 to the Executive Committee and the membership as requested by the IATRC Chair, Tim Josling, by the Futures Steering Group consisting of Mike Gifford, Joe Glauber, Stefan Tangermann, Linda Young and Alex McCalla, Chair, and the January 2011 Status Report on IATRC: Progress on Recommendations of the Futures Steering Group by the 2010 Executive Committee. These two documents are also reproduced in their entirety.

PART I

Theme Day

Trade in Agriculture: Much Done, So Much More to Do

CHAPTER 1

Birth of the IATRC

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THE FIRST DISCUSSIONS

In April 1977 a Symposium on International Trade and Agriculture was held in Tucson, Arizona. The meeting was organized by Jimmye Hillman, University of Arizona, and Andy Schmitz, University of California, Berkeley, and they published the proceeding in 1979 as *International Trade and Agriculture: Theory and Policy*. At the end of that meeting a small group from the west coast—let's call them the "West-Coast Trade Group" (WTG) met (around a piano) to discuss "follow-up." While there is no formal record of who was there, what was drunk, or discussed, it surely involved Andy Schmitz, Jimmye Hillman, Alex McCalla, University of California, Davis, and Tim Josling (soon to be joining Stanford University), all of whom presented papers. It could also have included Roger Gray and Scott Pearson of Stanford University who participated in the Symposium. The conclusion of the discussion, remembered more clearly by some than others (victims of the fog of spirits or just the passage of time), was that there was need for a mechanism of interaction for those interested in Agricultural Trade.

The common concern of the WTG was that there was at that time little communication among those at different institutions on issues of agricultural trade at a time when international issues were becoming a more important aspect of agricultural policy research. These issues included the turbulent commodity markets of the 1970s, the rising importance of the EU agricultural policy as a factor in trade tensions, the role of marketing institutions in a non-competitive world grain market, and the inability of the GATT to address the rules for international trade in farm products. Above

all was the feeling that current ways of addressing agricultural trade issues and the interface with domestic policies were inadequate to the task at hand.

THE WTG AND STANFORD SEMINAR

The first recorded meeting of the WTG was in Berkeley on April 11, 1978 with Jimmye Hillman, Tim Josling, Alex McCalla, Aleco Sarris and Andy Schmitz, University of California, Berkeley. The meeting discussed options for collaboration – go big for a national initiative or "a more limited collaboration beginning from the nucleus of those present which would involve exchanges of information and informal collaborative research among those who shared common interests." The second approach was preferred so the remainder of the meeting involved each participant outlining their research interests.

The group met again June 2, 1978 at Stanford where Gordon King of UC Davis joined to round out the Founding Six: Hillman, Josling, King, McCalla, Sarris and Schmitz. It was decided that we should write six position papers "… to identify the major current and emerging policy issues relating to agricultural trade, to evaluate the current status of research on these topics and to identify needed areas of future research." These papers would be first cross-reviewed within the group and then presented to a broader group of experts for further critical review.

This process would take time and need money so it was decided to seek external support. At subsequent meetings held June 29 and September 21, 1978 in Berkeley, a proposal to the Ford Foundation was developed asking for $12,200 for preparatory group meetings and the holding of a small intensive working seminar in California to review the papers.

The proposal to the Ford Foundation was submitted on September 26, 1978 and was granted for the full sum on November 14, 1978. The group met again November 28, 1978 at Stanford to share paper outlines, "consider these in depth and … to decide on a timetable for subsequent meetings." They agreed to a two day retreat at Dillon Beach, California to critically review each other's papers. That retreat was held February 9–11, 1979. All recall this as an intense but productive event with the resulting seven papers being presented to a Seminar held at Stanford March 26 and 27, 1979.

Nineteen people attended that working seminar, including representatives from USDA, Agriculture Canada (AC), The Canadian Wheat Board, and International Food Policy Research Institute (IFPRI). The Group also used the opportunity to involve other individuals and institutions and to plan follow-on steps. Two key decisions were taken. The first was to revise the papers and try to find a publisher and the second was to seek funding to establish a Trade Research Group.

A May 14, 1979 meeting at Davis worked to consolidate the seminar papers revisions into proceedings and to decide where to submit them. They were first submitted to Stanford's Food Research Institute Studies (FRIS) for consideration to be published as a special issue. After careful review, FRIS decided the papers were not consistent with FRIS's policy of publishing only completed research and suggested the group consider alternative outlets. While exploring alternatives, including the Giannini Foundation of UC, the group came in contact through Josling, with a book publisher, Allenheld-Osmun. The papers were submitted to Allenheld-Osmun for review and accepted for publication. A contract was duly signed on April 16, 1980 and the papers were published as *Imperfect Markets in Agricultural Trade*, (edited by McCalla and Josling) by Allenheld-Osmun in 1981.

THE IATRC IS BORN

The second decision taken at the Stanford meeting was to seek funding to establish a trade research group. After that meeting there were many conversations with Ken Farrell, Administrator of the USDA's Economics, Statistics and Cooperatives Service (ESCS), about forming a group and getting funding. In these conversations ESCS emphasized that selectively expanding the group to include interested colleagues in other regions would enhance chances of funding. The group had further encouragement to go "international" from Ralph Lattimore of Agriculture Canada. He urged trying "… to find a vehicle to keep the small group of agricultural trade researchers in North America together on a regular basis," March 29, 1979. An advanced draft proposal was submitted to Ken Farrell on December 12, 1979.

Encouraged by initial positive reactions from ESCS, the group used a meeting planned to wrap up the Ford Foundation grant at Stanford on December 17 & 18, 1979 to further develop the case. The first day was devoted to wrapping up a final report to the Ford Foundation and the whole second day was spent finalizing the proposal to ESCS. Attending that meeting were the Founding Six: Hillman, Josling, King, McCalla, Sarris, and Schmitz, who were augmented by three additional invitees, Charles Hanrahan of ESCS, Ed Schuh of the University of Minnesota and Bob Thompson from ESCS and Purdue.

THE FINAL PROPOSAL

"We propose a national consortium of individuals in selected institutions to encourage continuing trade research in the Universities and to build a continuing relationship with ESCS. We believe it is in our and ESCS's interest to have a continuing interaction between trade researchers and the policy process.

Objectives:

A. *To foster sustained efforts in International Agricultural Trade research with emphasis on trade policy and the interface between domestic agricultural policy and international markets;*

B. *To encourage interactions among University researchers doing and/or interested in agricultural trade research;*

C. *To encourage interactions between University and USDA researchers on a sustained and collegial basis;*

D. *To provide a vehicle for U.S. policy makers to seek advice on research needs and policy issues from active researchers and also for policy makers to request and receive research output relevant to national policy issues; and*

E. *To foster and support graduate student interest and research in international trade policy issues and thereby expand the pool of available research talent.*

It concluded that: *"Trade research is inherently difficult and expensive. It requires sustained intellectual attention and funding. Longer term availability of a vehicle to get such support would do much to sustain faculty and graduate student interest in all aspects of trade policy including national and regional implications."*

THE ESCS APPROVAL AND FIRST MEETING

The final proposal was submitted to ESCS in April 1980. ESCS (ESCS reverted to its original name Economic Research Service (ERS) in mid-1981) awarded the grant in the spring of 1981 through a cooperative agreement with UC Davis which provided funding through September 1981. The objectives agreed upon were modified and shortened to three:

1. *"To foster sustained efforts in international trade research with emphasis on domestic impacts of policy developments in international commodity markets;*

2. *To encourage and facilitate interaction between IED (International Economics Division, ERS/USDA) and university trade policy researchers;*

3. *To provide a forum for the exchange of research results, and identification of problems and policy issues requiring research."*

The first meeting of the now formally named International Agricultural Trade Research Consortium (IATRC) was held on the St. Paul Campus of University of Minnesota, June 30 to July 2, 1980. The meeting was attended by: five of the Founding Six: Hillman, Josling, McCalla, Sarris, and Schmitz; plus Colin Carter, a student at UC Berkeley, Charles Hanrahan, ESCS/USDA, Scott Pearson, Stanford University, Ed Rossmiller, Foreign Agricultural Service, USDA, Ed Schuh, University of Minnesota, Vern Sorenson, Michigan State University, Gary Storey, University of Saskatchewan, and Bob Thompson, Purdue University. (These people are now dubbed the Original 13). The title of the meeting reflected interests in two then current topics of interest: 1) Agricultural Trade Implications of the European Community (EC), and (2) Enlargement: North American Common Market."

FAS/USDA joined in 1981 and began funding the IATRC in 1982–83. Cooperative Agreements with The University of Arizona—ERS $17,500 and FAS $ 8,750—funded the Consortium September 1981 to December 1982.

Agriculture Canada also joined in 1981 and began funding Canadian participation. Agriculture and Agri-Food Canada became a core funder in March 1991.

(Authors' note: One year after the 30th Anniversary Meeting, the Office of the Chief Economist, USDA became a funding agency in 2011; the United States International Trade Commission, in September 2012.)

So here we are 30 years later having a party just like old times, celebrating an organization that has helped to stimulate research and outreach on a changing array of trade issues and which has prospered and grown to include over 200 members from 22 countries.

VIVA IATRC!

REFLECTIONS ON IATRC'S 30TH ANNIVERSARY

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It's a pleasure to be able to say a few words at this reception celebrating the 30th anniversary of the IATRC. For some of us who are members and were graduate students in the early and mid-1980s, we are, professionally-speaking, children of the consortium. Thirty years—that means we are celebrating something like the 60th meeting. What a volume of substantive material has been presented and discussed in these meetings, including earlier today. A bit of this content will come up incidentally in the few remarks I have, but really they focus on process and community. It was certainly one of the objectives of the founders that the IATRC become a forum, as it has, for mentoring and learning through informal interactions. For me, pursuing a program on agricultural trade from Blacksburg, Virginia (not exactly the center of trade activity or policy) at a time when a FAX(!) was a remarkably fast way to communicate, the consortium played an essential nurturing role.

The story actually starts earlier. I was a second-year graduate student of Ed Schuh and Terry Roe when the new consortium met in a small hotel in Roseville, Minnesota. In those early days, membership was a privileged status—member's expenses were fully covered and in return they had committed to attending all of the bi-annual meetings. Still, to one Roseville session as a graduate student I was invited to present dissertation ideas—a concept that survives in the consortium's dissertation reports. I talked about ideas of flexible commodity price movements along lines of the Dornbusch exchange rate overshooting model. What I remember was my first encounter with Andy Schmitz. He loomed large in the audience and, it seemed to me, gave a node that what I had presented sounded like a dissertation prospect. What a boost.

Another lasting recollection is Bob Thompson bringing Clayton Yeutter (then the U.S. Trade Representative involved in the Uruguay Round) to the consortium. For a Blacksburg professor it was an eye opener to watch Clayton take over and work the room. Here was a senior policy maker in the flesh, and at our meeting. Wow. No one could have known then that 20 or so years later, Clayton would magnanimously agree to make discussion remarks, and would again command the room, when David Blandford, Tim Josling, Lars Brink and I launched an edited book on the WTO disciplines on agricultural support at an IFPRI policy seminar.

Tim Josling has come up as well he should. When I was thinking about a sabbatical in the late 1990s and hoped to spend a year at a very good (top notch) university, I gathered my courage to approach this towering figure who to that point I had mostly been in meeting rooms with, not interacted with personally. The opportunity arose when we crossed on a path between two buildings. I spoke; he replied. What I learned was that this great intellectual bear was in person soft, encouraging and approachable. Who would have known that a decade later we would have written a book together with Donna Roberts. Not everything happens at the IATRC—I don't recall it being where Donna and I first became engaged in working together. But it was at a lunch at an IATRC meeting, and building on an early theme day on Understanding Technical Barriers to Trade, that the three of us agreed to write little primer on these issues—say, over the next nine months (it proved 4 years). And it was at a consortium meeting that I was struck to have four

academic generations together in a conference: Ed, myself, my former student Suzanne Thornsbury (who had helped with the theme day proceedings) and one of her students.

Two observations on Alex McCalla, who can be rough on a fragile soul. When the consortium met in Costa Rica one summer, a group (of seven) from my extended family took advantage of the opportunity and had gathered for breakfast the day after. Alex came over and made everyone feel welcome. And many years later, another consortium meeting came down to its last long hours. There sat Alex in the back of a mostly empty room—engaged and participating beyond any reasonable call of duty.

My memories of the consortium process would not be complete without mentioning Lars Brink and our time together (and with others) on the executive committee and working with Laura Bipes. Lars and Laura are rightly recognized as stalwarts of the consortium for their steady-handed service and promotion of it over many years. I learned the value of that steady and purposeful commitment and resolve, and with Lars found another partner for future work.

Two last observations. One is about the pure vitality of this group. At a consortium lunch in San Diego, I was struck by the din of many conversations—the room was abuzz. And this was in the lull between the Uruguay Round and the start of Doha. I remember thinking, if this is the level of energy now, imagine what it will be when Doha gets underway. Who would have known that the consortium's energy would have to endure through failure to reach a Doha agreement so many years later. The IATRC had established that Uruguay brought a new architecture to the international rules for agricultural trade and support. The substantial liberalization and reduction of distorting support would have to come in a round to follow. How unfortunate the outcome so far.

The final observation is more personal. The summer we met in Costa Rica my niece, Shannon Ladeau, had spent spring semester there. As we were having opening-reception drinks, in she slid, shoeless, young, vivacious. Let me just say she made quite an impression on some southern friends (who shall remain anonymous). For several years after the questions was always "And how is the lovely Shannon Ladeau." Well, the lovely Shannon is now Dr. Ladeau, an environmental scientist. Perhaps the consortium members made an impression on her too.

There are many other moments, many other memories and friends. We wish Ed was here with us, as he is in spirit. Let's drink to the IATRC. ■

CHAPTER 2

The Global Context that Forged the IATRC

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RESOURCES FOR THE FUTURE

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The 30 years of activities of the IATRC need to be viewed and appraised in the context of the events and processes taking place in the world that particularly affected agricultural trade and trade policy. While the IATRC was founded in 1980, the agricultural trade environment and the forces at work leading to its establishment were active from a much earlier period. We will trace some of that history as it affected the establishment and the agenda if the IATRC.

CONFLUENCE OF FORCES AND EVENTS LEADING TO FORMATION OF THE IATRC

Force 1: Restructuring of the Global Economic Architecture

The collapse of the international trading system, the economic depression of the 1930's and World War II lasting until the mid 1940's destroyed past political, and economic roles and relationships. The U.S. emerged in a dominant world leadership position that it could not ignore. U.S. hegemony in global economic, trade and political affairs lasted uncontested until the mid 1960's. The 1944 Bretton Woods institutions, the International Bank for Reconstruction and Development (IBRD or World Bank) and the International Monetary Fund (IMF) along with the General Agreement on Tariffs and Trade (GATT)[1] resulting from the 1947 Havana Conference were established after WWII to deal with multilateral development, finance and trade relationships respectively. They were subsequently tested and found rea-

1 The International Trade Organization proposed by the 1947 Havana Conference was not ratified by the U.S. Congress on the grounds that it would usurp U.S. national sovereignty, thus leaving the world with only a set of trading rules known as the GATT.

sonably adequate to the tasks expected of them. Trade liberalization occurred, mainly on the industrial side through a series of multilateral trade negotiations under the auspices of the GATT to reduce trade barriers, principally tariffs.

Force 2: Changes in US Agricultural/Trade Policy

While the orientation of U.S. trade policy has shifted through time, the focus of agricultural interests reflecting a basic export objective has always been toward trade liberalization. This basic thrust has not held for dairy, sugar, tobacco and some of the other import competing commodities. And some would argue that the Section 22 legislation and the waiver that grandfathered it into the GATT is proof positive that agriculture is basically protectionist. But Section 22 provided for border protection mainly in the form of quotas, not to protect agriculture per se, but rather to protect the ability of the government to carry out effectively the mandated agricultural price support programs without undue cost to the Treasury.[2] With the changes in agricultural support programs, partly as a result of compliance with the Uruguay Round Agreement on Agriculture the U.S. finally gave up the Section 22 waiver in January 1995 as it was no longer relevant.

Although the U.S. trade orientation switched from protection to liberalization after the 1930's, domestic agricultural policies did not fully align to that orientation until the late 1960's. Between the development of the New Deal agricultural policies of the 1930's and the changes that took place in the 1960's, agricultural programs were based on price support measures that placed a price floor at levels usually above market clearing equilibrium levels. As a result the U.S accumulated large surplus stocks of commodities during the 1950's and 1960's. Many of these surplus stocks went into the world market, in part under the guise of humanitarian food aid through PL-480 programs and in part through commercial sales by the Commodity Credit Corporation at prices lower than those prevailing in the domestic market through the use of export subsidies.[3]

Beginning with the 1965 Farm Bill, the Food and Agriculture Act, a compromise slowly emerged between domestic price and income support objectives and the international trade objective for agriculture. Farm programs for major commodities switched from direct price supports to income support measures that made up the difference between the market price or loan rate and the price support target. This was accomplished first through redeemable market certificates and later through deficiency payments. This change in policy merged the U.S. domestic market and the international market into a single entity and established a single price in both markets. Thus the price faced by most U.S. producers became a meaningful signal of actual demand and supply relationships as they exist in the world marketplace.[4] However, support programs were still tied to levels of production on individual farms and thus remained trade distorting. It took another 30 years of farm bills before support payments were decoupled from levels of production (the 1996 farm bill) and were thus deemed to be non-trade distorting and acceptable under the rules of the GATT and the new World Trade Organization.

2 In 1951, Congress added a paragraph to Section 22 that read in part, "no international agreement heretofore or hereafter entered into shall be applied in a manner inconsistent with this Section". In 1955, the U.S. sought a "temporary" waiver in the GATT for Section 22 and under the threat of U.S. withdrawal from the GATT, due to the inconsistency of GATT rules and U.S. Legislation, the waiver was granted by the GATT contracting parties.

3 Some would argue that during this period the dollar, for a variety of reasons, was overvalued and that the implicit subsidy in the PL-480 program and the explicit subsidies in the commercial market were justified on that basis.

4 The above historical discussion is based on Mangum, Fred A. and George E. Rossmiller, "Trade Protection Versus Trade Liberalization: A Dilemma for the United States". Paper presented at the First International Food and Finance Conference, 'International Food, Finance and Agricultural Trade: Critical Issues for the 1980's", Minneapolis, Sep 12-14, 1982.

Force 3: The Formation of the EEC and its Common Agricultural Policy (CAP)

Without doubt the single most important event of the Post-WWII period to affect agricultural trade and global agricultural trade relations was the establishment and subsequent implementation of the European Union's Common Agricultural Policy (CAP), which in 2013 affected directly 12 million full time farmers in 28 countries with a total population of just over 500 million..

The 1957 Treaty of Rome brought into existence the European Community (now the European Union) consisting of the original 6 members – Belgium, France, Germany, Italy, Netherlands, Luxembourg. It established the Common Agricultural Policy (CAP)[5] with the following objectives:

1. to increase productivity;
2. to ensure a fair standard of living for the agricultural Community;
3. to stabilise markets;
4. to secure availability of food supplies;
5. to provide consumers with food at reasonable prices.

and with the following principles:

1. Market unity, common prices and a free flow of agricultural products across regions and countries within the EC;
2. Community preference, product preferences in the internal market over foreign imports through common tariff walls;
3. Financial solidarity, through common financing of CAP programs.

From its implementation in 1962 the Common Agricultural Policy was production enhancing and export oriented. As the common prices were established originally the Germans held out for high prices to protect their small, resource disadvantaged farmers, particularly in Bavaria. As a result the relatively larger more resource advantaged French farmers, particularly in the Paris basin, and the Italian farmers in the Po Valley capitalized on the high prices and increased production very rapidly. With surpluses exported into the international market mainly through the use of export subsidies came a rising number of trade disputes primarily with the U.S.

It is useful to note that during the 5 year period following the implementation of the common price regime of the CAP (1963-1967) Community grain imports averaged 20 million metric tons (mmt) per year. By 1981-82, the EC had become a net exporter of 6 mmt of grain and by 1992-93 net EC exports of grain were just under 27 mmt, a massive shift of 47mmt in a global wheat and feed grain market of about 200mmt in less than 30 years. Moreover, between 1970 and 1990, the enlarged Community moved from being a major importer to being the world's largest exporter of meat, dairy products and sugar in a span of only two decades.[6]

EU enlargement brought in the United Kingdom, Ireland and Denmark in 1973; Greece in 1981; and Spain and Portugal in 1986 to bring the total to EU-12.[7] The CAP survived these accessions virtually unchanged. The first reforms (the MacSharry Reforms) took place in 1992 beginning the shift of farm support from price support to direct payments, by lowering support prices and bringing in direct payments to compensate. The direct payments were based on histori-

5 www.ers.usda.gov/topics/international-markets-trade/countries-regions/european-union/common-agricultural-policy.aspx

6 McCalla, Alex F. "Agricultural Trade Liberalization: The Ever-Elusive Grail" American Journal of Agricultural Economics. December 1993, pp. 1102-1112.

7 German reunification in 1990 brought in the former East Germany without changing the total.

cal yields and were accompanied by new supply control measures with a mandatory paid set-aside program. Austria, Sweden and Finland joined the EU in 1995 to become the EU-15.

The second round of reforms, Agenda 2000, was implemented in preparation for the accession of the 10 new members (EU-25), primarily from Central and Eastern Europe, joining in 2004.[8] These reforms cut support prices further and used direct payments to compensate half of the loss from the price cuts. As with the 1992 reforms, farmers had to produce the commodity to receive the payment.

A third round of reforms in 2003/04 resulted in some renationalization of farm policy which gave member states discretion over timing and modes of implementation. They also provided for decoupled payments (designated Single Farm Payments) based on 2000-2002 historical payments and replacing the compensation payments of the 1992 and 2000 reforms. Rumania and Bulgaria joined in 2007 (EU-27).

A fourth round of reforms in 2008 reduced Single Farm Payments to larger farms and abolished the set-aside scheme. It also increased the budget for the second pillar, the rural development budget.

The reforms of 2013 included a plan for convergence of the per hectare payments across countries and across farms within countries. In addition, 30% of direct payments will be linked to three environmentally friendly farming practices: crop diversification, maintaining permanent grassland and conserving 5%, and later 7%, of areas of ecological interest. Finally, further support will be allocated to helping young farmers, to less favored areas and measures to promote sustainability and combat climate change. Moreover, the amount of funding to support research, innovation and knowledge-sharing will be doubled. In 2013, Croatia became a member bringing the total to EU-28.

The formation of the EU helped bring about the IATRC and its evolution over time greatly influenced the subsequent agendas of the IATRC.

WORLD EVENTS

World events of many kinds have had a profound effect on the fortunes of agricultural sectors every where. We mention a few of the major ones here.[9]

Event 1: The Great Grain Robbery and Price Spikes

In 1972 the Northern Hemisphere, including North America, Europe and the (then) USSR all had short cereal crops due to adverse weather. The most significant drop in production occurred in the USSR. Gross output of grain and pulses was reported to be 168 million metric tons in 1972 compared with 181.2 MMT in 1971 and 186.8 MMT in 1970. USSR potato production also dropped sharply from 92.7 MMT in 1971 to 77.8 MMT in 1972.[10]

The USSR changed policy from slaughtering livestock in the face of feed shortages to importing cereals to make up domestic production shortfalls. They came into the international market in a big way. Between 1971/72 and 1972/73 USSR imports of wheat and coarse grains increased by 15 million metric tons.

8 Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Malta, Hungary, Poland, Slovakia, Slovenia.

9 The following discussion is based on Rossmiller, George E., "Economic Research and Policy Analysis in International Organizations". Paper presented to the Italian Section of the EAAE and IAAE, Campobasso, Italy, Sep 21, 1994.

10 Schnittker, John A., "The 1972-73 Food Price Spiral", Brookings Papers on Economic Activity, 2:1973, The Brookings Institution, Washington.

Thus in 1972/73, wheat and coarse grain production was off 32 million metric tons, or a modest 3.5 percent; world agricultural trade doubled, mainly because of the Soviet's increased import demand; and prices of world food commodities rose 80 percent (54 percent in real terms).

The 1974 World Food Conference, called by the Food and Agriculture Organization of the U.N. (FAO) because of the perceived world food crisis, resulted in all-out food production policies, especially by the United States and the European Community, to feed a hungry world. Earl Butz, then US Secretary of Agriculture, admonished US farmers to "plant fence row to fence row" to do their part in feeding a hungry world. And respond they did on both sides of the Atlantic so that by the early 1980s both the US and the EU were again dealing with agricultural surpluses as pervasive as ever.

Event 2: OPEC

During the same period (1973) the Organization of Petroleum Exporting Countries (OPEC) gave the world its first oil shock, with an overnight doubling of the price of oil. The oil price increase, as it rippled through national economies, increased the price of almost everything, notably for agriculture, of fertilizers and farm machinery, in addition to energy.

Event 3: US $ Devaluations and the Return to Floating Exchange Rates

In 1971 as pressures on the dollar increased with a growing trade deficit, the US abandoned the Bretton Woods Agreement by ending the convertibility of the dollar for gold and raising the price of gold from $35 to $38 per ounce. With continued pressure on the dollar, the US raised the price of gold to $42 per ounce in 1973 and then decoupled the value of the dollar from gold altogether. The dollar promptly devalued with the price of gold shooting up to $120 per ounce.[11] Other countries followed the US actions and thus the macroeconomic landscape within and among countries was altered drastically. Along with expansionary monetary policy, the immediate impact on US agriculture was rapidly increasing prices and strongly increasing agricultural exports. By the late 1970's agricultural prices were again dropping and the dollar began appreciation again in 1980 and farm exports declined substantially. Along with high interest rates, this brought on the farm financial crisis of the 1980's and drove supply control and farm program costs to record highs. By 1985 the dollar had depreciated to pre-1980 levels and farm exports began increasing again along with farm income.[12]

The rapid increase in agricultural trade since the mid 1960s, the rapid conversion of the EU from a significant importer to major exporter of agricultural products, and the large and increasingly costly farm programs on both sides of the Atlantic largely due to surplus production led to an escalation of agricultural trade disputes mainly between the US and the EU. This made it clear that there was an increasing influence of external world events on agriculture and agricultural trade flows, which no doubt contributed to the group of 6 west coast agricultural economists, as explained in Chapter 1, determining that a joint focusing of resources was needed to increase the amount and impact of research and analytical work on agricultural trade and trade policy. The result was the formation of the International Agricultural Trade Research Consortium with initial funding from the Economic Research Service (ERS), USDA and a first meeting of the original 13 members at the University of Minnesota in June/July 1980.

11 http://useconomy.about.com/od/monetarypolicy/p/gold_history.htm

12 Orden, David, "Exchange Rate Effects on Agricultural Trade and Trade Relations". Agriculture and Food Policy Systems Workshop: Policy Harmonization and Adjustment in the North American Agricultural and Food Industry, 4-5 March 1999, Farm Foundation.

FORCES INFLUENCING THE AGENDA OF THE IATRC

The Soviet Grain Embargo

The 1980's began with President Carter announcing the suspension of all grain sales to the (then) Soviet Union in excess of the 8 million metric tons guaranteed under the terms of a 1975 bilateral agreement, as punishment for the military occupation of Afghanistan. The embargo was lifted by President Reagan in April 1981.n A congressionally mandated study completed in 1986 by IATRC members and ERS found that the embargo had little economic effect on either the Soviet Union or on US agriculture.[13]

Regional Trade Agreements

As indicated in Chapter 1 the two main topics on the agenda of the first meeting of the IATRC were 'Agricultural Trade Implications of European Community (EC)' and 'Enlargement: North American Common Market', matters of particular importance and concern in both the US and Canada at the time. IATRC members did further research and analysis and organized conferences to inform the public, with the Canada-US Trade Agreement (CUSTA) coming into force on 1 January 1989 and the North American Free Trade Agreement (NAFTA) being implemented on 1 January 1994.

The Uruguay Round of GATT Negotiations

In 1986, Contracting Parties to the General Agreement on Tariffs and Trade (GATT) launched the Uruguay Round of multilateral trade negotiations. Agriculture, which had not been included effectively in previous negotiating Rounds, even though attempts were made to do so in both the Kennedy Round and the Tokyo Round, was to figure prominently in these negotiations and was put high on the agenda because agricultural trade tensions had reached an explosive point and Developed Countries could no longer afford the burgeoning budgets that agriculture was demanding to support its farm producers in the style to which they had become accustomed. During the course of the negotiations and up to today throughout the course of the so far failed Doha Round, trade economists, particularly those with world trade models and those associated with the International Agricultural Trade Research Consortium (IATRC) maintained full employment levels, analyzing negotiating options, estimating the effects of trade liberalization and proposing negotiating positions and policy changes.

The Creation of the World Trade Organization (WTO) and the Uruguay Round Agreement on Agriculture

The GATT Uruguay Round, after protracted negotiations that lasted over 7 years and which came close to derailment several times over agricultural disagreements, was finally concluded formally with the acceptance of the Final Act by Contracting Parties at Marrakesh in April 1994. The results are well documented in the Uruguay Round Agreement on Agriculture and analyzed in detail in numerous readily available publications, making a rehashing of them here redundant. Suffice to say that the Uruguay Round set an historical precedence in bringing agriculture under the GATT and its rules for the first time.

While the trade liberalization result was meager and spread over a five year phase-in period (10 years for Developing Countries), it is not insignificant. The more important accomplishments, however, are the new rules under which agricultural trade will be conducted, the limitations on the types of domestic agricultural policies that will be sanctioned, the rules for the prevention of back-sliding, and the base established for further trade liberalization in future rounds.

13 Embargoes, Surplus Disposal, and U.S. Agriculture: A Summary. Economic Research Service, U.S. Department of Agriculture. Agriculture Information Bulletin Number 503. November 1986.

The still on-going Doha Round has so far accomplished little in term of real liberalization despite reaching a modest Bali Accord in late 2013.

Future world events and issues affecting agriculture and agricultural trade will no doubt continue to influence the agenda of the IATRC. Further detailed history of the IATRC can be found in Chapters 8 and 9 of this document.

CHAPTER 3

Creating a Virtual Think Tank: IATRC 1980–1995

MAURY E. BREDAHL
UNIVERSITY OF MISSOURI

ANDREW SCHMITZ
UNIVERSITY OF FLORIDA

ED ROSSMILLER
RESOURCES FOR THE FUTURE

JIMMYE S. HILLMAN
UNIVERSITY OF ARIZONA

REFLECTIONS BY MAURY E. BREDAHL

The challenge: making (ancient) history interesting and a review useful. What happened? A synergistic, and very productive, relationship developed with North American academics and technocrats of the Economic Research Service and of the Foreign Agricultural Service as the key actors. Add in a handful of economists from outside North America and even fewer private sector economists.

View Maury E. Bredahl's full presentation online:
http://iatrc.org/activities/annualmeetings/themedays/pdfs2010/2010Dec-Bredahl_remarks.pdf

REFLECTIONS BY ED ROSSMILLER

Since the inception of the IATRC, if I were only able to attend one professional meeting a year, it would be the Trade Consortium general meeting. If I were allowed two, I would add the IATRC summer symposium. I have always come away from Trade Consortium meetings with increased understandings, broadened perspectives and clarified perceptions of the issues and problems we deal with as practitioners in the arena of agricultural trade research and policy analysis. I have also always come away with a renewed sense of camaraderie with the other members whose professional interests and work coincided with mine.

Apart from my view of the importance of the Trade Consortium to me personally, I would like to enumerate a few of the many important and unique attributes of the IATRC that have proven to be extremely useful to us as professional agricultural economists interested in trade and to government and international organization policy decision makers around the globe. First, we are truly international in our membership, and have been from the beginning, with two countries, the US and Canada represented. Our membership now comes from some 20 plus countries and 6 international organizations. This means that we can take a uniquely global perspective on those issues and problems where that is required. Our series on 'Bringing Agriculture into the GATT' as an example comes to mind. Such a global perspective is crucial when dealing with issues relating to international trade.

While we are interested in keeping up with the theoretical and methodological advances in the discipline that affect our work, most of us, as my old mentor and colleague, the late Glenn Johnson, would say, work at the subject matter and problem solving ends of the research spectrum.[1] Thus, we need the interactions with our international membership and with the policy decision makers that we routinely invite to our meetings. The Trade Consortium is an important forum for those crucial interactions with policy decision makers for any of us doing problem solving research.

Another area in which the IATRC excels is as a facilitator of team research and analysis. The prime example of this was when the Administrator of the Economic Research Service needed help he turned to the IATRC. The Trade Consortium, led by Alex McCalla was able to quickly field a team of academics from 14 universities, personnel from ERS itself and personnel from an independent think tank, The National Center for Food and Agriculture Policy (NCFAP) at Resources for the Future, to produce the congressionally mandated study, Embargoes, Surplus Disposal and US Agriculture. The first line of the Abstract[2] succinctly sums up the main conclusion of the study, "Embargoes did not cause the farm crisis of the 1980's, and an aggressive export subsidy program to reduce surplus commodity stocks would not have prevented it." Not what the US agricultural community wanted to hear! The factual base and rigor of the study was confirmed when the Washington representative of the American Soybean Association marched into the Agriculture Secretary's office, threw a copy of the study on the floor and stomped on it saying, "This is what we think of your study, Mister Secretary". But no one then or since has taken factual or conceptual issue with the study, its approach or the logic of its conclusions.

Finally, trade consortium members have made significant contributions to theoretical and methodological advances through their disciplinary research, to the knowledge base of agricultural trade through their subject matter research and to informing the policy decision process through their problem solving research.[3] The single most important contribution by IATRC members in these past thirty years of the existence of the IATRC, for my money, has been in shaping the framework of the Uruguay Round negotiations on agriculture. It started with the methodological work by Josling, Pearson and Tangermann at FAO, then the adoption and adaptation of that methodology by OECD to carry out the Trade Mandate Study and finally the acceptance of the work of the OECD as the basis of the negotiations on agriculture toward lowering the national barriers to trade during the Uruguay Round of trade negotiations in the GATT. We are talking, of course, about what ultimately became known as the Aggregate Measure of Support (AMS) and the negotiations that finally brought agriculture into the GATT and subsequently into the WTO. The work of the IATRC throughout that process was key to that successful outcome.

Hats off to the IATRC and here's to the next 30!

1 Johnson, Glenn L., Research Methodology for Economists: Philosophy and Practice. McGraw-Hill, 1986.

2 Embargoes, Surplus Disposal, and U.S. Agriculture: A Summary. Economic Research Service, U.S. Department of Agriculture. Agriculture Information Bulletin Number 503. November 1986.

3 Johnson 1986 Op. cit.

REFLECTIONS BY ANDREW SCHMITZ

It is hard to believe thirty years have passed since the Trade Consortium group was founded. At that time, most agricultural economists had very little training in international economics, and little was known about agricultural trade and the impact on trade of tariff and non-tariff barriers. Among the first treatises from the consortium was the book by Hillman and Schmitz (1979) which provided a framework for the many studies that followed on related topics (e.g., gains from freer trade in agricultural products). Other studies included books by Schmitz et al. (1981; 1996). In this context, the work by Bredahl et al. (1987) on the "Great Tomato War" has been used as the basis for theoretical and empirical applications and resolution of real world border disputes. This article has been widely used in policy circles and courts to resolve border disputes between Mexico and the United States. An overview of the contributions of agricultural trade economists which fell out of the first trade consortium meeting and many of those afterwards is contained in Josling et al. (2010). The contributions of IATRC members have covered a wide range of topics and have had a significant policy impact both in the United States and worldwide.

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REFLECTIONS BY JIMMYE S. HILLMAN

The origins of institutions like that of ideas are often blurred, not only by time and circumstance but also by intentional neglect. Not so with our progressive and successful International Agricultural Trade Research Consortium (IATRC).

In the aftermath of World War II there was a deliberate intention among many political and economic statesman in the United States that the errors of World War 1 and its aftermath be not repeated. Hence, the Marshall Plan and Point IV of President Truman's state of the union address.

The Research and Marketing Act of 1948 lent itself to Land Grant research projects related to international trade.

In academia there were individuals who chose international economics and agricultural trade as principal professional and career topics. I need but name Gale Johnson, Larry Witt and Robert Baldwin. My own study at Berkeley in the 1940's was a major in trade. My Ph.D. thesis "Interstate Trade Barriers in the Western States" began with trade theory and foreign trade issues. My prop and pillar, "Non-tariff Trade Barriers," was born of that experience.

It was after a sabbatical leave at Oxford University in 1973, that I returned to Arizona determined to convince colleagues and administrators to start a regional research project on international trade. Simultaneously, I was lucky to have the ears and strong arms of Alex McAlla then Dean at UC Davis, and my own Dean Gerald Stairs at Arizona State

Universtiy. As a primer, I was lucky to pull together about $50,000 from regional Experiment Station Funds. With the help of Ford Foundation funds and a select few individuals, we built a program around the subject of international trade at Tucson in April 1977. As a result, Westview Press published a book entitled “International Trade and Agriculture: Theory and Policy”.

The seeds for the IATRC were sown there. In a series of meetings attended by a small number of Faculty from Arizona, UC Berkeley, UC Davis and Stanford held in California in 1978/79, a program for a wider audience was planned for Stanford in March of 1979.

It was but a matter of time until the original ideas and issues of universal consequence became the theme for a broad area of study.

The IATRC is not an organ that began as a fortuitous happenstance. It is today a world wide functioning group of professionals that evolved in response to public and private need.

CHAPTER 4

Agricultural Trade 1980 vs 2010: Some Progress, But Still So Far To Go

STEFAN TANGERMANN
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INTRODUCTION

The International Agricultural Trade Research Consortium (IATRC) was created, as its name says, to engage in research. Why is it, then, interested in any progress that might have occurred in real world agricultural trade? And what does progress mean for the Trade Consortium? Clearly, the ultimate objective of all research is (or perhaps it is more accurate to say: should be) to make the world a better place. This is (or again: should be) particularly true for applied research as conducted, for example, by agricultural economists. It is, therefore, natural and desirable that an institution such as the IATRC should be interested in making sure that there is progress towards making the world a better place in the domain of its research, i.e. in agricultural trade.

It is also pretty obvious what needs to happen in order to improve the state of affairs in agricultural trade. When the Trade Consortium was founded in 1980, world agriculture was clearly in disarray (Johnson, 1973). Hefty government intervention, typically driven by special interests and narrowly circumscribed political aims, distorted resource allocation, markets and trade. In the rich countries, governments provided generous support and protection to their farmers. In many poor countries, agriculture was taxed and neglected. Economic opportunities were grossly redistributed through these policies. Farmers in rich countries benefitted at the expense of their colleagues in developing economies. Trade barriers did not only negate the exploitation of comparative advantages, they also amplified volatility on

international markets for agricultural products. In the process, global welfare suffered and the potential for economic development was not fully utilized.

Members of the agricultural economics profession, and in particular those interested in trade matters, have never shied away from criticizing this state of affairs vocally (Josling et al., 2010). The IATRC has, throughout its history, scrutinized the disarray and the political forces behind it, and developed options for improvement. Against this background there is no doubt what "progress" means in agricultural trade: a reduction of distortions, in the interest of enhanced global economic welfare and a fairer distribution of economic opportunities.

In looking at developments from that perspective, this paper begins with a reminder of some elements in the global economic environment at the time the IATRC was founded (section 2). It continues with a few comments on the development of trade flows in global agriculture (section 3) before turning to the evolution of the international trading order for agriculture (section 4) and any progress that there may have been in national policies (section 5). As the paper's title suggests, much remains to be done after the three decades of the IATRC's existence, and that topic is taken up in the final section of the paper.

WHERE WE STOOD AROUND 1980

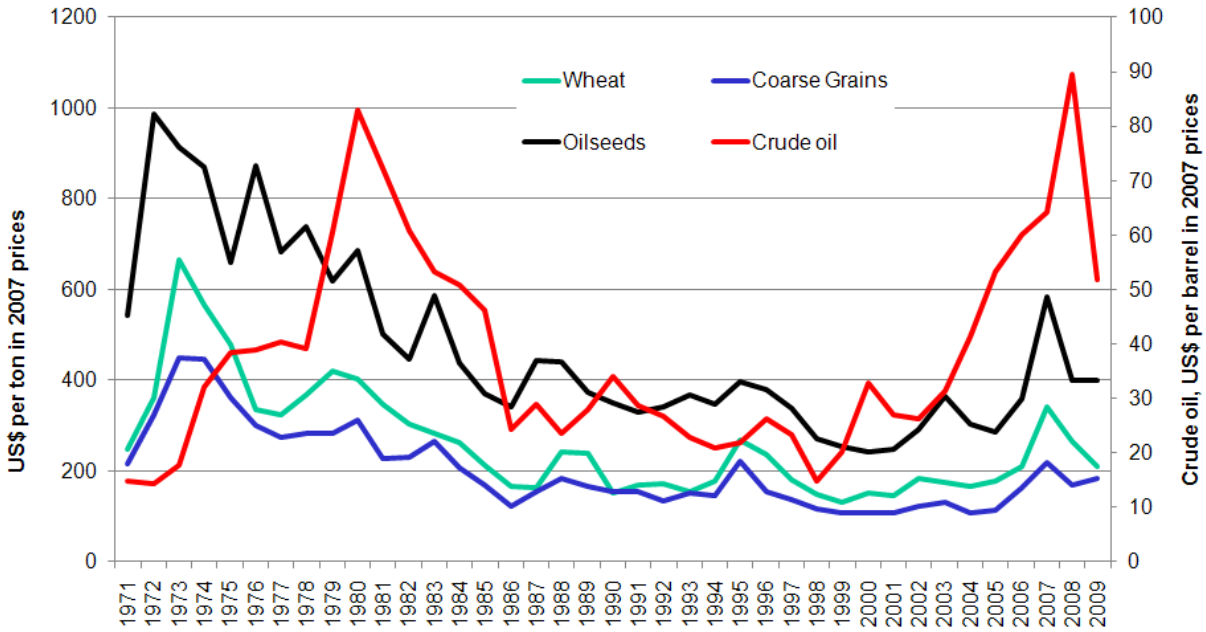
When the founders of the IATRC first came together in the late 1970s, the global economy and world agriculture had gone through a series of commotions some of which bear a striking similarity to shocks we have experienced recently. This is clearly one of these cases where, looking at developments in the economic environment around us, we have reasons to feel that there is a strong dose of déjà vu. Earlier in the 1970s, massive imbalances in the global economy and large budget and trade deficits in the US had triggered the collapse of the Bretton Woods regime and resulted in a large devaluation of the US dollar. A major crash of global stock markets had followed the breakdown of the old currency regime in 1973-74. The US economy had suffered through a period of stagflation, and the global economy was about to enter into the 1981-82 recession. There was a sense of significant uncertainty regarding the ability of the world economy and major nations to deliver continuously on the promise of solid growth and harmonious development.

On the side of commodity markets, and closely interrelated with the global macro-economic turmoil, the Western world had been deeply shocked by the first oil crisis of 1973-73, and it was entering the second and even worse explosion of oil prices in 1979. Like in 2007-08, and again in a somewhat less dramatic way in 2010, there was also a curious, though always idiosyncratic, simultaneity with price swings in other commodity markets, in particular those for agricultural products. In 1973, prices of cereals, in particular of wheat, had risen to unprecedented levels. Though the memory of many contemporary observers is obviously not long enough to remember it, wheat prices in 1973 rose to levels even higher in real terms than the peaks reached in 2008 (Figure 1). The "World Food Crisis" of the early 1970s impressed the media, the general public and politicians, and the international community agreed that something rather urgent needed to be done to save the world from impending global food scarcity. International high-level conferences were organized, programs agreed and new institutions founded (of which IFAD is essentially the only one to have survived to the present day). When prices subsided again in the mid-1970s, however, the political excitement subsided as well and most of the promises to do something serious about agricultural development in the poor countries were soon forgotten.

Cereal prices in international trade rose again towards the end of the 1970s, though to less dramatic levels than earlier in the decade (Figure 1). However, conditions on world markets for agricultural products were sufficiently conducive

for agricultural policy makers in several countries to engage in generous support programmes. In the US, the 1981 Farm Bill raised support prices and relaxed some of the supply constraints. In Europe, the Common Agricultural Policy (CAP), meanwhile fully developed, progressed towards the height of its generosity and began to suffer from some of the resulting market and trade problems.

FIGURE 1. SELECTED COMMODITY PRICES IN REAL TERMS, 1971 TO 2009



Source: OECD-FAO (2010).

As far as the international trading order was concerned, a rather difficult round of GATT negotiations had just ended when the IATRC was founded. In agriculture, the Tokyo Round (1973-1979) had achieved very little (Josling, Warley, Tangermann 1996). Some limited tariff reductions and expansions of tariff rate quotas had been agreed in cumbersome request-and-offer negotiations. A new Subsidies Code had been negotiated which, though, did not bring much strengthening of disciplines for agriculture. At the time, there was still some belief in the potential utility of international commodity arrangements. However, negotiations on an international grains agreements, held in parallel with the GATT round, had failed to yield effective measures. An International Dairy Arrangement had been agreed as part of the Tokyo Round results, but it did not really have teeth (fortunately enough, one might say). The International Bovine Meat Agreement, equally concluded as part of the Round, was even less consequential in practice.

Hence, when the IATRC was founded the GATT was still extremely weak in agriculture (Josling, Warley, Tangermann 1996). As far as border measures on the import side were concerned, most tariffs remained unbound and non-tariff barriers dominated in many cases. Grey area measures such as the EU's variable levies provided high and unconstrained levels of protection. The waiver allowing the US to impose quantitative import restrictions even in the absence of domestic supply controls undermined the credibility of US calls for opening up markets to agricultural trade. On the export side, unashamed open export subsidies were a regular feature, in particular under Europe's CAP, and the vague rules of the

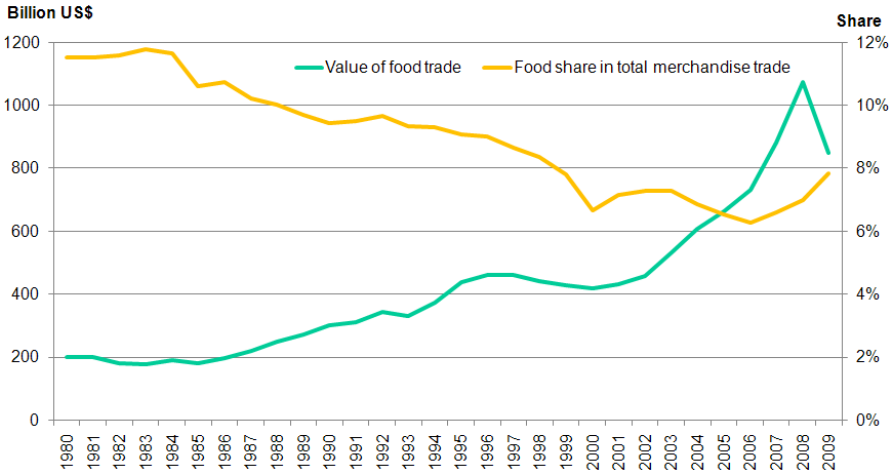
GATT did essentially nothing to rein them in. GATT disputes over agricultural trade issues were frequent but achieved very little to resolve the problems.

In short, the economic and trade environment in which the fathers of our Consortium (it appears there were no mothers at the time) embarked on founding the IATRC around 1980 exhibited some similarities with our times, but also some stark contrasts. Like today, there was turmoil in the global macro-economy and on commodity markets, including recent oil price shocks and a "World Food Crisis" that had occurred just a while ago. But the international trading order for agriculture at the time was much different from what it looks today.

AGRICULTURAL TRADE SINCE 1980

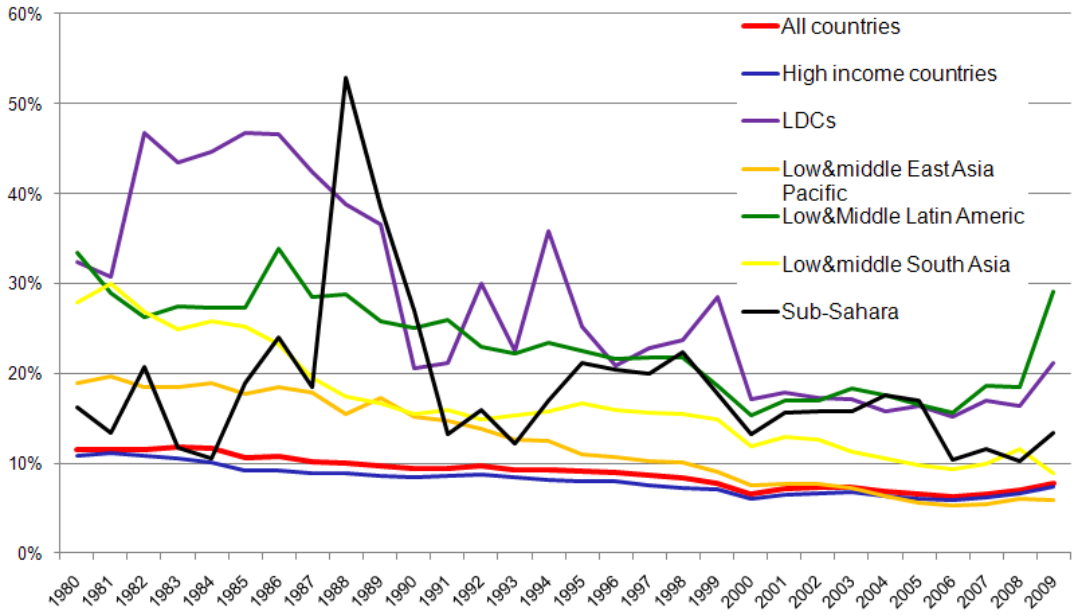
Over the 30 years of the IATRC's existence, agricultural trade has expanded dynamically (Figure 2). In nominal terms and expressed in US dollars, the value of world exports of food has grown by an annual rate of 6.2% between 1980 and 2008. Even including the decline in the global crisis year 2009 leaves an annual growth rate of 5.1%. Trade in all merchandise goods, though, has expanded even more dynamically, and as a result the share of food in total merchandise trade has declined from nearly 12% in the early 1980s to somewhat below 7% in recent years (7.8% in 2009 as the decline of food trade in 2009 was less pronounced than trade in manufactured goods). The declining share of agriculture in world trade (like in world GDP) cannot come as a surprise: it is essentially an expression of Engel's law in the domain of trade. Though there is the well-known tendency for the share of agriculture in total exports to be the higher the lower the level of economic development in a given country, the phenomenon of a declining share of agriculture in total exports is noticeable for virtually all country groups (Figure 3).

FIGURE 2. THE EVOLUTION OF FOOD TRADE SINCE 1980



Source: WITS/COMTRADE. Food: SITC 0+1+22+4. Total: all merchandise trade.

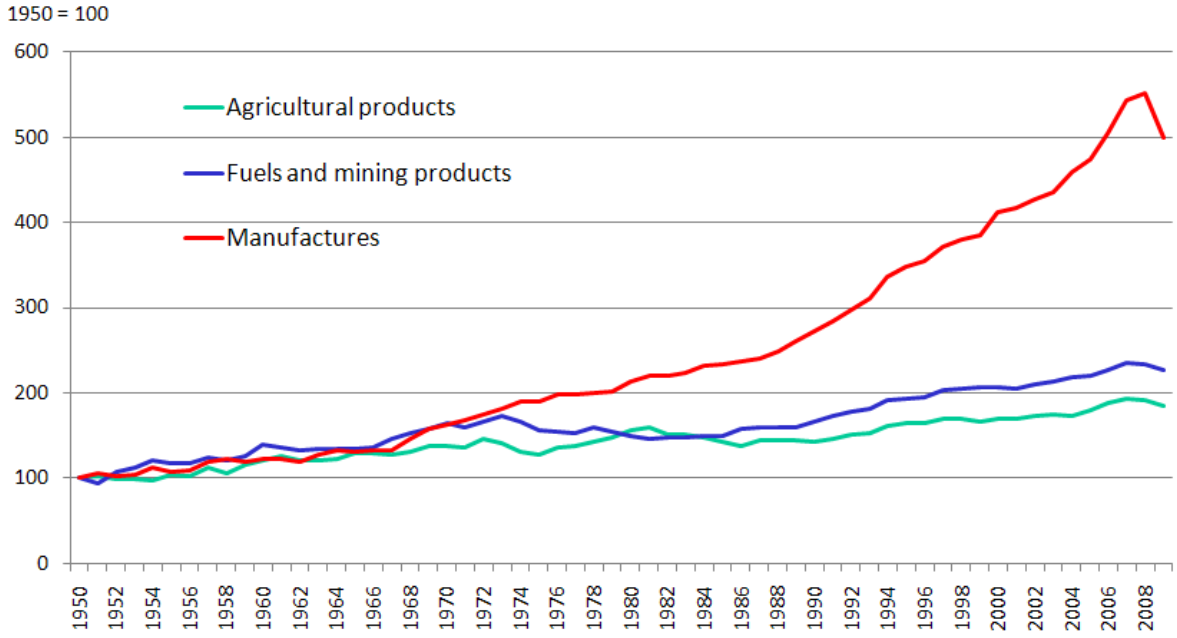
FIGURE 3. EVOLUTION OF THE SHARE OF FOOD EXPORTS IN TOTAL MERCHANDISE EXPORTS OF SELECTED COUNTRY GROUPS



Source: WITS/COMTRADE. Food: SITC 0+1+22+4. Total: all merchandise trade.

Simple trade statistics cannot of course tell us much, if anything, about progress in the sense of improved economic efficiency. However, it is somewhat reassuring to see that since several decades the volume of world agricultural trade has kept growing more rapidly than the volume of world agricultural output. In other words, the share of global agricultural production entering into international trade, sometimes referred to as trade intensity, has continued to rise (Figure 4). Of course, trade has no positive economic or other value in itself. Its benefit derives from the exploitation of comparative advantage in global resource use and satisfaction of differentiated consumer preferences. However, given that trade faced all sorts of barriers in 1980 and continues to do so, a growing trade intensity can well be called progress in the sense that trade policies have at least not prevented the distribution of labor across nations in agriculture from expanding. Before rejoicing too much we need to take note, however, of the fact that trade intensity has grown significantly faster in the sector of manufactures, and even non-agricultural commodities (fuel and minerals) have exhibited a slightly more dynamic growth of trade intensity than agriculture (Figure 4).

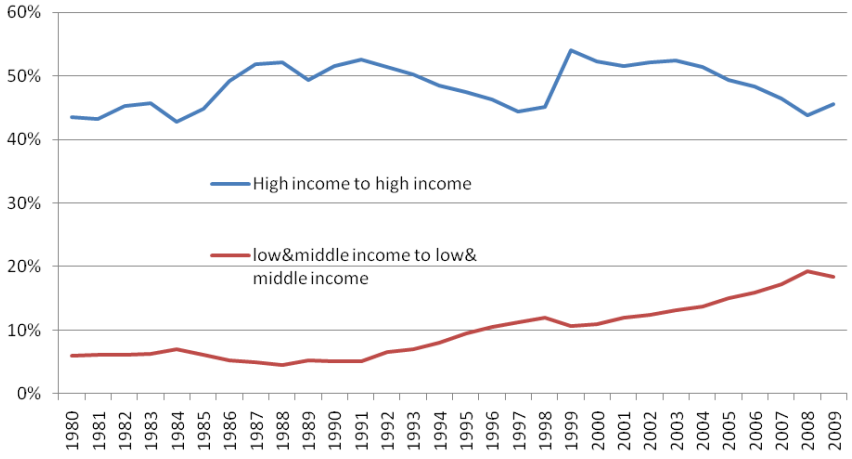
FIGURE 4. EVOLUTION OF TRADE INTENSITY IN SELECTED SECTORS



Source: WTO (2010).

World trade in agricultural products continues to be dominated by trade among developed countries, with agricultural exports from high-income countries to high-income countries accounting for just a little less than half of all agricultural trade (Figure 5). However, South-South trade (from low and middle income countries to low and middle income countries) is a growing part of overall trade in agriculture, and its share of now nearly one fifth of world agricultural trade is about three times as large as it was when the IATRC was founded.

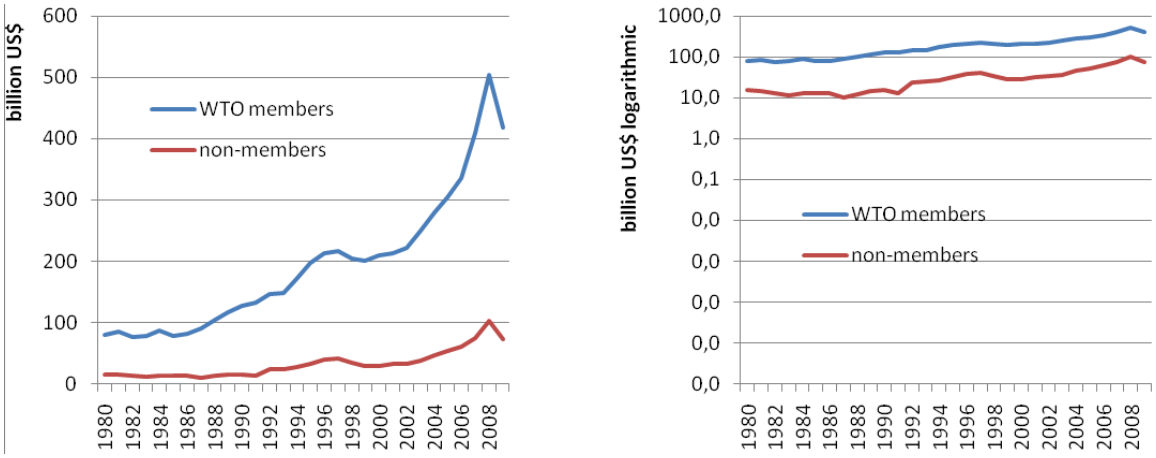
FIGURE 5. EVOLUTION OF THE SHARE OF INTRA-GROUP FOOD EXPORTS IN WORLD FOOD EXPORTS



Source: WITS/COMTRADE. Food: SITC 0+1+22+4

The statistical source from which the trade data presented here was taken, UN Comtrade via the World Integrated Trade Solution (WITS), also groups countries according to their membership in the WTO. Irrespective of the accuracy of the data shown for that country grouping it appeared interesting to compare the evolution of agricultural exports having entered WTO-member countries with those having gone to countries that are not members of the WTO. Have exports to WTO member countries been more dynamic, perhaps because these countries had to open up their markets more widely under WTO disciplines? A first visual inspection of the respective graph appears to suggest that result (Figure 6, left panel). However, that is an optical illusion, caused by the much higher absolute level of trade with WTO member country destination, and hence significantly larger annual increments in absolute terms. Converted into log scale (Figure 6, right panel) it becomes obvious that the relative rates of growth of the two categories of trade flows are very similar.

FIGURE 6. EVOLUTION OF FOOD EXPORTS TO WTO- MEMBERS VERSUS NON-MEMBERS



Source: WITS/COMTRADE. Food: SITC 0+1+22+4

EVOLUTION OF THE TRADING ORDER

In terms of the institutional framework for agricultural trade, the most important development during the IATRC's first 30 years of existence clearly was conclusion of the Uruguay Round and its Agreement on Agriculture (URAA). The Trade Consortium has worked hard to contribute to the negotiations, in particular through its series of Commissioned Papers under the title of "Bringing Agriculture into the GATT". And indeed, as argued in the IATRC's Commissioned Papers published after the Round, the URAA did bring agriculture effectively into the GATT. It did so, interestingly, by replacing the special treatment that agriculture had been accorded under the "old" GATT by a treatment that, in formal terms, is even more special. In discussing this continued "exceptionalism", Josling (2009) quite rightly makes the point that no other sector in goods trade (with the temporary exception of textiles) has its own set of special rules in the WTO. Daugbjerg and Swinnen (2009) provide a full discussion of this exceptionalism.

Creating a special sectoral regime for agriculture in the Uruguay Round was, though, the price that obviously had to be paid for ending what effectively was a non-treatment that agriculture had "enjoyed" under the GATT before the Uruguay Round. From an economic perspective, what really counts is not so much the legal and institutional approach

chosen, but an effective reduction of the large distortions that had plagued world trade in agriculture since decades. And it can well be argued that the URAA opened up a road leading in that direction.

The core achievement of the Uruguay Round in agriculture was that the vague qualitative rules of the "old" GATT gave way to reasonably well defined quantitative commitments which WTO member countries are now expected to honor in pursuing their agricultural policies. Most important, in the domain of market access the host of NTBs that were so characteristic of agricultural trade before the Uruguay Round underwent tariffication and were replaced by bound tariffs. In this regard, incidentally, agriculture is now special in a rather welcome way as it is the sector with the highest share (100 percent) of bound tariffs. On the side of export competition, the non-workable GATT rule of the "equitable share" in world trade was replaced by quantified limits to the quantities of subsidized exports and budgetary outlays on those subsidies, and the commitment to reduce these limits over time. Regarding domestic support, the qualitative rules of the Subsidies Code were complemented by a newly defined yardstick for support levels (the Aggregate Measurement of Support, AMS), quantified maximum amounts of support and reduction commitments, and rules regarding the implementation of these new elements.

The profession is largely in agreement that the weakest part of the URAA is what it has to say about domestic support. Not only do some of the domestic support provisions make very little economic sense (in particular the treatment of market price support). There is also a degree of vagueness, and some loopholes undermine effectiveness of the rules on domestic support. As Orden, Blandford, Josling (forthcoming) and their co-authors have shown, countries have made ample use of these deficiencies in their notifications, if not in their actual policy pursuit, and have also engaged in creative accounting. Moreover, notifications are notoriously late. However, in spite of all these weaknesses even the rules and commitments regarding domestic support under the URAA constitute, as can be argued, a major step forward compared to the situation that prevailed before the Uruguay Round.

As has been observed frequently, and quite rightly so, the URAA was progress in some sense but not in another. It was certainly a huge step forward in the historical evolution of the trading order for agriculture as it established completely new and largely effective rules of the game where none had existed before. The URAA did not, though, directly force a break in actual agricultural policies of WTO member countries as the quantitative commitments agreed were set such that they contained too much water. This is certainly a fair description of what the Uruguay Round achieved in agriculture, and what it did not. When looking for any progress in agricultural trade that might have occurred during the first 30 years of the IATRC's existence, a few further comments do, though, appear to be in place.

The impact of the Uruguay Round on actual policy making in agriculture began already before the Round was concluded and the Agreement on Agriculture entered into force. The most notable case is that of the MacSharry reform of the CAP which was enacted while and because the negotiations were underway, in order to create the conditions under which the EU could agree to an agricultural accord in the Round (Daugjberg and Swinbank, 2009; Moyer and Josling, 2002; Coleman and Tangermann, 1999). After the URAA was concluded, the existence of the new disciplines began to be one of the arguments that played a role in the debate about agricultural policy settings in quite a number of countries. To be sure, all sorts of domestic concerns continued to be the major driving forces in agricultural policy making in most cases, but considerations relating to the WTO in one way or another also began to have some effect. Moyer and Josling (2002) as well as Daugbjerg and Swinbank (2009) discuss policy developments during the 1990s in the US and the EU from that perspective. In IATRC Commissioned Paper No. 12 (Tangermann et al., 1997), the interplay between implementation of the URAA and national policies is discussed for a number of countries. The relationship between

the URAA domestic support commitments and national policies is analyzed, for a number of countries, in Orden, Blandford, Josling (forthcoming).

Perhaps even more important than the impact of the URAA commitments as such is the effect that expectations regarding future WTO disciplines in agriculture have (had) on agricultural policy making. The EU and recent reforms of its CAP are clearly a case in point, in particular the Agenda 2000 decisions and, even more so, the 2003 Fischler reform of the CAP (Swinnen, 2008 and 2010). These changes to the CAP were, to some extent, conditioned by the expectation that the enlarged EU would probably have to accept further reductions of the limits to its domestic support in the DDA negotiations, and by a desire to avoid, through anticipatory action, a repeat of the situation in the Uruguay Round where the EU realized that it had to effectively interrupt the negotiations, do its policy reform homework, and only then come back to the negotiating table prepared for a conclusion of the round (Daugbjerg and Swinnen, 2009). As a result of the post-URAA adjustments to the CAP, the EU can indeed now reasonably easily accept rather large cuts to its domestic support commitments in the DDA, as envisaged in the draft modalities of December 2008 (Orden, Blandford and Josling, forthcoming). Future analysts of the impact of the DDA in agriculture (if and when this round of negotiations is ever concluded) should keep this anticipatory action in mind because they might otherwise be inclined to argue that the DDA had no impact on the EU's agricultural policy decisions as it did not achieve anything else, with regard to the EU's domestic support commitments, than squeezing the water out of the commitments the EU had accepted in the Uruguay Round.

Another real world impact that the URAA clearly has (or at least can potentially have) will also materialize only in the future, but it may be its most important achievement. It is the fact that the new nature of rules and commitments agreed in the Uruguay Round has provided a wholly new basis for the talks in subsequent rounds of WTO negotiations. Negotiations can now move straight to the reduction rates for the various types of commitments. Market access is particularly important in that regard. There is no need any more to debate the acceptability or otherwise of various kinds of NTBs. The core negotiating business is now the scale of reduction rates to be agreed. Clearly, all sorts of other issues are also on the negotiating table, not the least the provisions to be applied to "sensitive" and "special" products, as well as the treatment of the (regrettably still existing, and possibly even new) tariff rate quotas. However, the URAA has allowed the focus of future negotiations to be clearly on reduction rates, and that offers the hope that all water will eventually be squeezed out of the commitments agreed under the URAA, and that further reductions can then be agreed that truly bite into the flesh of existing policies.

As far as provisions of major significance to agricultural trade are concerned, in addition to the Agreement on Agriculture, the Uruguay Round also yielded progress in the area of food regulation, through the Agreement on the Application of Sanitary and Phytosanitary Measures, the Agreement on Technical Barriers to Trade and the Agreement on Trade Related Aspects of Intellectual Property Rights. Important progress was also made through the Understanding on Rules and Procedures Governing the Settlement of Disputes, and a number of agricultural disputes under these new rules have reinforced the impact of the URAA on national policies. Given the limited space for this paper, these agreements are not covered here.[1] Another important dimension of the international trading order not discussed here is the rapid expansion in the number and coverage of free trade and regional trade agreements (FTAs and RTAs) and the treatment of agriculture in these arrangements.[2]

1 An excellent analysis of the agreements related to food regulation has been provided by IATRC members Josling, Roberts and Orden (2004). The impact of the new rules on dispute settlement on agricultural policies are discussed in Daugbjerg and Swinbank (2009).

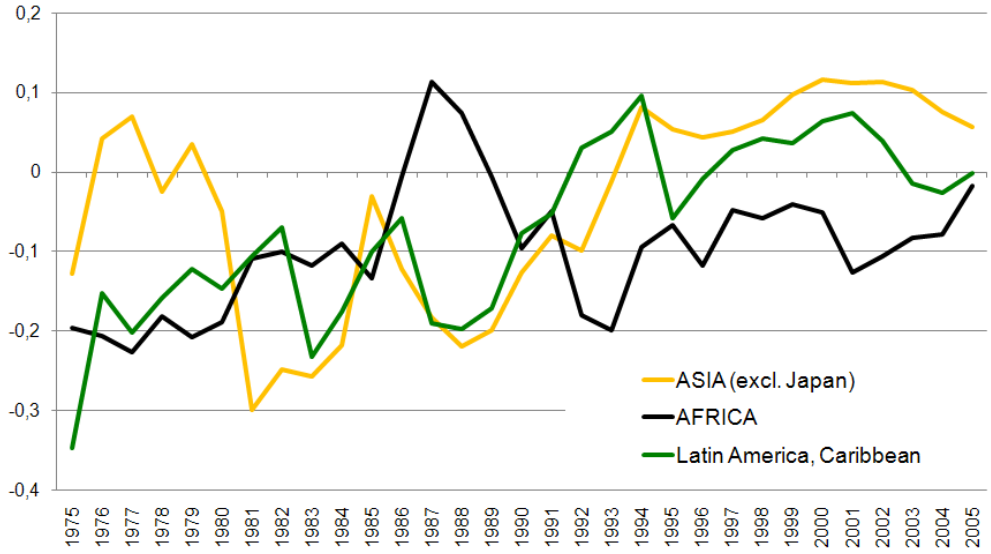
2 The evolution of the RTA landscape is described in Fiorentino, Crawford and Toqueboeuf (2009) and, with a focus on Asian FTAs, by Kawai and Wignaraja (2010). For an analysis of the treatment of agriculture in selected FTAs, see OECD (2004). The trade impact of selected RTAs in agriculture

PROGRESS IN NATIONAL POLICIES?

In order to gauge any progress that may have been made since the IATRC was founded 30 years ago, in the sense of more freely flowing agricultural trade, the best indicator should be the development of national agricultural policies around the world. Fortunately enough we now have much better and much more comprehensive information on these developments than was available in the early days of the Trade Consortium. As a matter of fact, the IATRC has made a significant contribution to that improvement in the state of affairs, through various activities of its members. Since the late 1980s the OECD measures, and regularly reports on, levels of farm support in its (expanding number of) member countries, and now also in a growing number of non-member countries. Most recently, the World Bank's agricultural distortions project, under the leadership of Kym Anderson, has generated time series of several decades for levels of assistance to agriculture in 75 countries across the globe (Anderson, 2009), updating and extending the earlier work done by Krueger, Schiff and Valdés (1988). Only a glimpse at this large body of work can be provided here.

As clearly shown by Anderson (2009) and reflected in Figure 7, developing countries typically had a tendency to tax their agriculture, in particular in the exportables sector. In Asia (on aggregate), this picture has begun to change in the 1990s, and agricultural policies have switched to positive levels of assistance. Whether that constitutes progress is not unequivocally clear, though the most recent reported rates of nominal assistance for Asian countries on aggregate exhibited smaller positive levels than the negative rates of nominal assistance that prevailed around the time the IATRC was founded. The Latin America and Caribbean region has moved from negative rates of nominal assistance to rates fluctuating around zero, while Africa tends to still exhibit taxation of agriculture, though at lower rates than 30 years ago. Based on these observations one can probably argue that overall there was some progress in developing countries, in the sense of declining degrees of distortions of agricultural incentives.

FIGURE 7. NOMINAL RATES OF ASSISTANCE IN SELECTED GROUPS OF DEVELOPING COUNTRIES

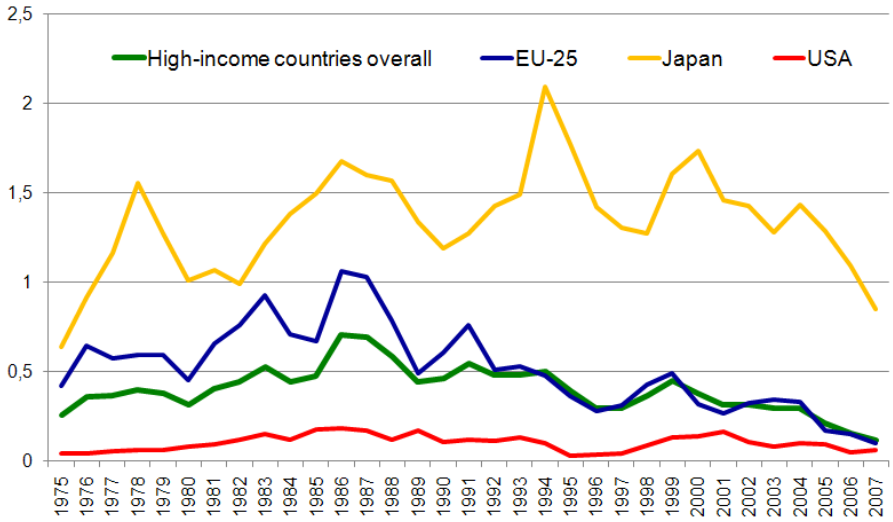


Source: Anderson and Valenzuela (2008). Note: Nominal rates of assistance shown are averages for all products covered in the study.

was analyzed by Korinek and Matos (2009).

For the group of developed countries, the results of the World Bank/Anderson project show a more unequivocal progress. In the group of high-income countries overall, the (positive) rate of nominal assistance has increased during the 1980s, but then declined to a level clearly below that prevailing around 1980 (Figure 8). As far as selected individual countries are concerned, the same general evolution was recorded for the EU, while the cases of Japan and the United States are less clear-cut. In any case, overall the World Bank/Anderson project can be said to have shown some progress on agricultural trade, in the sense of declining levels of distortion, during the last 30 years or so.

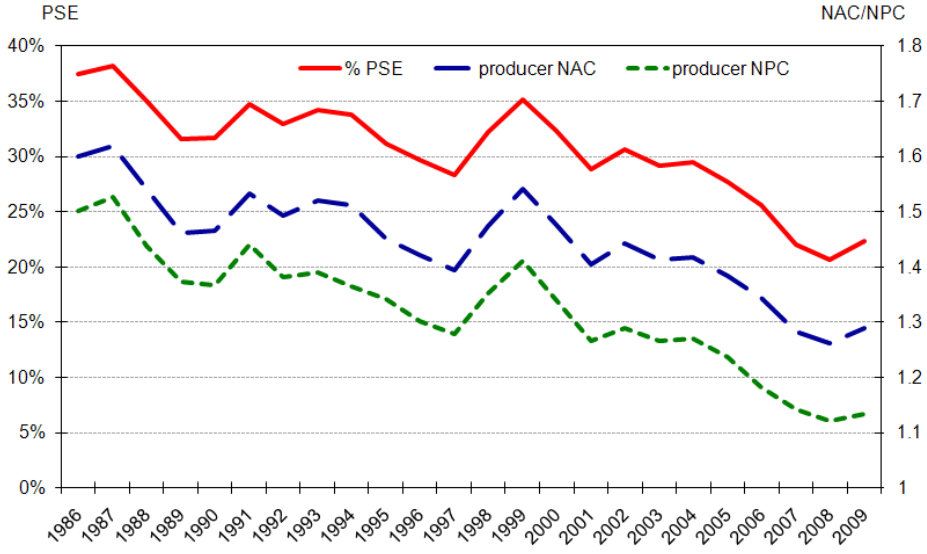
FIGURE 8. NOMINAL RATES OF ASSISTANCE IN HIGH-INCOME COUNTRIES OVERALL AND SELECTED DEVELOPED COUNTRIES



Source: Anderson and Valenzuela (2008). Note: Nominal rates of assistance shown are averages for all products covered in the study.

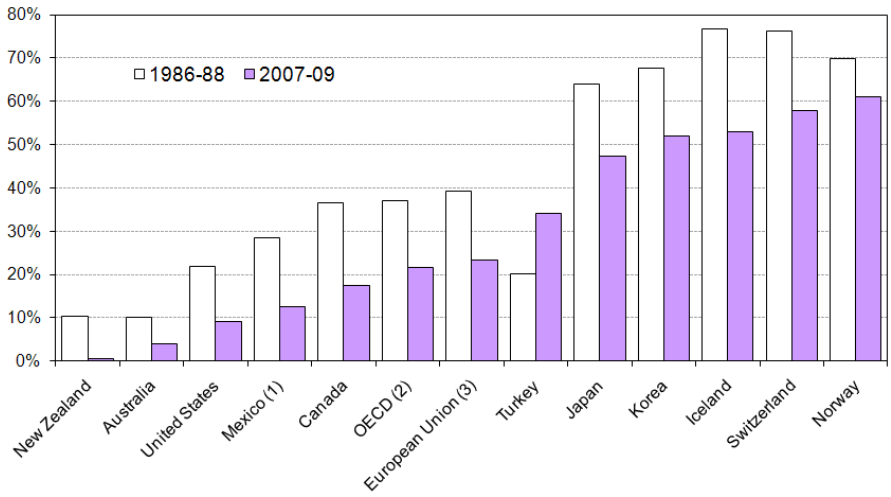
The OECD's measurement of farm support, through the Producer Support Estimate (PSE) and related indicators, begins only in 1986 and therefore does not cover the whole of the IATRC's 30-year history. Yet, what it shows since the mid-1980s is a clear trend of a declining level of support for the OECD area overall (Figure 9). What is particularly noteworthy is the significant decline in the degree of producer price distortion as measured by the Nominal Protection Coefficient (NPC), including, in the OECD's definition, payments per tonne of current output (often referred to as deficiency payments). Levels of farm support continue to vary widely across OECD member countries (Figure 10), but given the size of their farm sectors, the EU, the USA and Japan dominate the development of farm support in the OECD area overall, accounting among them for about three quarters of total farm support in the OECD area (OECD, 2010).

FIGURE 9. EVOLUTION OF FARM SUPPORT IN THE OECD AREA



Source: OECD (2010).

FIGURE 10. PERCENTAGE PRODUCER SUPPORT ESTIMATE IN OECD MEMBER COUNTRIES

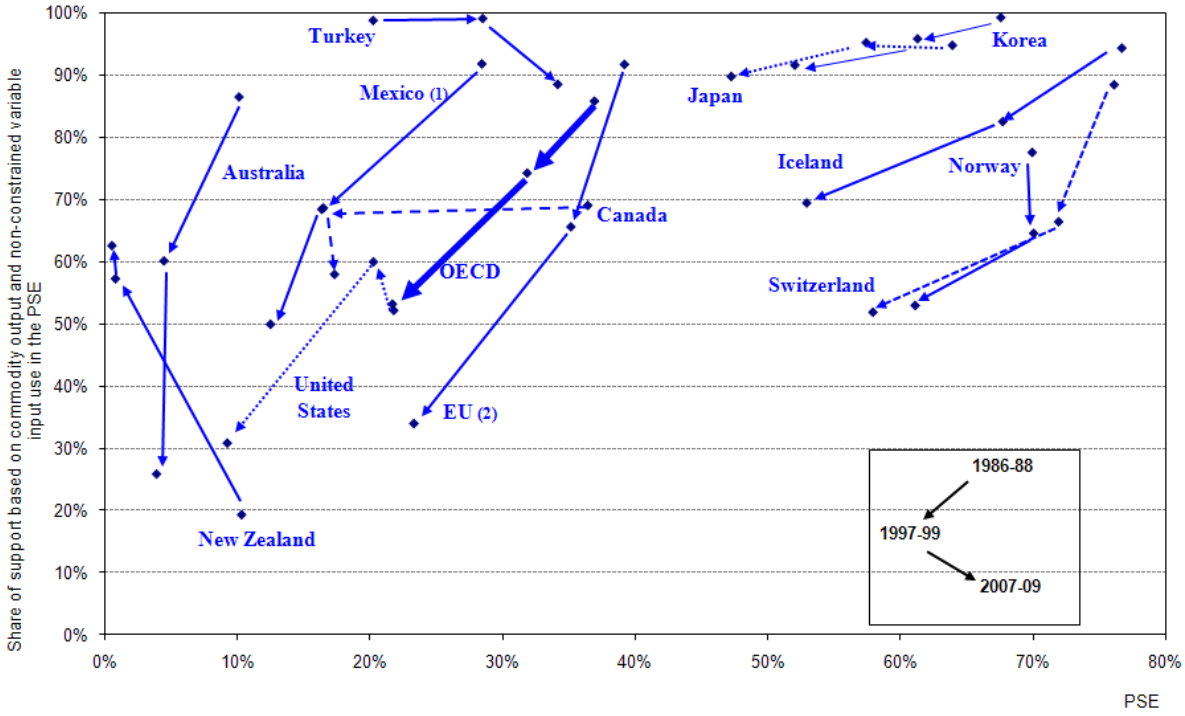


Source: OECD (2010). For footnotes, see OECD (2010).

An important element of progress towards less distorted agricultural trade, in addition to declining levels of overall farm support, was a significant change in the nature of policy measures employed to deliver support to farmers in the OECD area during the past 25 years. Support has been increasingly decoupled from current output (and input) and was gradually and partly transformed into types of measures that are arguably less distortive of markets and trade. Payments based on historical criteria and not requiring production are a case in point. As shown in Figure 11, along with a decline in the percentage PSE for the OECD area overall between 1986-88 and 2007-09, the share of support

based on commodity output and non-constrained variable input use in the PSE has decreased as well. This re-instrumentation has occurred in nearly all OECD member countries, though at variable speeds.[3]

FIGURE 11. CHANGES IN LEVEL AND COMPOSITION OF FARM SUPPORT IN THE OECD AREA

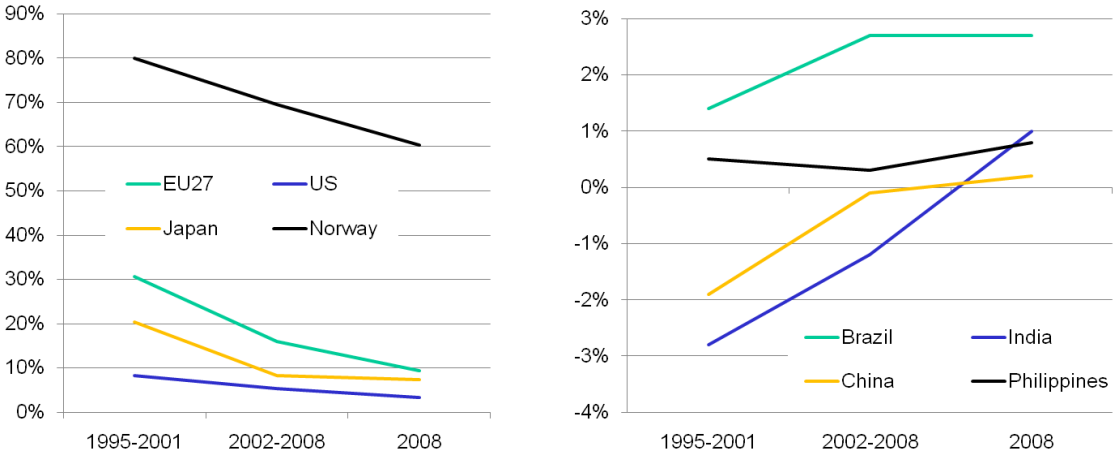


Source: OECD (2010). For footnotes, see OECD (2010).

In addition to the information provided by exercises such as those of the World Bank/Anderson and the OECD, the URAA has created another source of data, through its rules on measuring domestic support. Of course, that data exists only since the conclusion of the Uruguay Round and hence does not cover the 30 years of the IATRC's existence. But it allows another glimpse at any progress that may have been made over the most recent ten years. However, given the notorious lags in notifications, some of that data is not yet available. Fortunately enough, though, some members of the IATRC have closed the gaps by generating shadow notifications for the missing years (and for the future to the mid-2010s) for a group of selected countries (Orden, Blandford and Josling, forthcoming). In doing so, they have also used definitions of domestic support considered in the ongoing DDA negotiations and provisionally laid down in the draft modalities of December 2008. Results show that Overall Trade-Distorting Support (OTDS) as a percentage of the value of agricultural production has continuously declined since 1995 in the four selected major developed countries (Figure 12, left panel), while it has somewhat increased, though from low and in some cases negative levels, in the four selected major developing countries (Figure 12, right panel). The same general picture emerges when green box support and development programmes are added and expenditure on food aid and public stocks is excluded, to yield total support (Figure 13).

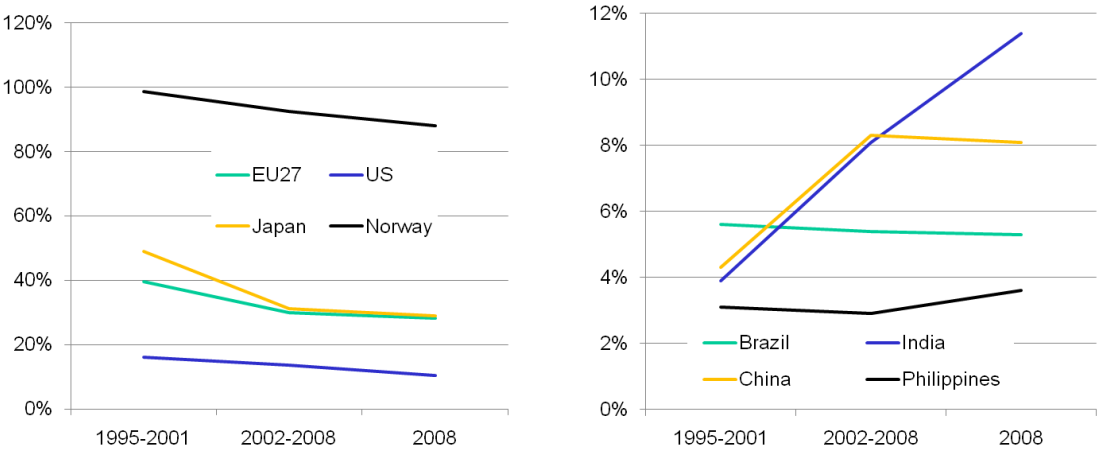
3 The case of New Zealand may appear to be an aberration, but given the very low level of farm support in that country, any changes in its structural composition are somewhat arbitrary.

FIGURE 12. OTDS (CURRENT TOTAL AMS + BLUE BOX + DE MINIMIS) AS PERCENT OF TOTAL VALUE OF AGRICULTURAL PRODUCTION



Source: Orden, Blandford and Josling (forthcoming).

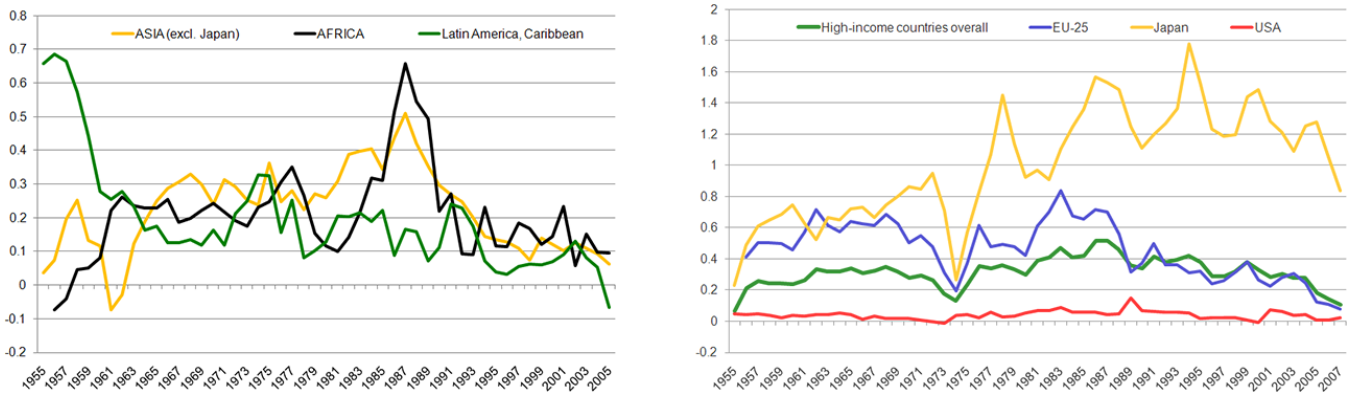
FIGURE 13. TOTAL SUPPORT (OTDS + GREEN BOX + DEVELOPMENT PROGRAMS – FOOD AID – PUBLIC STOCKHOLDING) AS PERCENT OF TOTAL VALUE OF AGRICULTURAL PRODUCTION



Source: Orden, Blandford and Josling (forthcoming).

Moreover, and arguably most relevant regarding the measurement of any progress that may have been made in national policies, in the direction of more freely flowing agricultural trade, trade distortion indicators can be estimated, in the spirit of the trade restrictiveness indices first developed by Anderson and Neary (1996, 2005). This is precisely what has been done in the World Bank/Anderson project (Lloyd, Croser, Anderson 2009). Specifically, a trade reduction index (TRI) was calculated, defined as the uniform tariff which, if applied to all goods included, would yield the same reduction in the volume of imports as the various trade distorting measures actually employed in the country concerned. Results for selected (groups of) developing and high-income countries are shown in Figure 14. They suggest that, with some ups and downs, overall the degree of distortions in agricultural trade has somewhat declined over the last 30 years.

FIGURE 14. TRADE REDUCTION INDICES FOR SELECTED DEVELOPING AND DEVELOPED COUNTRIES



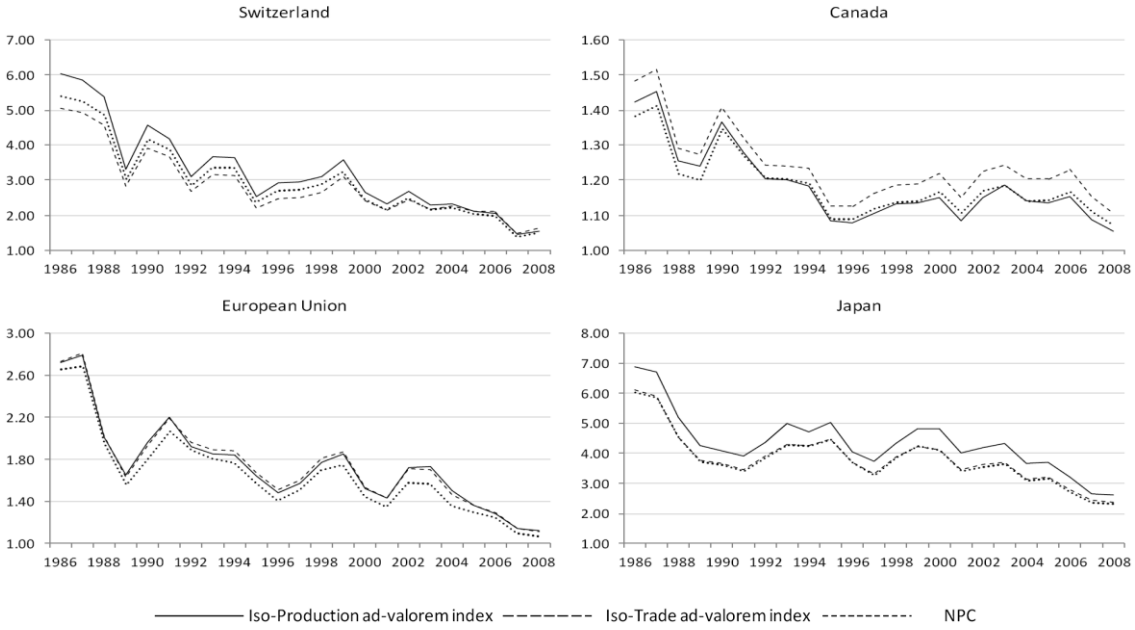
Source: Anderson and Croser (2009).

A similar exercise has recently been done in the OECD based on the Policy Evaluation Model (PEM), representing the agricultural sector in a number of selected OECD member countries. The model was used to calculate the amount of market price support which would generate the same net trade volume (or the same quantity of production) for each individual commodity included in the model as the variety of policy measures actually in use in the country concerned.[4] The ad valorem indicator calculated on that basis is comparable to the producer nominal protection coefficient (NPC), in the sense that it is the value of production inclusive of the estimated value of market price support, divided by the value of production at border prices.[5] Results are shown in Figures 15 and 16. For the period covered (1986 to 2008) they also exhibit a generally declining trend of distortions for the countries covered in the exercise.

4 The PEM, and hence the iso-trade and iso-production indicators estimated, include most, but not all, of the policy measures covered by the PSE.

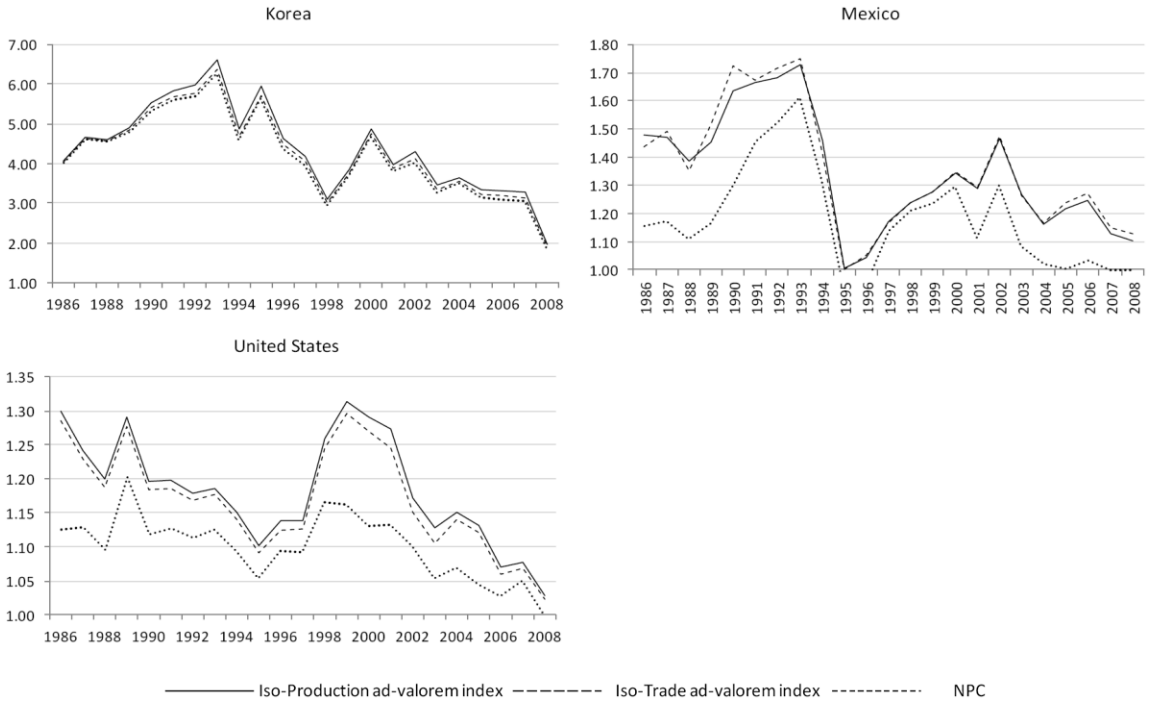
5 The iso-trade ad valorem index minus one is thus comparable to the TRI as calculated in the World Bank/Anderson study.

FIGURE 15. DISTORTION INDICES FOR SELECTED DEVELOPED COUNTRIES



Source: OECD Policy Evaluation Model.

FIGURE 16. DISTORTION INDICES FOR SELECTED DEVELOPED COUNTRIES



Source: OECD Policy Evaluation Model.

Finally, another indication of progress in agricultural trade through changes in national policies is provided, as part of the World Bank/Anderson study, by a model-based analysis in which Valenzuela, van der Mensbrugghe and Anderson (2009) have asked how the world would have looked like in 2004 if all changes in domestic and trade policies for agriculture and all reductions of import tariffs on other merchandise goods since 1980-84 had not happened. Using the World Bank's CGE model "Linkage," they find that global welfare would then have been 233 US$ billion lower than it actually was in 2004, with two thirds of that impact occurring in developed countries. Even though the results shown do not identify the contribution of agricultural policies alone to the welfare foregone had policies remained like they were in 1980-84, it appears reasonable to assume that agricultural policy changes had a rather large share, given the high starting levels of protection and support (positive and negative) prevailing in agriculture, relative to protection levels in other merchandise sectors. Another finding of this study is that international market prices for agricultural commodities would have been considerably lower in 2004 had the policy changes since 1980-84 not occurred, for example by 15.4% for wheat, 27.5% for other grains, 15% for beef and sheep meat, and 8.5% for dairy products.

STILL SO FAR TO GO

Where does all this leave us? Was there any progress in agricultural trade since the IATRC was founded in 1980? The answer would appear to be cautiously in the affirmative. Global agricultural trade has grown, in both absolute terms and relative to world agricultural output. The international trading order for agriculture has been thoroughly reformed through the URAA, and the new and reasonably well defined disciplines and quantitative commitments have largely stuck. They may not have directly forced much policy change in the direction of more open markets and less distorted trade because there was still too much water in the commitments agreed in the Uruguay Round. But it can be argued that the fundamental change in the nature of the legal provisions for agriculture in the GATT/WTO has indirectly brought about policy reforms in at least some countries, both during the Uruguay Round and in anticipation of the subsequent round of negotiations within that new framework. Perhaps most important, empirical data on the levels and nature of support and protection provided to agriculture by national policies suggest that the state of affairs in agricultural trade has somewhat improved over the last two or three decades. And it has been shown that global welfare today would be considerably lower had policy reforms not taken place since 1980.

Though no empirical research can be presented here regarding the extent to which the IATRC has contributed to these improvements, there are good reasons to believe that the Trade Consortium has had a more than marginal influence. Through its activities and those of its members it has provided evidence, demonstrated (the negative) implications of current policies, formulated and analyzed options for future policies at the national and international level, and engaged in all sorts of actions that have contributed to moving the agricultural trade agenda forward. It has done so in close cooperation between government officials and academics, i.e. in a mode of operation that was effective in making sure that research did not fall in the l'art pour l'art trap. All of this has been well described, at the time, in the Analytical History of the IATRC (Josling, McCalla and White, 1997), and perhaps it is time to update that record of the IATRC's achievements. What is more, the Trade Consortium has become an epistemic community with significant impact on the development of thinking about agricultural trade and related policies (Coleman, Skogstad and Atkinson, 1997; Ullrich, 2004; Josling et al., 2010). It has thus contributed to establishing and strengthening the paradigm of the need to reform agricultural policies such that they are less distortive of markets and trade.

Though some progress has been made in agricultural trade over the last 30 years or so, this is no guarantee that things will move on in the same direction. It is not even a reason to believe that backsliding has no chance. As suggested above, the global economic environment today bears some similarities with the situation around the time when the

IATRC was founded. There was and still is a lot of macro-economic noise in the air. Currency markets are plagued by uncertainties and political wrangling. We have just lived through another "world food crisis" and can still notice some of its reverberations on international markets for agricultural commodities. The DDA negotiations have virtually ground to a halt, and agriculture is again one of the most difficult items in the talks.

At the national level, it looks like the impetus for market oriented agricultural policy reforms has weakened considerably in major countries. In the US, the 2008 Farm Act has brought several changes to the arsenal of policy measures, but can hardly be said to have been a determined reform towards more market orientation. As far as the EU's CAP is concerned, it appears that the reform dynamic firmly established since 1992 by three successive Commissioners for agriculture (MacSharry, Fischler and Fischer Boel) has faded. The Commission's recent Communication on the CAP for the post-2013 period (European Commission, 2010) comes across more as a holding operation than a continuation of market oriented reforms (Tangermann, 2010). At the same time, governments of many countries engage in heavy-handed bioenergy support policies. Though the massive support schemes for biofuels supposedly aim at fighting climate change and improving the security of energy supplies, their effectiveness and efficiency in these dimensions is deplorably small, and the limited results are achieved at colossal costs (OECD, 2008a). What these policies certainly generate, though, is a new form of farm support, and when one listens to farm lobbies and their vocal calls for the continuation and further expansion of biofuels support policies, then it is hard to avoid the impression that this is the most important objective of these programmes.

With a bit of exaggeration and extrapolation one can, therefore, argue that over the last three decades we have come full circle, though the movement may have been more like on a spiral where we have progressed somewhat towards the agricultural trade policy nirvana in the center of the spiral, but have reached a point roughly on the same radius as before. In any case, we still have to go so far to arrive at a policy landscape we are dreaming of.

What this means for practical policy making in agriculture and trade is reasonably clear. In national policies of developed countries, the share of output-stimulating policies in overall farm support is still around 50 percent (Figure 11). This form of support contributes very little, if anything, to achieving societies' objectives, but distorts markets and trade most strongly. Hence, the process of decoupling support from production must continue, but it must then also progress to a better targeting of policies to well defined objectives, and to tailoring the level of support to what is really needed. What this means in concrete detail, and which hurdles must be overcome in order to move forward in this direction, has been clearly spelled out by the OECD, which has also succinctly summarized the major messages on policy reform in a synthesis paper on the design and implementation of agricultural policies (OECD, 2008b). In developing countries, taxation of agriculture must come to an end, domestic markets must be further opened up to international trade, and agricultural development and all its many ingredients must receive appropriate and lasting attention and support from national governments and international donors (World Bank, 2007).

At the international level, the first priority is to unlock the DDA negotiations and bring them to fruitful conclusion. From the perspective of the policy nirvana that is so close to our hearts, what is provisionally on the table, in the form of the December 2008 draft modalities, is still far from ideal. The rates of reduction considered are substantial and would, if actually agreed and implemented, bring global agricultural trade a good step forward towards the elimination of distortions. The envisaged end to export subsidies is good news. However, there are also many elements in the draft modalities that leave much to be desired. For example, the many exceptions envisaged in various parts of the modalities, in particular those for "sensitive" and "special" products, would leave a good part of current support and protection only marginally touched, and the continued existence, if not expanded coverage, of tariff rate quotas is

disturbing. But in spite of such deficiencies, the state of affairs in agricultural trade would be noticeably improved if a deal could be sealed around these draft modalities.

The real trouble is that no agreement among WTO members can be found, at least for the time being, on that basis. There are all sorts of explanations for the current deadlock in the negotiations. Perhaps a most telling interpretation is the one recently provided by the US Ambassador to the WTO Michael Punke who was reported as having explained unwillingness of the US to accept what is currently on the table in the DDA negotiations by commenting that "for us, what is very clear is the pain and what is not so clear is the gain" (Punke 2010). It is conceivable that politicians in many countries are not too vigorously opposed to accepting the new commitments that would follow from the draft modalities, but that they lack the vision to see why they should do so.

If this is the case, then much remains to be done for institutions like the IATRC. Fundamentally what needs to be overcome is the old problem democracies have with trade liberalization. When barriers to trade are removed and domestic support policies are redressed, the pain is concentrated on easily identifiable groups and hence highly visible, while the gain—much larger overall than the pain—is dispersed widely and therefore difficult to see. In a situation like that it cannot come as a surprise that politicians, responsive to voter behavior, feel more incentives to avoid the pain than to harvest the gain. This characteristic malfunction of democracies (nonetheless the best form of government) is not easily repaired. But economist can contribute to balancing its impact, by deliberately adopting the role of "efficiency partisans" (Olson, 1965). Where they do so, economists transcend the domain of pure academic research and raise their voices on the political stage, conveying messages that are deliberately normative in nature, arguing for action that is in the interest of the overall economy. A large majority of politicians defend the economic interests of individual groups. Economists should defend the interest of overall economic efficiency—such that the cake from which sectorial groups want to cut their slices is sufficiently large in the first place.

The IATRC has not been explicitly created to play that role. But through its work it has done so implicitly to a considerable extent, and with notable success. But it needs to continue that work, and may want to consider ways of raising its visibility further outside its membership, so as to enhance its impact as an efficiency partisan institution.

Much also remains to be done in research on agricultural trade issues, and new issues emerge all the time. This is not the place to develop a research agenda for the Trade Consortium, but the issues that would appear to burn particularly hot include topics such as (in no particular order and not at all exhaustive):

- development of empirically based and testable criteria for inclusion of policy measures in the green box;
- options for improving the definition of rules and commitments on domestic support in future rounds of negotiations;
- treatment of biofuels policies in measuring farm support (e.g. how should policies be treated that raise prices not only for domestic raw material producers but for foreign producers as well?);
- options for international and national responses to volatility on international markets for agricultural commodities;
- options for using the international trading order as an instrument to foster economic development (is the Doha Development Agenda's focus on allowing developing countries "policy space" the most advisable approach?);

- more specifically, identification of reasonable approaches to special and differential treatment of developing countries in the WTO (e.g. are food security concerns a good reason to exempt some products from regular tariff reductions?);
- options for dealing with preference erosion as a result of tariff reductions;
- options for dealing with private standards in the WTO;
- options for integrating agriculture fully in the "normal" framework of the GATT/WTO (e.g. which adjustments to GATT/WTO provisions, if any, are needed/appropriate in order to do eventually away with the Agreement on Agriculture?).

It looks like the IATRC's membership is aware of the fact that we still need to go so far, and is eager to make sure that the many burning issues in agricultural trade that are still before us are taken up successfully in its research activities.

CONCLUSIONS

As suggested by this paper's title, there was some progress in agricultural trade during the thirty years of the IATRC's existence, but we still need to go so far. The international trading regime for agriculture has been fundamentally reformed after the IATRC came into existence, through the Agreement of Agriculture concluded in the Uruguay Round. But the promise to continue the reform process in the subsequent round of negotiations has still to materialize. It is distressing and deplorable to see that the international community cannot muster the political will and energy required to advance the DDA negotiations, making the arguably small step from what is already on the table to a successful conclusion of the talks.

There was noticeable reform in national agricultural policies since 1980, in both developed and developing countries, and generally that reform has gone in the direction of more market orientation and less trade distortion. But there are indications that the reform dynamic has faded in major countries, at least for the time being. Current agricultural policies in many developed countries, though less objectionable than thirty years ago, still leave much to be desired. In particular, they still exhibit a large share of output-enhancing policies that don't respond to what society expects from agriculture, but distort markets and trade. And new arguments and instruments for providing support to farmers are invented all the time, biofuel support policies being a particularly egregious one. In developing countries, agriculture is generally less taxed and neglected than thirty years ago, but much remains to be done before it is placed appropriately on the policy agenda.

At thirty years of age, the IATRC is fully grown up. It can proudly look back at what it has achieved. But it must look even more closely at the large agenda remaining before it. There is a lot of research to be done, and new issues crop up continually. But perhaps even bigger is the challenge to contribute more effectively to the political process required to make sure people understand not only the pain, but also the gain to be expected from further progress in agricultural trade policies.

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DISCUSSION

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Stefan Tangermann has done an excellent job of surveying developments in global agricultural trade and trade policy since the first meeting of the IATRC in its current form. He identifies four positive developments in his paper:

1. A major expansion in global agricultural trade, which has resulted in increased economic opportunities for agricultural producers and others engaged in the food and agricultural industry, as well as benefiting consumers through wider choice of products at reasonable prices, and reducing the dependence on seasonality in production.

2. Substantial reform of the international trading order with the creation of a framework of disciplines on policy through the market access, export competition and domestic support provisions of the Uruguay Round Agreement (URA) on Agriculture, the conclusion of other agreements in the Round, the creation of the WTO itself and the establishment of an improved dispute settlement procedure.

3. Some reforms in domestic policies, particularly a shift towards more decoupled forms of support for agriculture (developments in the Common Agricultural Policy of the EU are particularly notable in this regard).

4. Some reduction in protection in developed countries and a reduction in the disprotection of agriculture (implicit taxation) that has been prevalent in developing countries.

Tangermann also notes the role that the members of the IATRC have played in influencing thinking about trade and agricultural policy—in particular how to impose greater disciplines on domestic support and move domestic agricultural policies in a less-distorting direction. The "Bringing Agriculture into the GATT initiative" of the 1980s and related activities were particularly instrumental in this regard (IATRC Commissioned Paper Series, papers 1-9).

However, his analysis also leads me to note three troubling aspects of developments over the last 30 years:

1. A slowdown in the impetus for the reform of domestic agricultural policies in a trade-friendly direction (the two most recent US Farm Acts, and the rather weak proposals for further reform of the CAP post-2013 in the recent communication from the European Commission are two prominent examples).

2. Evidence that some developing countries are going beyond the elimination of disprotection of agriculture towards the creation of an environment for protection—repeating the transition that Japan, for example, made with economic growth. It is notable that the only OECD country which shows an increase in the percentage PSE since 1986-88 (Figure 10 of his paper) is Turkey, arguably the most developing member of the developed-country OECD club. It is also notable that the plots of Overall Trade-Distorting Support (OTDS) for developing countries in the book by Orden et al. (2011) (shown in Figure 12) trend upwards in contrast to the

downward trend for the developed countries analyzed. In addition, proposed changes in the draft agreement on agriculture in the Doha round point even more strongly in the direction of a more permissive approach to protectionism for developing countries—examples include the proposed creation of a special products category and expanded green-box exemptions for distorting policies pursued as part of development programs. Lars Brink has pointed out the considerable leeway for providing amber box support that will exist for large countries such as China and India under the more generous de minimis provision for developing countries in the draft Doha agreement (see chapter 2 of Orden et al., 2011).

3. Finally, his analysis reveals an apparent weakening of the commitment to multilateralism, as reflected by the proliferation of regional and bilateral trade agreements and the failure to conclude the Doha Round—regrettably we may be on track for Harry de Gorter's trend line prediction made in an IATRC annual meeting just after the start of the Round that it would take 17 years to complete (if completion is even possible)!

What are the implications of what we have witnessed in the trade area over the last 30 years for the future work of the IATRC? I would like to highlight three issues:

1. Analyzing domestic and trade policies and their economic implications is becoming increasingly complex and challenging. How easy it was 30 years ago when we could construct multi-commodity, multi-country partial equilibrium models, or multi-sectoral general equilibrium models, include a simple representation of implicit transfers (subsidies and taxes) associated with policies and figure out the implications for production, consumption, trade and economic welfare. Now we have to deal with a complex array of domestic policy measures whose impact on markets is not always apparent—for example, we still have lively disagreements on the extent to which various existing support policies influence current production, i.e., how much policies are actually decoupled. And on the trade front, despite tariffication in the Uruguay Round, we have a growing array of non-tariff measures whose impact on trade is often difficult to determine. And finally if developing countries are indeed going to move to greater support and protection, we face the not inconsiderable challenge of doing a better job of understanding and analyzing the impact of their agricultural policies on trade and markets.

2. The policy environment that affects international trade is becoming increasing complex. We have had differences of view among members of the IATRC in the past about the boundaries for the analysis implied by the "trade" label in our name. I remember one discussion at a meeting prior to the conclusion of the URA in which the argument was made that we should focus on trade measures per se, i.e., tariffs and export subsidies rather than spending too much time worrying about domestic policies. The logic of this argument was that if we can get the trade policy right—domestic policies will surely follow, i.e., they would inevitably have to change to become less distorting if the trade policy instruments that provide import protection were eliminated. I remember another discussion in a meeting after the URA had been concluded on whether we really needed to spend much time focusing on the reinstrumentation of domestic agricultural policies in developed countries—as trade analysts was it really within our remit to examine such things as adjustment policy or how countries could make a transition from the amber or blue boxes to the green box? As one who has always taken the view that trade policy can only be understood in the broader context of domestic policy objectives, it seems to me that we are going to have to face up to the challenge of figuring out the implications for trade and trade policy of an increasingly complex policy domestic and international policy agenda. That agenda includes how to

meet the material needs of a world population that is projected to exceed 9 billion by 2050, whether it is possible to reduce the environmental impact of economic growth (to achieve what is now termed "green growth" in the OECD setting), what are the implications of climate change and adaptation to its effects, and what is the future role of bioenergy (not just ethanol and biodiesel, but all the potential sources of energy production from the land-based industries of which agriculture forms a part)?

3. Stefan Tangermann highlights the role that we as economists can play as "efficiency partisans" and I agree with his view. We can play a major role in highlighting how ineffective or inefficient trade and domestic policies are (or occasionally perhaps, the opposite!), and (as the OECD has done) making the case for policy targeting and the monitoring of impact. There is much work to be done to increase transparency on the impact of policies—for example, will the policies included under pillar 2 (the rather broad and inclusive category of "rural development") of the post-2013 CAP be largely green box in character or something else? Or what distortions are likely to be created by the policies that are likely to surface in the debate on the 2012 US Farm Bill? However, if we focus solely on efficiency our analysis runs the risk of being ignored because we neglect the important distributional issues inherent in trade and domestic policies. The critical role played by rent seeking in shaping trade policies has been studied by many members of the IATRC and we should take every opportunity to highlight distributional implications, so that the public debate on the desirability or otherwise of these policies is fully informed. We should be vigilant not to fall into the trap of becoming advocates for particular policy choices on the basis of their distributional effects, but we need to be "distribution partisans" in the sense that we highlight clearly the distributional implications of policy choices.

Finally, let me say that I have appreciated the opportunity to make some comments on this celebratory theme day. It's been a very productive 30 years for this organization. I hope that the next 30 will be just as good! ■

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DISCUSSION

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Let me begin by arguing that the excellent paper by Tangermann (2010), along with the AAEA 100th Anniversary paper by Josling, et.al (2010) should be required reading in the first week of any agricultural trade course. Before making a few comments on Tangermann's paper, in the spirit of the IATRCs 30th anniversary, I'd like to begin by discussing Canada's involvement in the IATRC.

It is interesting that the founders of the IATRC used the term "international" instead of "United States" or "regional" in the organization's title because in the early days it was only the Canadian participants that made IATRC international. One of IATRC's major accomplishments, over the past 30 years, is that it is now truly international in membership and scope.

The origins of Canada's formal involvement in IATRC are cloudy but they started with one of the founders contacting Gerry Trant at AAFC and asking if they would like to participate. This invitation was passed down through the ranks to Ralph Lattimore who invited a handful of academics to travel to the IATRC meetings at AAFC expense. My memory of the early Canadian academics is fuzzy but they included me, Sandy Warley, Gary Storey, Colin Carter, Rick Barichello and Robert St. Louis as well as others I am sure I have omitted. I know several Canadian academics and AAFC staff were at the 1981 meeting in this Berkeley Claremont Hotel. In the mid-1980's AAFC started contributing to the general activities of the IATRC and by the end of the 1980's more formal financial arrangements were put into place. The first IATRC annual meeting on Canadian soil took place in Ottawa in 1983—it is time for a return visit!

AAFC has provided continuous financial support to IATRC for 30 years, which must be a record for voluntary contributions to a non-statutory activity by AAFC. Much of this success is due to Ralph Lattimore, Don McClatchy and Lars Brink. Don and Lars are two of the longest serving members on the IATRC executive (Don for 9 years and Lars for 14), in fact the three longest serving members on the IATRC Executive Committee are all government representatives, the third being Kelly White from USDA. Each of these individuals received their doctorate from Purdue University which means Purdue must teach tolerance, at least for long meetings.

Canadians have contributed to the accomplishments of the IATRC, co-authoring 13 of its 18 Commissioned Papers produced between 1988-91, and in 2001. Currently, 19 members of IATRC are from Canada, about ten percent of the membership and considerably more than our share of world GDP.

Turning to Tangermann's paper, I am currently more pessimistic about trade liberalization than at any point in my career and I'll speak to four points raised in Stefan's paper.

First, the current economic climate is similar in some respects to the lead-up to the formation of the IATRC, but it is also different several key aspects (Table 1). In the early to mid-1980's the United States economy went into a sharp recession with unemployment greater than seven percent and record high interest rates. The farm economy fully participated in this economic contradiction as illustrated by very low corn prices, massive government subsidization

of agriculture, farm bankruptcies and falling land values as prime interest rates approached 20 percent. The sharp and deep recession that began in 2008 is also characterized by high unemployment and weak grow but this time alongside record low interest rates. To a large extent the farm economy has escaped the recent recession with robust corn prices and rapid increases in farm land values as interest rates declined and commodity prices rose.

Leading into the recent recession we witnessed the collapse of the mortgage market and the near collapse of the banking system; leading to massive government budget deficits and total debt as a percent of GDP around 90 percent in the United States. All of this against a backdrop of on-going concerns about terrorism.

TABLE 1: THE UNITED STATES ECONOMY EARLY 1980S AND EARLY 2010S

	Early 1980s	Early 2010s
General economy	weak	weak
Unemployment	high	high
Interest rates	high	low
Growth	low	low
Annual federal budget deficit as percent of GDP	~ 5 percent	~ 40 percent
Total federal debt as percentage of GDP	~ 10 percent	~ 90 percent
Agricultural economy	weak	strong
Corn prices	low	high
Land values	falling	rising

For those who believe in open markets the failure of the banking system and the collapse of the real economy has given additional ammunition to domestic rent seekers and the anti-market, anti-globalization, local everything cabal. It is difficult to dismiss their arguments because you cannot argue the banking system did not fail. The leaders of the G-20 make frequent statements supporting open markets but domestically all of the political pressure is to close borders not to open them; with perhaps one notable exception—regional trade agreements. Unfortunately, regional trade agreements have a long history of ignoring all of the tough market access issues in agriculture, in spite of the work of Grant and Boys (2012) showing that the opening of markets leads to substantial growth in agrifood trade. Regional integration agreements are not an alternative to a completed Doha Development Agenda and it will be interesting to see what happens in the Trans Pacific Partnership (TPP) negotiations where agriculture is supposedly squarely on the table. With Japan joining the TPP negotiations I am not optimistic about a quick resolution of the negotiations or a significant breakthrough on agriculture. The EU-United States regional negotiations will also put agriculture in the spot light just as it is in the four year old Canada-EU regional negotiations.

Second, are we at the end of the cheap fossil fuel era? The oil price spikes of the 1970's (the real price of oil peaked in about 1980 at $100/barrel and we are at about $80 today) were caused by artificial shortages orchestrated by OPEC. Today the high price of oil seems less contrived and certainly many would argue the days of cheap oil are long gone. A few will even argue that high oil prices and carbon taxes will change our way of life in fundamental ways—the local food movement is one such example. Trade will revert to local trade and international trade and travel will be sharply curtailed. While I am bullish on oil I don't believe higher fuel prices will fundamentally change our way of life. I think

conventional economic wisdom is that transportation costs are such a small part of trade costs that they will not have a huge impact on trade and travel. Clearly, the non-fuel costs of long distance trade have fallen sharply with new communication technologies. However, I do wonder if we can sell this notion to the general public?

In the past decade through the development and subsidization of bioenergy, which remains largely corn based, we have created a deep connection between fossil fuel markets and agricultural commodity markets. I don't want to sidetrack this brief note into the food/fuel debate but it is not dead—what we know for sure is that in addition to the normal weather related and macroeconomic shocks agriculture now has to cope with instability coming out of the fossil fuel market. This means more variation in government support payments and less willingness to put constraints on them. In addition, recent high prices for grain and oilseeds have been capitalized into the value of land putting some farmers in a difficult debt position should commodity prices fall and/or interest rates rise.

Third, Tangermann presents data on North-North trade and South-South trade but I think the major issue is North-South trade, and most importantly trade from the South to the North. As long as trade flows consist of coffee, tea, spices and tropical fruit there is little problem, except for banana's of course. But, when the trade starts to encroach on traditional North products—and especially if it originates in China—it will raise all kinds of questions about food standards, which in many of these cases are going to be private standards rather than public standards. Developed country consumers are generally accepting of food standards set in their own countries but much less so of standards developed elsewhere; standards set by multinationals on products from China and other developing countries are likely to be met with skepticism and when food scares occur it will lead to tighter borders.

Forth, there appears to have been little progress on the Doha Development Agenda negotiations since 2008 (Blustein, 2009). The WTO (2008) draft text is complex and the potential gains from the negotiations difficult to explain. Efforts to model the implications of agrifood trade liberalization have improved since those undertaken on the Uruguay Round but with so many exceptions and complex border instruments, imposed at the tariff line level, market access analysis is difficult (Meilke, McClatchy and de Gorter, 1996; Rude and Meilke, 2004). At the same time this product orientated market access analysis has to take into account domestic support commitments that impose disciplines at an aggregate level. Still, the research shows that the major gains in agriculture come from limiting the number of products exempted from market access liberalization, but it is these sensitive products that are troublesome for domestic politicians (McCall and Nash, 2007). At this writing it is difficult to see the political will to push the negotiations to completion.

Most members of IATRC are apostles of economic efficiency—this is always a difficult role—and one that is not terribly well rewarded in academia. We need more articulate and informed agricultural economists who can speak to a broad audience about the benefits of trade through example, logic and humor. Jagdish Bhagwaiti is the role model I have in mind; an accomplished theoretician who can engage a layperson but also has access to the highest levels of trade diplomacy.

This comment brings me back to the IATRC. The fact it has survived 30 years with no legal structure but lots of good will is a testament to its usefulness to its members; members who from the start were expected to step forward to further the goals of the IATRC. I suspect the tension among those who see the IATRC as primarily a "policy" Consortium and those who see the Consortium as primarily a "professional" organization; whose focus should be on building better mousetraps is likely to continue. I think the Executive has done a good job over the years of juggling these two competing demands that should be complimentary to one another.

I would encourage the current Executive to look for more opportunities for members to work together on important issues. The Bringing Ag into the Gatt activity was a great opportunity for all that participated and there were an amazing number of government and academic professionals involved. There is no shortage of important topics where good research and collaboration among Consortium members could make a difference.

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CHAPTER 5

How Well Have We Done and Where Should We Go from Here? Perspectives from Around the World

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REFLECTIONS BY GIOVANNI ANANIA

How well have we done? Very, very well, in my opinion. IATRC is 30 years old, and looks as sharp and well focused as an energetic newly born scientific association! There has been plenty of high quality research on agro-food trade issues presented and discussed in IATRC annual meetings and symposia over the years. Not only that, but, in my opinion, IATRC has an excellent record in terms of the relevance of what it has done over the years for trade policy making around the world.

In my short contribution to the panel I decided to focus first and foremost on the "where should we go from here?" question. Basically, my answer to this question is that IATRC should keep doing well what it had been doing for its first 30 years and then consider which new activities to possibly undertake.

I believe the general goals as stated in the "blue book" are valid:

- "promote and stimulate improvement in the quality and relevance of international agricultural trade research and policy analysis;
- encourage collaborative research among members of the Consortium;

- facilitate interaction among trade researchers and analysts in several countries, in universities and in government engaged in and/or interested in trade research; and
- improve the general understanding of international trade and trade policy issues among the public."

The core focus of IATRC should remain research on the economics of food trade and the effects of domestic and trade policies, maintaining its good reputation for being a place where one can find good economic research "with both feet on the ground" (i.e. good and socially relevant economic research). Both theoretical and applied good economic research should be of interest for IATRC activities, on the grounds that good socially relevant applied economic analysis can only walk on good theoretical and methodological legs.

IATRC should keep considering the interaction of membership with stakeholders and policy makers one of its trademarks, listening to them (and learning from them), in addition to talking (preaching…) to them.

Careful planning should ensure that, in addition to addressing the "hot issues" of the moment in a timely manner, IATRC also devotes attention and resources to issues relevant for more longer term research and political agendas.

IATRC should keep allocating time in its annual meetings to exposing (educating would be the term some of those in the old guard would have used…) its members to the most recent promising theoretical and methodological advances relevant for trade and trade policy analysis; these extend well beyond the boundaries of the international economics and economic modeling areas to include relevant developments for trade and trade policies in political economy, consumer behavior, industrial organization, or development economics, to mention just few examples.

In addition to the difficulties involved in keeping up the good work, which are by no means minor, I see one important challenge for an IATRC projected into the future: making IATRC attractive for young colleagues (without, in the process, losing pieces of the current membership…). More and more young people tend to prefer scientific gatherings focusing on the (sometimes quite narrow) research themes they are working on, or on the analytical methodology they specialize in using, while, on the other hand, they are less and less attracted by large "generalistic" meetings, which are seen more as a networking opportunity than as a forum for scientific exchange and enrichment. In addition, means of communication are rapidly evolving and today there is little need to present the findings of our researches at a conference to make others aware of what we have been doing lately.

How to respond to this challenge?

First, again, IATRC should keep doing well what it had been doing (…the repetition is intentional).

This means keeping the theme days at the annual meetings designed mostly as "educational" activities for the membership, rather than as mini symposia; choose the "right" topics (relatively easy), and involve excellent, very well known speakers (the hard part; if you want to bring in speakers from outside the membership you need to plan the theme day well in advance, use your reputation in large quantities and, in some cases, have significant financial resources available). The remaining two days of the annual meeting are, in my opinion, fine as they are. In addition, IATRC can provide incentives (low organization costs) and logistic support for good organized sessions (which can accommodate sort of mini symposia, allowing them to extend over a couple of sessions with no concurrent parallel activities, if their quality and potential interest justify it).

IATRC should keep organizing good symposia. A question to be addressed is whether it is feasible to organize a symposium every year or if it would be wiser to move to biennial symposia.

In the past few years the IATRC, with the support of the Hewlett Foundation, has devoted time and energies to capacity building, with great results, in my opinion. Can the IATRC attract the financial resources needed to implement a similar activity? Can IATRC consider undertaking additional capacity building activities for different potential target groups: workshops for PhD students (providing them an opportunity to present and discuss their work at an advanced but not yet final stage, and be exposed to few presentations by senior researchers, either on what it is ahead for them (and how to cope with it…) or on cross edging research developments; highly specialized mini courses; capacity building activities targeting research institutions, rather than individuals, in the developing world.

As regards IATRC's outputs, there are currently three "products": books, working papers and policy briefs. I believe the books, generally proceedings of IATRC symposia, are fine; working papers could probably be limited to outputs of activities by IATRC itself; policy briefs, potentially a great tool for disseminating research results to a wide audience, need to be supported by effective marketing and distribution among stakeholders and policy makers worldwide.

In addition to keeping up with the good work, I can think of two new activities for the IATRC to consider:

- IATRC sponsored workshops/seminars, i.e. smaller (ideally 30-40 participants), more informal than symposia, focusing on a very specific topic, designed around few, well known, invited speakers, plus contributed papers, with plenty of time for discussion after each presentation. This has proved to be a successful format in Europe and could be a key instrument to involve younger colleagues in the life of IATRC. In general these workshops/seminars would be organized by a group of members, with IATRC offering logistical and organizational support only.
- Introducing IATRC awards for (a) the best policy relevant (quality) paper of the year, (b) the best quality of research discovery paper of the year, and (c) the best paper of the year on a trade or trade policy issue by a (main) author of 35 years or under. No need for these awards to involve money, a nice letter and a small plaque will do it…
- I know, to do things right both human and financial resources are needed. Great human resources are available in large quantities in the membership of IATRC and have been generously provided (and used) in the past. Financial resources are a more serious potential constraint … unfortunately my ten minutes are over.

REFLECTIONS BY JAMES RUDE

Thanks to the organizing committee for inviting me to participate. It is certainly a humbling experience to be asked to participate in the theme day. It is an honor to participate in this panel. I am afraid that my institutional memory isn't long enough so that I can comment on past IATRC achievements. The good thing about speculating on the future is that you don't seem to need any particular expertise.

From my perspective, given no tangible prospect for DDA progress and some of the same conditions in world markets that existed in the 1970's, the IATRC should continue to be a sounding board on big issues. Our deliberations should reflect the uncertainty regarding the world's economy – the increased frequency of food price surges and commodity market volatility, the emergence of green protectionism, the re-coupling of energy and agriculture policy, the emergence of private standards as barriers to trade, the proliferation of regional trade agreements, climate change and food security, etc. These are issues that are not just reflected in this year's program but they have also been standard fare for some years now. Recent theme days have covered all of these issues and the research and analysis symposia have focused on specialized topics that deserve to be fleshed out. Although 2006 theme day introduced firm heterogeneity and the new new trade theory ~ ala Melitz ~ this is a subject that deserves a dedicated symposia and there is much

that we can learn from our trade theory cousins as they discover the empirical intricacies of intra-industry heterogeneity and how to get their hands dirty with data.

Stefan raised some interesting issues with respect to the treatment of biofuels policies in measuring farm support, and the development of empirically based and testable criteria for inclusion of policy measures in the green box.

- The incidence of blending mandates and the associated subsidies is complicated by the different ways these programs were implemented.
- Given the myriad of subsidies and trade measures, it is important to have a consistent and transparent framework to assess them. The IATRC's early role providing input to the OECD on PSEs might provide a useful template for future work on an information base for biofuel support.
- I asked Mike Gifford his opinion of where we should go, and as an eternal optimist he sees a next WTO round and the virtual elimination of non-green domestic support in developed countries and the introduction of disciplines on green domestic support. However, if external pressures are only drivers of domestic reform, then improved transparency may help to grease the wheels for reform.

Green protectionism, border tax adjustments, etc. are a reincarnation of anti-dumping investigations and constructed cost tests. They represent a case that is not winnable because it is very difficult to distinguish between genuine environmental interventions from illegitimate green protectionism. The experience that IATRC members have gained through analyzing SPS issues, should be informative to the broader trade policy community in its efforts to deal with this double edged sword. Protectionism is more difficult to deal with when the calls for protection do not come from import competing industries but from other constituencies that have less of a vested interest. Consumer requests for protection are a big upcoming or long ignored issue.

In a time of increased world price volatility, and the related concerns with food security, more effective disciplines on export restrictions and agreements to discipline export taxes are relevant considerations to study.

- Some developing countries may feel that that they have no politically feasible alternative to border measures in order to cope with price surges.
- The ethanol boom has increased price instability.

We can't go back to international commodity agreements – they never stood a chance of working - but considering options for international and national responses to volatility is not a waste of time.

Although it may seem like some programs, like Canada's supply managed system, will never face trade liberalization the day for reform will come and then governments will face huge pressures for trade adjustment assistance.

- The problem of appropriate levels of adjustment assistance for industries where economic rents have been capitalized into asset values is an issue that the IATRC may consider important.

When you know nothing, and you don't know any better, a typical reaction is to survey your peers. So I did a straw poll of burning issues for Canadian trade policy analysts:

- First I got a sobering reminder of Canada's diminishing role in world trade and its influence in trade negotiations. All our heads appear firmly planted in the sand. As a country which historically pursued and preached multilater-

alism, we are now running madly off in all directions pursuing regional trade agreements. Very late in the game we are seeking agreements with developing markets such as India while having focused our efforts on negotiations with the EU and Japan for a much smaller gain. As a small country we have to worry about quality and we have to pay more than lip service to it.

- There is still a big concern about trade disruptions caused by differences in regulatory systems (minimum tolerance levels for unapproved crops, differing standards for contamination, long lags between the end of an incident and the resumption of normal trade).

If my reading of the *Blue Book* is correct the IATRC was very influential in its early days because it was a small "club" that brought important issues to the light of day. Just like the WTO, its membership has grown. Growth comes at a cost. I am not saying that the meetings, symposia, etc. aren't useful … they are where the IATRC has the most influence … but it needs to return to its roots and commission more papers and initiate more task forces.

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REFLECTIONS BY DONALD MACLAREN

As this session is sub-titled "Perspectives from around the World", I thought I should begin my remarks with reference to the title of a paper given by Ted Sieper at the annual conference of the Australian Agricultural Economics Society in 1979.[1] The title was "Rationalising Rustic Regulation" and at that time there was a substantial amount of rustic regulation in Australia. What Sieper showed was that government intervention in Australian agriculture was better explained by income redistribution rather than by the

correction of market failures. My understanding is that this explanation was a novel one at the time to the profession in Australia and highlights the importance of the so-called non-economic objectives of agricultural policy. Over the following 20 years, commodity policy disappeared commodity-by-commodity and instrument-by-instrument until, by the year 2000, even the dairy sector had been totally deregulated and there was almost no commodity policy remaining. Whether Sieper's analysis and the conclusions drawn from it was the cause of the subsequent deregulation is difficult to establish, just as it is in assessing how well the IATRC has done.

While the reforms of agricultural policies have been less dramatic in other OECD countries than it was in Australia, New Zealand excepted, I believe that we have performed quite well in changing the mind-set of politicians and policy makers towards agricultural policies and their consequences for domestic welfare and international trade in agricultural products. I also believe that we have achieved this success through the careful application of economic theories, such as the targeting principle from the theory of distortions. The application of this principle has helped to clarify the link between the objectives of agricultural policy and the best choice of instrument to achieve each and it has led to the acceptance of decoupled income payments as the best way of pursuing the farm income objective instead of the use of input and output subsidies that create by- product distortions.

1 The paper was later published as Sieper, E. (1982) Rationalising Rustic Regulation, The Centre for Independent Studies, Sydney.

To justify this claim of success, consider the sentiment in the Doha Declaration: "We recall the long-term objective referred to in the Agreement [on Agriculture] to establish a fair and market-oriented trading system through a programme of fundamental reform encompassing strengthened rules and specific commitments on support and protection in order to correct and prevent restrictions and distortions in world agricultural markets."[2] It is unlikely that this statement could have been written by trade negotiators pre-1980. I interpret this outcome as a fundamental shift in the position adopted by policy makers on matters to do with agricultural policies and their effects on international trade. The difficulty faced by the negotiators has been translating words into agreed outcomes.

Because agriculture has been such a significant stumbling block in both the Uruguay and Doha Rounds negotiations, there would be a substantial pay-off to research that was successful in designing a better way of achieving the goal set in the Doha Declaration. Somehow, we have to wean trade negotiators off the idea that negotiation is about the exchange of concessions. This will be challenging but I hope that we can do better than proposals such as that of "critical mass".

As well as the persuasive use of economic theory to effect change in policy instruments, we now have numbers with which to illustrate the effects of different policy instruments and to bolster what to trade negotiators could be rather unconvincing policy recommendations based on abstract reasoning. These have come from two sources: the first is the GTAP, and other CGE, models; and the second is the measures of assistance and distortion calculated by the OECD and more recently the World Bank through its project on agricultural distortions.

It may seem ironic that, having persuaded governments that less intervention is to be preferred to more, where market failures do not exist, we now may have to propose more intervention because of the increasing prevalence of market failures. There are four categories of market failures that have become very much more prominent in recent times and each occurs in open economies having, therefore, a trade dimension. These categories of failures are imperfect information, imperfect competition, uncertainty, and negative externalities and they identify for me some of the issues that are part of "where do we go from here".

An example of the first market failure is in the area of food safety, its associated credence characteristics, and the constraints imposed on the use of trade policy by the SPS and TBT Agreements in correcting the failure. The uncertainty of the science in some instances, the interpretation of probabilities, the lack of cost benefit analysis and the lack of option value, leave scope for research that could help design better trade rules for food safety and for quarantine policy.

The second market failure is the presence of imperfect competition at various points along the value chain from domestic food production and imports through the vertical linkages to the ultimate consumer. Imperfect competition affects not only price transmission from domestic and external sources but, through that transmission, the effects of policy intervention.

The third market failure is the vulnerability of the poor in poor countries to price volatility where risk markets are missing. The events of the past three years have brought us round full circle to the events of the early- to mid-1970s when commodity prices were highly volatile and governments responded then, as now, in selfish ways. I believe that we need to revisit the stochastic analysis that was developed in the late 1970s/early 1980s because the present is likely to be much closer to the future than was the decade and a half after 1990 when markets were relatively stable.

2 WTO (2001) Ministerial Declaration, WT/MIN(01)/DEC/1 20 November, paragraph 13, http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.htm, accessed on 10 December 2010.

Another reason for revisiting this analysis is the increasing importance of the emerging and large economies such as China and India. How these countries choose to balance efficiency, equity, poverty, trade liberalisation, food security and in the case of India, political economy, with populations of the poor running into the hundreds of millions, is important not only for international markets but also for the outcome of negotiations in the WTO. Perhaps for too long our analyses have been deterministic and have underplayed the role that stochastic analysis might play in analysing issues such as the SSM, the stance taken by the G-33, and in providing recommendations that in other ways might achieve the objectives of these countries.

The fourth market failure arises in the context of carbon taxes that might be imposed in some countries but not in others as part of climate-change policy, giving rise to the debate about border tax adjustments in the form of carbon tariffs. This is likely to be a challenging topic for analysis.

The analysis of each of these failures is amenable to the application of economic theories that already exist but the policy recommendations will need to be internationally coordinated to achieve full success. This will be challenging, given the track record in engaging successfully in multilateral negotiations on agriculture, on climate change and the lack of coherence between the WTO and the MEAs.

The final topic, and one that does not fit coherently into the structure of my previous comments but which is important, is what can we do about the proliferation of RTAs and the international discrimination to which they give rise? If, as I have claimed earlier, we have been relatively successful in changing mind-sets on agricultural policy in the domestic context, perhaps we should attempt the next challenge and help to discourage the continued enthusiastic rush into the spaghetti/noodle bowl, if for no other reason than the mistreatment of agricultural products in these agreements.

With such a research agenda, the IATRC has a potentially very productive future.

To the IATRC, happy birthday!

CHAPTER 6

Agricultural Trade Challenges: Doha and Beyond

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In the companion featured paper at this conference, Stefan Tangermann (2010) focuses on the progress since 1980 in reducing what D. Gale Johnson described in the title of his seminal book as the 'disarray in world food markets' (Johnson 1973). He draws attention to the fact that agricultural protection and subsidies in high-income (and some middle-income) countries have been depressing international prices of farm products for many decades. Those policies have been thereby lowering the earnings of farmers and associated rural businesses in lower-income countries, and may have added to global inequality and poverty, bearing in mind that three-quarters of the world's poorest people depend directly or indirectly on agriculture for their main income. The fact that those price-distorting forms of intervention have declined somewhat over the past two-plus decades is therefore good news. However, Tangermann rightly points out that much farm policy reform is still needed in protectionist countries.

My brief is to focus on the decades ahead.[1] Before doing so, I'd like to first add one other piece of good news about the past two to three decades. It has been common for agricultural development economists to bemoan the de-emphasis of agriculture in national government spending in and bilateral and multilateral assistance programs for emerging economies. Elements of this were highlighted in the World Bank's World Development Report of 2008. In one very important respect, though, many developing country governments unilaterally helped their farmers via trade policy

1 For a review of agricultural trade analyses by the profession over the past century, see Josling et al. (2010).

reform. They did so directly through the phasing out of agricultural export subsidies, and also indirectly through reducing manufacturing protection rates.

The paper thus begins by summarizing recent evidence on these additional elements of the progress made since IATRC's formation 30 years ago. It then examines briefly what if anything might come out of a Doha agreement. Attention then turns to drivers of change in agricultural trade and in trade-related policies beyond Doha. The paper concludes with thoughts on priority areas for further international agricultural trade research.

CHANGES IN AGRICULTURAL DISTORTIONS SINCE THE 1980S

From the 1950s to the 1980s, the governments of many developing countries directly taxed their farmers, overvalued their currency, and pursued an import-substituting industrialization strategy by restricting imports of manufactures. Together those measures indirectly taxed producers of non-protected tradable products in developing economies, by far the most numerous of them being farmers (Krueger, Schiff and Valdés 1988, 1991). As a result there was over-production of farm products in high-income countries and under-production in more-needy developing countries. It also means there was less international trade in farm products than would have been the case under free trade, thereby thinning markets for these weather-dependent products and thus making them more volatile. That volatility was exacerbated by the tendency for both rich and poor countries to alter their border measures from year to year in an attempt to stabilize prices and quantities in domestic food markets: using a stochastic model of world food markets, Tyers and Anderson (1992, Table 6.14) found that instability of international food prices in the 1980s was three times greater than it would have been under free trade in those products.

However, numerous countries began to reform their agricultural price and trade policies during the past quarter century. To get a sense of how much that has reduced the distortions to global markets for farm products, a recent World Bank research project examined policies affecting agricultural producer incentives since 1955 in 75 countries that together account for more than 90 percent of the world's population and agricultural GDP (Anderson 2009).

Measures Used

The Nominal Rate of Assistance (NRA) for each farm product was computed as the percentage by which government policies have directly raised gross returns to farmers above what they would be without the government's intervention (or lowered them, if NRA<0). A weighted average NRA for all covered products (an average of 11 per country so as to cover more than two-thirds of the gross value of national farm production) was derived using the value of production at undistorted prices as weights (unlike the producer and consumer support estimates (PSEs and CSEs) computed by OECD (2010), which are expressed as a percentage of the distorted price). To that NRA for covered products is added a 'guesstimate' of the NRA for non-covered products and an estimate of the NRA from non-product-specific forms of assistance or taxation.[2] Each farm industry is classified either as import-competing, or a producer of exportables, or as producing a nontradable (with its status sometimes changing over the years), so as to generate for each year the weighted average NRAs for the two different groups of covered tradable farm products.

2 Since the 1980s governments of some high-income countries have also provided so-called 'decoupled' assistance to farmers but, because that support in principle does not distort resource allocation, its NRA has been computed separately and is not included for direct comparison with the NRAs for other sectors or for developing countries.

Also computed is a production-weighted average NRA for nonagricultural tradables, for comparison with that for agricultural tradables via the calculation of a percentage Relative Rate of Assistance (RRA), defined as RRA = 100*[(100+NRAagt)/(100+NRAnonagt)-1] where NRAagt and NRAnonagt are the percentage NRAs for the tradables parts of the agricultural (including non-covered) and non-agricultural sectors, respectively.[3] Since the NRA cannot be less than -100 percent if producers are to earn anything, neither can the RRA (since the weighted average NRAnonagt is non-negative in all 75 country case studies). And if both of those sectors are equally assisted, the RRA is zero. This measure is useful in that if it is below (above) zero, it provides an internationally comparable indication of the extent to which a country's sectoral policy regime has an anti- (pro-)agricultural bias (Anderson et al. 2008).

The extent to which consumers are taxed or subsidized also is examined by the World Bank project. To do so, a Consumer Tax Equivalent (CTE) is calculated by comparing the price that consumers pay for their food and the international price of each food product at the border. Differences between the NRA and the CTE arise from distortions in the domestic economy that are caused by transfer policies and taxes/subsidies that cause the prices paid by consumers (adjusted to the farmgate level) to differ from those received by producers. In the absence of any other information, the CTE for each tradable farm product is assumed to be the same as the NRA from border distortions.

The cost of government policy distortions to incentives in terms of resource misallocation tends to be greater the greater the variation of NRAs across industries within the sector. A simple indicator of dispersion is the standard deviation of the covered industries' NRAs. However, it is helpful to have a single indicator of the overall welfare effect of each country's regime of agricultural price distortions in place at any time, and to trace its path over time and make cross-country comparisons. To that end, the family of indexes first developed by Anderson and Neary (2005) under the catch-all name of trade restrictiveness indexes has been drawn upon to generate indicators of distortions imposed by each country's agricultural policies on its economic welfare, and also on its agricultural trade. Lloyd, Croser and Anderson (2010) define and estimate a Welfare Reduction Index (WRI) and a Trade Reduction Index (TRI) for the same 75 countries, taking into account the fact that for some covered products the NRA and CTE differ. As their names suggest, these two new indexes respectively capture in a single indicator the direct welfare- or trade-reducing effects of distortions to consumer and producer prices of covered farm products from all agricultural and food price and trade policy measures in place. Specifically, the TRI (or WRI) is that ad valorem trade tax rate which, if applied uniformly to all farm commodities in a country that year would generate the same reduction in trade (or economic welfare) as the actual cross-commodity structure of agricultural NRAs and CTEs for that country, other things equal.

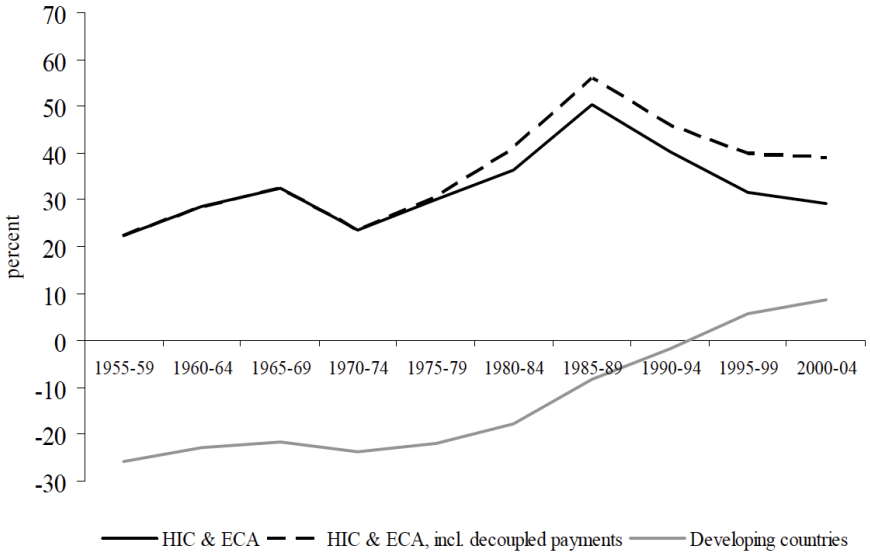
The WRI measure reflects the partial equilibrium welfare cost of agricultural price-distorting policies better than the NRA because it recognizes that the welfare cost of a government-imposed price distortion is related to the square of the price wedge. It thus captures the disproportionately higher welfare costs of peak levels of assistance or taxation, and is larger than the mean NRA/CTE and is positive regardless of whether the government's agricultural policy is favoring or hurting farmers.

3 Farmers are affected not just by prices of their own products but also by the incentives nonagricultural producers face. That is, it is relative prices and hence relative rates of government assistance that affect producer incentives. More than seventy years ago Lerner (1936) provided his Symmetry Theorem that proved that in a two-sector economy, an import tax has the same effect as an export tax. This carries over to a model that also includes a third sector producing only nontradables (Vousden 1990).

Price Distortion Estimates

A global summary of the new results from the World Bank project is provided in Figure 1. It confirms that agricultural prices in developing countries were set well below international levels and that high-income countries were increasingly protecting their farmers. It also reveals how much those patterns have changed since the latter 1980s: after peaking at more than 50 per cent, the average NRA for high-income countries has fallen somewhat, depending on the extent to which one believes that some new farm programs are 'decoupled' in the sense of no longer influencing production decisions (see dashed line in Figure 1). For developing countries, by contrast, the average (negative) NRA for agriculture has been rising since the 1980s and, since the latter 1990s, has been slightly above zero.

FIGURE 1. NOMINAL RATES OF ASSISTANCE TO AGRICULTURE IN HIGH-INCOME, TRANSITION[A] AND DEVELOPING COUNTRIES, 1955 TO 2004

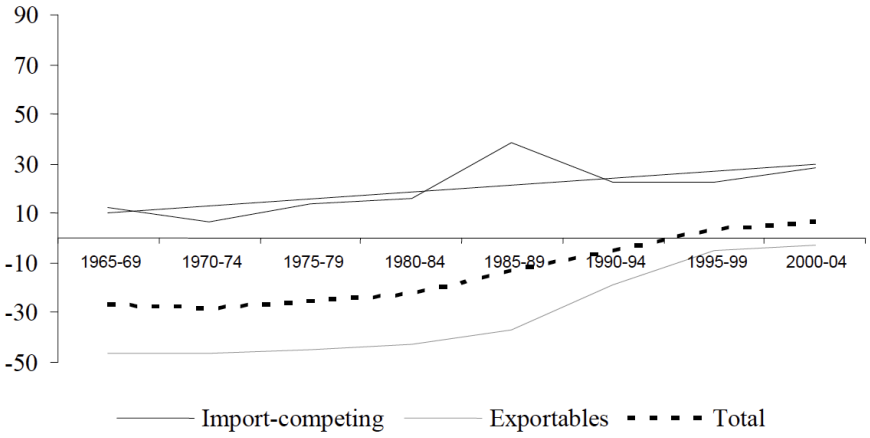


(per cent, weighted averages, with 'decoupled' payments included in the dashed line)
[a] Denoted by the World Bank as ECA, for (Central and Eastern) Europe and Central Asia.
Source: Anderson (2009, Ch. 1), based on estimates in Anderson and Valenzuela (2008).

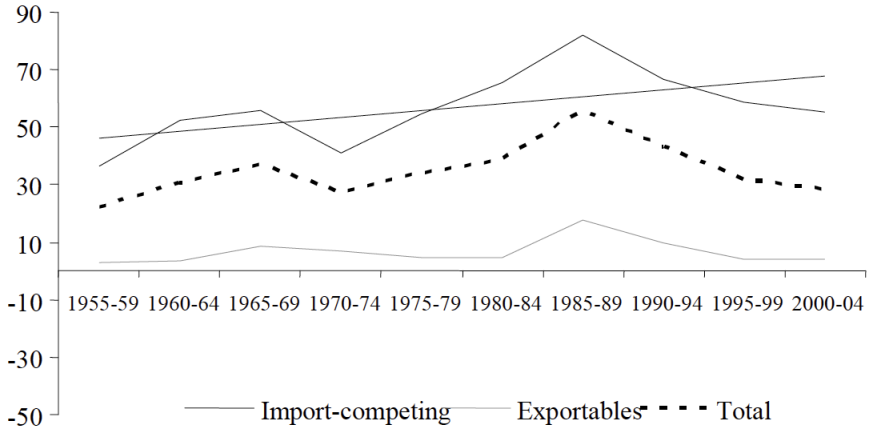
The average NRA for developing countries conceals the fact that the exporting and import-competing subsectors of agriculture have very different NRAs. Figure 2 shows that while the average NRA for exporters has been negative throughout (going from almopst −50 per cent prior to the latter 1980s to almost zero in 2000-04), the NRA for import-competing farmers in developing countries has been positive and fluctuating around a rising trend (spiking at 40 per cent in the mid-1980s period of low international prices). The anti-trade bias within agriculture (the effective taxing of both exports and imports of farm products) for developing countries has diminished since the mid-1980s, but the gap between the NRA averages of the import-competing and export subsectors is still around 20 percentage points.

FIGURE 2. NOMINAL RATES OF ASSISTANCE TO EXPORTABLE, IMPORT-COMPETING AND ALL COVERED AGRICULTURAL PRODUCTS,A HIGH INCOME, TRANSITION AND DEVELOPING COUNTRIES, 1955 TO 2004 (PER CENT)

(A) DEVELOPING COUNTRIES



(B) HIGH-INCOME COUNTRIES PLUS EUROPE'S TRANSITION ECONOMIES



[a]Covered products only. The total also includes nontradables. The straight line in the upper segment of each graph is from an ordinary-least-squares regression based on annual NRA estimates. Source: Anderson (2009, Ch. 1), based on estimates in Anderson and Valenzuela (2008).

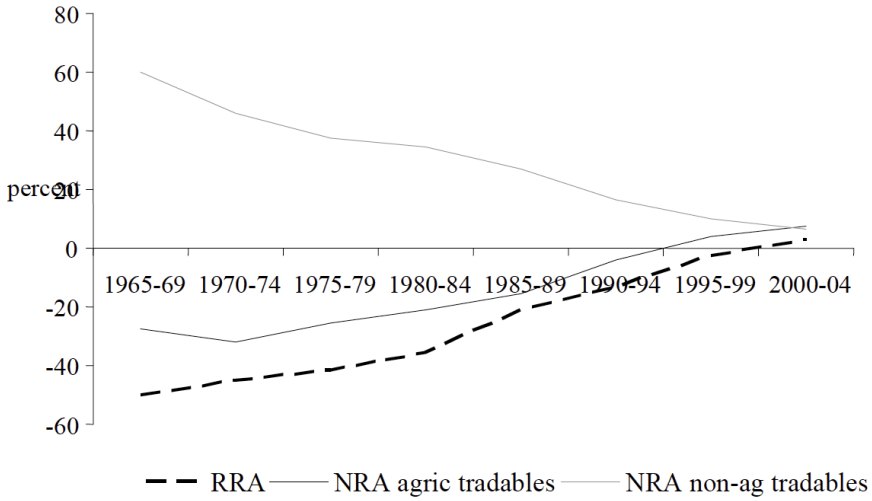
The straight-line regressions in Figure 2 also reveals that the trend NRA for import-competing farmers in developing countries has increased at virtually the same pace as that in high-income countries. This suggests that growth in agricultural protection from import competition is something that begins at low levels of per capita income rather than being a phenomenon exclusive to high-income countries.

The improvement in farmers' incentives in developing countries is understated by the above NRA estimates, because those countries have also reduced their assistance to producers of non-agricultural tradable goods, most notably manufactures. The decline in the weighted average NRA for the latter, depicted as the upper line in Figure 3a, was greater than the increase in the average NRA for tradable agricultural sectors for the period to the mid-1980s but since the mid-1980s the changes in the NRAs of both sectors have contributed almost equally to the improvement in incentives to farmers. As a result, the relative rate of assistance (RRA) for developing countries as a group went from −46 per cent in the second half of the 1970s to 1 per cent in 2000-04. This increase (from a coefficient of 0.54 to 1.01)

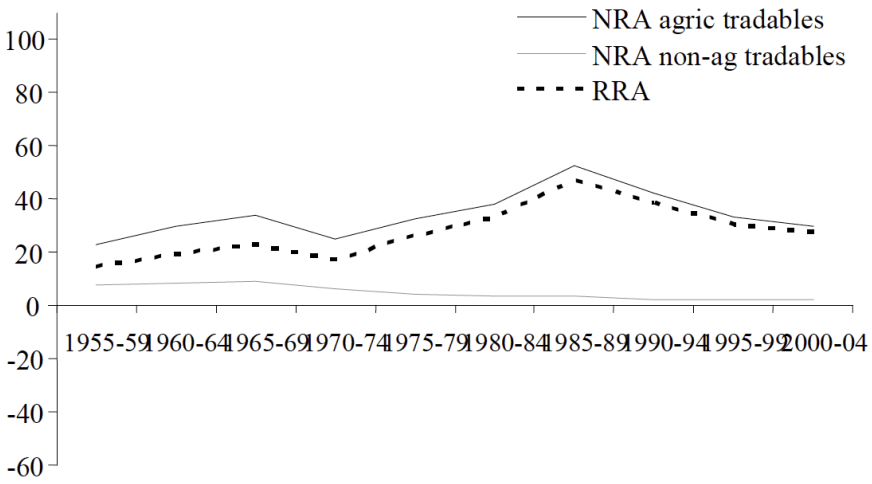
is equivalent to an almost doubling in the relative price of farm products, which is a huge change in the fortunes of developing country farmers from that depicted by Krueger, Schiff and Valdés (1988, 1991) just two decades ago.[4] This is mostly because of the changes in Asia, but even for Latin America this relative price hike is one-half, while for Africa this indicator improves by only one-eighth. As for high-income countries, assistance to manufacturing was on average much less than assistance to farmers, even in the 1950s, and its decline since then has had only a minor impact on that group's average RRA (Figure 3b).

FIGURE 3. NOMINAL RATES OF ASSISTANCE TO AGRICULTURAL AND NON-AGRICULTURAL TRADABLE SECTORS AND RELATIVE RATE OF ASSISTANCE,A DEVELOPING AND HIGH-INCOME COUNTRIES, 1955 TO 2004 (PER CENT, FARM PRODUCTION-WEIGHTED AVERAGES ACROSS COUNTRIES)

(A) DEVELOPING COUNTRIES



(B) HIGH-INCOME COUNTRIES



[a] The RRA is defined as 100*[(100+NRAag[t])/(100+NRAnonag[t])−1], where NRAag[t] and NRAnonag[t] are the percentage NRAs for the tradables parts of the agricultural and non-agricultural sectors, respectively. Source: Anderson (2009, Ch. 1), based on estimates in Anderson and Valenzuela (2008).

4 See Anderson (2010a) for a direct comparison of the Krueger, Schiff and Valdés estimates with the most recent ones by the World Bank.

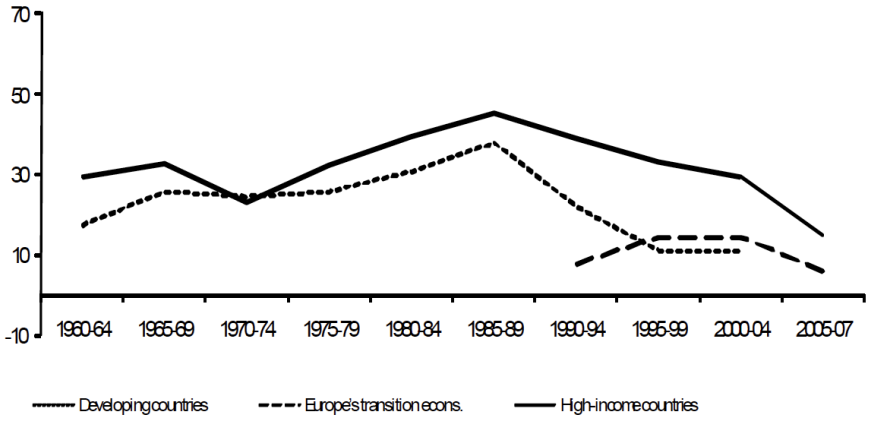
It is the move from negative to positive RRAs for China and India that matter most for the world's food markets. Both countries have remained very close to self sufficient in agricultural products over the past four decades, and the steady rise in their RRAs has contributed to that outcome. It may also have helped ensure that the trend in China's ratio of urban to rural mean incomes (adjusted for cost of living differences) has been flat since 1980 (Ravallion and Chen 2007, Figure 3), and that the Gini coefficient for India hardly changed between 1984 and 2004 (World Bank 2008). A major question, addressed at the final section of the paper, is: will those countries' RRAs remain at their current neutral level of close to zero, or will they continue to rise in the same way as observed in Korea and Taiwan and, before them, in Japan and Western Europe?

Turning to the single partial equilibrium indicators of the impact of agricultural distortions on national economic welfare and trade, the estimates by Lloyd, Croser and Anderson (2010) indicate that the trade-reducing impact of agricultural policies for developing countries as a group was roughly constant until the late 1980s and thereafter it declined, while for high-income countries the TRI first rose and then declined equally rapidly from the latter 1980s (Figure 4(a)). The TRI for developing countries is driven by the exportables subsector which was being taxed until recently and the import-competing subsector which was, and is increasingly, being protected (albeit less than in high-income countries—see Figure 2 above). For high-income countries, policies have supported both exporting and import-competing agricultural products and, even though they strongly favor the latter, the assistance to exporters has offset somewhat the anti-trade bias from the protection of those countries' import-competing producers.

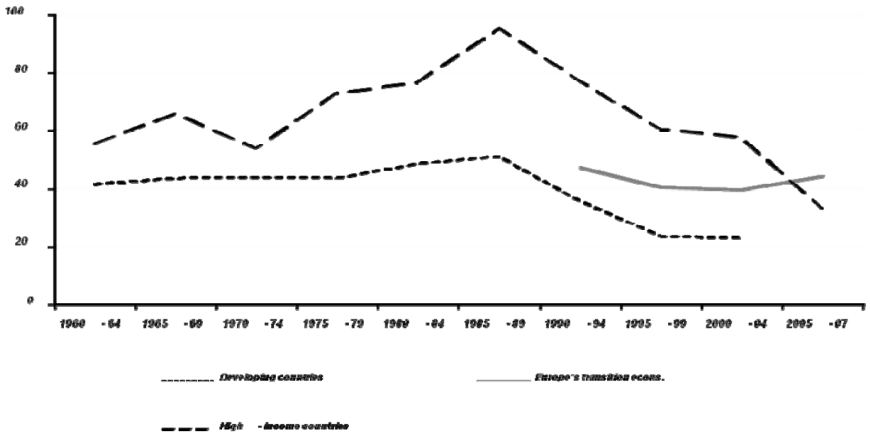
The WRI estimates, shown in Figure 4(b), indicate a steady rise from the 1960s to the 1980s but some decline in the 1990s. This reflects the fact that NRAs for high-income and developing countries diverged (in opposite directions) away from zero in the first half of the period under study and then converged toward zero in the most recent quarter-century. The global weighted average NRA thus traces out a fairly flat trend whereas the global WRI traces out a hill-shaped path and thus provides a less misleading indicator of the trend in resource misallocation in world agricultural markets.

FIGURE 4. TRADE AND WELFARE REDUCTION INDEXES FOR TRADABLE FARM PRODUCTS, BY REGION, 1960 TO 2007 (PERCENT)

(A) TRADE REDUCTION INDEX



(B) WELFARE REDUCTION INDEX



Source: Lloyd, Croser and Anderson (2010), based on NRAs and CTEs in Anderson and Valenzuela (2008).

There is a great deal of NRA diversity also across commodities within each economy's farm sector, and the extent (as measured by the standard deviation) has not diminished over the past five decades. Hence the WRIs are generally much higher than the NRAs. There is also a great deal of sectoral NRA diversity also across countries. As well, the global TRIs and WRIs differ greatly across commodities (Croser, Lloyd and Anderson 2010). All of this suggests there is still much that could be gained from improved resource reallocation both between economies and within the agricultural sector of individual economies, were cross-country and cross-commodity differences in rates of assistance to be reduced.

One other important feature of government intervention in markets for farm products is their propensity in both rich and poor countries to alter their nation's border measures from year to year in an attempt to stabilize prices and quantities in their domestic market. That behavior is clearly evident in the WRIs and TRIs for the years surrounding the upward price spike of 1974 and the downward spike of 1986 (Table 1), and it showed up also in the NRAs for rice and wheat during the 2008 upward price surge (Anderson and Nelgen 2010). Those data also reveal that both export-

ing and import-competing countries respond in spike periods. The beggar-thy-neightbor behavior of the two groups thus exacerbates the international price change but reduces the effectiveness of each group in dampening the domestic price change (Martin and Anderson 2010).

TABLE 1. CONTRIBUTIONS TO TOTAL AGRICULTURAL WRI AND TRI FROM DIFFERENT POLICY INSTRUMENTS, DEVELOPING AND HIGH-INCOME COUNTRIES, 1965-2004 (PERCENT)

(A) WRI

	1965-1971	1972	1973	1974	1975	1976	1977-1983	1984	1985	1986	1987	1988	1989-2004
Developing countries													
Import tax equivalent	12	15	4	3	11	13	12	12	17	18	17	13	11
Export tax equivalent	19	16	31	34	28	18	23	30	22	28	33	32	10
Import subsidy equivalent	3	4	8	7	3	2	4	2	2	1	2	2	2
All (incl. domestic) measures	**38**	**42**	**47**	**55**	**53**	**38**	**51**	**60**	**46**	**53**	**58**	**51**	**29**
High-income countries													
Import tax equivalent	48	39	25	24	37	53	58	61	64	86	99	73	51
Export subsidies	7	6	3	1	3	3	4	4	7	11	11	8	5
All (incl. domestic) measures	**57**	**46**	**34**	**31**	**41**	**60**	**66**	**68**	**77**	**113**	**119**	**83**	**61**

(B) TRI

	1965-1971	1972	1973	1974	1975	1976	1977-1983	1984	1985	1986	1987	1988	1989-2004
Developing countries													
Import tax equivalent	9	13	3	2	10	11	9	10	13	14	15	11	9
Export tax equivalent	19	15	29	32	26	17	22	28	20	26	32	30	9
Import subsidy equivalent	–3	–3	–8	–7	–3	–2	–4	–2	–2	–1	–2	–2	–2
All (incl. domestic) measures	**25**	**22**	**20**	**28**	**37**	**25**	**27**	**39**	**32**	**38**	**45**	**39**	**15**
High-income countries													
Import tax equivalent	34	29	20	17	24	35	37	40	41	60	60	51	35
Export subsidies	–4	–4	–2	–1	–2	–2	–3	–3	–5	–8	–8	–6	–3
All (incl. domestic) measures	**29**	**24**	**16**	**12**	**22**	**32**	**33**	**37**	**37**	**53**	**53**	**47**	**32**

Source: Anderson and Nelgen (2010), based on NRAs and CTEs in Anderson and Valenzuela (2008).

To summarize, one of the most salient features of agricultural price and trade policies in the world since the 1950s is the growth in distortions in the first half of that period and the major economic reforms since. Overall levels of non-agricultural protection have declined considerably, which has improved the competitiveness of the agricultural sector in many developing economies—just as it has in Australia and New Zealand. Two other salient features in developing countries have been the gradual policy movement away from taxing agricultural exportables, but at the same time—and in contrast to non-agriculture—a rise in agricultural import protection. The latter means there is still scope for reducing distortions in resource use within agriculture even in countries with an average NRA for agriculture and an RRA close to zero. In particular, an anti-trade bias in assistance rates within the farm sector remains in place, and domestic market stabilizing adjustments to border measures continue in response to price fluctuations. This may be understandable from a national political economy viewpoint (see, e.g., Krueger 1990), but it nonetheless means that resources continue to be allocated inefficiently within the farm sector and, since openness tends to promote economic growth, that total factor productivity growth in developing country agriculture is probably slower than it would be if remaining interventions were removed.

Welfare Estimates: Results from Economy-wide Modelling

What have been the net economic effects of agricultural price and trade policy changes around the world since the early 1980s? And how do those effects on global markets, farm incomes and economic welfare compare with the effects of policy distortions that were still in place as of 2004? Valenzuela, van der Mensbrugghe and Anderson (2009) use a global economy-wide model known as Linkage (van der Mensbrugghe 2005) to provide a combined retrospective and prospective analysis that sought to assess how far the world had come, and how far it still has to go, in rectifying the disarray in world agriculture. It quantifies the impacts both of past reforms and of current policies by comparing the effects of the recent World Bank project's distortion estimates for the period 1980-84 with those of 2004.

Several key findings from that economy-wide modelling study are worth emphasizing. First, the policy reforms from the early 1980s to the mid-2000s is estimated to have improved global economic welfare by $233 billion per year, and removing the distortions remaining as of 2004 would add another $168 billion per year. This suggests that in a global welfare sense the world moved three-fifths of the way towards global free trade in goods over that quarter century. That finding from a general equilibrium model is similar in magnitude to the extent of the decline in the partial equilibrium Welfare Reduction Index shown in Figure 4b.

Second, developing countries benefited proportionately more than high-income economies (1.0 percent compared with 0.7 percent of national income) from those past policy reforms, and would gain nearly twice as much as high-income countries if the world completed that reform process (an average increase of 0.9 percent compared with 0.5 percent for high-income countries). Of those latter prospective welfare gains from global liberalization, 70 percent would come from agriculture and food policy reform. This is a striking result given that the shares of agriculture and food in global GDP and global merchandise trade are only 3 and 6 percent, respectively. The contribution of farm and food policy reform to the prospective welfare gain for just developing countries is even slightly greater, at 72 percent.

Third, the share of global farm production exported (excluding intra-European Union (EU) trade) in 2004 has been slightly smaller as a result of those reforms since 1980-84, because of the cuts in farm export subsidies offsetting the cuts in export taxation. The 8 per cent share for agriculture in 2004 contrasts with the 31 per cent share for other primary products and the 25 per cent for all other goods. If the policies distorting goods trade in 2004 were removed, the share of global production of farm products that is exported would rise from 8 to 13 per cent, thereby reducing

instability of international prices and the quantities of those products traded—assuming governments also refrained from intervening at the border to reduce fluctuations in domestic markets even further.

Fourth, the developing countries' share of the world's primary agricultural exports rose from 43 to 55 percent, and its farm output share from 58 to 62 percent, because of the reforms since the 1980s, with rises in nearly all agricultural industries except rice and sugar. Removing remaining goods market distortions would boost their global export and output shares to 64 and 65 percent, respectively.

Fifth, for developing countries as a group, net farm income (value added in agriculture) is estimated to be 4.9 percent higher than it would have been without the reforms of the past quarter century, which is more than ten times the proportional gain for non-agriculture. If policies remaining in 2004 were removed, net farm incomes in developing countries would rise a further 5.6 percent, compared with just 1.9 percent for non-agricultural value added. As well, returns to unskilled workers in developing countries—the majority of whom work on farms—would rise more than returns to other productive factors from that liberalization.

Inequality and Poverty Estimates: Results from Economy-wide Modelling

Together, the above findings suggest that international inequality and global poverty could be alleviated by further farm policy reform, given that three-quarters of the world's poor are farmers in developing countries. To examine that issue more carefully, the World Bank research project undertook some economy-wide studies using global and national models with detailed household information (Anderson, Cockburn and Martin 2010). In doing so, careful consideration was given to impacts on household income and expenditure. The fact that the poorest households in the poorest countries are concentrated in agriculture means those households are likely to benefit from farm producer price increases engendered by trade policy reform, other things equal. However, the outcome is not certain because poor households also spend the majority of their income on staple foods, so if food prices rise as a consequence of reform then this adverse effect on household expenditure may more than offset any beneficial effect of higher earnings. Also, the urban poor would be adversely affected by a rise in consumer prices of staple food, which may be more or less than offset by any induced rise in the demand for their unskilled labor.

The approach adopted in the Anderson, Cockburn and Martin (2010) study to operationalize the above theory is a variant on the path-breaking approach pioneered by Hertel and Winters (2005, 2006) in their study of the poverty consequences of a prospective Doha round agreement under the WTO. The new country case studies examine full unilateral reforms that individual developing countries might implement, the effects of which are compared with what full liberalization abroad would generate, so as to be able to assess the relative importance domestically for each nation of own-country policies as distinct from those of other countries. The national CGE models are able on their own to estimate the effects of unilateral reform of agricultural or all merchandise trade-distorting policies. The World Bank's global Linkage model was chosen to provide the national modelers with estimates of the effects of other countries' policies (amended to incorporate the above estimates of agricultural distortions).

As found in previous studies, whether based on ex post econometrics (as in Harrison 2007) or ex ante economy-wide simulation (as in Hertel and Winters 2006), the results are mixed and so not easy to summarize, particularly with regard to the poverty effects. There is nonetheless a high degree of similarity in the most important sign: the extreme poverty alleviating effect of freeing all merchandise trade globally. Furthermore, this beneficial impact of full liberalization of global merchandise trade on the world's poor would come more from agricultural than non-agricultural policy reform; and, within agriculture, more from the removal of substantial support provided to farmers in high-income

countries than from developing country policy reform. Such reform would raise real earnings of unskilled workers in developing countries, most of whom work in agriculture. Their earnings would rise relative to both unskilled workers in developed countries and to other income earners in developing countries. This would thus reduce inequality both within developing countries and between developing and high-income countries, in addition to reducing poverty. Full trade liberalization of all goods, or just of agricultural products, also would cause inequality to decline within each of the three developing country regions covered by that sample of countries, and both for own-country and rest-of-world reform. Inequality within the rural or urban household groupings would not alter much following full trade reform, suggesting that trade reform's predominant distributional impact would be to reduce urban-rural inequality.

WHAT MIGHT THE WTO'S DOHA DEVELOPMENT AGENDA DELIVER?

If the reform processes of the past quarter century continue, such that national RRAs converge towards zero, there would continue to be a re-location of global farm production (in global share terms) from high-income to developing countries, reversing the policy distortion-driven opposite trend in the quarter century prior to the mid-1980s. According to the global CGE modeling exercise outlined in the previous section, if all goods market distortions as of 2004 were removed globally the net change in international prices would be very small—but, international markets would be 'thicker' because of such reform so their volatility from year to year would be less than otherwise.

Such a policy scenario would imply that the early 1960s to the mid-1980s was an aberrant period of welfare-reducing policy divergence (negative and very low RRAs in newly independent developing countries, positive and rising RRAs in most high-income countries) that has given way to growth-enhancing, welfare-improving and inequality- and poverty-reducing reforms. In this view, the recent reforms could be seen as the result of learning from the differing growth experiences of more- and less-open economies, and appreciating that it is wiser for economies to be more open. In that case we could anticipate that a Doha agreement would at least lock in the reforms of the recent past through tighter tariff and subsidy bindings, and possibly lower those rates below current applied rates. Agreement to so reform agriculture presumably would then be accompanied by reform commitments in non-agricultural goods and services: they would be necessary to ensure most WTO members' merchantilist demands were met.

An alternative interpretation of history is that it is the most recent 25-year period of RRA changes that is aberrant. The RRA declines in high-income countries, according to this alternative view, are associated more with, in the case of the EU, its 1992 Single Market initiative and subsequent EU enlargements than with external reform pressure from other World Trade Organization (WTO) members.[5] The steady rise in international food prices over recent years also has contributed to a closing of the gap between border and domestic prices in protective countries, which may reverse if international prices trend downwards again. As for the rise of developing country RRAs, in this alternate view that is simply following the example provided earlier by higher-income countries and will not stop when those RRAs reach zero. Inspection of the NRAs in Figure 2a for exporting and import-competing sub-sectors of developing country agriculture reveals that the convergence of their aggregate NRAs to near zero is mainly with respect to the exporting sub-sector. NRAs for import-competing farmers in developing countries, by contrast, are positive and (if one ignores the latter 1980s when international food prices spiked downwards) are trending upwards over time.

5 See Swinnen (2008). As explained by Josling (2009), the budgetary cost of continuing with the EU's past levels of support would have sky-rocketed following the EU membership expansion eastwards, with little if any of those extra payments going to the traditional lobbyists for the Common Agricultural Policy.

Moreover, in developing countries there are few signs of a slowdown of the upward trend in agricultural protection from import competition over the time period studied.[6] On the contrary, there are numerous signs that developing country governments want to keep open their options to raise agricultural NRAs in the future, particularly via import restrictions. One indicator is the high tariff bindings developing countries committed themselves to following the Uruguay Round: as of 2001, actual applied tariffs on agricultural products averaged less than half the corresponding bound tariffs for developing countries of 48 percent, and less than one-sixth in the case of least-developed countries (Anderson and Martin 2006, table 1.2). Another indicator of agricultural trade reform reluctance is the unwillingness to date of many developing countries to agree to major cuts in bound agricultural tariffs in the Doha Round of multilateral trade negotiations. More than that, the current negotiations have brought to prominence a new proposal for agricultural protectionism in developing countries. This is based on the notion that agricultural protection is helpful and needed for food security, livelihood security and rural development. This view has succeeded in bringing "Special Products" and a "Special Safeguard Mechanism" into the multilateral trading system's agricultural negotiations, despite the fact that such policies may worsen poverty and the food security of the poor by raising domestic food price levels in developing countries and also international food price fluctuations (Ivanic and Martin 2008; Hertel, Martin and Leister 2010).

These two alternative interpretations of history have profoundly different implications for the future. The first suggests that the WTO's Doha Round of multilateral trade negotiations is likely to conclude with substantial cuts to agricultural tariff and subsidy bindings that lock in recent reforms and also promote cuts to restrictions on trade in other goods and services. Such an outcome could go close to relegating protectionism in agricultural markets, and farm export subsidies, to history—except that both developed and developing countries would seek to have some of their farm products classified as "sensitive" and thus subject to lesser tariff cuts.[7]

The other interpretation of history—one that views as normal a movement from taxing to subsidizing farmers as an economy develops—suggests the Doha Round will struggle to reach an ambitious reform outcome in agriculture, and hence may not reach any agreement. In that case developing countries are even more likely to make use of the legal wiggle room they have allowed themselves in their WTO bindings to follow Japan, Korea and Taiwan into higher levels of agricultural protection. As well, protection and subsidy cuts and reforms to regulations affecting services that have already been undertaken but not yet bound in WTO commitments could unravel. The benefits of a Doha round come thus not just from new reforms but also from securing past reforms (Hoekman, Martin and Mattoo 2010) and reducing the scope, via reduced binding overhang, to raise protection when international prices fall (Francois and Martin 2004). Moreover, if the counterfactual were to be rising protectionism rather than retaining the status quo, the gains could be several times the standard estimates of welfare benefits vis-à-vis existing policies (Bouët and Laborde 2010). And even if agricultural tariff bindings are reached, many countries have ample scope to re-instrument their assistance to domestic support measures (Orden, Blandford and Josling 2011).

6 True, applied tariffs were lowered or suspended as a way of dealing with the international food price spike in 2008, but food export taxes or quantitative restrictions were imposed that year by numerous food-exporting developing countries (Anderson and Nelgen 2010; Jones and Kwiecinski 2010). Those changes aer likely to be reversed when international prices return to trend, as happened following the 1974 and 1986 price spikes.

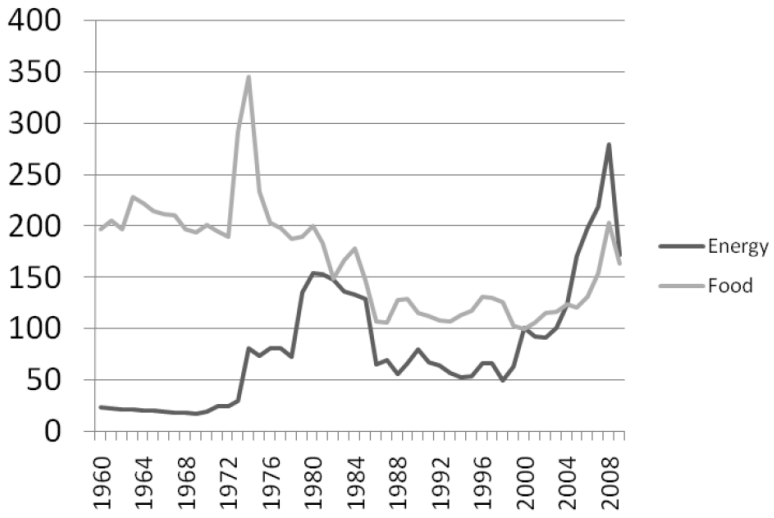
7 According to recent analysis, even if such "sensitive" exceptions applied to only 2 to 4 percent of agricultural tariff lines, they would eliminate most of the gains that would otherwise come from a Doha agricultural agreement (Anderson and Martin 2006; Jean, Laborde and Martin 2010). If an additional "Special Products" category is allowed for developing countries, that would reduce even further the welfare gains from a Doha agreement.

BEYOND DOHA: WHAT NEXT?

The prospects for further policy reform will be conditioned in part on developments in markets for farm and other products. On the demand side, the projected growth in national incomes for coming decades is likely to be highest in relatively low-income countries including China and India. This implies significant changes to the economic centers of gravity of food and livestock feed consumption in the global economy, given that price and income elasticities of demand for food tend to decline with per capita income and earlier for lower-valued foods such as staple grains and tubers than for livestock and horticultural products. On its own this change is likely to put upward pressure on international prices of grain, oilseed and livestock products.

Another important development on the demand side has to do with the new linkage between markets for fossil fuels and biofuel sources of energy. The rising user price of fossil fuels from 2003, together with concerns about the effect of burning such fuels on climate change, led the governments in the EU, US and elsewhere to provide user subsidies and to mandate a certain degree of use of biofuels. With those policies in place, it has become privately profitable for such products as corn, sugar and oilseeds to be used as inputs into ethanol or biodiesel. As a result, food and energy raw material prices have move together much more in r3ecent years than in the past (see Figure 5). If the user price of crude petroleum (including the price of carbon emissions) remains at historically high levels as is assumed by the International Energy Agency (2010) and is forecast by the World Bank (2010), that new source of demand for crop products will possibly continue, adding to the upward pressure on their prices.[8] And to the extent biofuel mandates are inflexible, they could add to the volatility of international prices of food because that component of demand will not be price-responsive.

FIGURE 5: REAL INTERNATIONAL PRICE INDEXES FOR FOOD AND FOSSIL FUEL ENERGY RAW MATERIALS, 1960 TO 2009 (2000 = 100)



Source: World Bank (2010).

8 The cost of fuel and fertilizer needed to produce crops will rise with petroleum prices as well though, making biofuels less competitive than otherwise. Also, biofuels probably have a higher carbon footprint than most other renewable energy sources, and so over time governments may be dissuaded from continuing with biofuel subsidies and mandates as a route to reducing dfependence on imported fossil fuels.

On the supply side of the market for farm products, there is the possibility of technological catch-up by lagging regions through faster generation and importation of modern farm technologies, for example via the Green Revolution for Africa initiative of the Gates and Rockefeller foundations. The new agricultural biotechnology revolution can contribute to that to the extent that government regulations and consumer sentiment allow, including through partnerships between public sector researchers and private life science firms. Policies towards transgenic crops have already caused major transformations of much of the cropping in North and South America; and biotech food crop policy reforms that began in China in 2010 (allowing field experiments in Bt rice) may soon spread to other crops and other developing countries. Such reforms are likely to be necessary, though, to reduce the prospect of global crop yields falling in the wake of the slowdown in agricultural R&D over the past two decades and the diversion of more of the remaining funds towards conserving natural resources and the environment (Alston, Beddow and Pardey 2009).

Also affecting supply trends is climate change. Its effects on aggregate global agricultural production and its location across countries and regions without and with mitigation and adaptation are great unknowns, not least because many possible government policy responses are being considered unilaterally and multilaterally. Moreover, the uncertainties about what policy instruments will be adopted by whom and when will be spread over decades rather than just the next few years. Land use undoubtedly will be affected non-trivially. Carbon credits and emissions trading will have unknown and possibly major effects depending, among other things, on whether/how/when agriculture and forestry are included in the schemes of various countries. The same is true of border tax adjustments or other sanctions imposed on imports from countries deemed to be not sharing the burden of reducing greenhouse gases. Crop yield fluctuations will be greater because of weather volatility, and especially more extreme weather events, leading to further triggers for trade policy interventions aimed at stabilizing domestic food markets.

The literature on these and myriad other ways in which agricultural markets are expected to be affected directly and indirectly by climate change and associated policy and technological responses is growing exponentially. One of the more widely cited is by Cline (2007), who predicts that by the 2080s, even with carbon fertilization, agricultural output will be 8 percent lower in developing countries, 8 percent higher in high-income countries, and 3 percent lower globally. Projections in a more recent study by IFPRI, assuming no carbon fertilization, suggest that by 2050 climate change will have reduced global rice, wheat and coarse grain production each by around 9 percent (Nelson et al. 2010, Table 2.5).

True, climate mitigation policies could have an adverse effect on industrialization in the more advanced developing countries such as China and lead to their agricultural sector in aggregate benefitting indirectly (Mattoo et al. 2009), but the consensus nonetheless seems to be that expected climate change over the coming decades and its impact on water availability and demand will add to the difficulty of growth in global supplies of farm products outstripping growth in demand this century, in contrast to the 20th century. The OECD and FAO project average wheat and coarse grain prices to be between 15 and 40 percent higher in real terms in 2019 relative to 1997–2006 (OECD 2010b). Hertel, Burke, and Lobell (2010) suggest prices for major staples will rise between 10 and 60 percent by 2030. IFPRI also is within that range but over a longer period: it projects rice and wheat prices to be a little more than one-third higher in 2050 than in 2010 and maize prices nearly two-thirds higher in the absence of climate change; and with climate change they expect them to be higher again, by up to one-fifth for rice, one-quarter for wheat and one-third for maize (Nelson et al. 2010, Table A4.1). Bearing in mind that the real food price index in 2009 was about 70 percent above its 2000 level (Figure 5), those projections suggest climate change could be enough to prevent real food prices from falling over the first half of this century. Other preliminary studies, however, are more optimistic about farm produc-

tivity growth and less pessimistic about yield losses from climate change in temperate areas and so expect much more modest price rises (e.g., van der Mensbrugghe and Rosen 2010; Valenzuela and Anderson 2010).

What this suggests is there are wide confidence bands around price, production and hence trade projections without climate change and even wider bands with climate change. Added to that are uncertainties about not only Doha but also possible unilateral reforms to policies distorting agricultural incentives, preferential/regional trade agreements, environmental and food safety regulations, reforms to water institutions and policies, and of course national and multilateral policy responses to climate change (biofuels, carbon taxes, emission trading schemes, border tax adjustments).

AREAS FOR FURTHER AGRICULTURAL TRADE RESEARCH

The agenda for further research on agricultural trade issues is as rich as or richer than ever. With the greater uncertainty associated with climate change and associated policies, and the related intermittent linking of food and fuel prices via biofuels, the demand for reliable market projections has grown. Baseline projections are also a pre-requisite for much contemporary trade policy analysis. Ex ante analysis of multilateral and preferential trade agreements ideally require a dynamic model, not least for showing the adjustment path to phased partial reforms. Analyzing such proposals as the Special Safeguard Mechanism for developing country members of WTO requires such models to also be stochastic. That feature would also enhance our modeling of climate change, whose most costly characteristic for farmers may well be an increased frequency of extreme weather events. Other stochastic events worthy of the attention of trade modelers are invasive species and pandemics, both of which could impact non-trivially on national and possibly even global food security.

The baseline in global trade models requires up-to-date estimates of price distortions in national markets. Fortunately the Gates Foundation is funding an FAO/OECD effort to expand the OECD's annual PSE/CSE to a selection of countries in Africa (see www.fao.org/mafad), building on the World Bank's recent time series to the middle of this decade (Anderson and Valenzuela 2008). That will need to be broadened and institutionalized if it is to serve the policy monitoring and modeling communities on a continuing basis. The methodology for doing that also will need to be enhanced to incorporate the distortionary effects of measures such as biofuel and water policies, not to mention the ever-growing list environmental and food safety regulations that are substituting for traditional trade measures.

Time series of price distortions are also required for political econometric research aimed at improving our understanding of why governments intervene in markets in the ways they do. The challenges include explaining differences in NRA/PSE trends across countries and products, in the choices of policy instruments, in annual fluctuations around trend NRAs, and in the timing and sustainability of reforms and policy reversals. A recent collection of such studies (Anderson 2010b) has barely begun to mine the 75-country time series distortions database now available at www.worldbank.org/agdistortions.

The findings from such political econometric research would have numerous immediate uses. One would be to offer alternative counterfactuals to national and global modelers: most simply assume a continuation of current policies is the appropriate counterfactual against which to compare alternative policies. Another immediate use would be in devising politically feasible alternatives to variations in border restrictions for responding to food security concerns with fluctuations in international food prices.

One area not mentioned above but possibly very important for future farmer welfare and therefore worthy of mention by way of conclusion relates to the effect of globalization on supply chains for farm products. The ICT and biotechnology/nanotechnology revolutions have resulted in a great deal of consolidation in the farm input-supplying, processing and retailing industries around the world. The ICT revolution will continue to lower trade and foreign investment costs, including for supermarkets as they search globally for the lowest-cost suppliers of products with the attributes desired by their customers. One consequence is that first-stage processors, food and beverage manufacturers, and distributors will be under pressure to become more concentrated so as to better match the bargaining power of supermarkets. Even so, supermarkets will exploit their capacity to develop their own brands and even their own processing and distribution. In turn these developments will alter dramatically the way farmers supply those markets, with the emphasis on timely delivery of uniform-quality products leading to more-efficient (possibly larger) farmers displacing less-efficient ones and thereby raising agricultural productivity growth (Swinnen 2007; Reardon et al. 2009). Incorporating those features in national and global economic models, in the form of imperfect competition in parts of the supply chain, will become increasingly necessary if modelers are to provide reliable estimates of the effects on farmers, international traders and final consumers of policy and other developments in global markets. ■

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DISCUSSION

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Kym Anderson is to be commended through his World Bank agricultural distortions project and in his presentation today for the tremendous job he and many colleagues have done to fully document what can be called the "stylized facts" of agricultural protection and support. That basic story is of relatively high support in the developed countries in forms that have evolved somewhat (one can even say, quite a lot) over 50 years but nonetheless maintain a subsidy habit in some form. In the developing countries, as Kym documents, discrimination against exported products has declined more than protection of import-competing products has fallen, and agriculture has benefitted from a decline in protection of manufacturing. In his paper today, Kym not only succinctly summarizes an enormous dataset and analysis from which these characterizations can be drawn, but adds thoughtful interpretation, discussion of challenges to be faced and work to be done.

With this said, I will add just a few contextual and responsive comments.

First, let me call attention to the Average Crop Revenue Election (ACRE) program introduced in the U.S. 2008 farm bill. This new program makes payments if revenue on current planted acreage falls below a moving average of past revenue. ACRE was the first such program of revenue insurance authorized in a farm bill. It is no accident that it was enacted at a time of high prices as opposed to the 2002 farm bill when prices were low. A revenue guarantee program based on a moving average of past revenue started during a period of high prices provides assurance of support in the event prices drop from those high levels, bringing revenue down. In contrast, the high prices in 2008 made price-triggered countercyclical payments unlikely given the legislated trigger levels. Farmers were charged a cost for enrolling in the ACRE optional program so enrollment has been fairly low. But its enactment signals the continued strength of the U.S. farm lobby, always seeking new program designs to fit the prevailing circumstances. Carl Zulauf and I (2010) show that if there were 100% sign up, and percentage price changes from the higher price levels in 2008-09 were similar to the percentage price changes during 1995-2006, the payments under ACRE would in many cases exceed proposed limits such as the product-specific subsidy caps included in the draft (but not agreed upon) December 2008 Doha Round agriculture modalities. This is sobering in terms of U.S. future interest in pushing for, or even accepting, an agreement such as the one so far left unconcluded, even in a period of high prices when one might think farm support could fade from the scene among wealthy countries.

In developing countries too, there is a worrisome aspect to the changes in support Kym documents. Disprotection of exported products had diminished, reducing discrimination against agriculture as desirable. No one expects these countries to continue in this trend direction by initiating substantial export subsidies. But protection of import-competing crops has come down much less; in essence the hardest job remains to be accomplished in achieving a less distorted agricultural policy regime for agriculture in these countries.

I agree with Kym that there is substantial uncertainty about the long-term trend for agricultural prices. I am not ready yet to conclude that the long downward trend of the 20th century has been reversed. That essentially no one was predicting the higher prices since about 2007 in the preceding years warns against being too sure what will happen to commodity prices in coming years.

In the medium term, however, it seems we are in for a period of higher and possibly volatile agricultural prices than in the first half of the 2000s decade. Developing countries might have incentives to lower protection of agriculture in these circumstances, but it might also prompt new subsidies or protection under calls for food security. And in the developed countries, as illustrated by ACRE, the farm lobby remains effective.

An environment of higher country and regional output variability also makes trade even more important as a stabilizer of food supplies and agricultural prices. Kym makes this point.

Even more challenging in the policy arena may be the extent to which externalities such as climate change come to dominate the policy dialogue. Externalities provide their own room for rent-seeking, as I would argue is evident in U.S. ethanol policy. To the extent that faith in markets declines, it may also become more difficult to argue for limiting policy interventions and the liberalized trade regime Kym makes the case for.

These considerations leave a vital agenda for monitoring of future agricultural trade and support policies. In current work on the WTO that Kym has mentioned (Orden, Bland ford and Josling), that agenda includes for domestic support measures examining whether, and strengthening how, the WTO ensures transparency about what countries are doing, elaborating meaningful measurement of their levels of support, examining the disciplines in the green box to guard against distorting policies slipping into this category, and ensuring fair markets for food consumers as arguments about externalities generate possibly inefficient supply restrictions or demand enhancement. ■

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CHAPTER 7

The Gains from International Trade Under Monopolistic Competition

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1. INTRODUCTION

Let me thank the International Agricultural Trade Research Consortium, and Alex McCalla in particular, for the opportunity to talk today on the topic of the gains from trade under monopolistic competition. It is no exaggeration to say that this is a topic that has occupied me for my entire career, and will probably continue to do so. As background reading to my lecture today let me mentioned the Zeuthen Lectures that I presented at the University of Copenhagen in 2007, which were published as Feenstra (2010), and from which I draw quite freely. In addition, there is a very recent paper with David Weinstein (Feenstra and Weinstein, 2010). When describing these results I will try to bring out some of the connections to agriculture, though I suspect that my discussants will be able to do that even better than I.

The reason I say that I have been working on this topic my entire career is that I actually started when I was an undergraduate at the University of British Columbia, where I wrote my senior essay on the gains from trade with the United States. That was in 1977, more than a decade before the Canada-U.S. Free Trade Agreement of 1989 or the North America Free Trade Agreement or 1994. But back into the 1960s there was discussion by the Economic Council of Canada on the potential benefits of free trade with the United States. Canadian economists saw this as a way for local firms to expand their scale and move down their average cost curves, taking greater advantage of economies of scale. That discussion was limited by not having the modern—by which I mean mathematical—monopolistic competition model to work with. So instead it relied on a limit pricing model developed by two Canadian economists—Eastman and

Skykolt (1967). They demonstrated graphically that increased competition from the United States would lead Canadian firms to reduce markups and expand scale, while at the same time dropping inefficient product lines. These were the ideas that dominated the Canadian policy discussion, and ultimately contributed to the two free trade agreements, with the United States and then with Mexico, too.

I did not make headway on this topic for my senior essay, beyond reading the reporting on the literature, but I did become aware of the huge disconnect between this ideas from the Canadian literature, and the models that I learned about from the first edition of Caves and Jones textbook. The Ricardian and Heckscher-Ohlin models just did not have any room for increasing returns to scale or imperfect competition. I continued to be aware of this deficiency as I did my graduate work at MIT, and it was in my second year there—in 1978—that I saw an early draft of Paul Krugman's (1979) first paper on monopolistic competition and trade, drawing on the mathematical formulation of Dixit and Stiglitz. I immediately thought "this is it!" since Krugman's simple model has all the predictions that were anticipated but not proven in the Canadian literature. Several years ago I was asked to write an article about Krugman's contributions after he won the Nobel prize (Feenstra, 2009), and I recounted this personal experience from my undergraduate days. I sent the article around to my colleagues at Davis, and one of them responded that I honored Krugman by saying that two Canadians thought of it first!

So I was lucky enough to see the development of the monopolistic competition model in trade from the beginning. As you know, the static models of the 1980s gave rise to the dynamic models of the 1990s, and in this new millennium, models that emphasize heterogeneous firms, as I will discuss later. But my own interests have been in the empirical application of these models, and especially in the measurement of the gains from trade. In the monopolistic competition models there are in fact three sources of gains from trade that are not found in the conventional Heckscher-Ohlin model: consumer gains due to the expansion of import varieties; efficiency gains due to increasing returns to scale and/or improved productivity; and welfare gains due to reduced markups.[1]

I will begin by discussing first source of gains from trade, which is the welfare gains from new products in a monopolistic competition model. In the theoretical models those welfare gains would simply be captured by a rise in N, the number of products, but in reality we have to allow for demand to differ across varieties, some of which are demanded in greater quantity than others. So even if we stick with the popular CES framework, what are the welfare gains from new products?

2. CONSUMER BENEFITS FROM IMPORT VARIETY

As I first thought about how to measure the welfare gains from new products, I felt that I had a trick up my sleeve that would allow me to solve this question. That trick came from my other field of study as an undergraduate, besides international trade, which was duality theory. I had benefitted from several graduate courses taught by Erwin Diewert, and I knew that one could capture the consumer gains between two periods with an exact price or cost-of-living index (Diewert, 1976). Erwin always talked about the "new goods" problem, where if a good is not available in one period then we should use its reservation price in the index number formula. The challenge is that the reservation prices generally need to be solved for, which defeats the whole idea of using an exact price index as a short-cut to get welfare gains.

1 These sources are not mutually exclusive. In Krugman (1979), for example, the welfare gains due to reduced markups are identical to the gains from increasing returns to scale: as the scale of firms expands due to trade, average cost is reduced and the gap between price=average cost and marginal cost is also reduced.

But there was a good reason that this price index approach might work for the CES case, namely, that the reservation prices for goods are infinite, so we don't actually need to solve for them. With many goods, the elasticity of demand is approximately equal to the elasticity of substitution, or σ. So a typical demand curve for this utility function is of the form $q = kp^{-\sigma}$, where q denotes quantity, p denotes price, and $k > 0$ is a constant. This demand curve is illustrated in Figure 2.1, and approaches the vertical axis as the price approaches infinity, so the reservation prices of the good is *infinite*. But provided that the elasticity of substitution is greater than unity, then the area under the demand curve is bounded above, and the ratio of areas A/B in Figure 2.1 is easily calculated as $A/B = 1/(\sigma - 1)$. Thus, even with an infinite reservation price, there is a well-defined area of consumer surplus from having the new good available, and measuring this area depends on having an estimate of the elasticity of substitution.

The challenge is to generalize this one-good example to a case where many new goods are potentially available from trade. To address that case, we do not rely on consumer surplus to measure the welfare gain, as in Figure 2.1, but rather, take the ratio of the CES expenditure functions—dual to the utility function—to derive an exact cost of living index for the consumer. By determining how new goods affect the cost of living index, we will have obtained an expression for the welfare gain from the new products. After solving this problem, we then apply the results to the monopolistic competition model of Krugman (1980).

CES Utility Function

We will work with the non-symmetric CES function,

$$U_t = U(q_t, I_t) = \left[\sum_{i \in I_t} a_{it} q_{it}^{(\sigma-1)/\sigma} \right]^{\sigma/(\sigma-1)}, \quad \sigma > 1, \tag{2.1}$$

where $a_{it} > 0$ are taste parameters that vary with time, and $I_t \subseteq \{1, \ldots, N\}$ denotes the set of goods available in period t at the prices p_{it}. The minimum expenditure to obtain one unit of utility is,

$$e(p_t, I_t) = \left[\sum_{i \in I_t} b_{it} p_{it}^{1-\sigma} \right]^{1/(1-\sigma)}, \quad \sigma > 1, \quad b_{it} \equiv a_{it}^{\sigma}. \tag{2.2}$$

For simplicity, first consider the case where $I_{t-1} = I_t = I$, so there is no change in the set of goods, and also $b_{it-1} = b_{it}$, so there is no change in tastes. We assume that the observed purchases q_{it} are optimal for the prices and utility, that is, $q_{it} = U_t(\partial e / \partial p_{it})$. Then the index number due to Sato (1976) and Vartia (1976) shows us how to measure the ratio of unit-expenditure, or the change in the cost of living for the representative consumer:

Theorem 2.1 (Sato, 1976; Vartia, 1976)

If the set of goods available is fixed at $I_{t-1}=I_t=I$, taste parameters are constant, $b_{it-1}=b_{it}$, and observed quantitites are optimal, then:

$$\frac{e(p_t,I)}{e(p_{t-1},I)} = P_{SV}(p_{t-1},p_t,q_{t-1},q_t,I) \equiv \prod_{i\in I}\left(\frac{p_{it}}{p_{it-1}}\right)^{w_i(I)}, \tag{2.3}$$

where the weights $w_i(I)$ are constructed from the expenditure shares $s_{it}(I) \equiv p_{it}q_{it}\Big/\sum_{i\in I} p_{it}q_{it}$ as,

$$w_i(I) \equiv \left(\frac{s_{it}(I)-s_{it-1}(I)}{\ln s_{it}(I)-\ln s_{it-1}(I)}\right)\Bigg/\sum_{i\in I}\left(\frac{s_{it}(I)-s_{it-1}(I)}{\ln s_{it}(I)-\ln s_{it-1}(I)}\right). \tag{2.4}$$

The numerator in (2.4) is the "logarithmic mean" of the shares $s_{it}(I)$ and $s_{it-1}(I)$, and lies in-between these two shares, while the denominator ensures that the weights $w_i(I)$ sum to unity. The special formula for these weights in (2.4) is needed to precisely measure the ratio of unit-expenditures in (2.3), but in practice the Sato-Vartia formula will give very similar results to using other weights, such as $w_i(I) = \frac{1}{2}[s_{it}(I)+s_{it-1}(I)]$, as used for the Törnqvist price index, for example. In both cases, the geometric mean formula in (2.3) applies. The important point from Theorem 2.1 is that goods with high taste parameters a_i will also tend to have high weights, so even without knowing the true values of a_i, the exact ratio of unit-expenditures is obtained.

Now consider the case where the set of goods is changing over time, but some of the goods are available in both periods, so that $I_{t-1}\cap I_t \neq \varnothing$. We again let $e(p,I)$ denote the unit-expenditure function defined over the goods within the set I, which is a non-empty subset of those goods available both periods, $I \subseteq I_{t-1}\cap I_t \neq \varnothing$. We sometimes refer to the set I as the "common" set of goods. Then the ratio $e(p_t,I)/e(p_{t-1},I)$ is still measured by the Sato-Vartia index in the above theorem. Our interest is in the ratio $e(p_t,I_t)/e(p_{t-1},I_{t-1})$, which can be measured as follows:

Theorem 2.2 (Feenstra, 1994)

Assume that $b_{it-1}=b_{it}$ for $i \in I \subseteq I_{t-1}\cap I_t \neq \varnothing$, and that the observed quantities are optimal. Then for $\sigma>1$:

$$\frac{e(p_t,I_t)}{e(p_{t-1},I_{t-1})} = P_{SV}(p_{t-1},p_t,q_{t-1},q_t,I)\left(\frac{\lambda_t(I)}{\lambda_{t-1}(I)}\right)^{1/(\sigma-1)}, \tag{2.5}$$

where the weights $w_i(I)$ are constructed from the expenditure shares $s_{it}(I) \equiv p_{it}q_{it}\Big/\sum_{i\in I} p_{it}q_{it}$ as in (2.4), and the values $\lambda_t(I)$ and $\lambda_{t-1}(I)$ are constructed as:

$$\lambda_\tau(I) = \left(\frac{\sum_{i\in I} p_{i\tau}q_{i\tau}}{\sum_{i\in I_\tau} p_{i\tau}q_{i\tau}}\right) = 1-\left(\frac{\sum_{i\in I_\tau, i\notin I} p_{i\tau}q_{i\tau}}{\sum_{i\in I_\tau} p_{i\tau}q_{i\tau}}\right), \tau=t-1,t. \tag{2.6}$$

Each of the terms $\lambda_\tau(I)\leq 1$ can be interpreted as the *period τ expenditure on the good in the common set I, relative to the period τ total expenditure*. Alternatively, this can be interpreted as *one minus the period τ expenditure on "new" goods*

(not in the set I), relative to the period τ total expenditure. When there are more new goods in period t, this will tend to lower the value of $\lambda_t(I)$, which leads to a greater fall in the ratio of unit costs in (2.5), by an amount that depends on the elasticity of substitution.

The importance of the elasticity of substitution can be seen from Figure 2.2, where we suppose that the consumer minimizes the expenditure needed to obtain utility along the indifference curve AD. If initially only good 1 is available, then the consumer chooses point A with the budget line AB. When good 2 becomes available, the same level of utility can be obtained with consumption at point C. Then the drop in the cost of living is measured by the inward movement of the budget line from AB to the line through C, and this shift depends on the convexity of the indifference curve, or the elasticity of substitution.

Measuring the Elasticity of Substitution

We can see that to measure the gains from new goods it is essential to have a good estimate of the elasticity of substitution. Existing estimates at the time of my 1994 article tended to be too low, which would lead to exaggerated estimates of the gains from trade. The reason that these estimates were so low, I believe, was due to the standard simultaneous equations bias: the elasticity of demand cannot be estimated in a demand and supply system without instrumental variables that are orthogonal to the error terms. But in international trade, we are interested in estimating the elasticity of substitution *between source countries for each good*; in other words, we want to measure the Armington (1969) elasticity between source countries. It is difficult if not impossible to find instruments that can be used in every market and country. Feenstra (1994) proposed a method to resolve this problem that makes use of the panel nature of datasets in international trade, i.e. having time-series observations on the amount imported from multiple source countries.

I won't go into the technical details of this new estimator, except to say that it exploits the panel nature of most international trade dataset: many exporting countries supplying a good to say the U.S. over multiple years. I relied on uncorrelated errors from the CES demand and supply curves across countries, and used that moment condition to develop a Generalized Method of Moments (GMM) estimator. In place of conventional instruments one can think of using indicator variables across countries, and identification relies on heteroskedasticity in the data, or what Roberto Rigobon refers to as "identification through heteroskedasticity." The estimator is not hard to implement: it becomes a linear regression across exporting countries, but run on variables that are various second-moments of the data for each country.

In practice, the elasticities of substitution obtained from this method are very plausible. Feenstra (1994) considered products like mean's leather athletic shoes, or cotton knit shirts, or various types of steel, and obtained estimates of the elasticity between 3 and 8. These were much higher values than obtained previously, and more in line with what trade economists would expect. Feenstra even added gold bullion and silver bullion as additional test case, and obtained estimates of the elasticity of substitution for each of these products of 25 and 40, respectively. Those high estimates are essentially infinite, indicating that there is perfect substitution between country sources of gold or silver. To conclude, for the six products analyzed by Feenstra (1994), the new method for estimating the elasticity of substitution worked very well indeed.

At about the same time as publishing this article, I worked on another project that dealt with agriculture and made use of the GMM estimator. This project was joint with Andrew Rose (Feenstra and Rose, 1993), and I relied heavily on advice from my colleagues at UC Davis. Andy and I were asked to write a paper on the prospective impact of NAFTA on

California agriculture, and we decided to focus on the distorted market for water in California. We reasoned that with NAFTA allowing the import of fresh fruits and vegetables from Mexico, that would water use in California. Our calculations suggested that thee gains from reduced water use would be at least as large as the conventional gains from trade. But to estimate the gains, I needed to have Armington elasticities for the various crops, so I applied my GMM estimator to asparagus and other vegetables. I recall that one of the discussants at the conference said that throwing a GMM estimator at asparagus was a bit like using a sledgehammer to swat a flee, but still, it worked well enough!

Gain from Import Variety for the United States

Broda and Weinstein (2006) apply the above methods to measure the gains from trade for the U.S. They define a *good* as either a 10-digit Harmonized System (HS) category, over the period 1990–2001, or as a 7-digit Tariff Schedule of the United States (TSUSA) category, for the earlier period 1972–1988.[2] The imports from various source countries are the *varieties* available for each good. The ratio $(\lambda_t/\lambda_{t-1})$ is constructed for each good, using the expenditure on new and disappearing source countries. In addition, they estimate σ for each good. For the TSUSA categories of goods, they estimate roughly 12,000 values for σ, with a median value of 3.6. For the HS system, they estimate about 14,500 value for σ, with a median value of 2.9. In both cases the distribution of elasticities is highly skewed towards the right (so the mean values are much larger than the medians).

Putting together the ratios $(\lambda_t/\lambda_{t-1})$ for each good with the elasticity of substitution, they obtain $(\lambda_t/\lambda_{t-1})^{-1/(\sigma-1)}$, which is aggregated over all goods. For the TSUSA data they used 1972 as the base year and measured the gains from new supplying countries up to 1988, and then for the HS data they used 1990 as the base year and measured the gains from new supplying countries up to 2001. Summing these, they obtain an estimate of the gains from trade for the U.S. due to the expansion of import varieties, which amount to 2.6% of GDP in 2001.

Two features of Broda and Weinstein's methods deserve special mention. First, by measuring the expenditure on new supplying countries relative to a base year, they are following the hypothesis of Theorem 2.2 that the "common" set of countries should be those with *constant* taste parameters. In contrast, when countries first start exporting goods, it is reasonable to expect that the demand curve in the importing country shifts out over some number of years as consumers become informed about the product. Broda and Weinstein are allowing for such shifts for new and disappearing countries after the base year, and all such changes in demand for these countries are incorporated into the λ_τ terms in Theorem 2.2. That is the correct way to measure the gains from new import varieties.[3]

Second, Broda and Weinstein (2006) did not incorporate any changes in the number of U.S. varieties into their estimation, nor did they include the U.S. as a source country in the estimation of the elasticity of substitution for each good. That is the correct approach only under the limited case where *the number of U.S. varieties is constant*. While turns out to be true under our assumptions in the model of Krugman (1980), it is certainly not the case in more general models: we could expect that increases in import variety would result in some reduction in domestic varieties. In that case, the gains from import varieties would be offset by the welfare loss from reduced domestic varieties. That potential loss was addressed only briefly by Broda and Weinstein (2006), and we shall address it more fully in the next section.

2 1989 is omitted because West and East Germany unified then, making comparisons with later years difficult.

3 In addition, countries that are suspected of selling a changing range of product varieties within each HS good should be excluded from the set I, and instead included in the $\lambda\tau$ terms.

3. PRODUCTIVITY GAINS DUE TO THE SELECTION OF FIRMS

I mentioned above the problem that increased product variety of imports can be expected to drive out some domestic producers, so the overall gains have to take into account these opposed forces. The simplest CES model due to Krugman actually do not have this feature: as more import variety come in, the range of domestic varieties does not change. But that prediction seems unrealistic, so we want to go beyond that simple framework. Such a generalization is achieved by the monopolistic competition model due to Melitz (2003). That model has heterogeneous firms with differing productivities, which are random draws from a probability distribution. The firms learn their productivities only after paying a fixed cost to enter the market, and then they can decide whether to stay in the market and sell domestically, or pay an additional fixed cost and export. Like a conventional monopolistic competition model the Melitz model has zero profits in equilibrium, but in this case it is zero *expected* profits, computed before firm know their productivity draws. The export profits are in fact positive for those firms that stay in the market (except for the borderline firm that has zero profits).

It is known in the Melitz model that as import varieties come into a country, the range of domestic varieties are reduced. In fact, the reduction in domestic varieties can be strong enough that total product variety also falls. But regardless of whether total product variety rises or falls, I have shown in Feenstra (2010) that the welfare effects of the increased import variety and reduced domestic variety exactly cancel each other out: there is in fact no welfare gains due to import variety on the consumption side, because of the reduction in domestic varieties. So it would appear that the analysis of Broda and Weinstein, who measured welfare gains of just under 1% of GDP from increased import variety, might not stand up in a Melitz-style model, which is a very disturbing result.

Fortunately, it turns out that there is another source of gains in the Melitz model, which is still related to product variety, but now on the export side rather than the import side. This brings me to the second source of gains from trade in a monopolistic competition model, which are the productivity gains due to the self-selection of more efficient firms into exporting. In a Melitz-style model with heterogeneous firms, we capture the productivity gains from the selection of firms, with less efficient firms leaving the market and more efficient firms growing in scale. In fact, for the Canada-U.S. Free Trade Agreement, it is this self-selection of firms that appears to be most important in explaining the gains to Canadian productivity, as argued by Trefler (2004).

The question for us is: how can these productivity gains due to the self-selection of firms be measured? Trefler had access to firm-level data for Canada before and after the free trade agreement, in which case one would simply track which firms exited and which firms expanded in scale. But suppose, on the contrary, that we do not have any firm-level data. Then is there some method that will enable us to capture the gains from trade due to this productivity effect? It turns out that there is, and in fact, it is quite analogous to the gains from trade on the consumer side that I have already described. But now instead of focusing on the consumer gains from variety, we instead need to focus on the gains from *output* variety.

Output Variety in the CES Case

To theoretically demonstrate these gains in the Melitz (2003) model, we approach the problem in a somewhat unusual way: rather than focusing on consumer gains as in the last section we now ask whether there exist any *producer* gains due to output variety. This question can be answered by extending the range of values for the elasticity of substitution that we considered in the previous chapter. There we restricted out attention to $\sigma > 1$ in the utility and expenditure functions (2.1) and (2.2), but a wider range of values for this elasticity can be considered. In particular, if $\sigma < 0$ then

instead of obtaining convex indifference curves from (2.1) for a fixed level of U_t, we obtain a concave transformation curve as shown in Figure 3.1.[4] The parameter U_t in this case measures the resources devoted to production of the goods q_{it}, $i \in I_t$, and the elasticity of the transformation curve (measured as a positive number) is $-\sigma$.

To make this reinterpretation explicit, when $\sigma < 0$ we will denote its positive value by $\omega \equiv -\sigma$, which is the elasticity of transformation. Then we will rewrite (2.1) using labor resources L_t to replace utility U_t, obtaining:

$$L_t = \left(\sum_{i \in I_t} a_{it} q_{it}^{(\omega+1)/\omega} \right)^{\omega/(\omega+1)}, \; a_{it} > 0, \; \omega > 0. \tag{3.1}$$

The maximum revenue obtained using one unit of labor resources, dual to (2.9), is denoted by:

$$\psi(p_t, I_t) = \left[\sum_{i \in I_t} b_{it} p_{it}^{\omega+1} \right]^{1/(\omega+1)}, \qquad \mathrm{b_{it}} \equiv a_{it}^{-\omega}, \; \omega > 0. \tag{3.2}$$

With this reinterpretation, Theorem 2.2 continues to hold as:

$$\frac{\psi(p_t, I_t)}{\psi(p_{t-1}, I_{t-1})} = P_{SV}(p_{t-1}, p_t, q_{t-1}, q_t, I) \left(\frac{\lambda_t(I)}{\lambda_{t-1}(I)} \right)^{-1/(\omega+1)}, \tag{3.3}$$

where the exponent appearing on $(\lambda_t/\lambda_{t-1})$ is now negative. In other words, the appearance of "new outputs," so that $\lambda_t < 1$, will *raise revenue* on the producer side of the economy.

To understand where this increase in revenue is coming from, consider the transformation curve in Figure 3.1. If only good 1 is available, then the economy would be producing at the corner A, with revenue shown by the line AB. Then if good 2 becomes available to producers, the new equilibrium will be at point C, with an *increase* in revenue. This illustrates the benefits of output variety. In Figure 3.2 we illustrate the same idea in a partial equilibrium diagram, for a supply curve with constant elasticity ω. When the good becomes available for production, there is an effective price *increase* from the reservation price for producers (which is zero with a constant-elasticity supply curve) to the actual price. The gain in producer surplus is area C, and measured relative to total sales $C+D$, we can readily compute that $C/(C+D) = 1/(\omega+1)$.

While this reinterpretation of our earlier consumer model is mathematically valid, there is a problem in its application to international trade: the transformation curve between two outputs is often taken to be *linear* rather than strictly concave. That is the case in the Ricardian model, for example, or in the transformation curve (1.8) in Krugman's (1980) model. In that case, the gains from output variety would vanish. So the question arises as to whether the strictly concave case we illustrate in Figure 3.1 has any practical application?

We will now argue that a strictly concave transformation curve is indeed relevant, and in fact, arises in the generalization of the monopolistic competition model due to Melitz (2003), which allows for heterogeneous firms that differ in

4 Notice that the range cannot be considered, since then all goods are *essential* in (2.1), with a zero quantity for any single good resulting in zero utility. In that case the welfare gain from a new good is infinite.

their productivities ϕ. In the equilibrium with zero expected profits, only firms above some cutoff productivity ϕ^* survive; and of these, only firms with productivities above $\phi_x^* > \phi^*$ actually export. We will argue that the endogenous determination of these cutoff productivities leads to a strictly concave constant-elasticity transformation curve between domestic and export varieties, adjusted for the quantity produced of each. Furthermore, this interpretation of the Melitz (2003) model will allow us to make a precise calculation of the producer gains due to *export* variety.

Monopolistic Competition with Heterogeneous Firms

We outline here a two country version of the Melitz (2003) model that does not assume symmetry across the countries. We focus on the home country H, while denoting foreign variables with the superscript F. At home there is a mass of M firms operating in equilibrium. Each period, a fraction δ of these firms go bankrupt and are replaced by new entrants. Each new entrant pays a fixed cost of f_e to receive a draw φ of productivity from a cumulative distribution $G(\varphi)$, which gives rise to the marginal cost of w/φ, where w is the wage and labor is the only factor of production. Only those firms with productivity above a cutoff level φ^* find it profitable to actually produce (the cutoff level will be determined below). Letting M_e denote the mass of new entrants, then $[1-G(\varphi^*)]M_e$ firms successfully produce. In a stationary equilibrium, these should replace the firms going bankrupt, so that:

$$[1-G(\phi^*)]M_e = \delta M \ . \tag{3.4}$$

Conditional on successful entry, the distribution of productivities for home firms is then:

$$\mu(\phi) = \begin{cases} \dfrac{g(\phi)}{[1-G(\phi^*)]} \ \ if \ \ \phi \geq \phi^*, \\ \\ 0 \qquad \text{otherwise,} \end{cases} \tag{3.5}$$

where $g(\phi) = \partial G(\phi)/\partial\phi$ is the density function.

Home and foreign consumers both have CES preferences that are symmetric over product varieties. Given home expenditure of wL, the revenue earned by a home firm from selling at the price $p(\varphi)$ is:

$$r(\phi) = p(\phi)q(\phi) = \left[\frac{p(\phi)}{P^H}\right]^{1-\sigma} wL \ , \sigma > 1 \ , \tag{3.6}$$

where $q(\varphi)$ is the quantity sold and P^H is the home CES price index. The profit-maximizing price from selling in the domestic market is the usual constant markup over marginal costs:

$$p(\phi) = \left(\frac{\sigma}{\sigma-1}\right)\frac{w}{\phi}. \tag{3.7}$$

Using this, we calculate variable profits from domestic sales as $r(\varphi) - (w/\varphi)q(\varphi) = r(\varphi)/\sigma$. The lowest productivity firm that just breaks even in the domestic market there satisfies the *zero-cutoff-profit* (ZCP) condition:

$$r(\phi^*)/\sigma = wf \quad \Rightarrow \quad q(\phi^*) = (\sigma - 1) f \phi^*, \tag{3.8}$$

where f is the fixed labor cost. Note that this cutoff condition for the marginal firm is identical to what is obtained in Krugman's (1980) model for all firms, as in (2.7).

While firms with productivities $\varphi \geq \varphi^*$ find it profitable to produce for the domestic market, only those with higher productivities $\varphi \geq \varphi_x^* > \varphi^*$ find it profitable to export. A home exporting firm faces the iceberg transport costs of $\tau \geq 1$ meaning that τ units must be sent in order for one unit to arrive in the foreign country. Letting $p_x(\varphi)$ and $q_x(\varphi)$ denote the price received and quantity shipped at the factory-gate, the revenue earned by the exporter is:

$$r_x(\varphi) = p_x(\varphi) q_x(\varphi) = \left[\frac{p_x(\varphi)\tau}{P^F} \right]^{1-\sigma} w^* L^*, \tag{3.9}$$

where P^F is the CES price index in the foreign country, and w^*L^* is foreign expenditure.

Again, the optimal export price is a constant markup over marginal costs:

$$p_x(\varphi) = \left(\frac{\sigma}{\sigma - 1} \right) \frac{w}{\varphi}. \tag{3.10}$$

The variable profits from export sales are therefore $r_x(\varphi) - (w/\varphi)q_x(\varphi) = r_x(\varphi)/\sigma$, so the ZCP condition for the exporting firm is:

$$r_x(\varphi_x^*)/\sigma = wf_x \quad \Rightarrow \quad q_x(\varphi_x^*) = (\sigma - 1) f_x \varphi_x^*, \tag{3.11}$$

where f_x is the additional fixed labor cost for exporting. Provided that $r_x(\varphi)/f_x < r(\varphi)/f$, which we assume is the case, then the cutoff productivity for the exporting firm will exceed that for the domestic firm, $\varphi_x^* > \varphi^*$. Then the mass of exporting firms is computed as:

$$M_x \equiv \int_{\varphi_x^*}^{\infty} M \mu(\varphi) d\varphi < M. \tag{3.12}$$

To close the model, we use the full employment condition and also zero expected profits for any entrant. The labor needed for domestic sales for a firm with productivity φ is $[q(\varphi)/\varphi + f]$, and for export sales is $[q_x(\varphi)/\varphi + f_x]$, so the full employment condition is:

$$L = M_e f_e + M\int_{\varphi^*}^{\infty}[q(\varphi)/\varphi + f]\mu(\varphi)d\varphi + M_x\int_{\varphi_x^*}^{\infty}[q_x(\varphi)/\varphi + f_x]\mu_x(\varphi)d\varphi, \tag{3.13}$$

where the distribution of productivities conditional on exporting is $\mu_x(\varphi) \equiv g(\varphi)/[1-G(\varphi_x^*)]$ if $\varphi \geq \varphi_x^*$, and zero otherwise. We can rewrite (3.13) by multiplying by w, and using the fact that $(w/\varphi)q(\varphi) = r(\varphi)(\sigma-1)/\sigma$, and likewise for exporters, to obtain:

$$\begin{aligned} wL &= w\left(M_e f_e + Mf + M_x f_x\right) + \left(\frac{\sigma-1}{\sigma}\right)\left[M\int_{\phi^*}^{\infty} r(\phi)\mu(\phi)d\phi + M_x\int_{\phi_x^*}^{\infty} r_x(\phi)\mu_x(\phi)d\phi\right] \\ &= w\left(M_e f_e + Mf + M_x f_x\right) + \left(\frac{\sigma-1}{\sigma}\right)wL, \end{aligned}$$

where the second line is obtained using the definition of *GDP*, with zero expected profits. It follows immediately that there is a *linear* transformation curve between the mass of entering, domestic and exporting firms, that is:

$$L = \sigma\left(M_e f_e + Mf + M_x f_x\right). \tag{3.14}$$

To obtain further results, we assume a Pareto distribution for productivities:

$$G(\phi) = 1 - \phi^{-\theta}, \text{ with } \theta > \sigma - 1 > 0. \tag{3.15}$$

In that case, it can be shown that the number of entering firms is proportional to the labor force, $M_e = L(\sigma-1)/\sigma\theta f_e$, which was assumed by Chaney (2008), for example. So the transformation curve between domestic and export varieties is further simplified as:

$$L = \frac{\sigma\theta}{(\theta-\sigma+1)}\left(Mf + M_x f_x\right). \tag{3.16}$$

The fact that this transformation curve is linear between the mass of domestic and exported varieties is similar to that found in the Krugman (1980) model. But this fact does not tell us about the transformation curve between the economy's outputs, because we also need to take into account the *quantity* produced of each variety. In Krugman's model, the quantity produced by each firm is fixed. But in the Melitz (2003) model, only the zero-profit-cutoff firm has output identical to that in Krugman's model, and the cutoff productivity φ^* itself is endogenously determined. So to determine the transformation curve for the economy, we first need to determine the correct measure of output used to adjust the varieties M and M_x.

To determine the appropriate measure of quantity, it is convenient to invert the demand curve and treat revenue as a function of quantity, so from (3.6) we obtain:

$$r(\phi) = A_d\, q(\phi)^{\frac{\sigma-1}{\sigma}}, \text{ where } A_d \equiv P^H \left(\frac{wL}{P^H}\right)^{\frac{1}{\sigma}}. \tag{3.17}$$

We introduce the notation A_d as shift parameter in the demand curve facing home firms for their domestic sales. It depends on the CES price index P^H, and also on domestic expenditure wL.

Likewise, export revenue can be written as:

$$r_x(\phi) = A_x q_x(\phi)^{\frac{\sigma-1}{\sigma}}, \text{ where } A_x \equiv \left(\frac{P^F}{\tau}\right)\left(\frac{\tau_i w^* L^*}{P^F}\right)^{\frac{1}{\sigma}}. \tag{3.18}$$

Integrating domestic and export revenue over firms, we obtain *GDP*:

$$wL = A_d M \int_{\phi^*}^{\infty} q(\phi)^{\frac{\sigma-1}{\sigma}} \mu(\phi) d\phi + A_x M_x \int_{\phi_x^*}^{\infty} q_x(\phi)^{\frac{\sigma-1}{\sigma}} \mu_x(\phi) d\phi. \tag{3.19}$$

Thus, in order to measure *GDP* the mass of domestic and export varieties are multiplied by the quantities shown above. Feenstra and Kee (2008) demonstrate that the first-order conditions for maximizing GDP subject to the resource constraint for the economy, taking A_d and A_x as given, are precisely the monopolistic competition equilibrium conditions. So the quantities appearing in (3.19) are the "right" way to adjust the mass of domestic and export varieties.

We can simplify these quantities by noting that CES demand, combined with constant-markup prices in (3.7), imply that the quantity sold equals $q(\varphi) = (\varphi / \tilde{\varphi})^{\sigma} q(\tilde{\varphi})$ for any choice of reference productivity $\tilde{\varphi}$. We follow Melitz (2003) in specifying $\tilde{\varphi}$ as *average* productivity:

$$\tilde{\varphi} \equiv \left[\int_{\varphi^*}^{\infty} \varphi^{(\sigma-1)} \mu(\varphi) d\varphi\right]^{1/(\sigma-1)}, \tag{3.20}$$

and likewise for the average productivity $\tilde{\varphi}_x$ for exporters, computed using φ_x^* and μ_x. It follows that GDP simply equals $(A_d \tilde{M} + A_x \tilde{M}_x)$, using the adjusted mass of varieties:

$$\tilde{M} \equiv M q(\tilde{\varphi})^{(\sigma-1)/\sigma} \quad \text{and} \quad \tilde{M}_x \equiv M_x q_x(\tilde{\varphi}_x)^{(\sigma-1)/\sigma}. \tag{3.21}$$

To simplify the expression for GDP further, we note that a property of the Pareto distribution is that an integral like (3.20) is always a constant multiple of the lower bound of integration. That is:

$$\tilde{\varphi} = \left[\frac{\theta}{(\theta - \sigma + 1)}\right]^{1/(\sigma-1)} \varphi^*, \tag{3.22}$$

as obtained by evaluating the integral in (3.20), which is finite provided that $\theta > \sigma - 1$. The cutoff productivity φ^* is in turn related to the mass of firms by $[1 - G(\varphi^*)]M_e = \delta M$, and using the mass of entering firms $M_e = L(\sigma - 1)/\sigma\theta f_e$ and the Pareto distribution, it follows that:

$$(\varphi^*)^{-\theta} = \frac{\delta\sigma\theta f_e}{L(\sigma - 1)} M. \tag{3.23}$$

Gathering together these results, we can compute that the adjusted mass of domestic varieties is:

$$\tilde{M} = M\left(\frac{\tilde{\varphi}}{\varphi^*}\right)^{\sigma-1} q(\varphi^*)^{\frac{\sigma-1}{\sigma}} = \frac{\theta M}{(\theta - \sigma + 1)}[(\sigma - 1) f \varphi^*]^{\frac{\sigma-1}{\sigma}} = k_1 f^{\frac{\sigma-1}{\sigma}} M^{1-\frac{\sigma-1}{\theta\sigma}} \left(\frac{f_e}{L}\right)^{-\frac{(\sigma-1)}{\theta\sigma}},$$

where the first equality follows from (3.21) and $q(\tilde{\varphi}) = (\tilde{\varphi}/\varphi^*)^{\sigma} q(\varphi^*)$; the second equality uses (3.22) and the ZCP condition $q(\varphi^*) = (\sigma - 1) f \varphi^*$; and the third follows from (3.23), where $k1 > 0$ depends on the parameters θ, σ and δ. Thus, the adjusted mass of domestic varieties is an increasing but *nonlinear* function of the mass M.

A similar expression holds for exports, but replacing f, M, and $\tilde{M}$ with f_x, M_x, and $\tilde{M}_x$. Solving for M and M_x and substituting these into the linear transformation curve (3.16), we obtain a concave transformation curve between $\tilde{M}$ and $\tilde{M}_x$, with elasticity $\omega \equiv \frac{\theta\sigma}{(\sigma-1)} - 1 > 0$:

$$L = k_2 f_e^{1/(\omega+1)} \left(\tilde{M}^{\frac{\omega+1}{\omega}} f^{1+\frac{(\omega+1)(\sigma-1)}{\omega\sigma}} + \tilde{M}_x^{\frac{\omega+1}{\omega}} f_x^{1+\frac{(\omega+1)(\sigma-1)}{\omega\sigma}}\right)^{\omega/(\omega+1)}, \tag{3.24}$$

where $k2 > 0$ again depends on the parameters θ, σ and δ.

Summing up, from the Melitz (2003) model we have obtained a constant-elasticity transformation curve, with elasticity $\omega \equiv \frac{\theta\sigma}{(\sigma-1)} - 1 > 0$. Our earlier results in Theorems 2.1 and 2.2 continue to apply to this transformation curve. In particular, consider the problem of maximizing $(A_d\tilde{M} + A_x\tilde{M}_x)$ subject to this transformation curve. This Lagrangian problem leads to the following solution:

Theorem 3.1 (Feenstra and Kee, 2008)

Assume that the distribution of firm productivity in Pareto, as in (3.15). Then maximizing *GDP* subject to the transformation curve (3.24) results in $GDP = \psi(A_d, A_x)L$, where:

$$w = \psi(A_d, A_x) \equiv \frac{1}{k_2 f_e^{1/(\omega+1)}} \left[A_d^{\omega+1} f^{1-\frac{\theta}{(\sigma-1)}} + A_x^{\omega+1} f_x^{1-\frac{\theta}{(\sigma-1)}} \right]^{\frac{1}{(\omega+1)}}. \tag{3.25}$$

The function $\psi(A_d, A_x)$ is the revenue earned with $L = 1$ on the transformation curve, and equals wages. Note that the exponents appearing on the fixed costs f and f_x in (3.25) are obtained as $-[\omega + (1+\omega)\frac{(\sigma-1)}{\sigma}] = 1 - \frac{\theta}{(\sigma-1)} < 0$. This expression also appears as the exponent on fixed costs in the gravity equation of Chaney (2008).

We can now apply Theorem 2.2 to compute the gain from trade. Denoting autarky by $t-1$, the economy is at the corner of the transformation curve with $A_{xt-1} = \tilde{M}_{xt-1} = 0$, as illustrated by point A in Figure 3.3. Using t to denote the trade situation, under free trade we have $A_{xt} > 0 \; and \; \tilde{M}_{xt} > 0,$ as at point C. We can therefore evaluate the gain from trade as the ratio of real wages in trade and under autarky:

$$\begin{aligned} \frac{w_t / P_t^H}{w_{t-1} / P_{t-1}^H} &= \frac{\psi(A_{dt}, A_{xt})}{\psi(A_{dt-1}, 0)} \left(\frac{P_t^H}{P_{t-1}^H} \right)^{-1} \\ &= \left(\frac{A_{dt}}{A_{dt-1}} \right) \left(\frac{R_{dt}}{w_t L_t} \right)^{\frac{-1}{\omega+1}} \left(\frac{P_t^H}{P_{t-1}^H} \right)^{-1} \\ &= \left(\frac{w_t / P_t^H}{w_{t-1} / P_{t-1}^H} \right)^{\frac{1}{\sigma}} \left(\frac{R_{dt}}{w_t L_t} \right)^{\frac{-1}{\omega+1}} \end{aligned} \tag{3.26}$$

where the first line follows from wages in Theorem 2.1; the second line follows from Theorem 2.2, using the domestic "price" A_d as the common good available both periods, with spending on domestic goods in period t of $R_{dt} \equiv A_{dt}\tilde{M}_t$; and the third line follows directly from the definition of A_d in (3.17).

We use this equation to solve for the ratio of real wages, obtaining the result:

Theorem 3.2 (Arkolakis, et al, 2012)

The gains from trade in the Melitz (2003) model are:

$$\frac{w_t / P_t^H}{w_{t-1} / P_{t-1}^H} = \left(\frac{R_{dt}}{w_t L_t} \right)^{\frac{-1}{\omega+1}\left(\frac{\sigma}{\sigma-1}\right)} = \left(\frac{R_{dt}}{w_t L_t} \right)^{-\frac{1}{\theta}}, \tag{3.27}$$

where the final equality is obtained because $\omega \equiv \frac{\theta\sigma}{(\sigma-1)} - 1$, so $\frac{1}{(\omega+1)}\left(\frac{\sigma}{\sigma-1}\right) = \frac{1}{\theta}$.

Note that the ratio of domestic expenditure R_{dt} to total income $w_t L_t$ is equal to one minus the import share, so this formula is identical to the gains from trade in the Krugman (1980) model, except that we replace the exponent $-1/(\sigma-1)$ in that case with $-1/\theta$ in (3.27). This result is precisely the result derived by Arkolakis *et al* (2012), and remarkably, the elasticity of substitution σ does not enter the formula at all (except insofar as it affects the import share). Our derivation gives some intuition as to where this simple formula comes from. Namely, the movement from a corner of the transformation curve A in Figure 3.3, with exports equal to zero, to an interior position like C, gives rise to gains equal to one minus the import (or export) share with the exponent $-1/(\omega+1)$, which is a straightforward application of Theorem 2.2 on the production side of the economy. We might interpret these gains as due to *export* variety. These gains are shown in the second line of (3.26), and reflect the increase in wages due to the productivity improvement as the exporting firms drive out less productive domestic firms. But in addition, this productivity improvement drives down prices, and therefore further increase *real* wages: that is shown as we substitute for the endogenous value of A_d, and thereby solve for real wages in (3.27). Through these two channels, the gains equal one minus the import (or export) share with the exponent $-1/\theta$, which exceeds $-1/(\omega+1) = -(\sigma-1)/\theta\sigma$ in absolute value.

But what about any *further* gain due to *import* variety? Now we must be careful, because the Melitz model leads to the exit of domestic firms and therefore a reduction in domestic varieties, which must be weighted against the increase in import variety. But simply counting the total number of varieties is not the right way to evaluate the welfare gains: instead, we need to take the ratio $(\lambda_t / \lambda_{t-1})^{-1/(\sigma-1)}$ on the consumption side of the economy, as in Theorem 2.2. As we now show, this ratio turns out to be *unity: the gains due to new import varieties are exactly offset by reduced domestic varieties*. Therefore, the production-side gains we have already identified in Theorem 3.2 are all that is available.

To obtain this result, we use the CES price index for the Melitz model:

$$P^H = \left[\int_{\varphi^*}^{\infty} p(\varphi)^{1-\sigma} M\mu(\varphi) d\varphi + \int_{\varphi_x^{F*}}^{\infty} p^F(\varphi)^{1-\sigma} M^F \mu^F(\varphi) d\varphi \right]^{\frac{1}{1-\sigma}}, \tag{3.28}$$

where φ_x^{F*} denotes the zero-profit-cutoff for the foreign exporters, with prices $p^F(\varphi)$. This CES price index is conceptually identical to what we referred to as the unit-expenditure function in (2.2). The average price of domestic goods appearing in (3.28) is:

$$\left[\int_{\varphi^*}^{\infty} p(\varphi)^{1-\sigma} M\mu(\varphi) d\varphi \right]^{\frac{1}{1-\sigma}} = \left(\frac{\sigma}{\sigma-1} \right) \left(\frac{w}{\tilde{\varphi}} \right) M^{\frac{-1}{\sigma-1}}, \tag{3.29}$$

which uses the prices (3.7) together with the definition of average productivity in (3.20).

When comparing autarky (denoted by $t-1$) with free trade (denoted by t), we need to take into account the changing price of domestic goods and their changing variety, as in (3.29), along with the fact the all imported goods are new. Applying Theorem 2.2 gives rise to the following ratio of unit-expenditures:

$$\frac{P_t^H}{P_{t-1}^H} = \left(\frac{w_t / \tilde{\varphi}_t}{w_{t-1} / \tilde{\varphi}_{t-1}}\right)\left(\frac{R_{dt} / w_t L_t}{M_t / M_{t-1}}\right)^{\frac{1}{\sigma-1}}. \tag{3.30}$$

The first term appearing on the right of (3.30) is just the change in the average price of domestic goods, reflecting the change in wages and in average productivity. The aggregate domestic good is available in both periods, so the first term reflects the Sato-Vartia index P_{SV} over the "common" good in Theorem 2.2. The numerator of the second term on the right is the spending on domestic goods relative to total spending in period t; this equals λ_t in Theorem 2.2, or one minus the share of spending on new imported varieties. The denominator of the second term is λ_{t-1} in Theorem 2.2, and reflects the reduction in the number of domestic varieties, $M_t < M_{t-1}$.

We now show that $M_t / M_{t-1} = R_{dt} / w_t L_t$ in (3.30), so the reduction in the number of domestic varieties just cancels with share of spending on new imported varieties, and there are no further consumption gains. This result is obtained from the ZCP condition for domestic firms, in (3.8). The second expression appearing in (3.8) is $q(\varphi^*) = (\sigma - 1) f \varphi^*$. We will combine this with the first expression appearing in (3.8), $r(\varphi^*) / \sigma = wf$, which can be rewritten using the inverse demand curve in (3.17), to obtain:

$$\left[\frac{A_{dt}\, q(\varphi_t^*)^{\frac{\sigma-1}{\sigma}}}{A_{dt-1}\, q(\varphi_{t-1}^*)^{\frac{\sigma-1}{\sigma}}}\right] = \left(\frac{w_t}{w_{t-1}}\right).$$

Using the definition $A_d \equiv P^H (wL / P^H)^{1/\sigma}$, we can readily simplify this expression as:

$$\left[\frac{q(\varphi_t^*)}{q(\varphi_{t-1}^*)}\right] = \left(\frac{w_t / P_t^H}{w_{t-1} / P_{t-1}^H}\right).$$

Now using the ZCP condition that $q(\varphi^*) = (\sigma - 1) f \varphi^*$, we immediately obtain:

$$\left(\frac{\varphi_t^*}{\varphi_{t-1}^*}\right) = \left(\frac{w_t / P_t^H}{w_{t-1} / P_{t-1}^H}\right), \tag{3.31}$$

so that the increase in real wages reflects the increase in the ZCP productivities. From (3.22) the ratio of ZCP productivities equals the ratio of average productivities, $(\tilde{\varphi}_t / \tilde{\varphi}_{t-1})$, then comparing (3.30) with (3.31) we immediately see that $M_t / M_{t-1} = R_{dt} / w_t L_t$, as we intended to show.

The finding that there are no additional consumption gains from variety in the Melitz (2003) model is discussed explicitly by di Giovanni and Levchenko (2010), who argue that if the distribution of firm size follows Zipf's Law then the

extensive margin of imports accounts for a vanishing small portion of the total gains from trade. Their model differs from our discussion above because firms also use differentiated intermediate inputs, but they still assume a Pareto distribution for productivities. This assumption implies that the distribution of firms by size follows a power distribution, which correspond to Zipf's Law as $\theta \to (\sigma - 1)$. That is the case where they find that the extensive margin of imports has a vanishing contribution to the gains from trade. In comparison, our results above are more general because we show that the extensive margin of imports has a welfare contribution that just cancels with the reduced extensive margin of domestic goods, and this result holds for all values of $\theta > (\sigma - 1)$, and not just the limiting case $\theta \to (\sigma - 1)$.

4. PRO-COMPETITIVE GAINS FROM TRADE

Let me turn now to the third and final source of gains from trade in a monopolistic competition model, which is the reduced markups of firms when they are faced with import competition. Those gains were emphasized in the first published article on this topic by Krugman (1979), but have been absent in much of the later literature due to its use of CES preferences, in which case markups are themselves fixed. There are now some alternatives to the use of CES preferences, such as the quadratic utility function of Melitz and Ottaviano (2008) which leads to linear demand curves. In that case, markups certainly change as firms are faced with import competition. But the quadratic utility function with linear demand curves also has income elasticities of zero, so it is really most appropriate for partial-equilibrium analysis; and in fact, has been used in the industrial organization literature. Is there some other utility function we could use that is homothetic, or non-homothetic in an interesting way, and still can be used in a monopolistic competition model? It turns out that there is, and is it the favorite functional form of Erwin Diewert's: the translog cost or expenditure function.

Many of you here will be familiar with the translog function from your work on production or consumer demand systems. But it takes some work before we can use these functions in a monopolistic competition model, with new goods coming in and out. In particular, the reservation prices of goods are no longer infinity, but need to be solved for explicitly. Hauseman (1997, 1999)did exactly that in his analysis of honey-nut cheerios and cellular phones, and determined the welfare gains of these new products by solving for their reservation prices before they were available. But that approach become intractable when we have many new sources of supply for differentiated products through international trade. It becomes difficult to keep track of all those reservation prices. fortunately, there is a solution to that problem that makes the translog—or AIDS—function tractable even in a monopolistic competition model. let me conclude my talk by describing this solution and some of its implications.

In a monopolistic competition model we need to be explicit about which goods and available and which are not, so let $\tilde{N}$ denote the maximum number of goods conceivably available, which we treat as *fixed*. The translog unit-expenditure function (Diewert ,1976) is defined as:

$$\ln e = \alpha_0 + \sum_{i=1}^{\tilde{N}} \alpha_i \ln p_i + \frac{1}{2} \sum_{i=1}^{\tilde{N}} \sum_{j=1}^{\tilde{N}} \gamma_{ij} \ln p_i \ln p_j \text{, with } \gamma_{ij} = \gamma_{ji} \text{ and } \alpha_i > 0. \tag{4.1}$$

Note that the restriction that $\gamma_{ij}=\gamma_{ji}$ is made without loss of generality. To ensure that the expenditure function is homogenous of degree one, we add the conditions that:

$$\sum_{i=1}^{\tilde{N}}\alpha_i = 1, \text{ and } \sum_{i=1}^{\tilde{N}}\gamma_{ij} = 0.$$

The share of each good in expenditure is obtained by differentiating (4.1) with respect to $\ln p_i$, obtaining:

$$s_i = \alpha_i + \sum_{j=1}^{\tilde{N}}\gamma_{ij}\ln p_j. \tag{4.2}$$

These shares must be non-negative, of course, but we will allow for a subset of goods to have zero shares because they are not available for purchase. To be precise, suppose that $s_i>0$ for $i=1,...,N$, while $s_j=0$ for $j=N+1,...,\ \tilde{N}$. Then for the latter goods, we set $s_j=0$ within the share equations (4.2), and use these $(\tilde{N}-N)$ equations to solve for the reservation prices $\tilde{p}_j, j=N+1,...,\ \tilde{N}$, in terms of the observed prices $p_i, i=1,...,N$.

Solving for the reservation prices introduces a level of complexity that did not arise in the CES case, where reservation prices are infinite: in the expenditure function (2.2), an infinite reservation price raised to the negative power $(1-\sigma)$ simply vanishes. To solve for finite reservation prices in the translog case, it is essential to simplify the translog by imposing the additional "symmetry" requirements:

$$\gamma_{ii} = -\gamma\left(\frac{\tilde{N}-1}{\tilde{N}}\right)<0,\ \textit{and}\ \gamma_{ij}=\frac{\gamma}{\tilde{N}}>0\quad \textit{for}\ i\neq j,\ \text{with}\ i,j=1,...,\tilde{N}. \tag{4.3}$$

It is readily confirmed that the restrictions in (4.3) satisfy the above homogeneity conditions, and also guarantee that the reservation prices are finite. Because $\tilde{N}$ is a fixed number, (4.3) simply says that the Γ matrix has a negative constant on the diagonal, and a positive constant on the off-diagonal, chosen so that the rows and columns sum to zero.

The restrictions in (4.3) are not familiar from the translog literature, but are essential to solve for reservation prices for goods not available. Note that we have *not* restricted the $\alpha_i>0$ parameters, though they must sum to unity, so there are $\tilde{N}-1$ free α_i parameters. In addition, we have the free parameter α_0 in (4.1) as well as $\gamma>0$ in (4.3), so there are a total of $\tilde{N}+1$ free parameters in this "symmetric" translog function. That is the same number of free parameters in our "non-symmetric" CES function (2.1), where we allowed for $\tilde{N}$ parameters $a_i>0$ (possibly changing over time) along with the elasticity $\sigma>1$. So in describing the translog case as "symmetric" we are comparing it to the empirical version that does not use (4.3); while in describing the CES function as "non-symmetric" we are comparing it to the theoretical version in monopolistic competition models that assumes $a_i\equiv 1, i=1...,\ \tilde{N}$. In fact, both the CES function in (2.1) and the translog in (4.1) have the same number of free parameters, or degree of symmetry, which we have chosen to be tractable in a monopolistic competition framework.

The usefulness of the symmetric restrictions in (4.3) is shown by the following result:

Theorem 4.1 (Feenstra, 2003; Bergin and Feenstra, 2009)

Using the symmetry restrictions (43), suppose that only the goods $i = 1,...,N$ are available, so the reservation prices $\tilde{p}_j$ for $j = N+1,...,\tilde{N}$ are used. Then the unit-expenditure function equals:

$$\ln e = a_0 + \sum_{i=1}^{N} a_i \ln p_i + \tfrac{1}{2} \sum_{i=1}^{N} \sum_{j=1}^{N} b_{ij} \ln p_i \ln p_j, \tag{4.4}$$

$$\text{where: } b_{ii} = -\gamma \frac{(N-1)}{N} < 0, \text{ and } b_{ij} = \frac{\gamma}{N} > 0 \text{ for } i \neq j \text{ with } i, j = 1,...,N, \tag{4.5}$$

$$a_i = \alpha_i + \tfrac{1}{N}\left(1 - \sum_{i=1}^{N} \alpha_i\right), \text{ for } i = 1,...,N, \tag{4.6}$$

$$a_0 = \alpha_0 + \left(\frac{1}{2\gamma}\right)\left\{\sum_{i=N+1}^{\tilde{N}} \alpha_i^2 + \left(\frac{1}{N}\right)\left(\sum_{i=N+1}^{\tilde{N}} \alpha_i\right)^2\right\}. \tag{4.7}$$

Notice that the expenditure function in (4.4) looks like a conventional translog function defined over the goods $i = 1,...,N$, while the symmetry restrictions continue to hold in (4.5), but are defined now using the number of available goods N, which can change over time. As N grows, for example, we find that the price elasticity of demand also grows because goods are closer substitutes. To interpret (4.6), it implies that each of the coefficient α_i is increased by the same amount to ensure that the coefficients a_i sum to unity over $i = 1,...,N$. The final term a_0, appearing in (4.7), incorporates the coefficients α_i of the unavailable products. If the number of available products N rise, then a_0 falls, indicating a welfare gain from increasing the number of available products.

Theorem 4.1 is a promising start towards using the translog function in monopolistic competition models. For theoretical work, this result is all that is needed and it shows that the translog system can join the quadratic preferences used by Melitz and Ottaviano (2008) as being tractable alternatives to the CES case. Furthermore, both the translog and quadratic preferences allow for endogenous markups. The real advantage of the translog unit-expenditure function is on empirical grounds. As argued by Diewert (1976), it has a number of convenient properties: it is obtained from homothetic preferences, provides a second-order approximation to an arbitrary expenditure function, and corresponds to the Törnqvist price index, which is very close to price index formulas that are used in practice.

Feenstra and Weinstein (2009) develop an alternative formula for the welfare gain from new products, beyond Theorem 4.1, that depends on the observable expenditure shares on goods and can therefore be implemented. The terms appearing in the formula for the welfare gain are analogous to those appearing in (4.7), but using observable expenditure shares in place of α_i: the welfare gain from new products depends on the sum of squared shares, and on the square of the sum of shares, of new products. The sum of squared product shares—or Herfindahl indexes—also determine the average markups charged by firms in each market. Increased shares of imports and reduced U.S. shares can lead to reduced U.S. markups, and also contribute to variety gains. For these reasons, the translog case offers a promising theoretical and empirical framework to assess the gains from import variety and the effect of imports on reducing markups.

5. CONCLUSIONS

This paper is about measurement: how to measure the gains from trade that arise in the monopolistic competition model. The CES functional form, introduced into the monopolistic competition model by Dixit and Stiglitz (1977) and adopted by Krugman (1980, 1981) and later literature, is just as convenient in empirical work as it is in theory. Using this functional form, Feenstra (1994) showed how the gains from new product varieties depend on their expenditure share as well as on the elasticity of substitution. The expenditure on new imported products, or more precisely, on new *source countries* for imports, are available from highly disaggregate trade statistics. In addition, estimates of the elasticity of substitution between source countries for imports can be obtained using the same disaggregate trade statistics over time, as described in Feenstra (1994). Broda and Weinstein (2006) applied these methods to import data for the United States, and find that the gains from new source countries for imports can be substantial: by 2001, these gains amount to 2.6% of U.S. GDP.

Recently, attention has shifted in the monopolistic competition literature to the production side of the economy. Whereas Dixit and Stiglitz (1977) and Krugman (1980, 1981) relied on the "symmetry" assumption that all firms are identical, Melitz (2003) was able to introduce heterogeneity in the productivity of firms. This framework allows firms to have stochastic draws of productivity, but still imposes that firm profits are zero *ex ante*, as required by free entry into the industry. This extension to the monopolistic competition model is well-grounded in empirical observations: it allows for only a subset of firms in the industry—the more efficient firms—to be exporters. In the Canadian context, Trefler (2004) showed that the exit of less-efficient firms led to a substantial increase in average industry productivity following the Canada-U.S. free trade agreement, which supports the Melitz model.

We have explored the industry-level implications of the Melitz model, and found that it leads to a concave, constant-elasticity transformation curve between domestic and export varieties, adjusting for the appropriate quantity of each. Analogous to the CES results on the consumer side, the gains from trade depend on the share of revenue devoted to exports and on the elasticity of transformation, which itself depends on the elasticity of substitution and on the Pareto parameter for productivity draws. Remarkably, once we take into account the general equilibrium increase in spending following trade liberalization (i.e. endogeneity of the shift parameters A_{dt}), then the gains from trade simplify so that they depend on the share of revenue devoted to exports (or equivalently, imports), and on the Pareto parameter. This confirms the very simple formula for the gains from trade found by Arkolakis *et al* (2012). All these gains come from the production side of the economy, and there are *no further* gains from product variety on the consumption side: the gains from import varieties just cancel with the losses from reduced domestic varieties. That results follows from having an "interior solution" where only a fraction of the domestic firms are exporters: if all firms exported or no firms exported in some industries, then we would expect to again see consumption gains from variety as in Krugman (1980, 1981).

The final topic we have discussed is the gains from trade due to reduced markups charged by firms, as in Krugman (1979). It is worth emphasizing that these are social gains and not just a transfer from firms to consumers. In Krugman (1979), reduced markups combined with zero profits in equilibrium imply that firms are moving down their average cost curves, taking greater advantage of economies of scale. So the reduction in consumer prices due to reduced markups do not come at the expense of firms profits. In order to measure these gains we must move beyond the CES case, however, where markups are constant. In theory, the quadratic utility function used by Melitz and Ottaviano (2008) offers a very useful form of endogenous markets. Because this utility function uses an additively separable numeraire good, all other products all have income elasticities of zero. On empirical grounds, we recommend instead

the translog unit-expenditure function, which corresponds to homothetic preferences (income elasticities of unity). Unlike the CES case, goods then have finite reservation prices that must be solved for. Feenstra (2003) and Bergin and Feenstra (2009) show how this expenditure function, when simplified to allow for some "symmetry" across goods, has a convenient solution for the reservation prices that can be substituted back into the expenditure function, obtaining a tractable form even as the number of goods varies. Feenstra and Weinstein (2009) are making use of this functional form to estimate the impact of globalization on markets and product variety in the U.S. market. It can be expected that applications to many other countries will follow, thereby allowing us measure this third source of gains from trade due to monopolistic competition. ■

FIGURE 2.1. CES DEMAND

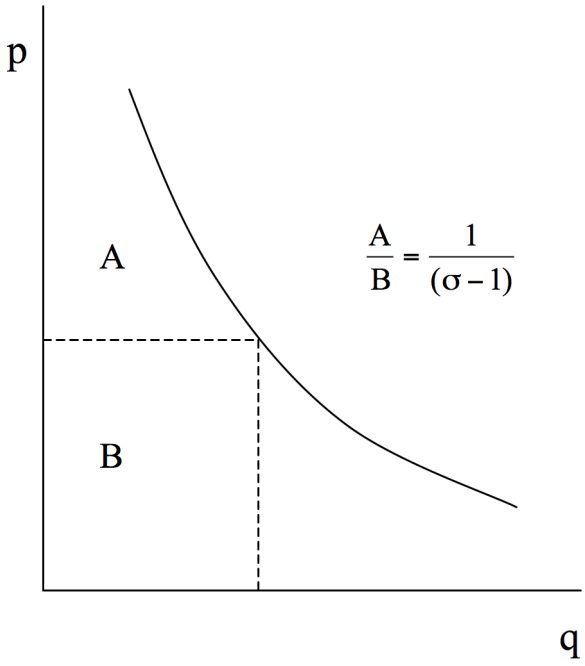


FIGURE 2.2. CES INDIFFERENCE CURVE

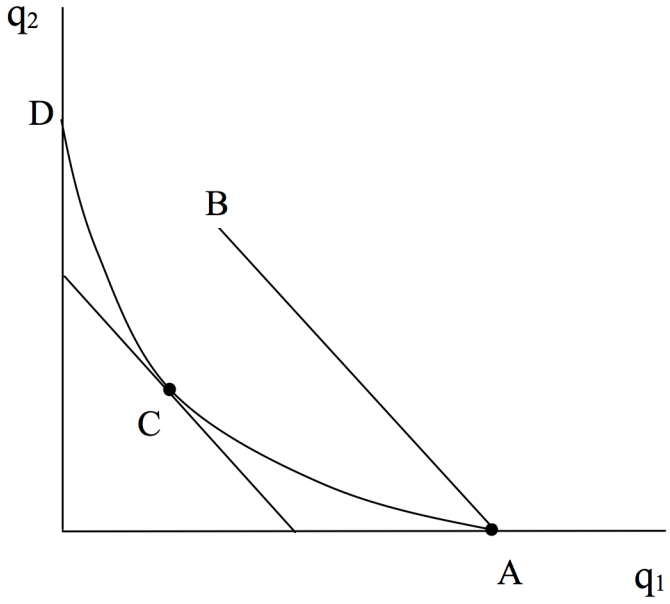


FIGURE 3.1. CONSTANT-ELASTICITY TRANSFORMATION CURVE

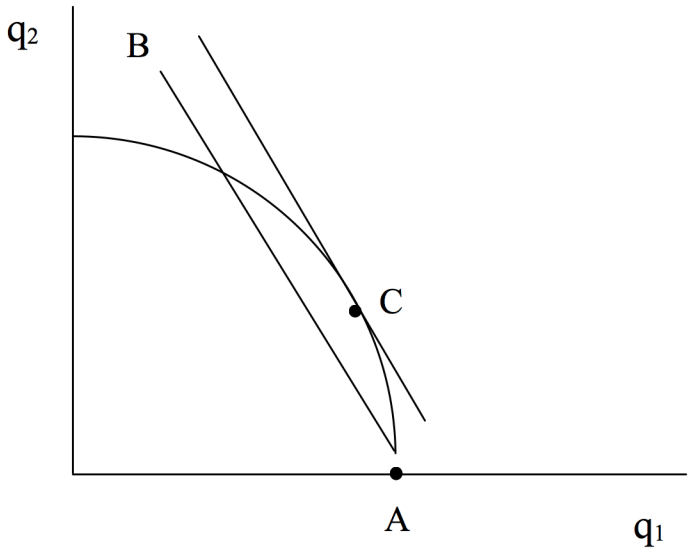
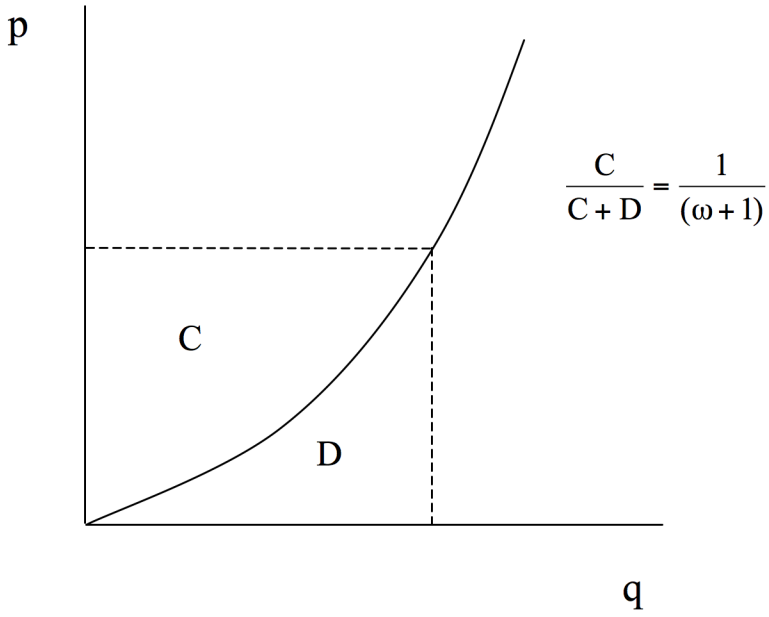


FIGURE 3.2. CONSTANT-ELASTICITY SUPPLY CURVE



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DISCUSSION

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Professor Feenstra is a pioneer in assessing welfare gains from trade, especially in the context of new trade theory and the emerging heterogeneous-firms models of trade. Three sources of gains from trade are commonly found in the literature: consumer gains from the increase in imported varieties; producer gains from self-selection and the ensuing changes in extensive and intensive margins; and disciplining of mark-ups from import competition. In this paper, Professor Feenstra elegantly measures the consumer gains from the increase in the number of imported varieties by adapting the Sato-Vartia index to the Krugman model. The added advantage of this index is that it yields similar results under alternative weighting schemes. However, Professor Feenstra notes that previous attempts to measure consumer gains did not account for self-selection of firms in domestic and export markets and the accompanying loss in domestic varieties. He then shows that gains from trade accrue on the producer side, despite loss of domestic varieties, with an exposition of Melitz's (2003) trade model with heterogeneous firms. With additional algebra, the gains from trade in Melitz's model are captured in the Feenstra framework for a combined assessment of consumer and producer gains. Then, Professor Feenstra shows how a translog expenditure function can be employed to assess gains from import varieties and falling mark-ups. Finally, empirical results from Feenstra and Weinstein (2009), based on the translog method, yields gains from trade in the form of declining merchandise prices by 5.4 percent and consumer prices by 1.0 percent during 1992-2005.

The gains from trade demonstrated by Professor Feenstra are critical as academics and free-traders continue to make the case for increased integration of global markets. Nevertheless, the results should be viewed in a broader context. For instance, the definition of a variety can be tricky especially at the merchandise and consumer levels. Importing a shirt collar does not directly add to shirt varieties in a country. Moreover, the presence of multinational firms and the production-sharing/outsourcing may overestimate the number of varieties arriving at the U.S. border. Estimates of gains at the national level are useful, but the political economy of U.S. trade policy requires some more attention to the distribution of gains within this large country. Are there regions where self-selection leads to loss of jobs and net welfare, despite consumer gains through price declines? Does the ensuing spatial adjustment of firms and workers impose additional unaccounted costs in the assessment of welfare gains from trade? The emerging new economic geography literature addresses some of these questions, but micro data availability and access (consistent firm- or plant-level data across and within countries) remain major obstacles to these efforts. ■

PART II

IATRC Through the Years: History from the Archives

CHAPTER 8

An Analytical History of the IATRC 1997

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INTRODUCTION

The International Agricultural Trade Research Consortium (IATRC, the Trade Consortium, or simply the Consortium) was founded in June 1980 as an informal association of government and university economists interested in agricultural trade. The idea had emerged from an earlier initiative by six economists on the West Coast to stimulate collaborative research in the emerging area of agricultural trade and trade policy. That effort was supported by the Ford Foundation and led to a Workshop in March 1979 and a book.[1] At the Workshop it was decided to extend the group to include economists at other universities and in particular to involve government economists. A planning meeting was held at Stanford University in December 1979 which led to the application for funding to the Economic Research Service (ERS) of the USDA and to organization of the fIrst meeting at the University of Minnesota in June 1980.

The Trade Consortium grew rapidly in size from its initial thirteen members to the present membership of more than 160 people from 15 countries (see Annex Tables AI-A3 for lists of the original members, of officers, and a membership summary for 1997). Consortium activities revolve largely around its meetings. Thirty-three professional meetings and conferences have been held so far. Currently there are two meetings a year: the winter General Meeting which is attended by 70-100 members (see Annex Table A-4), and a summer Public Symposium (see Annex Table A-5) focused

1 A. McCalla and Tim Josling (eds.), *Imperfect Markets in Agricultural Trade*, Allanheld-Osman, 1981.

on a specific trade topic which attracts up to 200 people and is designed for nonmembers as well.[2] The success of the Trade Consortium as a professional organization is reflected in the enthusiasm of the membership for these meetings.

The aim of this analytical history is to ascertain what conditions have led to the success and achievements of the Trade Consortium, and to explore the activities of the Consortium as guides to future initiatives. After a short discussion of the background against which the Consortium developed, and a review of the institutional changes that it underwent, we discuss the activities which appear to have been most (and least) useful or influential to the funding agencies and to the profession at large. This is followed by a discussion of the benefits that the organization has offered to its membership. A final section attempts to draw some lessons for the future.

THE BACKGROUND

The Trade Consortium was established at a time when interest in agricultural trade was blossoming in the US. Exports of agricultural goods were rising sharply toward a peak in 1981. This export growth itself helped to highlight the very significant problems that beset the international trading system for agricultural goods, in particular as a result of high levels of protection in importing countries. At that time the study of agricultural trade and trade policy was not highly developed in the agricultural economics profession. Few agricultural economics departments had more than one specialist in trade, and many had none. Economists working in the area were in general aware of the failure of the GATT rules to constrain such protectionism, but had scant knowledge of trade rules and overseas policies. Most empirical work on agricultural trade concentrated on estimation of market parameters and construction of commodity market models. These models often were constructed with little understanding of the institutional, legal and political bases for policy and of the significance of the interaction among policies for the performance of global markets. The aim of the initial West Coast group was to improve communication among agricultural trade economists and to increase the sophistication and relevance of trade research by incorporating policy more fully into their analyses.

At the same time, government economists from ERS and USDA's Foreign Agricultural Service (FAS) were feeling the need for greater contact with academic ideas and developments. This was in part to enhance the professional capacity of the agency staff (some of whom had only limited formal background in trade theory and analysis) and in part as a vehicle for getting professional feedback on the research output of the agencies themselves. In this case there was no lack of understanding of institutions or of policy detail: the need was for ways of making use of such information.in an analytical framework which would enable these agencies to provide more useful support for policy makers and sound information for the private sector. The interest ofERS and FAS in the Trade Consortium was born of the desire to have a mechanism for interaction with university economists in a forum which would allow them to focus on practical policy and projection issues.

The notable success of the Trade Consortium was helped immeasurably by the explosion of interest in agricultural trade policy over the 1980s. This was a period of high visibility for agricultural trade issues: from the US embargo on shipments of grain to the Soviet Union which started the decade, through the price wars which pushed world prices down to distress levels by 1986, to the dramatic early stages of the Uruguay Round and the breakdown of the talks in 1990. The 1990s kept attention focused on agricultural trade issues, with the [mal agreement in the GATT Round and

2 The Public Symposium is called a Public Trade Policy Research and Analysis Symposium in the "IATRC Objectives, Organization, Operations, and Origins," (The IATRC Blue Book) of rules and procedures. We use the more familiar label "Public Symposium" here.

the negotiation of numerous regional agreements which began to include agriculture. New issues such as the interface with the environment arose to refresh attention and pose new analytical and institutional questions.

The history of the Trade Consortium is therefore one of the responses of the membership to the challenges posed by this moving tapestry of events; of the way in which the events themselves served to bring the membership together on group projects; of the sense of purpose as well as of professional convenience which the agenda gave to the meetings; and of the impression (real or imagined) that the Consortium was playing a significant role in the development of trade policy. Academics felt closer to the action, government economists were reassured and strengthened by the opportunities to associate professionally and, in some cases, collaborate with their university counterparts, and sponsoring government agencies felt that the Consortium was an effective means of influencing the research agenda of university economists and leveraging their limited trade analysis resources. This synergy has carried the Consortium forward over the past sixteen years.

THE EVOLUTION OF THE IATRC

Membership was "international" from the start, with economists from both the US and Canada among the first members. The first European-based members joined in 1983. From the governmental side, in addition to ERS, FAS came on board as a cosponsor in 1981. In the same year Agriculture Canada (now Agriculture and Agri-Food Canada) began to participate in the meetings, and to support Canadian academics who wanted to take part in the Consortium. In part as a result of career moves by members, relations with international organizations such as the OECD, the FAO and the World Bank developed. The international visibility of the Consortium has been increased by holding some of the Analytical Symposia abroad, such as those in Calabria, Italy, and San Jose, Costa Rica; several of the General Meetings have taken place in Canada and one was held at CIMMYT in Mexico.

The Trade Consortium started with the most informal of structures. Two members initially served as Co-conveners for the first two years, followed by a single Chairman whose term was approved by the members but subject to no formal voting procedures. At the Rio Rico meeting in December 1983 the organization began to be more structured: a Constitution was proposed which would include an Executive Committee and a process for electing some of its members. The new Constitution and membership rules were adopted at the Asilomar meeting in December 1984. This new structure served to give more continuity and accountability, both to the members and to the financial supporters, and has continued with minor modifications since that time. At each annual winter General Meeting a business meeting is held, at which officers are elected and business conducted. The administration of the Consortium, including financial disbursements, meeting arrangements and membership services, settled in one place, the University of Minnesota.

Funding forthe Consortium has evolved over the years, as financial needs have grown with expanding membership and activities. At the start the financial costs were covered entirely by ERS. FAS became a co-funder in 1982, and Agriculture Canada became a funding source for general Consortium activities (as opposed to fmancing Canadian member participation) in 1990. The Universities were deemed to "contribute" to the Consortium by paying for the costs of attending one meeting a year. The University of Minnesota absorbed t.1-}ceost of the IATRC administration. The Consortium initially contributed to the expenses of members attending its meetings, but this contribution was reduced over time and eliminated in 1991. Other sources of targeted funds have been helpful in financing particular meetings or publications.

"SUCCESSES" OF THE IATRC

The members of the Trade Consortium collectively and individually have contributed significantly to the analysis of agricultural trade policy over the past sixteen years. While it is not possible to identify the precise contribution of the Consortium per se to this work several activities of the IATRC undoubtedly gave a focus and a stimulus to the efforts of its members. In particular the group activities which began to be a feature of the Consortium work after the Rio Rico meeting stand out as being "successes." Before attempting to isolate the reasons for the success it is useful to recall some of these activities as indicative of the work of the Consortium.

THE OECD TRADE MANDATE

An early example of the role of the Trade Consortium in linking academic analysis with practical policy requirements was that of the OECD Trade Mandate. In 1982 the OECD ministers gave a mandate to the Trade and Agriculture Committees to analyze the consequences of national policies for agricultural trade and to develop a practical framework for examining the impact of domestic price policies on the trade system. The Trade Mandate was discussed at two Trade Consortium meetings, in December 1983 and June 1984, and the official chairing the OEeD Joint Working Party on Agriculture and Trade requested input from the membership. Subsequently three members of the Consortium presented a seminar in Paris to the Secretariat, which led to the calculation and publication of Producer and Consumer Subsidy Equivalents (PSEs and CSEs) for the OECD countries (and indirectly to the calculation of these measures by ERS for a number of other countries in the world), and the incorporation of domestic policy impacts in a global trade model. The output of the Trade Mandate study, which both demonstrated that it was indeed possible to quantify the effect of policies and also gave governments a clearer idea as to the negative impacts of such policies on international markets, had a profound impact on the conduct of the Uruguay Round.

Clearly the OECD might have elicited the same advice without going through the Consortium: PSEs had in fact been calculated by the FAO for several years before the Trade Mandate, and models of agricultural trade were readily available. But the role of the Consortium from the start was one of facilitating the exchange of ideas among policy makers and analysts. As such it has been as much about timing and communication as generating new research *per se*. Busy officials need reactions promptly, and universities are not normally set up to respond in a timely fashion. In the case of the OECD Trade Mandate the IATRC provided the channel of communication at a time when it was most fruitful.

THE USDA EMBARGO STUDY

In 1985 Congress mandated ERS to conduct a thorough analysis of two of the most controversial aspects of US agricultural trade policy: embargoes and surplus disposal programs. The 1980 US embargo against the USSR had been blamed for the decline in US exports, domestic prices and farm income. The stock and surplus disposal policies of the Commodity Credit Corporation were also widely held to further depress farm prices. ERS turned to the Consortium (the initial discussions were held during the Vancouver meeting in December 1985) as a mechanism for recruiting a team of academics to work with its economists at ERS. The team was led by the Chair of the Consortium and comprised economists from several universities. The result was a comprehensive study which included both original conceptual analyses as well as new empirical work to explore the impact of embargoes and surplus disposal activities. The results were incorporated in a weighty report, completed in nine months, which was recognized by the profession

through an award by the American Agricultural Economics Association.[3] In all, the Embargo study represented a highly successful cooperative effort.

The preconditions for a significant policy contribution in this case included a clear mandate (the demand side), an enthusiastic and prompt response (the supply side) and an institutional mechanism (including fmancial resources) to allow the work to be performed, coordinated and presented in a timely fashion. The mandate was clear in this case, and the political sensitivity of the issue made the IATRC a natural vehicle for the study. The response was certainly facilitated by the existence of the Consortium, which made it possible to put together a team quickly: the fact that adequate resources were made available also helped to expedite the process. That the study was able to use analysts from different universities (with different models and approaches) focusing on a common set of issues undoubtedly led to the weight of the conclusions.

Whether the conclusions of the study had a direct impact on policy is not easy to say. The US has generally moved away from the use of export embargoes, and the study lent support to the growing recognition of their ineffectiveness. However surplus disposal continues to the present day, though usually reckoned to be supportive of domestic prices. In any case, the volume of quality work put together in a short period was itself impressive, and the conclusions were presented clearly enough to have direct impact. Moreover the habit of collaboration carried over into later studies and helped to develop the identity of the Consortium.

THE URUGUAY ROUND

Perhaps the most elaborate and significant example of successful collaboration between officials and academics in the IATRC was on the Uruguay Round negotiations, and in particular in the "analytical" phase from September 1986 to December 1990. Very early in the Round the Consortium made the decision to follow closely the negotiations and more specifically to attempt to develop the analytical capacity to assist the officials involved in the technical aspects of the talks. The plan was followed through with considerable success. The Consortium heard from policy makers at its meetings and the academic members presented papers specifically geared to such issues as the use of protection and support measures in the negotiations. In order to allow as wide a currency of the ideas as possible a series of Commissioned Papers was initiated.[4] These were designed originally to distribute information to the membership about current events, in particular on the state of negotiations--and were sometimes referred to as "update" papers. They soon became the main vehicle for broadcasting the conclusions from the discussions of working groups. These working groups typically included economists from both universities and government departments, and focused on a particular issue in the negotiations.

The Public Symposium at Annapolis in June 1988 provided an opportunity for the Consortium to review analytically the progress in the trade talks and plot the path to an agreement (the Ministers were to have their own Mid-Term Review in December of that year). The meeting attracted considerable interest. The first three Commissioned Papers in the series "Bringing Agriculture into the GAIT" were in fact background documents for this meeting. Another four papers were circulated in June 1990, as countries were gearing up for the final phase of the Round. As the pace of the negotiations slowed and deadlines were missed the IATRC published another Commissioned Paper suggesting the way

3 ERS, *Embargoes, Surplus Disposal, and US Agriculture*, Agric. Econ. Report No. 564, December 1986. The study received an Honorable Mention for Quality of Research Discovery Award from the American Agricultural Economics Association.

4 They are "commissioned" in the sense of being requested by the IATRC Executive Board. No fees are paid to the authors, though some expense money is put aside to facilitate travel and other direct costs.

to get talks going again. When the negotiations finally ended three years later the Consortium came out with the ninth Commissioned Paper in the series, the first detailed analysis and evaluation of the Agreement on Agriculture. A follow up Commissioned Paper was completed in October 1997 dealing with the experience in implementing the Agreement.[5]

There is no way to be sure that the often frenetic activity of the Consortium over that period influenced the thinking of any of the major participants in the negotiations. But the fact that the US Trade Representative at that time (Clayton Yeutter) attended a Consortium meeting and was briefed on our reports suggested some interest and potential access. ERS and FAS personnel were certainly 4 They are "commissioned" in the sense of being requested by the IATRC Executive Board. No fees are paid to the authors, though some expense money is put aside to facilitate travel and other direct costs. taking ideas backwards and forwards between academic and political discussions. If the ideas that surfaced in the negotiations, such as the green box of acceptable subsidies and the techniques of tariffication, were not actually influenced by the IATRC, they were certainly remarkably consistent with them.

The formula for "success" of the IATRC with respect to the Uruguay Round negotiations was a little different from that in the embargoes and subsidies study. There was no clear mandate: the agenda was developed by Consortium members and evolved according to the needs of the analysts in government. However, US Trade Representative Yeutter had, in an open meeting of the ERS staff, noted the importance of sound economic analysis to the successful pursuit of US objectives, the importance of a successful outcome for US agriculture, and the dependence ofUSTR on ERS for this analysis. ERS clearly had a mandate (though not a legislative one with ear-marked funding as in the case of the embargo study) and drew heavily, both formally and informally, on the Consortium to complement its resources. The level of interest was very considerable, both among academics and government economists as well as among trade policy officials. Everyone was "flying in the dark" in the negotiations: it was the fIrst time that domestic policies were on the negotiating table. This, rather than a clear mandate, kept the IATRC working parties going. The nine Commissioned Papers in the series provide a record of this intensive and productive collaboration, just as did the Embargoes report of a few years earlier.

The Uruguay Round was probably important to the development of the Consortium in another way. It gave trade research a higher profIle within the agricultural economics profession--agricultural trade for a time was the thing to do and the IATRC was the place to get involved, whether as a graduate student, a mid-career academic or administrator, or a veteran economist. Without this high profile status for trade research it is doubtful that the Consortium would have experienced the rapid membership growth that it did or achieve the success as an organization.

NAFTA

Activity of the Consortium on the issue of the North American Free Trade Area was neither so focused nor so close to the action of the negotiations. The topic had however been widely discussed in the meetings and the negotiations were followed closely by many members. Two Commissioned Papers were produced, each by a Working Party including academic as well as government economists as participants.

The issue of a North American common market had in fact been a major topic in the first Consortium meeting in June 1980, long before Mexico showed an interest in trade liberalization. The US-Mexico trade relations formed the subject of the theme-day at the meeting in Rio Rico in December 1983, at a time when Mexico was only just beginning to be

5 The Commissioned Papers are listed in Annex Table A-7.

a factor in agricultural trade.[6] At Airlie House in December 1987 the Consortium discussed fully the US-Canada Free Trade Agreement and its agricultural provisions. However the Consortium as such had not been a player in the analysis for this trade accord.

The main discussions of NAFTA occurred in New Orleans in December 1991, when the two Commissioned Papers were presented and in San Diego in December 1993, when a preliminary appraisal was offered. In June 1995 the subject of the Public symposium held in Costa Rica was Economic Integration in the Western Hemisphere, a meeting which served to indicate how far the world, as well as the profession, had come in a few short years toward regional trade liberalization.

If the IATRC did not have as much impact on the NAFTA negotiations as on the Uruguay Round, the explanation may lie with the nature of the issues involved. The Uruguay Round was about major shifts in trade rules into the uncharted territory of restraints on domestic policies and mandated policy instrument changes. Issues of measurement became important, as did the global impact of trade policy changes. In NAFTA the issues were less signifIcant for the US (and Canada) and the negotiations posed few new analytical challenges. In the case of the US-Canada Free Trade Area discussions, some new analytical twists were evident (such as the use of PSEs to compare relative cereal protection levels across the border) and these were indeed discussed by--and indirectly influenced by--the Trade Consortium. In general the demand was not evident for input by the Consortium on NAFTA, and members focused on the issues largely to educate themselves.

One other characteristic of both the US-Canada FTA and NAFTA that may have reduced demand for Consortium involvement from the funding government agencies was that both focused on bilateral trade issues between the US and Canada. This made it more politically sensitive and difficult for the funding agencies officially to request and use analyses conducted by teams of US and Canadian economists, especially government economists. Also, there was less enthusiasm on the part of policy officials for broad dissemination of economic analysis identifying winners and losers from trade reform by the time NAFTA negotiations were underway.

EUROPEAN INTEGRATION

The other topic which has elicited considerable attention in the Trade Consortium over the years is the process of Emopean Integration, particularly as it effects agricultmal markets. The topic was on the agenda for the first meeting in Minnesota in June 1980, as first Greece and later Portugal and Spain joined the Emopean Community. In December 1992 the theme-day topic was the new Emopean configuration, as the countries of EFTA and those of Central and Eastern Emope lined up for membership in the Emopean Union. The topic of the June 1993 conference in Calabria was USEC trade relations in the agricultmal area, which served to underscore the inter-relatedness of the trade policy issues on both sides of the Atlantic. The topic for the Public symposium in the summer of 1997 was again on the integration of the agricultmal sectors of West, Central and Eastern Europe.

The Consortium as such has not played any significant role in the analysis of integration of agricultmal markets in Emope, nor in shaping recent developments in US-EC agricultmal trade relations, much less in influencing internal Emopean farm policy changes. Nevertheless the significance of a sizable body of scholars and officials working together on these issues must have some indirect benefit in terms of better understanding and mutual trust. Indeed several members of the IATRC participated at the request of the EC Commission in a major empirical study (also first

6 The "Theme Day" is a one-day program at the winter General Meeting devoted to a single issue or topic selected in advance.

discussed at a Trade Consortium meeting) which helped to address issues of particular importance to the EC in the Uruguay Round talks.[7]

SELF-EDUCATION

An equally important contribution of the Trade Consortium, alongside that of discussing current trade policy issues, is to have introduced members over the years to the new developments in the economics profession and to relate these developments to agricultural trade. This has been done in two ways: the designation of a theme-day at the annual winter meetings and the choice of topic for the Analytical Symposia. Theme-day topics that have been particularly successful have included macro-economic linkages (Tucson, 1980); political economy (Airlie House, 1987); international finance (San Antonio, 1988); public goods (San Diego, 1990); Computable General Equilibrium analysis (New Orleans, 1991); technical barriers to trade (Tucson, 1995); and implications of new growth theories (Washington, D.C., 1996). The Analytical Symposia have included such topics as exchange rates (Tahoe, 1986); the "new" trade theory (Montreal, 1989); competitiveness (Annapolis, 1992); environmental policy (Toronto, 1994); and global markets for processed foods (Minneapolis, 1995). The exposure of members to high-quality speakers from outside our immediate profession has been an unqualified success. The ability to focus for a theme day or for a summer conference on one topic has proved a valuable device for self-education by the membership. Thus, the program has been able to serve as a vehicle for cross fertilization and exposure of members to thinking of others than agricultural economists.

AREAS ON WHICH THE CONSORTIUM HAS BEEN LESS SUCCESSFUL

Trade and Development

If there is one area where the Trade Consortium has had a more mixed performance it is in the area of trade and development. This topic has been the main theme of the General Meeting on several occasions (Washington, 1981; Washington, 1982; Rio Rico, 1983; and CIMMYT, 1986) but no Commissioned Papers have been produced and no Public symposium convened on this subject. This presumably reflects in part the interests of the funding agencies (USAID and the World Bank have never been among the regular institutional funders). It may also reflect the interest of university-based Consortium members as a whole, many of whom tend to work on the agricultural trade and policies of OECD countries, though a sizable group of the membership are active in development work. As the analytical framework for studying development becomes more closely linked with that used in trade policy work, and as developing countries become more fully integrated into the world economy, the issues addressed by the Trade Consortium will become of wider relevance. The Consortium will undoubtedly return to consideration of these topics in the future.

Provision of Consulting Services to Funding Agencies

In response to urging by government funding agencies for the Consortium to be more responsive to their needs, the Consortium established a service through which funding agencies could request short (one or two day) consultancies from members. The members' home institution would make available the individual (without reimbursement or fees), and the requesting institution would pay travel and per diem costs. A roster was developed which would be used to identify appropriate people and the Chairman was to serve as the link between agencies and members in responding

7 The study was published as E.C. Commission, *Disharmonies in EC and US Agricultural Policies: A Summary of Results and Major Conclusions*, Brussels, 1988.

to requests. This service has been used only once or twice. The failure of what seemed at the time a useful service function reflects more a lack of demand than of supply. This is probably inherent in the short time frame within which most policy issues arising in government agencies have to be dealt with--there just isn't time to go outside for assistance. Also, in this quick response mode it is often more crucial to have institutional knowledge than cutting edge theory or method.

Seed Grants to Stimulate Inter-institutional Team Research

The success of the embargo study and other collaborative efforts described above led the Executive Committee to implement, with approval of the membership, a seed grant research funding program. This program funded, at very modest levels, research undertaken by teams of economists from more than one institution and including at least one Consortium member. The intent was to provide initial funding that would allow the team jointly to complete the initial phases of a larger research project and obtain funding from other sources to carry out the full program. Several activities were selected competitively and funded. They were "successful" in the sense that useful analytical results were obtained in most cases, but in every case the "seed" failed to germinate and produce additional funding. Maybe the problem was that this was a supply driven process and did not really respond to an effective demand.

THINGS THE CONSORTIUM DID NOT ATTEMPT TO DO

There are at least a couple of things that the Consortium did not attempt to do. The absence of these ambitions may have contributed to its success. First, it never set out to be a big professional organization--growth per se was not a goal. In fact the growth has itself at times led to criticism. Some of the benefits of the early meetings were said to stem from the small size of the meetings, and this certainly helped the intensity of the interaction. Membership was restricted: from the beginning people had to apply for membership and meet a set of criteria (not overly stringent) in order to be accepted for membership. This has helped to avoid the tendency to try to become just another professional organization catering to all interests so as to broaden the potential membership base. It also helped maintain a membership with a common interest in agricultural trade research and analysis.

Second, the Consortium, while taking seriously the need to disseminate results of its activities never undertook to publish a journal or any other regular publication series. This helped avoid the tendency for the program to become supply driven (i.e., to have as a primary purpose the provision of an outlet for members' production of papers). The program has remained focused on particular trade policy issues, with publication (except for the Working Paper series) only of material that illuminates those topics.

BENEFITS OF THE IATRC TO THE MEMBERSHIP

The continued success of the Trade Consortium indicates that it provides real benefits to its members. The key to this has been the agenda for the meetings. Each IATRC meeting contains a balance between two elements: the consideration of current issues which confront government economists in their work and to which trade and trade policy economists in universities address their analytical skills, and the advances in analytical techniques which members wish to explore and integrate into their own work. In this respect the agenda of the Trade Consortium has been "demand driven" in the topics that it considers. It therefore differs from the meetings of a regular professional association, which will normally have a much wider remit and be "supply driven" in their choice of papers and topics for meetings.

The focus on current trade policy issues has allowed university-based Consortium members to relate their work to particular topics of practical importance. Relative to many policy-related papers at other professional meetings the discussions at IATRC meetings are usually much better informed and focused. The benefit to university economists is therefore to understand the relevance of their analysis by discussing the policy issues with officials, and to be able to make their work more useful. The fact that the Consortium often invited policy-makers to meetings enhanced this test of relevance.

The attention given in the meetings to new theory and methods of analysis has prevented the Consortium from becoming too obsessed with the policy issues of the day. It has provided a valuable benefit to university economists, primarily through the invitation of prominent general economists who are specialists in the analytical techniques and theoretical advances that are under discussion.[8] In general the choice of speakers for the theme days and the Public Symposia has been excellent. Thus one gets the considerable advantages of attending quality presentations from related fields at the same time as discussing the issues with experts in ones own subdiscipline. The combination makes for meetings which are informative and enjoyable as well as intellectually stimulating. This has certainly beeD;beneficial in upgrading and updating instruction in the area.

We should like to emphasize the constructive spirit and collegiality in which these meetings are invariable held. Though the analysis of the papers and the discussions is rigorous, the meetings have typically avoided the extremes of academic competitiveness and criticism and the tendency to grandstand which mar some of the professional conferences. There is a common sense of learning and a common set of interests in the Consortium which overcome such divisive tendencies.

For the members from government departments the main benefit is to keep up with analytical work going on in universities which is of direct relevance to the department concerned, and to discuss their own research with others. The ERS is the department with the most direct interest in current academic analysis. It has regularly used the Consortium meetings to present the methods and results of on-going research to a wider audience of researchers. Agriculture and Agri -Food Canada has also looked to the Consortium on occasions to get feedback on research fmdings. Government economists also learn much from the more analytical sessions, even if there is often a significant gap between theoretical and analytical advances and practical policy work.

THE OUTPUT OF THE IATRC

The written output of the Trade Consortium comprises books and reports containing the proceedings of Conferences (Annex Table A-6); Commissioned Papers on topics of current interest about which the Consortium wishes to inform its members and others (Annex Table A-7); and Working Papers circulated to each member (Annex Table A-8). The Consortium also published a Newsletter through 1996 with a wealth of information relating to agricultural trade policy, and has recently initiated a Web Site With information about the organization and the upcoming meetings.[9]

To date there have been eleven published books comprising the proceedings of IATRC Conferences, usually the Public Symposia held in the summer--see list in Annex Table A-6.[10] These books make available to a wider audience the

8 There may on occasion be some reciprocal benefits, as these speakers consider how their conceptual models and techniques relate to agricultural markets.

9 With the newsletter discontinued, some of the information that it reported will now be available at the Web site.

10 The IATRC has now taken over the responsibility from ERS of publishing these reports.

benefits that the members who attended the meetings derived from them: the success of these books was confirmed recently when the proceedings of the June 1994 Public Symposium on Agricultural Trade and the Environment won an AAEA Quality of Communication Award. As mentioned above these IATRC bookds have fostered the broadening of professional horizons through the judicious choice of outside speakers. In addition ERS has put out the proceedings from several other meetings as Staff Reports or other series papers (again, see Annex Table A-6). Altogether 14 such reports have been published. In total, 25 publications have therefore corne from the IATRC meetings.[11]

Though the books and reports act as a record of Consortium activity, other publications have also been useful to members and to the profession at large. The Commissioned Papers are more focused publications and therefore have a shorter period of relevance. Of the eleven that are available, nine dealt with the Uruguay Round and two with NAFTA (see list in Annex Table A-7). Even though the particular policy issues addressed have been resolved, the analysis in the Commissioned Papers still remains relevant. To date there also have been 88 papers distributed in the Working Paper series, averaging about 8 each year since the series was started in 1985 (see list in Table A-6). No other comparable series exists for agricultural trade analysis, and the ability to circulate a paper to a specific audience is valuable.

THE CHALLENGE OF THE FUTURE

This analytical history has emphasized several aspects of the successful development of the Trade Consortium which have relevance for the future. These can be summarized as follows. The collaboration between university and government economists that is at the heart of the Consortium has been mutually advantageous. This collaboration has rested on the provision of a policy-relevant agenda for the meetings and a shared sense of commitment to bring analysis to bear to current issues. The meetings have been collegial, constructive and informative. The successful collective activities have been in response to a need expressed to the Consortium by those who use economic analysis in policy work. Funders appear to have been satisfied with the ability of the Consortium to keep the focus on relevant issues. In parallel, the Consortium has preserved a strong interest in discussing advances in theory and method and hence keeping the professional toolbox up-to-date. The balance between policy discussion and self-education has been a key part in the success of the IATRC. In addition to the right mix of topics, the Consortium has been lucky always to have had leaders who were willing to put in their time and energies to organizing meetings and an efficient administration able to keep up with the demands of a growing membership.

This suggests a short list of elements to be considered for the future. First, the Consortium needs to keep the blend of policy discussion and self-education that has worked well in the past. Too much emphasis on current policy issues will blunt the enthusiasm of the more analytical members, and too many papers on new theory and models will reduce the value to the practitioners. Second, the Consortium is at its best when organizing small working groups to undertake focused work on a particular topic. The results of this collaboration are of course disseminated to the membership. Not only do these activities themselves develop habits of cooperation which extend outside the Consortium, but they have also proved an efficient way of generating timely work and "keeping up with events." Without such a framework university research on policy issues can slip well behind the action.

Thirdly, continued success of the Trade Consortium may depend on preserving a flexible organizational structure. This structure has avoided excessive bureaucracy, kept a balance in the Executive Committee between the universities and

11 Other books have stemmed from collaboration which was stimulated by IATRC activities. One recent example is the book on agriculture in the GATT (Timothy E. Josling, Stefan Tangermann and T.K. Warley, *Agriculture in the GATT*, Macmillan, 1996).

the funding agencies (three members from each constituency), and benefitted from a succession of office holders willing to put energy and imagination into the activities. Such a combination needs to be maintained. Fourthly, to retain the freshness and relevance of the meetings the Consortium needs to be stimulated by the continued exploration of emerging agricultural trade issues and the constant rejuvenation by new members. The Consortium has become an organization with professional prestige and a record of which it can be proud, but it cannot sit on its laurels.

So long as interesting issues continue to emerge in the area of agricultural trade the Consortium will find plenty of topics for analysis. The profession needs to anticipate these issues, without getting so far out ahead of the political process as to appear out of touch. Some topics for the Consortium are already becoming clear, and the program of future meetings reflects these issues. The next Round of trade negotiations in agriculture is already scheduled for the year 1999, and the likely agenda is already taking shape. The various regional trade arrangements have announced timetables for trade liberalization and the implications for agricultural trade policy of these changes are likely to be fundamental. The impact on agricultural markets of the transition to market regimes of many previously centralled-planned economies is still uncertain but is potentially significant. Other "old" topics may re-emerge onto the scene: issues of food security and income distribution have been less of a focus in the past few years but may well become major policy concerns again.[12]

Questions of environmental regulations, health and safety standards, and labor laws are still capable of.posing challenges for agricultural trade policy, as the apparent consumer resistance to products of biotechnology shows. The design of new institutional arrangements to provide stability and ensure harmony in the multilateral trade system may also find its way back onto the agenda soon. The Consortium is in a strong position to take the lead in analyzing many of these issues. If it can perpetuate the coherence and commitment of the past sixteen years it will continue to play a significant role in the development of improved policies in the area of agricultural trade.

12 The June 1998 Public Symposium will focus on, "Policy Reform, Market Stability, and Food Security."

ANNEX TABLE A-1: ORIGINAL 13 MEMBERS OF THE IATRC

Name
Colin Carter
Charles Hanrahan
Jimmye Hillman
Tim Josling
Alex McCalla
Scott Pearson
Ed Rossmiller
Alexander Sarris
Andrew Schmitz
G. Edward Schuh
Vernon Sorenson
Gary Storey
Robert Thompson

ANNEX TABLE A-2: OFFICERS OF THE IATRC, 1980–1996

Name	Dates
Co-Convenors	
Alex McCalla and Charles Hanrahan	June 1980 and June 1981
Chairpersons	
Ian Sheldon	January 2008–present
Tom Wahl	December 2004–January 2008
Tim Josling	December 2002–December 2004
David Blandford	December 1999–December 2002
Dan Sumner	December 1997–December 1999
David Orden	December 1995–December 1997
Terry Roe	December 1994–December 1995
Alex McCalla	December 1993–December 1994
Maury Bredahl	December 1992–December 1993
Karl Meilke	December 1989–December 1992
David Blandford	December 1987–December 1989
Alex McCalla	June 1984–December 1987
G. Edward Schuh	January 1982–May 1984
Jimmye Hillman	July 1981–December 1982
Executive Committee Members	
Philip Abbott	June 1984–December 1987
Nicolle Ballenger	June 2001–December 2002
David Blandford	December 1987–December 1989, December 1998–December 2002
Maury Bredahl	December 1989–December 1993
Lars Brink	January 1994–January 2008
Colin Carter	December 1986–June 1987, December 1988–December 1992
Pierre Charlebois	December 2007–June 2009
Barbara Chattin	December 2005–December 2006
Praveen Dixit	December 2002–December 2005
Marcie Glenn	June 1984–December 1984
Thomas Heckelei	December 2005–December 2008
Debra Henke	December 1999–December 2005
Jimmye Hillman	July 1981–December 1982
Tim Josling	December 1998–December 2003
Alex McCalla	June 1984–December 1989, December 1993–December 1994

ANNEX TABLE A-2 (CONTINUED)

Name	Dates
Don McClatchy	December 1985–January 1994
Karl Meilke	June 1987–December 1993
Patrick Obrien/Lorna Aldrich	December 1994–June 1996
David Orden	December 1994–December 1998
Scott Pellow	June 2009–present
Dewain Rahe	May 1992–December 1994
Donna Roberts	December 2005–present
Bob Robinson	July 1990–December 1994
Sherman Robinson	December 2001–December 2003
Terry Roe	December 1992–December 1995
Jim Ross	July 1990–April 1992
Ed Rossmiller	June 1984–June 1986
G. Edward Schuh	January 1983–May 1984
Wayne Sharp	June 1984–July 1990
Patricia Sheikh	December 1998–December 1999
Ian Sheldon	December 2006–present
Gary Storey	June 1984–December 1986
Dan Sumner	December 1995–December 1999
Stefan Tangermann	December 1993–December 2001
Harald von Witzke	December 2003–December 2005
Tom Wahl	December 2002–present
T. Kelley White	June 1984–July 1990, June 1996–June 2001
Gregg Young	December 2006–present
Linda Young	December 2004–December 2006
Randy Zeitner	December 1994–December 1998
Administrative Directors	
Laura Bipes	December 1994–December 2003 March 2008–present
Charli Hochsprung	December 2003–December 2008
Newsletter Editor	
Bill Kost	September 1985–December 1996

ANNEX TABLE A-3: IATRC MEMBERSHIP 1997

Membership	
Total Number of Members	169
Members by Country	
United States	125
Canada	15
Europe	18
Other Countries	11
Members by Affiliation	
USDA	27
Agriculture Canada	2
US Universities	60
European Universities	9
Canadian Universities	10
Other Universities	7
No Affiliation	12

ANNEX TABLE A-4: IATRC GENERAL MEETINGS, 1980–1997

Dates/Location	Theme Day Topic
1997 December 14-16 San Diego, CA	**Implementation of the Uruguay Round Agreement on Agriculture** Organizers: Stefan Tangermann, P. Lynn Kennedy, and Kelley White
1996 December 15-17 Washington, DC	**Implications of the New Growth Theory for Agricultural Trade Research and Trade Policy** Organizers: Terry Roe, Mathew Shane and Daniel Sumner
1995 December 14-16 Tucson, AZ	**Understanding Administered Barriers to Trade** Organizers: David Orden and Donna Roberts
1994 December 15-17 Washington, DC	**Agriculture After the Uruguay Round: The New Agenda for Trade Policy Analysis** Organizers: Tim Josling, Don McClatchy, and Lars Brink
1993 December 12-14 San Diego, CA	**North American Free Trade Agreement: Dead or Alive?** Organizers: Thomas Grennes, Gary Williams and Karl Meilke
1992 December 13-15 St. Petersburg, FL	**European Reconfiguration: Implications for World Agricultural Trade** Organizers: Robert Koopman, and Colin Carter
1991 December 12-14 New Orleans, LA	**Applied General Equilibrium Analysis of International Trade** Organizers: Thomas Hertel and James Ross
1990 December 16-18 San Diego, CA	**Public Goods in International Trade, Food Quality and Environmental Regulation** Organizers: Mathew Shane, Harald von Witzke and Don Mclatchy
1989 December 14-16 Clearwater, FL	**Data and Information Issue for the Agricultural Trade Researcher** Organizers: Bill Kost
1988 December 14-16 San Antonio, TX	**International Finance** Organizers: Thomas Grennes, David Orden and Karl Meilke
1987 December 14-16 Airlie House, VA	**The Political Economy of Agricultural Trade** Organizers: T. Kelley White and Tim Josling
1986 December 15-17 CIMMYT, Mexico City, Mexico	**Trade and Development** Organizers: James Longmire

ANNEX TABLE A-4 (CONTINUED)

Dates/Location	Theme Day Topic
1985 December 16-18 Vancouver, BC, Canada	**Modeling Agricultural Trade** Organizer: Richard Barichello
1984 December 17-18 Asilomar, CA	**U.S. Trade Relations with Canada, Mexico, and the EC: The 1985 Farm Bill** Organizer: Tim Josling
1984 August 1-4 Wye Woods, MD	**OECD Mandate and U.S. Trade Relations Task Force** Organizer: T. Kelley White
1983 December 15-17 Rio Rico, AZ	**Debt, Trade, and Payments Issues in Developing Countries and U.S.-Mexican Economic Interdependencies** Organizers: Jimmye Hillman, Maury Bredahl, and Charles Hanrahan
1983 June 23-24 Ottawa, Ontario, Canada	**Agricultural Trade Policy Issues in the Eighties, Current Research, and Long-Term Forecasting** Organizers: Marcia Glenn, T. Kelley White, Alex MCcalla and Charles Hanrahan
1982 December 16-18 Washington, DC	**Agriculture, Trade, and Development: A Comparative Look at U.S., Canadian, and European Community Policies** Organizers: T. Kelley White and Tim Josling
1982 June 24-25 St. Louis, MO	**Gains from Trade, Comparative Advantage, Protectionism and the Commodity Composition of Trade**
1981 December 17-18 Berkeley, CA	**Price Formation, Market Structure, and Price Instability** Organizers: Andrew Schmitz and Alexander Sarris
1981 June 24-26 Washington, DC	**Agricultural Import Demand in Low-Income, Middle- Income, and Centrally Planned Countries** Organizers: T. Kelley White, George E. Rossmiller, and Vernon Sorenson
1980 December 15-17 Tucson, AZ	**Macroeconomic Linkages to Agricultural Trade** Organizers: Jimmye Hillman and Vernon Roningen
1980 June 30-July 2 St. Paul, MN	**Agricultural Trade Implications of EC Enlargement: North America Common Market** Organizers: G.Edward Schuh and Charles Hanrahan

ANNEX TABLE A-5: PUBLIC SYMPOSIA, 1986–1997

Dates/Location	Symposium Topic
1997 June 12-14 Berlin, Germany	**Economic Transition in Central and East Europe and the Former Soviet Union: Implications for International Agricultural Trade** Organizers: Harald VonWitzke and Stefan Tangermann (co-sponsored by the German Ministry of Food, Agriculture, and Forestry and Humboldt University)
1996 June 28-29 Minneapolis, MN	**Global Markets for Processed Foods: Theoretical and Practical Issues** Organizers: Daniel Pick, Jean Kinsey, Dennis Henderson and Ian Sheldon (co-sponsored by The Retail Food Industry Center at the University of Minnesota)
1995 June 7-9 San Jose, Costa Rica	**Economic Integration in the Western Hemisphere** Organizers: Bob Robinson, John Link, Rodolfo Quiros and Constanza Valdez (co-sponsored by the International Institute for Cooperation on Agriculture)
1994 June 17-18 Toronto, Ontario, Canada	**Agricultural Trade and the Environment: Understanding and Measuring the Critical Linkages** Organizers: Nicole Ballenger, Maury Bredahl, John Dunmore and Terry Roe (with financial support from The Environmental and Natural Resources Policy and Training Project funded by USAID, and from the Center for In'l Food and Ag Policy at the University of Mn)
1993 June 20-23 Calabria, Italy	**New Dimensions in North American-European Agricultural Trade Relations** Organizers: Givovani Anania, Colin Carter, Alex McCalla, Bob Robinson (co-sponsored with the University of Calabria, Italy, University of California-Davis, USDA/ERS, and National Research Council)
1992 August 7-8 Annapolis, MD	**Competitiveness in International Food Markets** Organizers: Phil Abbott, Maury Bredahl, and Michael Reed
1990 August 1-2 Honolulu, HI	**Agriculture and Trade in the Pacific: Toward the 21st Century** Organizers: William Coyle, Dermot Hayes, Don McClatchy Ed Rossmiller and Hiroshi Yamauchi (with financial support from the University of Hawaii)
1989 July 7-8 Montreal, Quebec, Canada	**New Developments in Trade Theory: Implications for Agricultural Trade Research** Organizers: Colin Carter, Alex McCalla and Jerry Sharples
1988 August 19-20 Annapolis, MD	**Bringing Agriculture Into the GATT** Organizer: David Blandford
1987 July 31-August 1 Dearborn, MI	**Elasticities in International Agricultural Trade** Organizer: Walt Gardiner and Colin Carter
1986 July 23-26 Tahoe City, CA	**Agriculture, Macroeconomics, and the Exchange Rate** Organizer: Alex McCalla

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ANNEX TABLE A-6: PUBLICATIONS FROM IATRC MEETINGS, 1980–1997

Year	Annual Meeting and Symposium Proceedings*	Proceedings from Meetings
1997	**Global Markets for Processed Foods: Theoretical and Practical Issues** Pick, D., J. Kinsey, D. Henderson, and I. Sheldon, eds. Boulder, CO: Westview Press	**June 1996** Minneapolis, MN
1997	**Economic Integration in the Western Hemisphere** Valdes, C., and T. Roe, eds. IATRC Proceedings Issue	**June 1995** San Jose, Costa Rica
1997	**Understanding Administered Barriers to Trade** Orden, D., and D. Roberts, eds. IATRC Proceedings Issue	**December 1995** Tucson, AZ
1997	**Implications of New Growth Theory to Agricultural Research and Policy** Roe, T., ed.	**December 1996** Washington, DC
1996	**Agriculture Trade and the Environment: Discovering and Measuring the Critical Linkages** Bredahl, M.E., N. Ballenger, J.C. Dunmore and T. Roe, eds. Boulder, CO: Westview Press	**June 1994** Toronto, Ontario, Canada
1994	**Agricultural Trade Conflicts and GATT** Anania, G., C.A. Carter and A.F. McCalla, eds. Boulder, CO: Westview Press	**June 1993** Calabria, Italy
1994	**Competitiveness in International Food Markets** Bredahl, M., P. Abbott, and M. Reed, eds. Boulder, CO: Westview Press	**August 1992** Annapolis, MD
1994	**NAFTA and Agriculture: Will the Experiment Work?** Williams, G.W., and T. Grennes, eds. College Station Texas: Center for North American Studies	**December 1993** San Diego, CA
1993	**The Environment, Government Policies, and International Trade: A Proceedings** Shane, M.D., and H. von Witzke, eds. Ag Trade Analysis Division, ERS, USDA Staff Report #AGES9314	**December 1990** San Diego, CA
1992	**Agriculture and Trade in the Pacific: Toward the Twenty-First Century** Coyle, W.T., D. Hayes, and H. Yamauchi, eds. Boulder, CO: Westview Press	**August 1990** Honolulu, HI
1990	**Imperfect Competition and Political Economy: The New Trade Theory in Agricultural Trade Research** Carter, C.A., A.F. McCalla, and J.A. Sharples, eds. Boulder, CO: Westview Press	**July 1989** Montreal, Quebec, Canada
1990	**International Financial Markets and Agricultural Trade** Grennes, Thomas, ed. Boulder, Colorado: Westview Press	**December 1988** San Antonio, TX

* Published as books by commercial or scholarly publishers, special issues in scholarly journals, or as IATRC Proceedings.

ANNEX TABLE A-6 (CONTINUED)

Year	Annual Meeting and Symposium Proceedings*	Proceedings from Meetings
1988	**Elasticities in International Agricultural Trade** Carter, C.A., and W. H. Gardiner, eds. Boulder, CO: Westview Press	**July–August 1987** Dearborn, MI
1988	**Macroeconomics, Agriculture, and Exchange Rates** Paarlberg, P.L. and R.G. Chambers, eds. Boulder, CO: Westview Press	July 1986 Tahoe City, CA
1988	**Trade and Development – Proceedings of the Winter 1986 Meeting of the International Agricultural Trade Research Consortium** Shane, M., ed. Agriculture and Trade Analysis Division, Economic Research Service, USDA Staff Report #AGES870928	**December 1986** CIMMYT, Mexico City, Mexico
1987	**Agricultural Trade Modeling – The State of Practice and Research Issues** Liu, K. and R. Seeley, eds. International Economics Division, Economic Research Service, USDA Staff Report #AGES861215	**December 1985** Vancouver, British Columbia, Canada
1985	**Agriculture, Trade, and Development: A Comparative Look at U.S., Canadian, and European Community Policies** White, T. K. and C. Hanrahan, eds. International Economics Division, Economic Research Service, USDA Staff Report #AGES850208	**December 1982** Washington, DC
1984	**International Agricultural Trade: Advanced Readings in Price Formulation, Market Structure, and Price Instability** Storey, G., A. Schmitz, and A.H. Sarris, eds. Boulder, CO: Westview Press	**December 1981** Berkeley, CA
1984	**Debt, Trade, and Payments Issues of Developing Countries and U.S.-Mexican Economic Interdependencies** Hanrahan, C. and M. Bredahl, eds. International Economics Division, Economic Research Service, USDA Staff Report #AGES840607	**December 1983** Rio Rico, AZ
1984	**Agricultural Trade Policy Issues in the Eighties, Current Research and Long-Term Forecasting** Glenn, M. and C. Hanrahan, eds. International Economics Division, Economic Research Service, USDA Staff Report #AGES840508	**June 1983** Ottawa, Ontario, Canada

ANNEX TABLE A-6 (CONTINUED)

Year	Annual Meeting and Symposium Proceedings*	Proceedings from Meetings
1983	**Imperfect Competition, Market Behavior, and Agricultural Trade Policy Analysis** Hanrahan, C. and T.K. White, eds. International Economics Division, Economic Research Service, USDA Staff Report #AGES830930	**December 1981** Berkeley, CA
1982	**Agricultural Import Demand in Low-Income, Middle-Income, and Centrally Planned Economies** Hanrahan, C. and G.E. Rossmiller, eds. International Economics Division, Economic Research Service, USDA Report #FAER-173	**June 1981** Washington, DC
1981	**Macroeconomic Linkages to Agricultural Trade** Roningen, V. and J. Hillman, eds. International Economics Division, Economics and Statistics Service, USDA Staff Report #ESS-10	**December 1980** Tucson, AZ
1980	**Agricultural Trade Implications of European Community Enlargement: North America Common Market** Friend, R. and A.H. Sarris, eds. International Economics Division, Economics and Statistics Service, USDA Staff Report #ESS-2	**June–July 1980** St. Paul, MN

ANNEX TABLE A-7: IATRC COMMISSIONED PAPERS, 1988–1997

Issue No.	Commissioned Papers
1997 CP-12	**Bringing Agriculture into the GATT: Implementation of the Uruguay Round Agreement on Agriculture and Issues for the Next Round of Agricultural Negotiations** Tangermann, Stefan; Honma, Masayoshi; Josling, Tim; Lee, Jaeok; MacLaren, Donald; McClatchy, Don; Miner, Bill; Pursell, Garry; Sumner, Dan; Valdes, Alberto
1991 CP-11	**The Implications of a North American Free Trade Area for Agriculture** Barichello, Richard R.; Bivings, Leigh; Carter, Colin; Josling, Tim; Lindsey, Patricia; McCalla, Alex
1991 CP-10	**An Analysis of a United States-Canada-Mexico Free Trade Agreement** Grennes, Thomas; Estrada, Julio Hernandez; Krissoff, Barry; Gardea, Jaime Matus; Sharples, Jerry; Valdes, Constanza
1994 CP-9	**Bringing Agriculture Into the GATT: The Uruguay Round Agreement on Agriculture, An Evaluation** Josling, Tim; Honma, Masayoshi; Lee, Jaeok; MacLaren, Donald; Miner, Bill; Sumner, Dan; Tangermann, Stefan; Valdes, Alberto
1991 CP-8	**Bringing Agriculture Into the GATT: Reviving the GATT Negotiations on Agriculture** March 1991
1990 CP-7	**Bringing Agriculture Into the GATT: The Comprehensive Proposals for Negotiations in Agriculture** June 1990
1990 CP-6	**Bringing Agriculture Into the GATT: Reinstrumentation of Agricultural Policies** June 1990
1990 CP-5	**Bringing Agriculture Into the GATT: Potential Use of an Aggregate Measure of Support** June 1990
1990 CP-4	**Bringing Agriculture Into the GATT: Tariffication and Rebalancing** June 1990
1988 CP-3	**Bringing Agriculture Into the GATT: Designing Acceptable Agricultural Policies** August 1988
1988 CP-2	**Bringing Agriculture Into the GATT: Assessing the Benefits of Trade Liberalization** August 1988
1988 CP-1	**Bringing Agriculture Into the GATT: Negotiating a Framework for Action** August 1988

Year	Other Publications from IATRC Activities
1986	**Embargoes, Surplus Disposal, and U.S. Agriculture** Alex F. McCalla, University of California-Davis; T. Kelley White, International Economics Division, Economic Research Service (ERS); Kenneth Clayton, National Economics Division, ERS USDA, ERS Agricultural Economics Report 564
1981	**Imperfect Markets in Agricultural Trade** Alex F. McCalla and Tim Josling (eds.) Allanheld-Osman

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ANNEX TABLE A-8: IATRC WORKING PAPERS, 1985–1997

Year/No.	Working Paper
1997 97-4	**State Trading in Agriculture: An Analytical Framework** Praveen M. Dixit and Tim Josling
1997 97-3	**Impact of CFTA/NAFTA on U.S. and Canadian Agriculture** Luther Tweeten, Jerry Sharples and Linda Evers-Smith
1997 97-2	**Environmental Protection with Policies for Sale** Joachim Schleich (contact David Orden for copies)
1997 97-1	**Measuring the Effect of Increased Horticultural Imports: An Application to Winter Vegetables** Stephen Haley
1996 96-5	**Evaluation of Export Promotion Programs on Trade of High-Valued and Processed Food Products: Implications for North Carolina Agribusiness** William Amponsah, Kofi Adu-Nyako, and Daniel Pick
1996 96-4	**What is Happening to U.S. Farm Policy: A Chronology and Analysis of the 1995-1996 Farm Bill Debate** David Orden, Robert Paarlberg, and Terry Roe
1996 96-3	**National Administered Protection Agencies: Their role in the Post-Uruguay Round World** Karl D. Meilke and Rakhal Sarker
1996 96-2	**Nontariff Agricultural Trade Barriers Revisited** Jimmye S. Hillman (Contact Laura Bipes for copies)
1996 96-1	**International Commerce in Processed Foods: Patterns and Curiosities** Dennis R. Henderson, Ian M. Sheldon, and Daniel Pick
1995 95-7	**U.S. Trade Threats: Rhetoric or War?** Mylene Kherallah and John Beghin
1995 95-6	**Wheat Buffer Stocks and Trade in an Efficient Global Economy** Shiva S. Makki, Luther Tweeten, and Mario J. Maranda
1995 95-5	**Challenges in Quantitative Economic Analysis in Support of Multilateral Trade Negotiations** Karl Meilke, Don McClatchy, and Harry deGorter
1995 95-4	**Analysis of U.S. Export Enhancement Targeting and Bonus Determination Criteria** Stephen Haley and David Skully
1995 95-3	**Restricting Wheat Imports from Canada: Impact of Product Differentiation and U.S. Export Policy Goals** Stephen Haley
1995 95-2	**U.S. Imports of Canadian Wheat: Estimating the Effect of the U.S. Export Enhancement Program** Stephen Haley
1995 95-1	**Intra-Industry Trade in Agricultural Products in the Western Hemisphere: Preliminary Evidence and Implications for Economic Integration** Donna Roberts

ANNEX TABLE A-8 (CONTINUED)

Year/No.	Working Paper
1994 94-6	**The Economic Implications of Chemical Use Restrictions in Agriculture** Monika Hartmann and P. Michael Schmitz
1994 94-5	**Labor Adjustment and Gradual Reform: Is Commitment Important?** Larry Karp and Thierry Paul
1994 94-4	**Alternative Oligopolistic Structures in International Commodity Markets: Price or Quantity Competition?** Colin Carter and Donald A. MacLaren
1994 94-3	**Declining U.S. Tobacco Exports to Australia: A Derived Demand Approach to Competitiveness** John Beghin
1994 94-2	**Strategic Agricultural Trade Policy Interdependence and the Exchange Rate: A Game Theoretic Analysis** P. Lynn Kennedy, Harald vonWitzke, and Terry L. Roe
1994 94-1	**The Economics of Grain Producer Cartels** James Gleckler and Luther Tweeten
1993 93-9	**Wheat Cleaning and Its Effect on U.S. Wheat Exports** Stephen Haley, Susan Leetmaa, and Alan Webb
1993 93-8	**Evaluation of External Market Effects and Government Intervention in Malaysia's Agricultural Sector: A Computable General Equilibrium Framework** Kim Leng Yeah, John Yanagida, and Hiroshi Yamauchi
1993 93-7	**Domestic and Trade Policy for Central and East European Agriculture** Larry Karp and Stefanou Spiro
1993 93-6	**Phasing In and Phasing Out Protectionism with Costly Adjustment of Labour** Larry Karp and Thierry Paul
1993 93-5	**Measuring Protection in Agriculture: The Producer Subsidy Equivalent Revisited** William Masters
1993 93-4	**International Trade in Forest Products: An Overview** G. David Puttock, Marc Sabourin, and Karl D. Meilke
1993 93-3	**Environmental and Agricultural Policy Linkages in the European Community: The Nitrate Problem and Cap Reform** Stephen Haley
1993 93-2	**Testing Dynamic Specification for Import Demand Models: The Case of Cotton** Carlos Arnade, Daniel Pick, and Utpal Vasavada
1993 93-1	**Agricultural and Trade Deregulation in New Zealand: Lessons for Europe and the CAP** Jim Gibson, Jimmye Hillman, Timothy Josling, Ralph Lattimore, and Dorothy Stumme
1992 92-10	**MacSharry or Dunkel: Which Plan Reforms the CAP?** Tim Josling and Stefan Tangermann

ANNEX TABLE A-8 (CONTINUED)

Year/No.	Working Paper
1992 92-9	**The Evolving Farm Structure in Eastern Germany** Philip Paarlberg
1992 92-8	**Shifts in Eastern German Production Structure Under Market Forces** Philip Paarlberg
1992 92-7	**The Treatment of National Agricultural Policies in Free Trade Areas** Tim Josling
1992 92-6	**Implementing a New Trade Paradigm: Opportunities for Agricultural Trade Regionalism in the Pacific Rim** Luther Tweeten, Chin-Zen Lin, James Gleckler, and Norman Rask
1992 92-5	**Agricultural Trade Liberalization: Implications for Productive Factors in the U.S.** Peter Liapis and Mathew Shane
1992 92-4	**A Critique of Computable General Equilibrium Models for Trade Policy Analysis** Tim Hazledine
1992 92-3	**Whither European Community Common Agricultural Policy, MacSharried or Dunkeled in the GATT?** Vernon Roningen
1992 92-2	**Assessing Model Assumptions in Trade Liberalization Modeling: An Application to SWOPSIM** Michael Herlihy, Stephen Haley, and Brian Johnston
1992 92-1	**Estimated Impacts of a Potential U.S.-Mexico Preferential Trading Agreement for the Agricultural Sector** Barry Krissoff, Liana Neff, and Jerry Sharples
1991 91-10	**A Simple Measure for Agricultural Trade Distortion** Vernon Roningen and Praveen M. Dixit
1991 91-9	**Partial Report of World Rice Trade: Implications for the U.S. Rice Sector and Agribusiness** Stephen Haley
1991 91-8	**Agricultural Policymaking in Germany: Implications for the German Position in Multilateral Trade Negotiations** Stefan Tangermann and David Kelch
1991 91-7	**European Economic Integration and the Consequences for U.S. Agriculture** James Gleckler, Bob Koopman, and Luther Tweeten
1991 91-6	**The Export Enhancement Program: Prospects Under the Food, Agriculture, Conservation, and Trade Act of 1990** Stephen Haley
1991 91-5	**Global Grain Stocks and World Market Stability Revisited** Steve Martinez and Jerry Sharples

ANNEX TABLE A-8 (CONTINUED)

Year/No.	Working Paper
1991 91-4	**The Impact of Real Exchange Rate Misalignment and Instability on Macroeconomic Performance in Sub-Saharan Africa** Dhaneshwar Ghura and Thomas J. Grennes
1991 91-3	**U.S. Export Subsidies in Wheat: Strategic Trade Policy or an Expensive Beggar-My-Neighbor Tactic?** Giovanni Anania, Mary Bohman, and Colin Carter
1991 91-2	**Economic Impacts of the U.S. Honey Support Program on the Canadian Honey Trade and Producer Prices** Barry Prentice and Kwame Darko
1991 91-1	**Report of the Task Fore on Reviving the GATT Negotiations in Agriculture** (Trade Update Notes) Maury Bredahl, Chair
1990 90-6	**Agricultural Policies and the GATT: Reconciling Protection, Support and Distortion** Harry de Gorter and David R. Harvey
1990 90-5	**Politically Acceptable Trade Compromises Between the EC and the US: A Game Theory Approach** Martin Johnson, Louis Mahe, and Terry L. Roe
1990 90-4	**Uncertainty, Price Stabilization and Welfare** E. Kwan Choi and Stanley Johnson
1990 90-3	**Report of the Task Force on The Comprehensive Proposals for Negotiations in Agriculture** Tim Josling, Chair
1990 90-2	**Optimal Trade Policies for a Developing Country Under Uncertainty** E. Kwan Choi and Harvey E. Lapan
1990 90-1	**Background Papers for Report of the Task Force on The Aggregate Measure of Support: Potential Use by GATT for Agriculture** G.E. Rossmiller, Chair
1989 89-9	**Agricultural Policy Adjustments in East Asia: The Korean Rice Economy** Yong Dae Kwon and Hiroshi Yamauchi
1989 89-8	**Report of the Task Force on The Aggregate Measure of Support: Potential Use by GATT for Agriculture** G.E. Rossmiller, Chair
1989 89-7	**Report of the Task Force on Reinstrumentation of Agricultural Policies** Stephen Magiera, Chair
1989 89-6	**Report of the Task Force on Tariffication and Rebalancing** Tim Josling, Chair
1989 89-5	**The Welfare Effects of Imperfect Harmonization of Trade and Industrial Policy** K. Gastios and Larry Karp

ANNEX TABLE A-8 (CONTINUED)

Year/No.	Working Paper
1989 89-4	**Export Supply and Import Demand Elasticities in the Japanese Textile Industry: A Production Theory Approach** Daniel Pick and Timothy Park
1989 89-3	**Does Arbitraging Matter? Spatial Trade Models and Discriminatory Trade Policies** Giovanni Anania and Alex McCalla
1989 89-2	**Report of ESCOP Subcommittee on Domestic and International Markets and Policy** Alex McCalla, Chair
1989 89-1	**Who Determines Farm Programs? Agribusiness and the Making of Farm Policy** Julian Alston, Colin Carter, and M. Wohlgenant
1988 88-7	**Targeted and Global Export Subsidies and Welfare Impacts** Mary Bohman, Colin Carter, and Jeffrey Dortman
1988 88-6	**A Comparison of Tariffs and Quotas in a Strategic Setting** Larry Karp
1988 88-5	**Market Effects of a In-Kind Subsidies** James P. Houck
1988 88-4	**Effect of Sugar Price Policy on U.S. Imports of Processed Sugar-Containing Foods** Cathy Jabara
1988 88-3	**Determinants of U.S. Wheat Producer Support Price: A Time Series Analysis** Harald von Witzke
1988 88-2	**Two-Stage Agricultural Import Demand Models Theory and Applications** Colin Carter, Richard Green, and Daniel Pick
1988 88-1	**Developing Country Agriculture in the Uruguay Round: What the North Might Miss** Carl Mabbs-Zeno and Nicole Ballenger
1987 87-9	**Agricultural Trade Liberalization in a Multi-Sector World Model** Barry Krissoff and Nicole Ballenger
1987 87-8	**Grain Markets and the United States: Trade Wars, Export Subsidies, and Price Rivalry** James P. Houck
1987 87-7	**Japanese Beef Policy and GATT Negotiations: An Analysis of Reducing Assistance for Beef Producers** Thomas Wahl, Dermot Hayes, and Gary Williams
1987 87-6	**An Analysis of Canadian Demand for Imported Tomatoes: One Market or Many?** Kwame Darko-Mensah and Barry Prentice
1987 87-5	**Deficits and Agriculture: An Alternative Parable** Richard Just and Robert Chambers

ANNEX TABLE A-8 (CONTINUED)

Year/No.	Working Paper
1987 87-4	**The Effect of Protection and Exchange Rate Policies on Agricultural Trade: Implications for Argentina, Brazil, and Mexico** Barry Krissoff and Nicole Ballenger
1987 87-3	**International Negotiations on Farm Support Levels: The Role of PSEs** Stefan Tangermann, Tim Josling, and Scott Pearson
1987 87-2	**Comparative Advantage, Competitive Advantage, and U.S. Agricultural Trade** Kelley White
1987 87-1	**Estimating Gains from Less Distorted Agricultural Trade** Jerry Sharples
1986 86-5	**Optimum Tariffs in a Distorted Economy: An Application to Agriculture** Larry Karp and John Beghin
1986 86-4	**Targeted Agricultural Export Subsidies and Social Welfare** Philip Abbott, Philip Paarlberg, and Jerry Sharples
1986 86-3	**An Econometric Model of the European Economic Community's Wheat Market** Harry de Gorter and Karl Meilke
1986 86-2	**Risk Aversion in a Dynamic Trading Game** Larry Karp
1986 86-1	**Basic Economics of an Export Bonus Scheme** James P. Houck
1985 85-1	**Do Macroeconomic Variables Affect the Agricultural Trade Sector? An Elasticities Analysis** Alex McCalla and Daniel Pick

CHAPTER 9

Status Report on IATRC: Progress on Recommendations of the 2010 Futures Steering Group

MIKE GIFFORD
AGRICULTURE AND AGRI-FOOD CANADA

STEFAN TANGERMANN
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INTRODUCTION

The authors listed above were asked by the Chair of the IATRC to be a Futures Steering Group to offer the Executive Committee and the Membership "…suggestions on the future role of the Consortium." The group should "…comment in particular on four aspects of the work of the IATRC as it prepares for the next stage of its development." These are:

- What should be the scope (subject matter), geographical focus and membership goals of the Consortium that will enable it to remain useful, relevant and productive?
- Are the objectives currently identified for the Consortium appropriate, and how do these objectives relate to other institutions that serve the profession?
- Does the current range of activities and publications of the Consortium provide an appropriate vehicle for the attainment of the objectives and allow for adequate outreach to policy-makers and the public?
- How might the institutional base of support for and participation in the Consortium need to change to reflect any new directions that the Consortium might take?"

We were asked to present our thoughts at the IATRC Annual Meeting December 5-7, 2004.

This document presents our thoughts to you in four parts: 1.) The process followed; 2.) Findings in terms of strengths and shortcomings of the IATRC; 3.) Our recommendations regarding future objectives, focus, scope and membership goals; and 4.) Our recommendations regarding IATRC activities, organization and operating procedures.

THE PROCESS FOLLOWED

We received our charge from the IATRC Executive Committee in Philadelphia in June. We used that occasion for our first meeting. We decided we should seek input broadly by asking members four simple questions through an email survey. These questions were: 1.) What has been your involvement with IATRC? 2.) How satisfied have you been? 3.) What recommendations do you have for minor or significant changes? and, 4.) How have you used the work of the IATRC? We decided to seek input from current members as well as participants in the Capri meeting who were not members. From members we had 27 responses (out of about 190 possible). From the Capri non-member participants we had 22 responses. We also interviewed as many members individually as possible. In addition we interviewed policy makers in Brussels, Geneva, Washington and Ottawa. Based on these inputs, and our own analysis, we drafted an issues and options paper which we shared with the membership in October, also through an email survey. We had 22 responses to this second questionnaire, the results of which are reflected in our recommendations. One of our members spent two days reviewing archives including past minutes, annual meeting and symposium programs, previous planning efforts, e.g. the first blue book produced in 1985, and budgets. We also reviewed the utilization of IATRC publications through AgEcon Search. We met by conference call once per month (average cost, less than 30$ per hour). In sum we believe we have tried to get as much input as possible before reaching the conclusions that follow.

FINDINGS: STRENGTHS AND SHORTFALLS

Overall the IATRC is judged to be a valuable organization, and there is strong support for its continuation. It is valued as a unique institution where people with like interests from diverse organizations are able to interact professionally. Its publications, particularly Commissioned papers, are valued by policy makers and academics but it was noted forcefully that one has not been published since 2001.

Nevertheless, as with all organizations, there are concerns about recent signs of waning interest. Concerns start with declining member participation. Figure 1 charts membership from the original 13 in 1980 to about 190 in 2004 and compares it to attendance at annual meetings. Growth in attendance kept pace (and sometimes exceeded) growth in membership until the late 1980's, when membership grew more rapidly than attendance. After 1998 attendance dropped substantially so that in 2003, annual meeting attendance was 54 compared to the peaks of 133 in 1994 and 130 in 1998. Figure 2 plots attendance at Annual Symposia. Except for peaks of nearly 140 in 1988 and 1998, attendance was fairly stable between 80 and 100 from 1987 through 1999. Starting in 2000 attendance has declined so that, with exception of Capri (206) in 2003, attendance has been in the low 60's for 2001-2004.

Reasons for the declines are probably the cumulative effects of several factors – failure to maintain interest after the Seattle failure and before Doha, concerns that the IATRC was too narrowly focused on WTO, expressions from several members that there was no new blood (same old guys talk all the time), the Symposia and Theme Days were no longer addressing cutting edge issues, tighter travel budgets and no doubt 9/11. Further, there were major concerns expressed about the institutional structure of IATRC, including issues of representation and decision making.

FIGURE 1. MEMBERSHIP MEETING ATTENDANCE/TOTAL IATRC MEMBERSHIP, 1980-2003

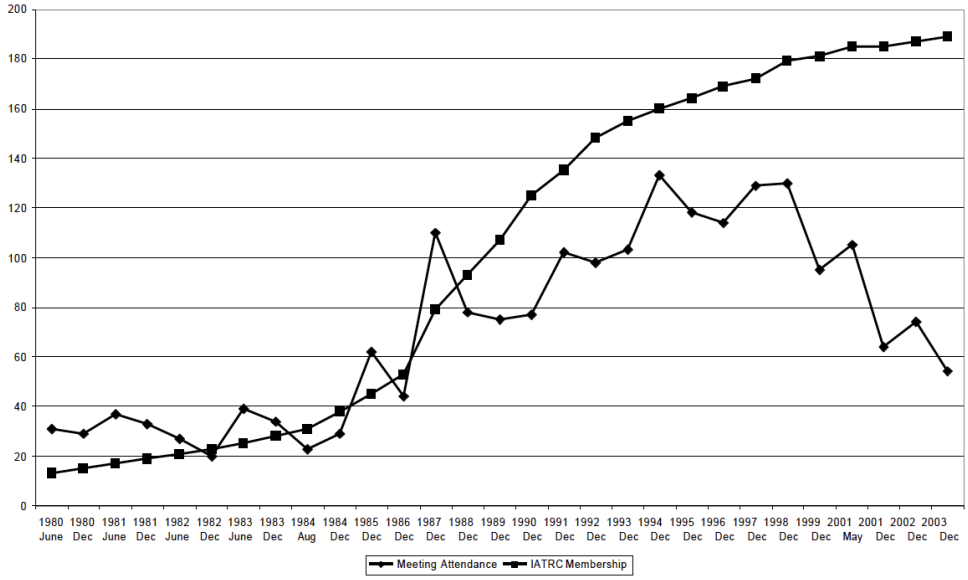
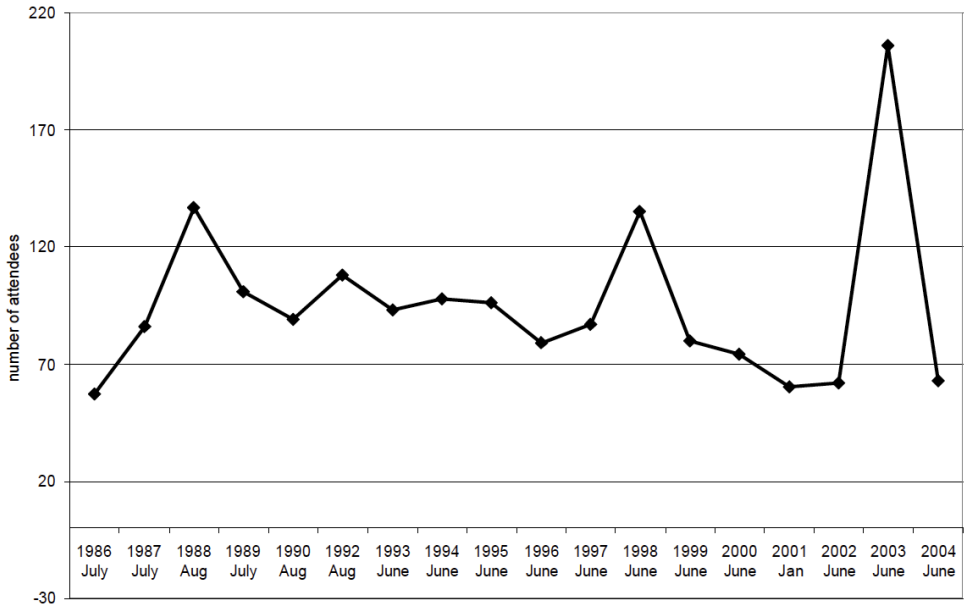


FIGURE 2. ATTENDANCE AT ANNUAL SYMPOSIA, 1986-2004



Products of the IATRC are also less visible. Through 1997, The IATRC published 11 books, mostly proceedings of Symposia (we note that the Proceedings of the Capri meeting have just been published identifying IATRC as a sponsor). 18 Commissioned Papers were published through 2001(none since) and 19 others papers or collections of papers were published through 2002. Bottom line –for over the last two years the IATRC has not been visible. There is also the Working Paper series which since initiated in 1985, has included 112 papers, available electronically since 2001. In

the 1980's they averaged 6 per year, in the 1990's they averaged 7 per year but in the 2000's the average has fallen to 2 per year, except for 2003, when there were 10.

However an analysis of "downloads" of IATRC publications suggests substantial and continued use. We sought analysis of utilization 1998 to 2003 with interesting results, presented in Table 1. One IATRC publication had over 3,300 downloads in 5 years (a lot, says the keeper of the University of Minnesota, AgEcon. Search), one Commissioned paper had 2,600 downloads, another 1,400 and the remainder (13-17) averaged over 700. Three working papers had over 2,000 downloads, eight more than 1000, seven more than 500, out of a total of 34 working papers during the period. The total number of downloads of 74 IATRC publications over the period was 41,432. The numbers indicate that utilization is sustained with the number of downloads at 6,170 (1989/90), 13,438 (2000), 7,595 (2001), 7,639 (2002), and 6,590 (2003). Our results were collected in September 2004. All 74 papers had been downloaded in 2004, and 73 had been downloaded in August or September. Bottom line- it is clear that many people are accessing IATRC publications when they are available. Therefore the decline in publications is particularly obvious to our customers. One final comment is needed on products. Our interviews in Washington clearly identified IATRC Commissioned Papers Nos. 1 -18 as containing valuable independent analysis which is respected.

TABLE 1. IATRC PAPER DOWNLOADS

Papers	Downloads
Total papers listed	74
Total number of papers downloaded in August and September, 2004	73
Maximum download individual paper	> 3,300
Commissioned papers	
Maximum download	> 2,600
Second highest downloads	> 1,400
Papers 13–17 (Ag in the WTO series)	> 700
Working papers	
3 papers	> 2,000
8 papers	> 1,000
7 papers	> 500
Downloads by year	
1998–1999	6,170
2000	13,438
2001	7,595
2002	7,639
2003	6,590
Total	**41,432**

We also looked at budgets since 1988/89. Income from regular sponsors –ERS and FAS was $37,500 through 1990. There after Agriculture and Agri-Food Canada became an institutional supporter and regular income has stabilized at

slightly under $53,000 per year. Regular income is shown in Figure 3. Expenditures are shown in Figures 4 & 5. Travel grants to members were discontinued in 1992/93. Theme Day expenses have grown a low of $5,000 to recent average costs of about $10,000. Expenditures on Commissioned Papers have been sporadic but trending downward. Printing costs were steadily escalating until the Working Papers went electronic in 2001. Costs of the Executive Committee have increased modestly from less than $8,000 per year to around $11,000. The most notable increase in costs has been in administrative costs which have increased four fold. Clearly, with a consistent nominal budget and increased administrative costs, expenditures on programs, Commissioned Papers, symposia and theme day programs have decreased. There is in our judgment little to quibble with in the expenditure pattern. The Executive Committee has managed to keep the program going with income, static in nominal terms while expenses such as administration, travel and printing costs were being driven up by inflation. Nevertheless it seems clear that to sustain, in real terms, a full program, increased income will be necessary. Thus bringing European institutional support as is recommended later is therefore absolutely imperative.

FIGURE 3. IATRC INCOME BY FUNDING AGENCIES

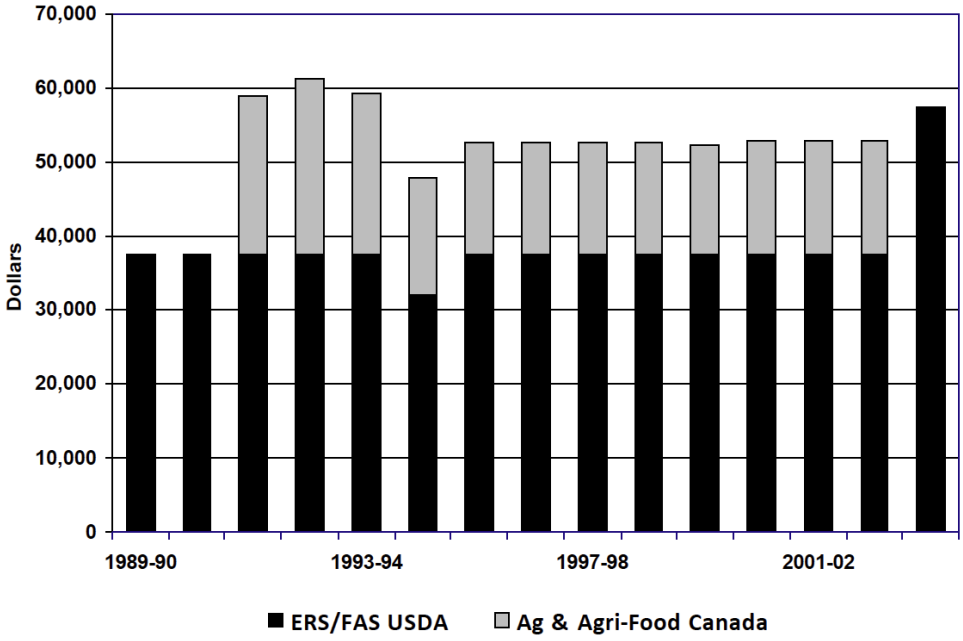


FIGURE 4. IATRC EXPENDITURES BY CATEGORY

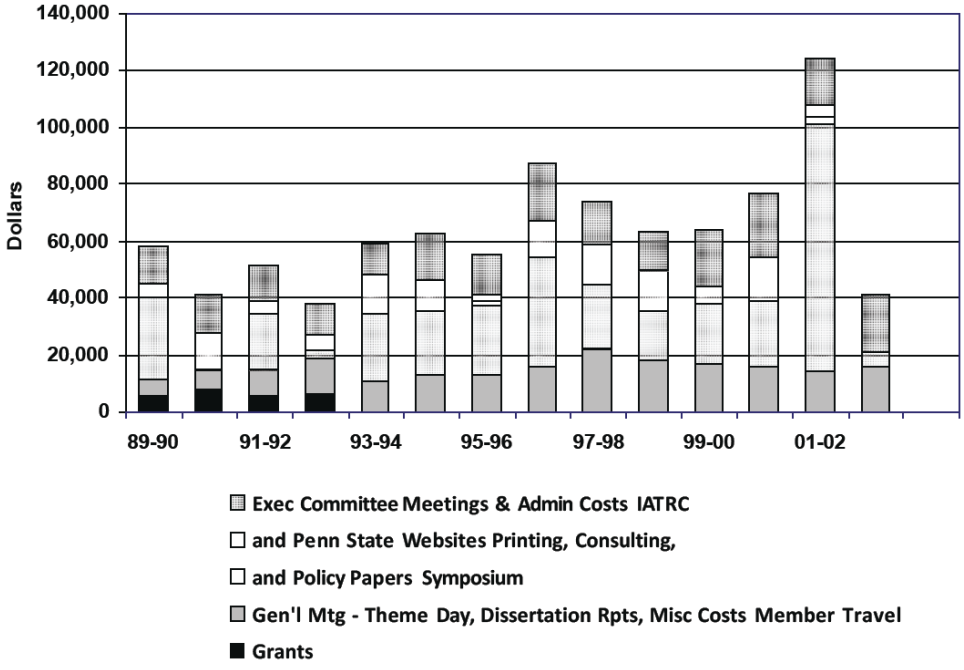
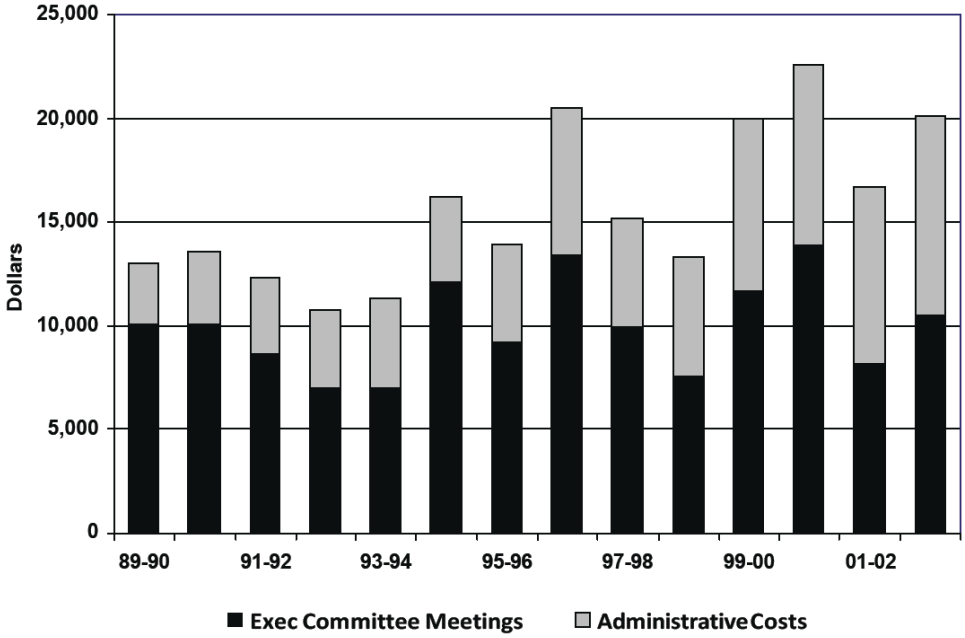


FIGURE 5. IATRC EXPENDITURES ON ADMINISTRATIVE COSTS



Now some comments on the organization and management of the IATRC. In our interviews, and in questionnaire responses, there is a growing apparent restiveness about how things are operating. There is an expressed concern that members have fewer opportunities for input. Historically, a rolling 5 year plan was proposed by the Executive Commit-

tee and discussed at the Annual Meeting. Starting in the late 1990's and carrying through to the present, there is a feeling that there is less opportunity for input and that in recent meetings future program plans were either "a seemingly random collection of 14 or 17 topics thrown out but not discussed" or "in at least one recent meeting no discussion of future programs at all". The failure to have sustained a program of Commissioned Papers is viewed in part a problem of members not being able to propose ideas and there being no encouragement for group efforts as there had been in the past. Some members are concerned about the way the Executive Committee is chosen. Some members are doubly enfranchised while others are disenfranchised entirely. Members from Sponsoring Institutions have no input into who sits on the Committee. To many this is seen as less than democratic participation. The conditions of membership are seen as out moded and needing revision.

But these are all issues that can be fixed, and if they were, it would make many members happier with an organization they greatly appreciate. This is clear from the responses to our options questionnaire. On the big issues most people want to make a good model work better, not radically change it. There is comfort in a largely North Atlantic/OECD membership but discomfort with an agenda limited to Developed Country issues. There is little call for expanding membership as an end in itself. However efforts to broaden European, Latin American, Asian and Australian/New Zealand membership would be welcomed. All believe that IATRC should be attractive and welcoming to new younger members and should in particular move to increase the diversity of membership. Most members do not want to affiliate with any professional organization but would welcome joint meetings periodically with international organizations. Finally, there is little sentiment for remaking the IATRC into a global capacity building organization with a focus on expanding substantially into developing countries. On the other hand, participation by individual Developing country agricultural trade policy analysts would be welcome.

Thus in the recommendations that follow we make proposals to make an appreciated organization more effective. We don't propose radical changes. As the saying goes, "if it ain't broke don't fix it, just remodel it to make it better."

RECOMMENDATIONS REGARDING FUTURE OBJECTIVES, FOCUS, SCOPE AND MEMBERSHIP GOALS OF THE IATRC

Objectives and Focus

At a fundamental level, the objectives of the IATRC can be outward and/or inward oriented. An outward orientation might include objectives such as advocacy for trade liberalization, capacity building for researchers and negotiators from developing countries, or consultancy activities for all sorts of entities beyond the Consortium's funding organizations. An inward orientation would focus on interaction between, and capacity building for, the IATRC membership and services the Consortium can provide to its funding organizations.

It is recommended that the IATRC continues to focus primarily on its membership and its funding organizations. From questionnaire responses its appears that the membership greatly values the role the IATRC plays as a platform for exchange among members, and in terms of building their own capacity in trade matters. The Consortium should, therefore, continue to see itself, and to behave, very much as a member-driven organization based on active participation by and contributions from its members. In order to provide the capacity-building service effectively, it is also recommended that the IATRC continues to provide ample opportunity for exchange of research results and ideas between its members, and revives the tradition of inviting leading researchers from areas such as general economics and law to the Theme Days of the annual meetings, to bring the IATRC membership up to date on cutting edge research in these fields. It is also recommended that the funding organizations play a more active role in communicating to the IATRC

membership their information needs, and make actual use of the opportunity to request consultancy services from IATRC members.

In addition to this primary focus on its membership and funding organizations, the IATRC should also continue to engage in activities that have a certain well defined degree of outreach orientation, in particular the annual Symposium and the Commissioned Paper series.

Attempts at engaging in major outreach activities, such as capacity building for researchers and negotiators from developing countries, would go beyond the organizational and financial capacity of the IATRC.

In other words, it is recommended that the IATRC continues to pursue its objectives as laid down in the 'Blue Book', i.e.

- "promote and stimulate improvement in the quality and relevance of international agricultural trade research and policy analysis;
- encourage in collaborative research among members of the Consortium;
- facilitate interaction among researchers and analysts in several countries, in universities and in government engaged in and/or interested in trade research; and
- improve the general understanding of international trade and trade policy issues among the public."

The primary audience for the work of the Consortium is trade policy researchers and analysts, and the users of trade research.

Scope and Subject Matter

In terms of subject matter, it is recommended that the IATRC continues to focus on analytical and policy-related issues in the area of international agricultural trade. As far as policy issues are concerned, the focus should be on unilateral, regional, multilateral and global trade matters, including activities of private agents. WTO issues remain of interest, but should not be given excessive weight. Regarding analytical issues, all research approaches that can help to better understand such policy issues should be embraced, with an emphasis on cutting-edge methodological developments. Given the growing importance of developing countries in global matters, the IATRC should not limit its focus to issues directly relevant in industrialized countries, but should pay sufficient attention to issues concerning to trade with developing countries.

Membership Goals

Regarding the future membership goals of the IATRC, various options have been considered. One of them is to align the IATRC closely with, or even make it part of, one of the existing professional associations, such as the AAEA or the IAAE. This option is not recommended because it would mean that the IATRC loses its unique character and no longer exploits its comparative advantage in bringing together researchers and representatives of government agencies to discuss agricultural trade issues. However, it is recommended that the IATRC organizes joint meetings with the IAAE when they meet every third year.

Another option considered was to engage in a major effort to expand membership of the IATRC significantly for it to become a much larger organization with global membership, including in particular a much larger number of members from developing countries. This option is not recommended as questionnaire responses from the current mem-

bership appear to indicate that there is a preference for maintaining the IATRC as a group with manageable size in which members can continue to be in close contact with each other. This is not to say, however, that the IATRC should not welcome those candidates for membership from developing countries who show a strong interest in, and commitment to, contributing to its activities. The IATRC would, though, remain one group and would not establish regional associations.

The recommended option, then, is to fundamentally maintain the current character of the membership, but to make a serious effort to include more members from Europe, Latin America and Oceania, along with securing institutional financial support from Europe and Oceania. Efforts should also be made to attract more young members to the IATRC, for example through Consortium activities related to up-to-date methodological developments.

RECOMMENDATIONS REGARDING IATRC ACTIVITIES, ORGANIZATION AND OPERATING PROCEDURES

Activities

MEETINGS AND LINKAGES

We recommend keeping the distinction between the Annual Members meeting and the Annual Public Symposium. The Symposium should be the main vehicle for IATRC interaction with policy makers, non members and other professional disciplines whereas the annual meetings should focus more on the interests of members. To the maximum extent feasible, Symposium meetings should be held in conjunction with other relevant international meetings. In particular, every effort should be made to schedule symposium meetings back to back with the tri-annual meetings of the International Association of Agricultural Economists (IAAE) in order to help attract a wider international membership. Other possible scheduling relationships could include the International Food and Agricultural Trade Policy Council (IPC), as well as regional agricultural economic professional associations.

The IATRC should remain an independent organization, even though from time to time it may work closely with other organizations having an interest in international agricultural trade research, policy and analysis.

COMMISSIONED PAPERS AND WORKING PAPERS

Together with its meetings, the Commissioned Papers and the Working Papers are the visible products which establish the value of the IATRC to researchers and policy makers.

Commissioned Papers should, in general, be prepared on a collaborative rather than a single author basis. A collaborative approach will encourage greater interaction and involvement of the membership. Authors should receive travel expenses for one meeting. Electronic and telephonic communication should be used to the maximum extent.

Commissioned Paper topics should normally originate from the Program Committee(recommended below) and be agreed upon in open discussions at the Annual Meeting, although this should not prevent the Executive Committee from initiating projects on an exceptional basis.

Organization

MEMBERSHIP REQUIREMENTS

We recommend eliminating the requirement for a letter of support from the member's institution and the provision that states that membership will lapse if two consecutive general meetings are missed.

PROGRAM COMMITTEE

We recommend that the IATRC establish a Program Committee consisting of three or four members elected at the annual meeting. All members would be eligible to seek election. The term of office could be for three years and incumbents would not be eligible for re-election. This Committee would be responsible for recommending a three year rolling program of work for the IATRC including proposing meeting topics for Theme Days and Public Symposia and topics for Commissioned Papers. The proposals would be for discussion and decision at Annual Meetings. The Committee would elect its own Chair. Members would be elected to staggered terms to maintain continuity.

EXECUTIVE COMMITTEE

The Executive Committee should be restructured as follows: a Chairman elected at large for a maximum single term of three years; the four members of the Program Committee: and a representative from each of the funding organizations (currently ERS, FAS and AAFC, but it is recommended that the European Commission become a member as well). The funding organizations would be responsible for designating their representative and term limits for their tenure should be established.

Term limits for members of the Executive Committee are regarded as essential in order to encourage renewal and diversity.

Operating Procedures

EXPENSES

Elected members of the Executive Committee would have their travel expenses to the annual meeting paid. Only the Chairman would also have travel expenses paid to Symposium meetings. Funding organizations would be expected to pay travel expenses for their representatives. Telephonic meetings of the Executive Committee should be encouraged.

ELECTIONS

All members should be eligible to vote for all elected positions. Nominations should be developed prior to the Annual Meeting so that members unable to attend could vote in absentia.

While we were not asked to propose changes in organization we felt that there was sufficient concern expressed by members about these issues that we have included them in our recommendations for your consideration.

STATUS REPORT ON IATRC

PROGRESS ON RECOMMENDATIONS OF THE FUTURES STEERING GROUP

I. INTRODUCTION

Tim Josling, Chair of the International Agricultural Trade Consortium (IATRC), convened a Futures Steering Group (FSG) in 2004 to provide "suggestions on the future role of the Consortium . . . ", in response to a request from the Consortium's core funding agencies. The FSG – Mike Gifford, Joe Glauber, Stefan Tangermann, Linda Young and Alex McCalla (Chair) – systematically solicited input from IATRC members as well as policymakers, and summarized its findings and recommendations in a report submitted to the Executive Committee in December of that year (the "McCalla report").

This report, prepared by the 2010 Executive Committee of the IATRC, reviews progress made toward achieving the objectives outlined in the FSG's report since it was submitted six years ago. It draws on information from the IATRC website, the most recent edition of the Blue Book,[1] and internal records in reviewing accomplishments related to seven key aspects of the Consortium that were highlighted in the McCalla Report:

- membership and participation;
- scope, focus and activities;
- publications;
- funding;
- expenditures;
- operational procedures;
- governance.

II. MEMBERSHIP AND PARTICIPATION

The McCalla Report recommended actions to reverse declining meeting attendance. The Report also notes that while "[t] there is little call for expanding membership as an end in itself" (p.7), there should be "a serious effort to include more members from Europe, Latin America and Oceania" (p. 9).

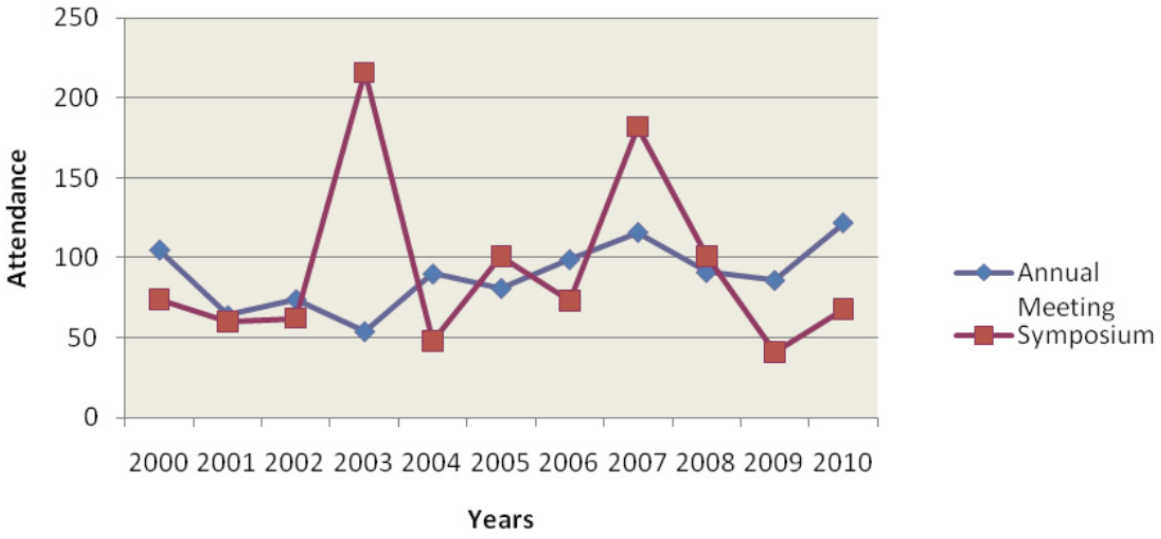
Over the period 2006-2010, attendance at the IATRC's annual General Meeting and annual Public Symposium averaged 99 and 94 registered attendees respectively, compared to average attendance of 77 and 61 for the 2001-2004 period (excluding the Public Symposium in Capri in 2003). As shown in Figure 1, attendance at the annual General Meeting *has steadily recovered* since the low point in 2003. Over the same period, there has been no discernable trend in attendance at the annual Public Symposia, with substantial variation from meeting to meeting. There was above average attendance at the Seville (2005), Beijing (2007), and Seoul (2008) symposia.

Increasing attendance can be attributed in part to a grant from the William and Flora Hewlett Foundation (described below) which has funded the participation of 12 professionals from developing countries and their mentors in the

1 The most recent edition of the so-called Blue Book, which outlines the objectives, organization, operations and origins of the Consortium, was published in April, 2010.

activities of the Consortium since 2006. Additionally, the success of the newly instituted Program Sub-Committee in reviving the tradition of inviting leading researchers from general economics and law to the Theme Days, as recommended in the McCalla Report, is also thought to be an important factor in the sizable increase in the number attending the General Meetings. Attendance at Public Symposia, which are nearly always organized with one or more co-sponsors, is influenced by factors outside the direct control of IATRC. Generally, larger budgets support a longer program, and consequently involve a larger number of participants.

FIGURE 1. MEETING ATTENDANCE 2000–2010



In terms of membership, *32 new members have joined* since 2004 as of June 2010. Figure 2A shows an increasing percentage of members from Europe in recent years, although most newcomers are from North America, as in the past. The number of new members coming from Asia, Latin America and Oceania remains small. Total membership in December 2010 stands at 217, although this number is expected to decline when the rule adopted in 2005 requiring attendance for at least one meeting over a six-year period to remain in good standing begins to take effect in 2011 (see point VIIIi below). This rule, endorsed by Members at the 2005 Business Meeting, is intended to ensure that the Consortium remains a "group with manageable size in which members can continue to be in close contact with each other" (McCalla Report, p.9)

FIGURE 2. COMPOSITION OF MEMBERS IN 2003

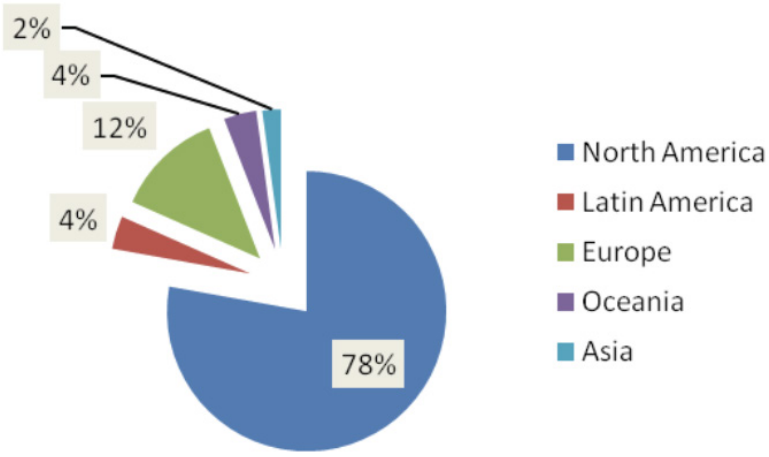
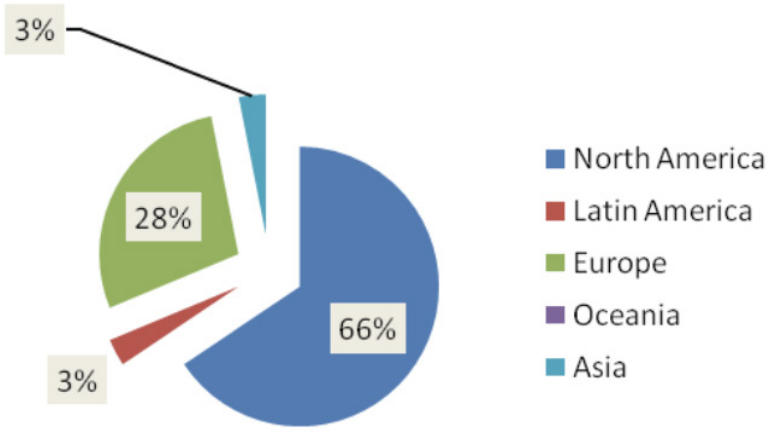


FIGURE 2A. COMPOSITION OF NEW MEMBERS JOINING BETWEEN 2004 AND 2010



III. SCOPE, FOCUS, AND ACTIVITIES

The McCalla Report made the following recommendations: ***Scope****—IATRC should continue to focus on interaction between, and capacity building for, the IATRC membership and services the Consortium can provide to its funding organizations (p. 8);* ***Focus****—IATRC should continue to be a member-driven organization that provides ample opportunity for exchange of research results and ideas between its members, and revive the tradition of inviting leading researchers from areas such as general economics and law to the Theme Days to keep members up to date on cutting edge research (p. 8);* ***Activities****—The distinction between the Annual Members Meeting and Annual Public Symposium (an outreach activity, along with Commissioned Papers) should be kept, and efforts should be made to schedule the latter back-to-back with the tri-annual meetings of the International Association of Agricultural Economists (IAAE) (p. 10).*

The Executive Committee *concurred with the McCalla Report's overarching vision* for the Consortium. The Appendix to this report presents the full chronological list of Annual Theme Days, Annual Public Symposia, and other activities over the 2005-2010 period that were undertaken in pursuit of this vision. In general:

i) The Program Committee proposed diverse and policy relevant topics for **Theme Days**, with input and in-kind organizational support from IATRC members. Organizing committees recruited outstanding scholars from the areas of general economics and law e.g., Andrew Bernard (Dartmouth), George Borjas (Harvard), Brent Sohngen (Ohio State), Robert Howse (New York U.), and Natalie Chen (Warwick) as Theme Day speakers.

ii) **Public symposia** have addressed a wide range of topics of importance to the international trade system, including WTO jurisprudence; China's emerging role in international markets; the effects of internal and international movements of rural labor on trade and trade policy; private and public standards; and food price inflation and trade. Support for the symposia has been widespread. Co-sponsoring institutions have included 11 universities and government agencies in 5 host countries, as well as 8 North American foundations, universities, and research centers. [The IATRC website features the complete list of co-sponsors for each symposium.] The symposia have also yielded a journal special issue (Bonn, 2006), an e-proceedings (Beijing, 2007), and an edited book (Seoul, 2008).

iii) **Other Activities** have been notable for the extensive involvement of IATRC members in organization and participation, and the broader visibility these activities have provided IATRC in other professional settings. Two activities were organized in conjunction with meetings of IAAE, as the McCalla Report recommended. Also, the increasing involvement of IATRC in track sessions at the AAEA meetings has been given strong encouragement from officers of that association who are also members of IATRC. The Consortium also organized one successful outreach activity, a policy roundtable attended by 50 trade diplomats, at its Annual Meeting in Washington DC in 2008. In 2011, an IATRC pre-conference workshop is being organized as part of the EAAE Congress in Zurich.

iv) In view of the fact that the McCalla Report noted that a major outreach activity would go beyond the organizational and financial capacity of the IATRC, the Executive Committee decided to submit a proposal to the **Hewlett Foundation** to support the participation of a select group of 12 developing country researchers in the activities of the Consortium. This met with success. The 3-year, $650,000 grant supported the first capacity building initiative ever undertaken by IATRC. The grant covered the costs of a separate program administrator so that IATRC's administrative director did not have to manage this initiative.

IV. PUBLICATIONS

The McCalla Report noted that there had been a decline in the number of IATRC publications in the period leading up to 2004, and that despite IATRC Commissioned Papers being valued by policy makers and academics "one has not been published since 2001" (p.2). The Report also noted that "an analysis of 'downloads' of IATRC publications suggests substantial and continued use." (p. 4)

Table 1 provides a complete summary of all IATRC publications over the past decade. Since the McCalla Report, the Consortium has published 5 Trade Issues Papers (replacing the Commissioned Paper series), 3 books, and 2 proceedings. In addition to disseminating IATRC research through new publications, considerable effort was devoted to overhauling the website so that the entire 30 year archive of Consortium publications could be posted online, along with papers from recent General Meetings and Symposia. These efforts yielded dramatic results – the number of average monthly downloads of IATRC publications has increased by more than 85 percent since on-line availability began in 1999, with the most substantial rate of increase occurring over the last two years when the archive was posted online.

The number of Working Papers continues to dwindle, falling by 50 percent from the 1999-2003 to 2004-08 period. There have been just 2 Working Papers since 2009.

TABLE 1. PUBLICATION SUMMARY 1999–OCT 2010

	1999–2003	2004–2008	2009–Oct 2010	Total
Books Published from Proceedings	2	2	1	5
Other Publications				
Commissioned Papers	6	—	—	6
Proceedings Issues	2	1	1	4
Policy Briefs	—	—	5	5
Trade Issues Papers	—	5	—	5
Working Papers	25	12	2	39
Number of Downloads				
Commissioned Papers			1,668	
Proceedings Issues			13,673	
Policy Briefs			151	
Trade Issues Papers			613	
Working Papers			12,231	
Total Downloads	41,432	46,144	28,336	
Average Downloads per Month	691	769	1288	

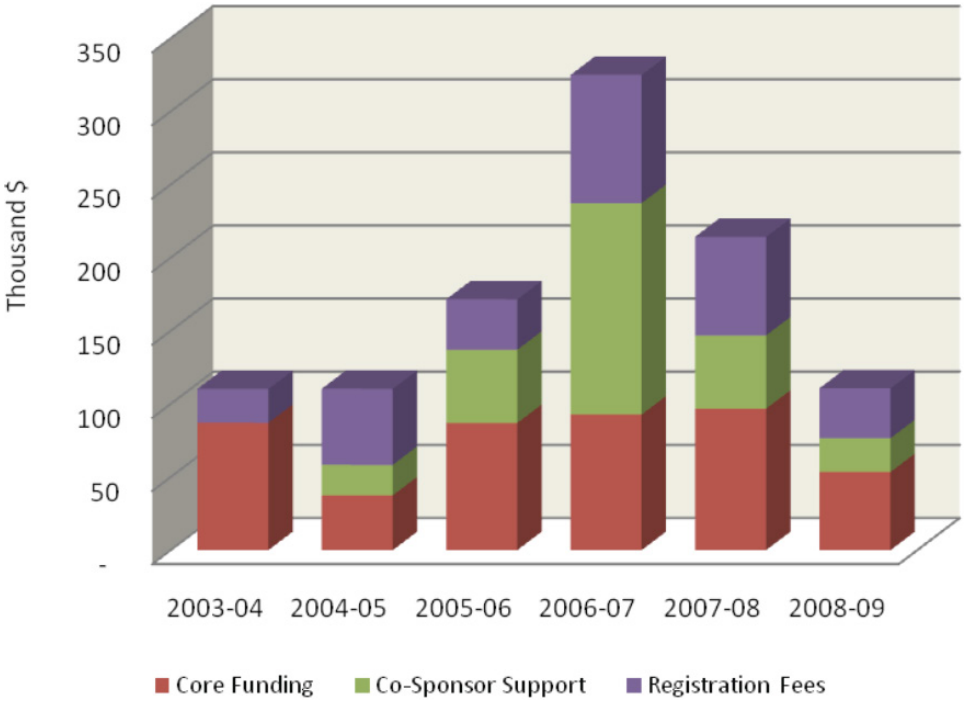
V. FUNDING

The McCalla Report strongly recommended securing institutional support from Europe and Oceania to bridge gaps between increasing expenditures (which the FSG "found little to quibble with," p. 5), and core funding which had remained constant in nominal terms in the years preceding the report.

Figure 3 shows the sources of funding support for IATRC for the fiscal years 2003-04 through 2008-09 (October 1 – September 30). Specifically, since fiscal year 2005-06, while total support has averaged $186,000 per fiscal year, it is clear that funding support from Co-Sponsors for the Annual Public Symposia has varied significantly, with a significant spike in fiscal year 2006-07, the period covering the Annual Public Symposium in Beijing.

i) **Core funding**: Since 2005-06, funding from the core funding institutions has averaged just over $57,000 per fiscal year (USDA/Economic Research Service, USDA/Foreign Agricultural Service, and Agriculture and Agri-Food Canada (AAFC)). However, over this period, while USDA funding has remained constant at $37,500 per fiscal year, there has been variation in the level of funding from AAFC. Importantly, in the fiscal year 2008-09, core funding stood at $53,420 – the amount at which regular income had stabilized in fiscal year 2002-03 and noted in the McCalla Report (p. 5).

FIGURE 3. SOURCES OF SUPPORT 2003–04 THROUGH 2008–09



ii) **European funding**: IATRC and its core funding institutions followed up on the recommendation to solicit support from Europe. The U.S. Secretary of Agriculture and Canada's Minister of Agriculture and Agri-Food wrote to the European Commissioner for Agriculture, while the Executive Committee contacted IATRC members in seven European countries to explore whether national governments would be interested in providing sustained financial support for the Consortium. These efforts were unsuccessful, but the European Commission re-iterated its support for providing financing for individual conferences and workshops, as it had in the past.

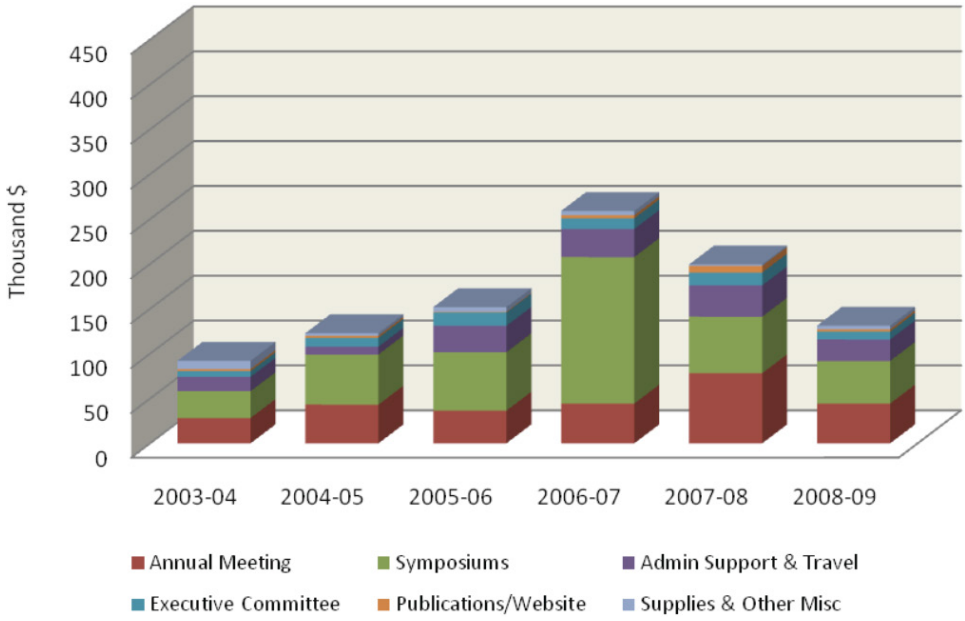
iii) **Funding for Annual Public Symposia**: The Executive Committee has been very successful in securing ad hoc support for Annual Public Symposia from a wide range of domestic and international institutions since 2004-05, which has been essential to sustain the level of IATRC program offerings. Co-sponsor support has ranged from $23 to $145 thousand over this period.

VI. EXPENDITURES

As noted above, the McCalla Report found "little to quibble with in the expenditure pattern" of the Consortium, although they did point to an increase in its administrative costs (p.5)

Expenditures for the period fiscal years 2003-04 through 2008-09 are shown in Figure 4. Most notably, administrative expenditures have substantially increased since the McCalla Report due to the fact that IATRC now provides salary support for its administrative director (see section on operational procedures below). A number of factors explain the trend and variation in other expenditure categories over time, including increasing honoraria for speakers, program length, equipment rental, and catering/hotel expenses in high-cost urban centers.

FIGURE 4. EXPENSES BY ACTIVITY 2003–04 THROUGH 2008–09



VII. OPERATIONAL PROCEDURES

In view of constant nominal funding from core funding institutions and increasing administrative costs over the 1989-90 – 2002-03 period, the McCalla Report proposed lowering costs by discontinuing the payment of travel expenses to Symposia for elected members of the Executive Committee, except for the Chair, and conducting more of the Consortium's business via conference calls.

The Executive Committee has made a number of changes related to the administration of the Consortium since 2005, based not only on the FSG recommendations, but also on changing circumstances. Most importantly, tightening university budgets no longer allow the pro bono provision of administrative services that the Consortium enjoyed over its first 25 years. As a result, IATRC must now provide salary support for its administrative director which increases costs in this budget category [Figure 4]. Also, IATRC's host institution changed twice over a five year period, which reinforced the importance of maintaining electronic archives of essential records and standardized financial reports.

Accordingly, the Executive Committee decided on changes to operational procedures as follows:

i) **Travel expenses of the Executive Committee to Annual Public Symposia**: The Executive Committee did not adopt the FSC's recommendation to discontinue meeting on the shoulders of the Annual Public Symposia, but rather decided to meet only when justified. The decision is made on a meeting-by-meeting basis. The Executive Committee has met at five of the six Annual Public Symposia since 2005. It should be noted that Executive Committee members have been instrumental in recruiting co-sponsors for five Annual Symposia since 2005, and have been co-organizers of two, so their attendance at these conferences has served multiple purposes.

ii) **Internal communications**: The Executive Committee adopted the practice of convening via conference call between meetings, with frequency varying from monthly to quarterly, as needed.

The Executive Committee has also established a restricted-access, extra-net website for use by Committee members to increase the efficiency of distribution and archiving of important documents, such as the minutes of meetings extending back to the inception of the Consortium. This tool, in combination with the digitization of all Consortium records, establishes a virtual library that helps new Committee members come up to speed quickly and seamlessly preserves a great deal of institutional memory at no cost if a different university hosts the Consortium at some point in the future.

iii) **New financial report**: The Executive Committee has adopted the use of three new formats for internal financial reports, which allows members to examine multi-year summaries, financial trends, and detailed statements to inform program management decisions.

VIII. ORGANIZATION AND GOVERNANCE

The McCalla Report recommended several changes in organization and governance of the Consortium. The recommendations, and subsequent decisions of Consortium members as codified in the revised Blue Book, are as follows:

i) **Change requirements for membership**: The Consortium adopted the recommendation to eliminate the requirement for a letter of support from the prospective member's institution. The Consortium also agreed to revise the criteria for a membership becoming inactive, including the possibility of six years of no participation in Consortium activities resulting in termination of the membership.

ii) **Change election procedures**: The Consortium adopted the recommendation to allow all members eligible to vote for all elected members, rectifying the "democratic deficit" of the Consortium under previous rules which disenfranchised members from core funding institutions. It also adopted the FSG's recommendation to allow members to vote in absentia, using e-ballots to achieve this objective. The introduction of e-ballots has substantially increased the number of Consortium members voting in each election.

iii) **Re-structure the Executive Committee**: The original structure of the Committee was maintained. The Consortium did not adopt the FSG's recommendation to re-structure the Executive Committee to include a Chair elected at large, three to four Program Committee members, and representatives of each of the three current funding organizations. There was concern that the proposed structure would not be as effective in achieving organizational goals as the creation of a separate Program Sub-Committee wholly dedicated to the development of proposals for Annual Theme Days and Public Symposia (see below) and could potentially increase administrative costs. The

Consortium agreed with FSG recommendations to extend terms to three years, and to stagger terms to ensure continuity in operations.

iv) **Establish a Program Sub-Committee**: The Consortium agreed to establish a Program Sub-Committee, with three to four members each serving staggered three-year terms. They are appointed by the Executive Committee rather than elected by Consortium members (as recommended by the FSG) and their proposals are discussed at the Consortium's business meeting to provide more opportunities for input from members.

IX. CONCLUSIONS AND LOOKING FORWARD

The findings of this report were reviewed extensively by the Executive Committee at its meeting on December 11, 2010, and further discussed at the Business Meeting on December 13. Based on these deliberations, the Executive Committee concurs that:

- The decline in attendance at the annual General Meeting has been reversed, due in part to the diverse and relevant set of topics chosen for Annual Theme Days by the Program Committee and to the Hewlett Foundation grant which provided financial support for the Fellows and their mentors to participate in Consortium activities. The Executive Committee plans to continue the current successful model for planning, financing, and organizing the annual General Meeting.

- Attendance at the Annual Public Symposia has been highly variable, driven by event-specific factors. However, attendance is but one metric for assessing success, and the Executive Committee thinks that all of the symposia have been effective in achieving important objectives including extending the geographical reach of the Consortium and disseminating high caliber research to a diverse audience of trade researchers and policy practitioners. However, the recent decrease in core funding and increasing costs for organizing these events outside of North America raises questions about whether the Public Symposia should continue to be an annual activity of the Consortium (see discussion below).

- Membership has increased and diversified, but there is still a strong bias to North American membership. Continued efforts need to be made in seeking new members in Latin America and Asia, especially if symposia are organized in such locations.

- The Consortium has maintained its scope and focus with a strong track record of diverse and relevant activities. It is critical that the Program Sub-Committee continue to put forward attractive topics for Annual Theme Days with the support of the Executive Committee and membership input. In terms of Annual Public Symposia, the Consortium will consider whether this activity can continue on an annual basis, or whether it should follow a bi-annual model, where the focus is on longer lead times to develop strong local co-sponsorship in tandem with choice of locations. With respect to other activities, while combining IATRC events with several professional association activities has been successful and has provided IATRC with additional external visibility, continued care should be taken not to dilute the uniqueness of IATRC as an organization. Outreach activities with the policy community should continue to be a core IATRC activity.

- The Hewlett Program has not been reviewed in depth in this review, as the program administrator is drafting a separate report for the granting agency now that the three-year capacity building program has concluded. How-

ever, the Executive Committee considers that the program has been a success and is currently considering options for similar proposals to be submitted to other granting agencies.

- Demand for IATRC publications is strong, evidenced by electronic downloads, but arguably there needs to be more published output to supplement the very substantial effort to extend the reach of IATRC research through posting current and archived papers and proceedings on the website. IATRC, through the Executive Committee, needs to commission a new set of Trade Issues Papers on topics that will be relevant to both policymakers and academics, bearing in mind what other organizations are publishing, and take steps to communicate findings through briefings, conferences, and web dissemination of these papers.

- Core funding is essentially what it was in fiscal year 2002-03 and, with current budget constraints, there is little prospect of that changing substantially. In addition, IATRC expenditures continue to rise. A premium should therefore be placed on seeking additional co-sponsorship funding for any IATRC activity, especially the Annual Public Symposia, as the level of funding that can be supplied by the Executive Committee is clearly insufficient to ensure that a symposium is fiscally robust. IATRC cannot be seen by symposium organizers as the "lender of last resort."

- In terms of operational procedures, much progress has been made in improving internal communications of the Executive Committee, and financial reporting has been overhauled in order to improve detail, transparency, and coherence to both the Executive Committee and IATRC members.

- Significant improvements have been made in the organization and governance of the Consortium. The process for becoming a member has been streamlined, and more democratic and improved procedures have substantially increased the number of members voting in IATRC elections. The institution of the Program Sub-Committee has been very worthwhile. With respect to the latter, the Executive Committee will continue to actively cultivate potential members of this Committee, and members at large will be encouraged to provide input to the Program Sub-Committee.

The preparation of this Status Report, the first in the Consortium's history, has deepened the Executive Committee's understanding of the many factors that have contributed to the success of the Consortium over the past five years, and established a sound foundation for charting future directions. We conclude by recommending that the IATRC undertake similar periodic reviews in the future as a useful exercise in transparency and accountability that will contribute to the organization's continued success. ■

APPENDIX

IATRC Activities, 2005–2010

ANNUAL THEME DAYS

- "Modeling Food and Agricultural Markets" (San Diego, 2005)
- "From Farm to Port: The Export Decision in Agricultural and Food Industries" (St. Petersburg, 2006)
- "Labor Markets in a Global Economy" (Washington DC, 2007)
- "Biofuels, Agriculture and Trade" (Scottsdale, 2008)
- "Private Standards and Non-Tariff Barriers: Measurement, Impacts and Legal Issues" (Fort Myers, 2009)
- Trade in Agriculture: So Much Done, So Much More to Do (Berkeley, 2010)

ANNUAL PUBLIC SYMPOSIA

- "Pressures for Agricultural Reform, WTO Panels, and the Doha Round Negotiations" (Seville, Spain, 2005)
- "Food Regulation and Trade: Institutional Framework, Concepts of Analysis and Empirical Evidence" (Bonn, Germany, 2006)
- "China's Agricultural Trade: Issues and Prospects" (Beijing, China, 2007)
- "Globalization and the Rural-Urban Divide" (Seoul, Korea, 2008)
- "Confronting Food-Price Inflation: Implications for Agricultural Trade and Policies (Seattle, 2009)
- "Climate Change in World Agriculture: Mitigation, Adaptation, Trade and Food Security" (Stuttgart, Germany, 2010)

OTHER ACTIVITIES

- IAAE Pre-Conference Workshop, "Distortions to Agricultural Incentives in Asia-Pacific Countries" (Queensland, Australia, 2006)
- Policy Roundtable, "Farm Bill Implications for Trade: Agriculture in the Doha Development Round" (Washington, DC 2008)
- International Track Session, AAEA Meetings, "Paul Krugman: His Contributions to Trade Analysis and Economic Geography" (Milwaukee, 2009)
- IATRC Mini-Symposium, IAAE Meetings, "Research Avenues for Non-Tariff Measures in Agricultural Trade" (Beijing, China, 2009)
- International Track Session, AAEA Meetings, "Exchange Rates, Prices and Agricultural Trade: What Have We Learned?" (Denver, 2010)
- International Track Session, AAEA Meetings, "The Contribution of Agricultural Economists to the Understanding of International Trade" (Denver, 2010). ■