# The Information Technology Agreement:
# Sui Generis or Model Stepping Stone?

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## Abstract

The Information Technology Agreement signed in 1996 is a unique trade agreement. At initial negotiation, it included less than 10 countries, by inception it 'multilateralized' to 44 countries and now includes 70 (of the 151) WTO members. At inception, negotiated product coverage was broad and generalized, rather than achieved via 'request-offer' by tariff line; it now covers 97% of trade in IT products. At inception, the signatories agreed to a timetable and specific staged tariff reductions to achieve zero tariffs on all covered products; only a few signatories asked to deviate from that common schedule. By all accounts, the agreement achieved its goals of zero tariffs and multilateral, most-favored nation treatment for a very broad range of IT products. Has it similarly promoted other measures of economic success such as trade growth or economic-well-being, particularly as differentiated between signatories and non-signatories? Does the ITA offer a template that can be replicated across other sectoral agreements or regional or bilateral agreements, or is there something unique about the negotiations (time and venue) and products that make the ITA sui generis—a thing unto itself?

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# I:  Introduction

The Information Technology Agreement (ITA), negotiated in 1996, is a remarkably successful sectoral agreement.  Broad coverage of products was achieved ex ante, rather than building up over 'rounds' of negotiations tariff-line by tariff-line.  A schedule for staged reductions of tariffs to zero was achieved ex ante, rather than tariff-reduction formulas becoming a negotiation in itself in subsequent rounds.  Multilateral country coverage was achieved nearly ex ante, in that the initial set of countries agreed on the rules and nearly half of all WTO member countries have joined in, many band-wagon style in the initial months following inception of the agreement.

Has the implied trade liberalization achieved economic benefits, such as trade growth and improvements in economic wellbeing of the signatories? There is substantial research on the gains to countries of effective use of information technology for growth and domestic development.  There is surprisingly little research on the explicit role for the ITA.  But, on balance the research does point to economic gains to trade, disproportionately to the signatories.  Much more research is needed, however.

As a unique agreement, with economic benefits, can the ITA offer lessons for trade negotiations more generally?  Are there lessons for how the ITA was negotiated and brought to fruition that can be a model for other sectoral agreements?  Can such sectoral agreements be pieced together to achieve multilateral liberalization on a broad product and services base?  Or, is there something unique about information technology products, or was the timing of the negotiations particularly fortuitous?  In other words, is the ITA a model stepping stone or sui generis?

# II:  Economics of Information Technology: Implications for Trade and Negotiations

## A: IT as A General Purpose Technology[1]

Information technology products are special.  The key feature of IT is that it is both income and relative price elastic.  This makes it a different from say textiles, autos, or wheat, which are, at best, unitary in income and relative price elasticities.

IT's contribution to accelerated productivity growth is well researched—both for the industrial countries and, to a lesser extent, developing countries.[2]  Broad-based use of general purpose technology in other sectors of the economy contribute overall to accelerate productivity growth.  In the industrial countries, this impact is particularly notable in services sectors (compare US and European data).  Looking at the US, the productivity enhancement is particularly notable in sectors already networked particularly via forward linkages to customers (banks) and with dominant actors

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[1] This section draws on Mann,  Accelerating the Globalization of America:  The Role for Information Technology, Peterson Institute for International Economics, 2006.
[2] Reference US: Mann and Jorgenson, Mun, and Stiroh; Europe: Van Ark et al. and OECD; LDCs:  Korea and refs for LDCs in Mann.

(distribution/wholesale).  Productivity enhancement is less noted in sectors with complex linkages (health) and with higher population of small and medium sized firms (construction).

Of course exports of IT also contribute to growth and economic development. However, since prices of global IT are falling, the terms of trade are shifting against major exporters.  Nevertheless, with elastic demand the demand effect offsets the terms of trade effect so that most net exporters experience net gains from trade. [3] Using the concept of social surplus, it appears that both domestic factors and trade factors appear to be important in assessing which countries gain the most from producing and using information technologies.

**B:  Globalized Production and Trade in IT Products in the Run-up to ITA**

Before the ITA was signed, investment, production, and trade in IT products were already highly globalized.

First, considering global trade patterns:  As of 1990, Japan had 20 percent of the global export market for IT products, US had 19 percent and UK, West Germany had 15 percent between them (8%, 7% respectively).  Other European countries accounted for an additional 14 percent of trade ( 4+4+3+3 for France, Neth, Italy, Ire).  East Asia accounted for 19 percent (Singapore 7, Taiwan 6, Korea 4, Malaysia 2).  HK and China together accounted for less than 2% of the export market. The distribution of imports was similar, except for Japan's very low import share (4%).  US and Europe about the same shares.  (See table 2.2a in Accelerating)

In addition to globalized trade, there already was substantial FDI by US abroad.  By 1990 the geographical focus was changing from FDI in Europe to FDI in Asia (excluding Japan).  US FDI to Asia kept increasing while FDI to Europe stagnated.  As of 1991, the value of US assets abroad in the computer industry was $60 billion distributed as about $40 billion in Europe, and a bit less than $20 billion in Asia (excluding Japan).  (Mann 1994).

For US, there was already substantial cross-border trade in computer products.  A net surplus was being maintained to Europe, but already by 1987 the US had a net deficit with Asia (ex Japan), which only continued to increase.  Net trade in computers, peripherals, and parts (CPP) was in deficit by 1991.  By 2006, net deficit in CPP was about $55 billion, although in semiconductors (the brains inside the computer) net surplus in 2006 was $30 billion.

In sum, in the years well before the ITA was conceived, the US, EU, and Japan had big export interests.  There was a well-established US FDI presence in Europe, and production in Asia based on US FDI platforms was coming on stream for the US and global marketplace.

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[3] Bayoumi and Haacker; see also the chart presentation in Mann.

## C: Implications for Trade Liberalization?

Do the special characteristics of information technology—particularly the income and price elasticity of demand and the role in productivity growth—have any implications for the process or politics of trade liberalization?  First, the key feature of any trade liberalization is the prices of the liberalized products generally fall (that is the point, after all).  In the case of IT, technological change plays a huge role in the decline in global IT prices, but based on research for the US, globalized production also has made a difference at the margin to reduce prices further. Empirical analysis in Mann (2006) suggests that US IT prices were some 10 to 30 percent lower on account of globalization than they would have been without globalized production, demand, and trade in IT products. [4]  At least part of this price reduction may have come from the ITA through the channel of increased global trade. (See extended discussion below.)

Broad-based investment in IT throughout an economy in the context of elastic price and investment demand contributes to accelerated productivity.  For the US in the 1990s and early 2000s, broad-based investment in IT accounted for about half of the acceleration in productivity growth.[5] Adding up the effect, US GDP was a conservatively estimated $250 billion greater (1995 to 2000) than it would have been without the global forces affecting US IT prices.  This suggests that the consequences of trade liberalization in IT can expand the economic pie quite considerably.  Of course countries that are net importers of products whose prices decline worldwide gain the most.   But, net exporters also will gain from trade liberalization to the extent that tariff reductions expand their markets abroad.

In the context of trade liberalization, the key features of elastic investment demand and price of IT matter.  First, they mean that export expansion likely is sufficient to offset price reductions to increase welfare for countries that only are major exporters.  E.g. market expansion offset terms of trade loss associated with declining prices
But also, the net buyer gains substantially too.  If a product is income and price elastic, and is a key ingredient to productivity growth (or even to trade growth) trade liberalization should be 'easier' politically.  Price reductions associated with such liberalization, especially as a general purpose technology ingredient to productivity growth means suggest that trade liberalization increases the size of the economic pie more than in the case of unitary elasticity for products.  Similarly, trade liberalization that focuses on products that enhance productivity shift out the economy's production frontier, also enhancing economic well-being. In short trade liberalization of IT expands the economic pie more, and through more channels than trade liberalization of other less-special products.

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[4] See also Mann and Soe and in Aizcorbe.
[5] In the past couple of years, however, the role for IT in accelerating productivity growth seems to have tapered off (Stiroh, his most recent work).  This is no doubt due in part to the recent sluggish investment in IT by broad sectors of the US economy.

### III.  Political Economy and the Information Technology Agreement

**A:  IT in International Institutional Discussion in the Run-up to ITA**

The latter half of the 1990s was a heady time for information technology.  It was the 'darling' of Wall St, media, and politics—with the potential to radically transform business, society, and economic development.  International institutional discussions were full of this discussion, and the potential role for IT expanded dramatically.

For example, at the G-7 meetings, the 1994 Naples communiqué item 4 included this: to 'encourage and promote innovation and the spread of new technologies including, in particular, the development of an open, competitive and integrated worldwide information infrastructure; we agreed to convene in Brussels a meeting of our relevant Ministers to follow up these issues.'  At this point, IT was mostly about innovation and infrastructure.

By 1995, IT's promise was moving beyond production and trade to the 'global information society'.  The Brussels conference put forward economic principles (promoting dynamic competition, encouraging private investment, defining an adaptable regulatory framework, providing open access to networks) and increasingly vague social objectives (ensuring universal provision of and access to services, promoting equality of opportunity to the citizen, promoting diversity of content, including cultural and linguistic diversity, recognising the necessity of worldwide co-operation with particular attention to less developed countries.)

At the 1995 Halifax summit, the communiqué continued in this expansive vein, but also tried to bring the topic back to the concrete: (para 10). "We welcome the results of the G7 Information Society conference held in Brussels in February, including the eight core policy principles agreed to by Ministers, and encourage implementation of the series of pilot projects designed to help promote innovation and the spread of new technologies. We also welcome the involvement of the private sector. We encourage a dialogue with developing countries and economies in transition in establishing the Global Information Society, and welcome the proposal that an information society conference be convened in South Africa in spring 1996."

At the 1996 South Africa conference, the potential and pitfalls of IT and the Global Information Society were becoming ever more widely flung:  "Key policy issues identified at the conference included:  universal service, clear regulatory framework, sustainable socio-economic development, employment creation, global co-operation and competitiveness, diversity of applications and content, diversity of language and culture, co-operation in technology, private investment and competition, protection of intellectual property rights, privacy and data security, narrowing the infrastructure gap, co-operation in research and technological development. [6]

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[6] Chairman's conclusions.

Just as IT was possibly being touted as the key to (or cause of) all economic, social, and political issues, the 1996 Lyon communiqué said nothing specific about information society.  But the very specific US-Japan semiconductor agreement was discussed at the margin of the meeting and was concluded in August 1996.

Meantime, the new institution of APEC burst forward with ambitious goals.  In 1994, the seminal Bogor goals included free trade among the members by 2010/2020 (developed/developing).  There was some discussion of information and telecoms in the declaration, but not much.  Similarly in 1995, the Osaka declaration had little.

In 1996 at Subic Bay, at nearly the same time as the South Africa meeting was making IT all inclusive to society and development, APEC took a bold, but quite narrow stance: "In recognizing the importance of the information technology sector in world trade, Ministers endorsed the efforts at WTO to conclude an information technology agreement by the Singapore Ministerial Conference and urged all other members of the WTO to work toward that end…." The outcome at Singapore, the Information Technology Agreement, is discussed more below.

## B:  The Role for Business Groups in the Run-up to the ITA

Fleiss and Sauve (1997) argue that the ITA started with business.  In 1994 and 1995, the US Information Technology Industry Council (ITI), the European Association of Manufacturers of Business Machines and Information Technology Industries (EUROBIT), and the Japanese Electronic Industry Development Association (JEIDA) worked to get the Brussels meeting to support a liberalization of trade among the industrial countries in computer hardware (including peripherals and parts), computer software, and semiconductors and integrated circuits as a foundation for the initiative on Global Information Infrastructure of the Brussels agreement.

Getting European business on board was seen as important, and this was undertaken via the TransAtlantic Business Dialogue (TABD) participation in the US-EU Summit in 1995.  It also appears to be the case that the bilateral agreements between the US and Japan on semiconductors was important in engaging European business.

APEC provided the forum where the interests of the developing world could be included.  APEC has always had business integration through ABAC and PECC.

More to be added

## C:  Overview of the ITA

The Information Technology Agreement (ITA) was formally concluded at the Singapore Ministerial Conference of the World Trade Organization (WTO) in December 1996.[7]

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7.  Based on Asia Pacific Economic Cooperation forum (1997); and the World Trade Organization's "Introduction: Information Technology Agreement." www.wto.org/english/tratop_e/inftec_e/itaintro_e.htm (accessed March 22, 2006).

The ITA is notable for both economic and political economy reasons. It represents a departure from the standard WTO negotiating approach even as it espouses the key WTO principle—most favored nation status.

The run-up to the ITA occurred against the 1990s 'hype' about the role of information technology in economic growth, trade, and development, including in other forums such as G-7 and APEC, among others.  Even so, the negotiation of the ITA departed in several ways from the more standard approach in a multilateral trade negotiation.

First, it was a sectoral agreement that was negotiated in isolation from a multilateral trade round, rather than being part of a single undertaking.  The broad outlines of the agreement were broached by the business advisory group and interested country partners—including the United States, Japan, Canada, and Mexico—in the context of the 1996 summit year of the Asia Pacific Economic Cooperation (APEC) forum, headed that year by the Philippines.  The November 1996 meeting of APEC ministers in Subic Bay provided both explicit tariff-cutting formulas and product coverage for an agreement, as well as the momentum for the actual ITA, which was agreed upon by a set of WTO members at the Singapore Ministerial Conference the following December.  Not all WTO members signed on at Singapore, however, and this too is a way in which the ITA differs.

A second way in which the ITA differed from a standard WTO agreement was that one of the provisions of the Declaration on Trade in Information Technology Products—the official term for the agreement made in Singapore—was that the declaration would not come into effect unless participants representing approximately 90 percent of world trade in the covered products notified their acceptance of the ITA by April 1, 1997.  At the signing in Singapore, only 29 countries or economic regions accounting for about 83 percent of global trade in IT products acceded to the agreement.  These included Australia, Canada, Chinese Taipei, 15 European Community members, Hong Kong, Iceland, Indonesia, Japan, Korea, Norway, Singapore, Switzerland (including Leichtenstein), Turkey, and the United States. However, before the April 1 deadline, 15 more countries or economic entities joined, bringing the coverage of trade up to the required 90 percent, and the declaration came into force.  The 68 ITA members now account for 97 percent of trade.

Third, under the ITA, countries agreed to bring tariffs on trade in covered products in six categories (computers, *software*, telecom equipment, semiconductors, semiconductor manufacturing equipment, and scientific instruments—which do not perfectly match any explicit HS nomenclature) to zero by 2000, either immediately or by equally-staged tariff reductions in four tranches from July 1997 to January 2000. Although the final list of covered products was negotiated, it was not negotiated using the  'request offer' approach.  Finally, not only specific HS lists were covered but also a  'positive list' of specific products to be covered by this agreement where-ever they are classified in the HS" (see Appendix B).  So the covered products included, to some extent, products by their functionality, not just specifically by HS code.

Software deserves special mention.  Although software was included in the broad language of the ITA, it is not addressed specifically in the Appendixes of coverage.  Services in general are not well covered by the HS nomenclature, but even Appendix B, which covered products by description rather than by HS code, software is not specifically addressed except as embodied in a tangible product.

From the perspective of average tariffs, the ITA makes a difference: From average tariffs on IT products ranging 0-5% for developed countries to 0->30% in developing countries.  According to the data for several years around 2000, the average tariffs on covered products is 3.6 percent for ITA members and 11.2 percent for nonmembers (Bora, 2004)

In the negotiations of what to include in these broad categories, negotiators decided to avoid 'third rail' issues of culture (CD-ROMS and video are not included), to protect nascent domestic industry  (consumer electronics), and table a discussion of NTMs (business decided half a loaf—tariff reductions—was better than getting into the morass of NTMs).  Moreover, DRAMs, the subject of substantial dispute at the time also were not included.  However, under WTO auspices, the Committee of Participants on the Expansion of Trade in Information Technology Products was organized upon inception of the agreement. This committee was charged to address issues of product classification and nontariff measures, as well as calls to broaden the product coverage under a so-called ITA II.  Points that we will return to in the conclusions and challenges section of this paper.

Finally, unlike a standard multilateral trade round, there was no generalized 'special and differential' treatment, although provision for extending the final phase to 2005 was agreed to at the initial signing.  Only a few countries took extensions for only some products, including for example, India, Malaysia, and Indonesia.  China joined in 2003, as part of its WTO accession.  Brazil, Mexico, and South Africa are among the non-acceding countries. Mexico ranks in the top 10 global exporters and imports of IT products (Mann, 2006, Table 2.2ab); Mexico argues that its "ITA-Plus" ensures similar coverage.

**D:  The ITA in the WTO**

How does the ITA fit into the WTO?  First, the ITA was the first agreement negotiated following the completion of the Uruguay Round in 1994 (check).  Among key aspects of the Uruguay Round potentially relevant for IT products are:  Inclusion of services under the GATS (General Agreement on Trade in Services), TRIPS (intellectual property) and streamlined Dispute Settlement.  To what extent did the ITA build on or otherwise embrace these aspects of the WTO?

First, with respect to services, although the ITA did include software in the list of covered products, all discussions regarding the ITA by its members take place in the Council on Trade in Goods. At the time of the ITA, software was delivered in physical form (for example on a disk drive or diskette).  Software as a tradeable service was starting to be conceived, but was not really addressed in the ITA.  Now, software as a tradeable service

butts up against the WTO (and technically the ITA as well) in all domains of the agreement: As embodied in a traded good (disk drives, shrink-wrap box), and along all modes of the General Agreement on Trade in Services.  Software can be delivered as mode 1 and 2 (down-loaded via the internet), as mode 3 (physical presence to engage in software design), and as mode 4 (cross-border movement of software engineers).

Second, software clearly is covered in TRIPs, but the ITA made no mention of intellectual property.

With respect to dispute settlement, the Ministerial Declaration on Trade in Information Technology Products agreed upon in Singapore included language referencing Article XXIII of the GATT:[8]

> "6. The participants understand that Article XXIII of the General Agreement will address nullification or impairment of benefits accruing directly or indirectly to a WTO Member participant through the implementation of this Declaration as a result of the application by another WTO Member participant of any measure, whether or not that measure conflicts with the provisions of the General Agreement.
>
> 7. Each participant shall afford sympathetic consideration to any request for consultation from any other participant concerning the undertakings set out above. Such consultations shall be without prejudice to rights and obligations under the WTO Agreement.
>
> 8. Participants acting under the auspices of the Council for Trade in Goods shall inform other Members of the WTO and States or separate customs territories in the process of acceding to the WTO of these modalities and initiate consultations with a view to facilitate their participation in the expansion of trade in information technology products on the basis of the Declaration."

Therefore, it seems that the ITA embraces WTO dispute settlement procedures.  There have been relatively few disputes on IT products, and none on IT products covered by the ITA following its inception.  Preceeding the ITA (indeed perhaps to some extent the motivator for the ITA as discussed below), the EC asked for consultations with the US regarding computer equipment in November 1996 and February 1997.  Similarly the US asked for consultations with Korea regarding DRAMS in August 1997.  In the background of the inital ITA negoations was the US-Japan bilateral semiconductor accord.

Subsequent to the ITA there were no requests for consultations on any IT product until the 2003 when the US requested consultations with Korea, Hungary, and Guatemala regarding countervailing duties on DRAMS (June 2003), followed closely by the EC requesting consultations with  Korea and Honduras on countervailing duties on DRAMS (July 2003).[9]  No dispute settlement panel was formed.

In 2006 however, Korea requested consultations with Japan (joined shortly by China, the US and the EC) regarding countervailing duties applied to DRAMS.  Later than year (in August) a dispute panel was formed.  It is note-worthy that Korea in its outlining of the

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[8] http://www.wto.org/english/docs_e/legal_e/itadec_e.htm)
[9] World Bank Dispute Settlement Database, accessed September 4, 2007

dispute mentions GATT and the SCM (Subsidies and Countervailing Meaures Agreement), but not the ITA because DRAMs are not in the ITA. [10]

In sun, although there have been disputes on IT products, there has been no dispute consultations on any ITA-covered products. There are, however, on-going informal discussions regarding ITA-covered products that now have broader functionality than when the original agreement was signed. This issue of the evolution of functionality was embodied in the ITA language, but has become a stumbling block for the broadening of the ITA to an ITA2, a point that will be discussed later in this paper.


## IV: Is the ITA A Model for Stepping Stones?

### A: Overview of Sectoral Agreements

Sectoral agreements under the GATT date back as early as 1950s. The early sectoral arrangements were usually not for freer trade, but for protection as responses to the domestic pressures (e.g., Voluntary Export Restraints, VERs). However, since the 1980s, sectionalism has shifted from protection policies to sector-by-sector liberalization. One of the earliest sectoral trade liberalization agreements was for trade in civil aircrafts. It entered into force in 1980 to promote world trade in civil aircrafts, parts and related equipments.[11]

The most important movement in sectoralism during the GATT Uruguay Round was the so-called "zero-for-zero" tariff reduction arrangements. (The reciprocal elimination of tariffs in a sector is often referred to as a "zero-for-zero" agreement.) During the Uruguay Round, the United States, Canada, the European Union and Japan agreed to eliminate tariffs on a reciprocal basis, immediately or over a period of time of up to 15 years, on most products in a number of sectors as well as to harmonize tariffs on chemicals. The sectors covered by these agreements are agricultural equipments, beer, construction equipment, furniture, medical equipment, paper, pharmaceuticals, steel, brown spirits, and toys. These agreements came into force on January 1 in 1995 for most initial signatories. Australia, New Zealand, Switzerland, Norway and South Korea also participated in the majority of the zero-for-zero tariff initiatives. By eliminating all tariffs in an entire sector, the zero-for-zero sectoral approach addressed the issue of tariff peaks (defined as tariffs greater than 15% in the Uruguay Round) and tariff escalation (higher tariffs on products as the level of processing increases) albeit only in those sectors identified above. In some cases, better market access was achieved through specific requests and offers. As with the ITA, the commitments undertaken under these sectoral agreements in the GATT/WTO are on an MFN basis. Therefore the benefits accrue to all other WTO Members.

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[10] Summary of the DS336: http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds336_e.htm , accessed September 4, 2007
[11] By now, about 30 countries have signed this agreement.

About two years later after the "zero-for-zero" arrangements, the ITA came into force at the end of 1996. Since then, the ITA has been serving as a model for sectoralism. The Global Agreement on Basic Telecommunications was negotiated in 1997 and it covers over 95% of trade in telecoms since 1998. The Financial Services Agreement (FSA) followed closely in December 1997 to liberalize trade in banking, insurance, and securities. It came into effect in April 1999 and covers over 95 percent of trade in these sectors.[12] (Although with limits on foreign direct investment, the effective liberalization of financial services is questionable.) In addition, there also exist some other sectoral agreements, such as the agreements on tropical and natural resource-based products, agricultural products, textiles and clothing products, etc. But the progress made in these sectors is rather limited.

Although negotiated as 'zero-for-zero,' progress on actual tariff reduction of these agreement has been uneven across countries. As noted by Hoda (2002), the negotiations on tariff peaks did result in considerable reduction but not elimination of rates above 15 per cent in the developed countries. The overall target for reduction by one-third for industrial tariffs was reached by all developed countries and exceeded by some. For the developing countries, one of the main objectives of the developed countries was to secure an increase in the scope of bindings and to get the binding level closer to the applied level.

**B: The ITA Compared to Other Sectoral Agreements**

Given the sectoral nature of these agreements, the sizes of these sectors matter. The liberalization in a certain sector cannot make significant contribution to trade liberalization unless the size of the sector is large enough. Trade shares of some of these agreements in total world trade for 1988-2003 are list in the following table. Based on the product definitions provided by the WTO, most sectors account for less than 3% of total world trade, except the ITA (13.25%), the agreements in civil aircrafts (12.6%) and chemicals (10%). (Table 1).[13]

Because a sectoral agreement is usually signed among a small group of countries, it is important to make sure that the major producers and traders are covered by the agreement. The last two columns of table 1 list the export and import coverage of these selected agreements. Most of the trade in these sectors are covered by these agreements, among which the ITA has the highest coverage (95%).

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[12] Aggarwal and Ravenhill (2001).

[13] All the import data exclude intra-EU trade because most of European Union members were already in the same custom union and free trade area since the beginning of our sample (1988)[13]. Therefore it is better to treat the intra-EU trade as trade within a country. For this reason, we also drop all the intra-EU bilateral trade in our regressions.

**Table 1: Trade shares and coverage of some selected sectoral agreements**

| Sectoral agreements | Share of world trade (%) | Export Coverage (%) | Import Coverage (%) |
|---|---|---|---|
| ITA | 13.25 | 95 | 95 |
| Civil aircraft | 12.63 | N/A | N/A |
| Chemicals | 9.99 | 82.57 | 68.79 |
| Steel | 2.52 | 72.54 | 63.77 |
| Paper | 2.25 | 71.16 | 71.63 |
| Pharmaceutical | 1.52 | 86.83 | 73.50 |
| Medical equipment | 1.11 | 89.73 | 74.30 |
| Construction equipment | 0.97 | 84.84 | 64.00 |
| Furniture | 0.79 | 72.44 | 85.53 |
| Toys | 0.73 | 32.84 | 69.73 |
| Agricultural equipment | 0.25 | 88.24 | 74.94 |
| Brown spirits | 0.16 | 86.63 | 78.17 |
| Beer | 0.08 | 79.76 | 85.97 |

Data sources: Bora and Liu (2006), Hoda (2002), WITS, WTO Secretariats.
Notes: Share (%) is the import share of a sector among total world imports over 1988-2003; Import (export) coverage is the share of the import (export) covered by these agreements in 1994 except for the ITA which is calculated in 2002 based on the trade data from the UN Comtrade.

## C: What about Sectoral Agreements as Stepping Stones?

Most of the existing discussions on stepping stones vs. stumbling blocks focus on regionalism (regional trade agreements, RTAs) vs. multilateralism (the GATT/WTO). As summarized by Baldwin (2004), regionalism acts as a stumbling block because (1) RTAs may dampen the enthusiasm for multilateral negotiations under the GATT/WTO; (2) the formation of large trading blocs increases the hazard of inter-bloc trade war; and (3) some RTAs especially those South-South agreements may hinder multilateral liberalization by protecting import-substituting industries.

Empirical research is tending to find that RTAs are not stepping stones. Preferences generate more trade diversion than trade creation.[14] Even when RTAs cover rules of investment, this may do more to encourage member countries to compete for FDI than to benefit from it.[15] Rules of origin create trade costs that offset tariff reductions. (IADB citation). Limited product coverage (often agriculture is exempted) tends to solidify

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[14] Ref the world bank notes that I used in the NABE presentation last year; also Deniz sources.
[15] Majluf (2004) gave another example, Brazil within MERCOSUR. In this case, FDI is distributed unevenly to the larger partner. In his words, these can be the result of RTA:
"In the context of RTA, competition for FDI by developing country members may become intensive, resulting in subsidy wars among members, providing disproportional benefits to foreign investors and eliminating or reducing the potential gains for developing countries."
It is a good example to see the difference between theory and real world.

domestic special interests against sectoral trade liberalization. On balance, RTAs tend to raise costs and create special interests even as they also promote some trade liberalization. [16]

Using the framework from analyzing RTAs as stumbling blocks, do sectoral agreements pose similar problems? The first problem of RTAs may also exist for sectoral agreements. The shift of negotiating attention and effort from multilateralism to sectoralism may delay the process of the multilateral negotiation. As noted by Aggarwal and Ravenhill (2001), sectoralism is politically and economically hazardous. From a political perspective, sectoral agreements buy off winners in those sectors and reduce the support for future multilateral negotiations that would benefit a significantly broader group of industries and consumers. From an economic perspective, by liberalizing only specific, highly competitive sectors, sectoral trade agreements may lead to a perverse incentive to invest in or discourage exit from the least efficient areas of the economy and hence create more distortions.

The second and third problems identified by Baldwin (2004) for RTAs are, however, less likely an issue for sectoral agreements. In fact, sectoral agreements are a good approach to eliminate the tariff spikes and the political rents associated with the protection of import-competing industries.

One important feature of the ITA as well as many other sectoral agreements is that the members are committed to duty-free imports on an MFN basis. As a result, all WTO members benefit from these agreements. Unlike most multilateral negotiation, the sectoral negotiation is not the "give-and-take" approach. So long as a country is a WTO member, they enjoy the benefits from lowered tariffs by the parties to the sectoral agreement even when they themselves have not signed the sectoral agreement. Moreover, the "external" tariffs on the imports from non-WTO members do not increase either, which can avoid large trade diversion. This treatment afforded to the non-members avoids the opposition from the countries with inefficient producers. The distortion from this special treatment of non-members is small if these non-members' trade in those sectors accounts for a small percentage of total world trade in these sectors.

Therefore, to be successful, the share of trade by parties to the agreement should be high, preferably close to 100%. This feature is similar to the "substantially all the trade" requirement of RTAs according to the GATT Article XXIV (a feature often not met by RTAs). In the case of the ITA, less than 5 percent of the trade is by non-members. Second, the sector itself should be large. Among the listed sectoral agreements in table 1, the ITA has the highest share of world total trade (13.25%). Together the coverage of trade and the size of the sector in world trade are key elements leading to the success of the ITA. In sum sectoralism can be a fruitful avenue to overall free trade. But, the sectors have to be large and the membership widespread, which places sectoral negotiations squarely in the WTO mandate and in line with the agenda of multilateral liberalization.

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[16] Rules of origin for RTA adds new things to the 'spaghetti bowl' (Augier, et al, 2005).

**D: What about IT in Bilateral Agreements?**

US trade policy moved from full support of multilateral efforts to near total embrace of bilateral agreements (instead) in the mid 1990s. From 2001 to 2006, the number of US FTA partners or imminent partners went from three to 29. (Ludema, 2007). Besides NAFTA (involving Canada and Mexico, which went into force in 1994) and the FTA with Israel (1985), the US has implemented BTAs with Jordan (2001), Chile (2004), Singapore (2004) Australia (2005), Morocco (2006) and Bahrain (2006). Other agreements negotiated and signed albeit not ratified include: Colombia, Peru, Oman and the six countries forming CAFTA-DR (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and the Dominican Republic) (this was ratified no?). Negotiations continue with Ecuador, Panama, Korea, Malaysia, Thailand, United Arab Emirates and the Southern African Customs Union (South Africa, Botswana, Lesotho, Namibia and Swaziland).

Even before the current wave, BTAs were seen as a way to prevent piracy and counterfeiting, to push for implementation of international laws and to protect US interests, particularly related to IT. Bilateral agreements were a way to negotiate with countries with high tariffs and subsidies. Then under the umbrella of WTO, extend the commitments of TRIPS, ITA, and Basic Telecommunication Agreement. Quoting from Charlene Barshefsky in 1997: "As formal barriers began to diminish, trade negotiations moved into more arcane fields such as harmonizing technical standards, so that a semiconductor chip built in Costa Rica and a hard drive assembled in Southeast Asia, for example, can run programs written in India for a computer designed in North Carolina."

Recent BTAs have explicit chapters that follow a common template for information technology, including that the country accede to the ITA as well as commit to extension along the following lines:
- Eliminate tariffs on all information technology products (hardware and software) and components, infrastructure equipment, medical equipment and scientific instruments.
- Within the WTO, seek to gain new signatories to the Information Technology Agreement (ITA), expedite the phaseout of tariffs under the ITA, ensure that as products covered by the ITA evolve technologically they retain zero duty treatment, and seek to expand the product coverage under the ITA.
- Alternatively, as part of the Doha Round Non-Agricultural Market Access (NAMA) negotiations, countries should agree on sectoral tariff elimination that would apply to IT products, including those products not currently covered by the ITA.

The CAFTA countries, Panama, Vietnam, as well as Russia, Peru, Colombia (complete the list) joined the ITA following the negotiations with the US on a BTA.

Some public statements from the USTR on these BTAs imply that the ITA not only commits countries to duty-free trade in IT products, but also elimination of non-tariff measures. For example, from the USTR press release on Colombia: "Colombia has agreed to sign the WTO Information Technology Agreement (ITA), which requires signatories to remove tariff and nontariff barriers to trade in IT products… " Even if the

actual language of the text is more accurate to include only tariff elimination on products under ITA1, the fact that the public statements include topics under consideration in ITA2 is revealing of the potential power of these BTAs to change the weight of negotiations at the WTO on the ITA2 and NTM issues.

Indeed, Rob Portman when he was USTR gave the implied role for the BTAs to expand ITA to ITA2 and beyond. "In the last six weeks, … we launched new free trade agreement talks with two major economies in Asia: Korea and Malaysia. In those accords, we will look at phasing out tariffs on consumer electronics not covered by ITA. These free trade agreements will also address investment, distribution, telecom and financial services, and help make consumer electronics companies supply chains more efficient…. "[17]

The US push toward bilateral agreements, the nature of the negotiating template, and the expanding verbal, if not actual, coverage of products and NTMs under those agreements has the potential to change the weight of negotiations at the WTO on these ITA2 issues. That is, if countries have already agreed to these parameters in their BTA with the United States, they may be more likely to 'side' with the US negotiators at the WTO when similar issues arise in the more multilateral context. Moreover, to the extent that the template agreements of the BTA reduce the complexity of rules of origin, etc, then such BTAs serve as better stepping stones to multilateral agreements.


## V:  Empirical Analysis of Impact of ITA

### A.  Overview

Has the ITA made a difference for global trade in technology products and for countries that are members? Theory and practical experience tell us that reducing tariffs leads to more trade, and that trade should grow more for the countries that cut tariffs the most.  In fact, empirical evidence of the ITA has been difficult to ascertain.  A key issue is that the tariff reductions took place in the context of dramatic increases in global trade in IT products associated with the technology boom up to 2000 and subsequent crash.  It is difficult to parse out the changes in trade due to changes in tariffs alone.  .

Looking at just growth in trade, the share of IT products by the end of 2005 was 19 percent, excluding intra EU trade (Finger, 2007). It was a significant amount, compared to agricultural products (8.4%) and automotive products (7.2).  The world exports of IT products have risen from $600 billion in 1996 to more than $1500 billion in 2006. Growth of export in IT products has been more than growth of export in manufacture. Computers, semi-conductors and telecom are approximately 80% of world export of IT products. However, is this growth in trade due to the ITA or due to the way in which the technology itself and reductions in transportation costs allowed the fragmentation of the

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[17] Remarks by Ambassador Rob Portman United States Trade Representative Before the Consumer Electronics Association Ronald Reagan International Trade Center Washington, DC March 15, 2006

supply chain in IT production, which would increase the amount of trade?  Moreover, given the high elasticity of investment demand for IT products, rising GDP alone would have increased trade in IT products.

In principle, the ITA should promote the use and production of information and communication technology products (ICT) in developing countries.  But with non-competitive environments; poor infrastructure, institutions, human capital and policies; the ITA can help, but alone may not be enough. (Joseph, 2006). Joseph could not find significant change in the world demand for ITA products after the agreement.  Moreover, he determined that some non ITA-members were superior export and import performers in ITA products compared with ITA-members.[18]

An alternative econometric approach finds that being a member of the ITA is statistically associated with imports of IT products, controlling for domestic expenditures on IT.  In addition, given that many IT products are intermediates in the supply chain of other IT products, being a member of the ITA should reduce tariffs on imported intermediates and thereby increase the competitiveness of IT exports.  Indeed, econometric evidence suggests that being a member of the ITA may play this role. (both from Mann, 2006)

**B:  Gravity Model Approach with Dummy Variables (Bora and Liu)**

The most systematic approach to estimating the impact of the ITA is Bora and Liu (2006), from which this section is adapted.   They estimate the effect of the ITA on bilateral trade flows of IT products using a gravity model framework paying particular attention to the differences in ITA and WTO membership so as to capture their roles for both trade creation and trade diversion effects.

In Bora and Liu, the key variables of interests are constructed from the ITA and WTO memberships.[19] As discussed above, the nature of the ITA is that if the importer is an ITA member, then it will offer its ITA tariff rates to all WTO members, no matter if the exporter is an ITA member or not. This leads to the following dummy variables of interest:

- The first binary variable is one if the importer is an ITA member and the exporter is a WTO member; this measures the trade creation effect of the ITA.
- The second binary variable is one if the importer is a WTO member but not an ITA member and the exporter is a WTO member; this measures the trade diversion of the ITA within the WTO. In other words, if an importer is a WTO member but not an ITA member, its import can be hurt by the ITA due to trade diversion.

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[18] (need to check years—China prior to 2003).

[19] They also consider the issue of ITA membership prior to WTO membership (Eastonia, Lithuania, Taiwan).  Accounting for these issues does not affect the results.  For countries that might have received special tariff treatment before WTO membership (such as the 'permanent normal trade relationship' between China and the US, not explicitly considering this as a regional trade agreement would only serve to bias the results toward an insignificant impact of the ITA.

- The third variable is for the scenarios when one of the two countries is not a WTO member; this measures the trade diversion of the GATT/WTO.
- The last variable is unity if neither country is a WTO member; this measures the baseline category in the analyses.

The dependent variable ($M_{ijt}$) is the c.i.f. import of country $i$ from country $j$ in year $t$ taken from COMTRADE. [20] Besides the above dummy variables for ITA and WTO, membership, the regression includes the standard other control variables: real GDP and GDP per capita of both countries;[21] the great circle distance between countries; land contingency dummy; the geographic area of both countries; the number of island nations in a pair (0, 1, or 2); the number of landlocked nations in a pair (0, 1, or 2); common language dummy; colonial relationship; the military conflict intensity between countries; remoteness measuring the distance of a country pair to the rest of the world weighted by all the other countries' GDPs in a year;[22] formal alliance dummy; generalized system of preferences (GSP) relationship; currency union dummy; regional trade agreement (RTA) dummy; year dummies and country pair dummies. For more explicit discussion of data and sources, see Bora and Liu (2006). The panel dataset used in this paper includes 217 countries over years 1988-2003 and includes trade in IT products yielding about 135,000 observations.

## C: Results from Bora and Liu

This section presents the gravity regression results in Tables 1 and 2. We start with pooled OLS with only year dummies. The ITA is very effective with large trade creation and trade diversion effects. This regression uses both within and between country-pair variations. The between variations, however, often suffered from endogeneity problem

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[20] Bora and Liu use import flows for trade data, rather than the sum of import and export due to following reasons. Firstly, import data are usually regarded as more reliable than export because customs are more interested in tracking imports than exports for tariff revenue reasons. Secondly, country or country pair's characteristics usually affect import and export differently. With directional import data, they can avoid mixing the effects on import and export. Finally, most gravity models offer predictions for imports rather than the total trade.
Import data are from the UNCTAD COMTRADE database, aggregated over all ITA products as listed in the Appendix 1 of the Bora-Liu paper. The import of country i from country j is filled by the export of j to i when the former is missing and the latter is available. A 10% c.i.f is assumed when using the mirrored data. In our log-linear gravity regressions, the dependent variable $ln(M_{ijt})$ is substituted by $ln(M_{ijt}+1)$ to keep the zero trade values after taking logarithms. The measurement error created is small because trade data are converted into dollars (rather than million or billion dollars) before the one dollar is added.
[21] Bora and Liu do not use the sum of the two countries' GDP or GDP per capita. Using the sum of GDPs, would restrict the coefficients on two countries' characteristics to be equal. In their regressions, they do not put this restriction.
[22] This remoteness variable serves as a proxy for the "index of multilateral resistance" (Anderson and Wincoop, 2003). Bora and Liu expect that the "remoteness" variable positively affect bilateral trade because two countries will trade more with each other, ceteris paribus, if they are remote from the rest of the world, e.g., Australia and New Zealand.

(i.e. reverse causation): the more a country trades in ITA products, the more likely it will join the ITA. Therefore our preferred regressions include country pair fixed effects.[23]

Fixed effects regressions use only the within variations. The countries-pair fixed-effects control for the unobserved characteristics for each country pair; this partially fixes the endogeneity problem. Results from the fixed effects regression show that the coefficients on other covariates generally have expected signs. GSP, RTA and alliance significantly increase bilateral ITA trade. "Remoteness" positively affects bilateral trade as expected. Currency union, however, is insignificant.[24]

Fixed effects regressions respond to the following question: "do two countries trade more in ITA products after one or both of them join the ITA, compared with their trade before joining the agreement."

- In this specification, a country will import 7% more ITA products if it is an ITA member and the exporter is a WTO member, compared with the baseline case of neither being a WTO member. If importer and exporter are both WTO members but the importer is not an ITA member, the importer will on average import 6% less than the baseline case. This effect is economically significant given the fact that the ITA has been implemented only for less than ten years and most developed countries already had low tariffs on ITA import before joining the ITA.
- The trade creation effects of becoming an ITA member are large. Regression results suggests that a non-ITA WTO member would import 14% (= 7%+6%) more from WTO members if it joins the ITA, ceteris paribus.
- The trade diversion effects of non-GATT/WTO membership are even stronger (17%). Imports would be 17% less if only one country is in the GATT/WTO, compared with the baseline case. These results imply that being a WTO member helps to avoid very large trade diversion even if the country does not sign the ITA.
- Robustness checks reveal that the trade creation effect of the ITA is even stronger (12% vs. 7%) for large traders (i.e., import > $100,000, in 1995 price).
- The ITA should have a larger impact for the developing world since high trade barriers in these countries (0-50%) should have fallen the most. along with the implementation of the ITA.[25] The results confirm that trade creation effect of the ITA is insignificant for developed countries, while much stronger for developing countries (13%).

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[23] Random effects model is based on a more stringent condition, that is, the error term must be uncorrelated with country pair dummies. The Hausman test rejects this condition, so we take the fixed effects regression as our preferred specification.

[24] It becomes significant when we restrict the sample to large traders only (i.e., import > $100,000, in 1995 price).

[25] The developed countries include Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, UK and USA; and they are all ITA members by now.

- The extents of liberalization of trade in ITA products may be different for different developed countries.[26] The results show that the trade creation effect of the ITA is the largest for Australia and New Zealand followed by the United States, Canada and Japan. The European countries did much worse (negative although insignificant trade creation effects). It is the European countries that drive the trade creation effects of developed ITA membership into insignificance.[27]

Recent developments in the theoretical foundation of a gravity specification suggest that time-varying country fixed effects can fully absorb the "multilateral resistance" effects in a panel data gravity regression (see, e.g., Baldwin and Taglioni, 2006). This method, however, is computationally cumbersome due to very large number of interaction terms in regressions. To reduce the number of dummies for the year and importer/exporter interactions, we take two consecutive years as one period and then use the new period dummy to interact with importers and exporters. We expect that this new period variable should capture most of the variations over time. The coefficients on the key variables of our interests are even larger in absolute values. The result shows that a country will import 68% more ITA products if it is an ITA member and the exporter is a WTO member, compared with the baseline case of neither being a WTO member. If both importer and exporter are WTO members but the importer is not an ITA member, it will on average import even 20% less than the baseline case. The trade diversion effects of the GATT/WTO are also stronger than those in the previous results (-55%).

A second significant caveat for the estimation is the 'zero-trade data problem.' Unfortunately, a significant problem with the COMTRADE data is that it includes data when trade takes place. Liu (2007) and Baldwin and Harrigan (2007) both show the extent to which results on the impact of trade agreements can be overturned when zero-trade data are included in the analysis.

## D: Implications for ITA as A Stepping Stone

Overall, the results indicate that participation in the ITA increases bilateral trade and being a WTO member can avoid large trade diversion effect. The analysis yielded a number of observations about the ITA that could be useful for the future round of negotiations and trade policy in general. Sectoral trade-offs are usually an essential ingredient for success in the GATT/WTO negotiations. The success of the ITA as a stand-alone sectoral agreement is a new approach. As noted by Hoda (2002), this is attributed to some unique features of the IT sectors. For example, the IT industry is highly globalized and there is keen competition to attract foreign direct investment in the industry. Duty-free treatment of inputs makes host countries attractive for foreign investors. Therefore, most governments were attracted to a worldwide agreement for the

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[26] The developed European countries include Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the UK.
[27] Iceland is more protected than other developed European countries, but dropping Iceland from the dataset does not change much our results.

elimination of tariffs on IT products, even outside the framework of global negotiations on tariffs.

The same gravity regression analysis can be applied to other sectoral agreements under the GATT/WTO, such as the Uruguay Round zero-for-zero agreements, chemical harmonization and the agreements on civil aircrafts. We leave this for future research. The gravity approach captures a variety of influences on trade, beyond specific parameters. Since the ITA requires ITA tariffs to be bound at zero, the gravity approach captures the institutional effect of being a Member of the WTO and a participant in the ITA. While the results of the regression analysis sends a positive signal to WTO members as they debate the overall value of a sectoral approach it is important to recognize the specific nature of the ITA and the mechanisms by which it can affect trade. The gravity equation approach is an ex post analysis that seeks to explain past trade patterns and values. The actual trade values that may arise from liberalizing ITA tariffs will depend upon a number of parameters such as the value of trade, the values of elasticities and other structural variables such as geography. This type of ex ante analysis might provide useful information, but differs from the type of analysis undertaken in this section.

## VI:  Current Challenges

### A:  Progress on ITA2

Negotiations on ITA2 began almost as soon as the ink was dry on the ITA, in 1997. Progress on extending the ITA has run into difficulties on four inter-related fronts: coverage, convergence, commitments, and non-tariff-measures.

On coverage, the ITA does not cover certain IT products that some participants wanted to include at the time of the negotiations, such as consumer electronics. As well, DRAMs, the focus of much dispute before and after the agreement, were not included.  The second issue is convergence:  The ITA does not cover some products that have both IT and non-IT uses, such as TVs for multimedia applications, cameras and speakers for video teleconferencing, or other appliances used increasingly in computing and Internet applications.  Keeping spirit of ITA coverage alive is tough because technology convergence is merging the 'third- rail' culture issue into the technology domain.

The convergence issue is related to the third key concern of commitments.  In ITA1, the methodology for scheduling commitments in the ITA attachments does not accommodate the rapid evolution of IT products even though the language of the agreement was supposed to bind the signatories to such evolution. [28]  For example, suppose the technological capability of a product currently scheduled changes to allow a wider range of functions.  E.g. set-top boxes that now have a communications function, but did not when duty-free treatment was scheduled.  Does the duty-free commitment carry to the scheduled product or to the functionality of the product, which may not have received

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[28] Wunsch-Vincent, S. (???) WTO, E-commerce and Information Technology

duty-free treatment.  Thus technological convergence and coverage are merging to impact commitments.

Finally, participants have been focusing on non-tariff issues that have come to reduce the benefits of the ITA tariff cuts, including for example, different national safety standards and import licensing requirements.[29]  The Committee of Participants on the Expansion of Trade in Information Technology Products agreed to proceed with a work program on NTMs on ITA products, on the following basis[30]:

- Phase I:  identify NTMs which are impediments to trade in ITA products;
- Phase II:  examine the economic and developmental impact of such measures on trade in ITA products and the benefits which would accrue to participants from addressing their undue trade-distorting effects;
- Phase III:  the formal consideration by the Committee of the outcomes of Phases I and II.

Suppose we characterize the initial push for the ITA as a focus on the 'forest' (principle of trade liberalization)  vs. the 'trees' (request-offer negotiation) approach common to many trade negotiations.  It appears that the 'trees' may be overtaking the 'forest' in ITA2. Here is an example of how a particular NTM issue is playing out:  The Electromagnetic compatibility/Electromagnetic interference (EMC/EMI)

> "workshop would be a forum for regulators responsible for EMC/EMI measures and trade policy representatives to discuss the survey results and consider what could be the next steps in this exercise.  This would include where appropriate: identifying next steps, examining ways to harmonize the conformity assessment for ITA products on EMC/EMI, and examining other means to facilitate the market access of ITA products.  The pilot project could ultimately contribute to how countries can choose to facilitate market access of ITA products."[31]

## B:  ITA, Technological Change, and Dispute Settlement

As a unique agreement within the WTO, with MFN for all regardless of signatory of the ITA, how does ITA fit within the WTO dispute settlement system?  The challenges of ITA2 are bringing this issue to the forefront.  For example, The United States and Japan have expressed concerns about proposals by at least one ITA participant that would no longer provide or guarantee duty free treatment for certain ITA products, such as set-top boxes that now have a communication function, but previously, when originally scheduled, did not have such functionality.

A sub-set of ITA participants, including the United States, Japan, Singapore, Hong Kong China, Chinese Taipei, Malaysia, Canada, and the Philippines have proposed that the Committee of Participants on the Expansion of Trade in Information Technology Products engage in informal consultations with the objective reaching a consensus on how to ensure that duty-free treatment for such products will be maintained. These

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[29] From the website of WTO,
http://www.wto.org/english/thewto_e/minist_e/min99_e/english/book_e/12ita_e.htm , August 17, 2007
[30] WTO, Non-Tariff Measure Work Program, G/L/756,  13 November 2000
[31] WTO, EMC/EMI Workshop

consultations were scheduled for January 2007. That these technology convergence issues, as well as NTMs and product coverage have already been addressed in US BTAs, may affect the balance of these informal discussions.


## VII: Conclusion—Sui Generis or Model Stepping Stone?

Factors that suggest that the ITA is sui generis include::
- IT elasticities and contribution to productivity growth make it a unique product
- Hype of the 1990s made countries want to get on board, either as national export champions or to get domestic productivity benefits, which creates a rare combination of interests.

Factors that suggest that the ITA can be a model stepping stone include:
- Outlines of initial agreement could be replicated, are not unique to IT per se.  Product coverage was broad (not request-offer) and MFN. The initial timetable and schedule were agreed to and generally have not been abrogated.
- Template bilaterals that use these principles can be stepping stones by creating a common set of rules and obligations that could then be made MFN.  Once countries have already agreed to principles in the context of a bilateral, they may be more likely to be willing to multilateralize the commitments.

Challenges of ITA2, however of coverage, convergence, commitments, and NTMs show that countries are pushing back from some of the unique aspects of how ITA was achieved.  A key question is will the commitments generated under, principally, the US bilaterals sway the balance toward achieving ITA2 and key principles embodied in it?

In sum, the ITA was sui generis, but ITA2 could be built-up from bilateral stepping stones.  Whether there are enough such stepping stones in place to provide the foundation for advancing the principles of ITA2 remains to be seen.

Table 1: Regression results

| | (1) Pooled OLS Full Sample | | (2) Fixed Effects Full Sample | | (3) Random Effects Full Sample | | (4) Fixed Effects Large Traders | |
|---|---|---|---|---|---|---|---|---|
| | coef. | z | coef. | z | coef. | z | coef. | z |
| log(GDPi) | 0.79*** | 115.9 | -0.86*** | -6.79 | 0.68*** | 46.80 | -0.82*** | -8.74 |
| log(GDPj) | 1.20*** | 178.6 | 0.20 | 1.51 | 1.00*** | 70.04 | 0.91*** | 7.80 |
| log(GDPPCi) | 0.38*** | 34.6 | 1.96*** | 15.54 | 0.29*** | 13.18 | 1.92*** | 20.17 |
| log(GDPPCj) | 0.93*** | 79.3 | 1.16*** | 8.35 | 0.73*** | 32.32 | 0.48*** | 3.74 |
| log(Distance) | -0.82*** | -64.1 | | | -0.73*** | -28.9 | | |
| Land Adjacency | 0.97*** | 20.6 | | | 1.12*** | 9.28 | | |
| log(AREAi) | -0.05*** | -9.45 | | | -0.04*** | -3.25 | | |
| log(AREAj) | -0.28*** | -52.9 | | | -0.23*** | -18.7 | | |
| Island | 0.23*** | 12.6 | | | 0.28*** | 6.81 | | |
| Landlocked | -0.13*** | -7.99 | | | -0.17*** | -4.98 | | |
| ComLang | 0.21*** | 6.41 | | | 0.14** | 2.00 | | |
| Ever Colony | 1.76*** | 39.3 | | | 2.18*** | 15.2 | | |
| Com Colony | 0.52*** | 18.3 | | | 0.38*** | 6.10 | | |
| Hostility | -0.66*** | -12.3 | | | -0.45*** | -3.66 | | |
| Alliance | 0.14*** | 4.69 | 0.25*** | 3.18 | 0.17*** | 3.20 | 0.47*** | 9.79 |
| Remoteness | 1.60*** | 6.62 | 0.65 | 1.21 | 0.88** | 2.33 | 2.66*** | 6.44 |
| GSPij | -0.39*** | -14.38 | 0.22*** | 3.78 | -0.03 | -0.84 | 0.34*** | 8.40 |
| GSPji | 0.28*** | 12.76 | 0.22*** | 4.51 | 0.44*** | 12.1 | 0.07** | 2.38 |
| FTA | 0.22*** | 10.05 | 0.42*** | 10.88 | 0.39*** | 12.7 | 0.30*** | 11.66 |
| CU | 0.64*** | 11.67 | 0.48 | 0.59 | 0.37*** | 2.87 | 0.97* | 1.75 |
| *ita*wto | **0.42*** | **10.50** | **0.07** | **2.29** | **0.15*** | **5.31** | **0.11*** | **4.79** |
| *_ita*wto**wto | **-0.27*** | **-7.47** | **-0.06** | **-2.07** | **-0.12*** | **-4.45** | **-0.01** | **-0.48** |
| **onewto** | **-0.37*** | **-10.45** | **-0.16*** | **-5.11** | **-0.20*** | **-7.03** | **-0.12*** | **-4.78** |
| Year dummy | Yes | | Yes | | Yes | | Yes | |
| R2 | 0.51 | | 0.82 | | 0.50 | | 0.88 | |
| # obs | 133352 | | 133352 | | 133352 | | 64078 | |

Notes:
1. Dependent variable is the logarithm of the real import of country A from country B;
2. All continuous variables are in logarithm;
3. "***", "**" and "*" denote the significance levels at 1%, 5% and 10% respectively;
4. Regression (1) is OLS with year dummies and robust standard errors;
5. Regression (2) has both year dummies and country pair fixed effects;
6. Regression (3) has both year dummies and country pair random effects;
7. Regression (4) has both year dummies and country pair fixed effects (real import>$10,000);
8. The R2 for random effect regression is the overall R2;
9. The R2 for fixed effect regression is the adjusted R2 recovered from country pair dummy variable least square regression (DVLS), which is not comparable with the R2 in the random effect regression.

Table 2: Fixed effects regression results, developing vs. developed countries

| | (1) Full Sample | | (2) Large Traders | | (3) Full Sample | | (4) Large Traders | |
|---|---|---|---|---|---|---|---|---|
| | coef. | z | coef. | z | coef. | z | coef. | z |
| log(GDPi) | -0.93*** | -7.27 | -0.95*** | -9.93 | -0.98*** | -7.65 | -0.96*** | -10.01 |
| log(GDPj) | 0.23* | 1.72 | 0.97*** | 8.24 | 0.26* | 1.88 | 0.97*** | 8.29 |
| log(GDPPCi) | 2.02*** | 15.86 | 2.03*** | 21.06 | 2.07*** | 16.19 | 2.04*** | 21.11 |
| log(GDPPCj) | 1.12*** | 8.08 | 0.41*** | 3.23 | 1.10*** | 7.92 | 0.40*** | 3.17 |
| Alliance | 0.26*** | 3.18 | 0.47*** | 9.83 | 0.26*** | 3.24 | 0.47*** | 9.85 |
| Remoteness | 0.63 | 1.18 | 2.59*** | 6.28 | 0.71 | 1.33 | 2.61*** | 6.32 |
| GSPij | 0.20*** | 3.53 | 0.32*** | 7.85 | 0.22*** | 3.89 | 0.32*** | 7.84 |
| GSPji | 0.23*** | 4.63 | 0.09*** | 2.77 | 0.22*** | 4.60 | 0.09*** | 2.76 |
| FTA | 0.41*** | 10.80 | 0.30*** | 11.49 | 0.42*** | 11.05 | 0.30*** | 11.58 |
| CU | 0.48 | 0.60 | 0.98* | 1.78 | 0.48 | 0.60 | 0.99* | 1.79 |
| *dita*wto | 0.01 | 0.29 | 0.01 | 0.57 | | | | |
| *uscajpita*wto | | | | | 0.11* | 1.81 | 0.06 | 1.44 |
| *aunzita*wto | | | | | 0.28*** | 3.60 | 0.05 | 0.79 |
| *deuita*wto | | | | | -0.05 | -1.36 | 0.00 | -0.09 |
| *dgita*wto | 0.12*** | 3.55 | 0.18*** | 7.34 | 0.12*** | 3.55 | 0.18*** | 7.34 |
| *_itawto*wto | -0.07** | -2.24 | -0.02 | -0.81 | -0.06** | -2.19 | -0.02 | -0.78 |
| *one*wto | -0.16*** | -5.03 | -0.11*** | -4.53 | -0.16*** | -5.01 | -0.11*** | -4.52 |
| Year dummy | Yes | | Yes | | Yes | | Yes | |
| R2 | 0.82 | | 0.88 | | 0.82 | | 0.88 | |
| # obs | 133352 | | 64078 | | 133352 | | 64078 | |

Notes:
1. Dependent variable is the logarithm of the real import of country i from country j;
2. All continuous variables are in logarithm;
3. "***", "**" and "*" denote the significance levels at 1%, 5% and 10% respectively;
4. All regressions have year dummies and country pair fixed effects;
5. Regressions (1) and (3) use the full sample;
6. Regressions (2) and (4) restrict the data to only bigger traders (real import>$10,000);
7. R2 is the adjusted R2 recovered from country pair dummy variable least square regression (DVLS);
8. "*dita*wto" is one if importer is developed ITA member and exporter is in WTO, and zero otherwise;
9. "*uscajpita*wto" is one if importer is US/Canada/Japan and exporter is in WTO, and zero otherwise;
10. "*aunzita*wto" is one if importer is Australia/New Zealand and exporter is in WTO, and zero otherwise;
11. "*deuita*wto" is one if importer is *developed* European ITA member and exporter is in WTO, and zero otherwise;
12. "*dgita*wto" is one if importer is *developing* ITA member and exporter is in WTO, and zero otherwise.

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