



Measuring the Impact of SPS Standards on Market Access

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This policy brief serves as a background paper for a seminar on non-tariff measures which IPC and the OECD are holding on September 13, 2011: “Non Tariff Measures on Food and Agricultural Products: The Road Ahead.” Tim Josling is Senior Fellow at the Freeman Spogli Institute for International Studies, Stanford University, and a Professor Emeritus at Stanford’s Food Research Institute and he is an IPC member. Donna Roberts is the Chief, Food & Specialty Crops Branch at the Economic Research Service of USDA. The views expressed herein are those of the authors, and may not be attributed to the Economic Research Service or the U.S. Department of Agriculture. A draft of this paper was presented to IPC members, and the authors gratefully acknowledge their comments.

Introduction

Market access, for an exporter of a food or agricultural product, is conditioned by a number of factors reflecting marketing costs, tariffs, the cost of complying with both public and private standards, and an assortment of government regulations. National tariff schedules therefore provide only a partial measure of market access, reflecting only the most visible trade barriers. Non-tariff import measures (NTMs) are more diverse and less transparent, but can also represent a significant barrier to entry into a particular market. Among the most important of these NTMs in food and farm product trade are Sanitary and Phytosanitary (SPS) measures. Though such measures are desirable as a way of protecting plant, animal and human health in the importing country, they are sometimes formulated and implemented in a way that makes it unnecessarily difficult for foreign producers to compete. As such they can constitute trade barriers as effective as tariffs.

The market access barriers associated with having to meet complex and country-specific health and safety standards are difficult to classify and quantify. There is no convenient repository for information on these measures nor is there any consistent way to make an estimate as to what the impact of these measures is on trade. Some information is now available on a regular basis. New SPS measures are notified

to the World Trade Organization (WTO) SPS Committee, as required by Article 7 of the SPS Agreement. These notifications are now readily available on the WTO website (<http://spsims.wto.org/>). However, these SPS notifications generally describe broad regulations rather than identify distinct measures, and moreover often fail to link new requirements to specific trade flows. Furthermore, they do not provide a comprehensive overview of existing national SPS regulations since WTO members have only been obliged to notify those measures that have been proposed since the SPS Agreement came into effect in 1995.

Article 7 also requires that countries provide information on their existing regulations “in a manner that is consistent with Annex B, specifically in a manner that enables interested countries to become acquainted with them,” but this requirement has been interpreted as being met by the mere establishment of “enquiry points,” who can provide information for potential exporters upon request. This obligation under the SPS Agreement does not produce documentation of the import requirements themselves.

Because of the paucity of data on SPS measures, most analyses to date have primarily been case studies which relied on indirect methods of measuring the effects of SPS measures on trade. These methods rely on comparison of prices or are inferred from trade quantities in the context

of a well-specified model of trade flows. More recently, a few econometric studies have used simple frequency data for analyses of selected SPS and other non-tariff measures, finding that their effects are larger than tariff effects in some instances. These studies have made important contributions to the development of methodology and reinforce the perception that SPS measures have a substantial influence on agricultural markets, but much remains unknown about the full economic effects of these measures in global trade (Roberts, 2009). The systematic collection, development, and dissemination of data on SPS measures would facilitate analyses that would enable market participants to compare and analyze measures across countries and products; aid national regulators' efforts to estimate the costs and benefits of proposed measures; help international standards organizations establish priorities for setting standards; and support development agencies' efforts to direct resources toward technical assistance projects with the highest payoff.

Database needs

Constructing and using databases of SPS and related measures is in its infancy. Progress has been made in establishing "enquiry points" for information about importer regulations, and the notification of new measures to the SPS Committee has also increased transparency. Translating this piecemeal information into a comprehensive database that can be used to present a more complete picture of the aggregate effects of SPS measures a country may have in place, or to monitor improvements in market access and focus attention on remaining problems will take much time and effort. But the rewards will be a clearer picture of the extent of regulatory barriers to trade and the extent to which importers can meet legitimate human, animal and plant health goals in a way that does not unnecessarily impede market access.

The situation is in some ways similar to that faced in the 1980s, when information about the complex of farm support policies in developed countries was descriptive, patchy, and opaque. Through the initiative of the Organization for Economic Co-operation and Development (OECD) and the United States Department of Agriculture Economic Research Service (USDA/ERS) (building on earlier work at the Food and Agriculture Organization of the United Nations [FAO]) the process of categorization and aggregation of policies

was begun. Now, twenty-five years later, quantitative and comparable information on farm support programs is readily available – at least for the developed countries.¹ Such quantifications are regularly used in models to make estimates of economic and trade implications of domestic support. Though SPS regulations are in some respects more difficult to incorporate in trade models, some form of coherent and comprehensive database for these potential trade barriers is needed in this area as well.

The United Nations Conference on Trade and Development (UNCTAD) has for many years maintained a database that has included non-tariff trade barriers. The Trade Analysis and Information Systems (TRAINS) database has provided analysts with information on a range of such barriers by country but is generally agreed to have incomplete coverage and a classification system that is out of line with current regulatory regimes. The information TRAINS contains is based in large part on notifications to the WTO of new measures but omits several long-standing trade barriers. Moreover, it often lacks the detail needed for empirical modeling (Karov, et al., 2009). UNCTAD is considering updating TRAINS, although this work appears to be still unfunded. If such a revision were to take place, this would form an important and integral part of the new initiatives described in this paper.

Recent Initiatives

Several recent developments have provided some pointers towards a comprehensive database. Four such projects are discussed here. What these four approaches have in common is that they take a realistic approach to the complexity of the subject matter and provide data that can be used to explore quantitative as well as qualitative implications for trade flows. In particular they help developing countries that may not have the capacity to build their own knowledge base about the preconditions for entry into the major markets of the world.²

1 A recent initiative by the World Bank, under the leadership of Kym Anderson, has expanded greatly the quantitative information on developing country farm policies (Anderson, 2009).

2 In addition, these studies make no attempt to judge whether an SPS measure is "legitimate" or not with respect to WTO rules. This legal issue is separable from that of the need for information by traders or analysts, though one might expect more information to lead to greater conformity.

MAST

One recent initiative with important implications for the provision of better information on SPS measures has emerged from the Eminent Persons Group (EPG) set up by UNCTAD in 2006 to consider the issue of non-tariff trade barriers. The EPG called on a range of multilateral institutions to coordinate their efforts to develop a classification system for such non-tariff measures. This led to the establishment of a multi-agency study team (MAST) to coordinate and promote work on collecting information on non-tariff trade measures in effect to be the support team for the EPG.³ MAST has devised a new classification system for NTMs in 2007 (Table 1) that significantly improves on the current TRAINS database, and would presumably form the basis for a revised TRAINS database. It is designed to be more comprehensive in country coverage and to include information other than that notified to the WTO SPS and Technical Barriers to Trade (TBT) Committees. By distinguishing between SPS and TBT

measures, the new classification system will be more able
 3 The institutions concerned are FAO, WB, OECD, IMF, ITC, UNCTAD, UNIDO and WTO. The EU Commission, the USDA/ERS and USITC participate as observers.

to reflect the different legal nature of the two agreements. Currently the UNCTAD and the United States International Trade Commission (USITC) are testing the new classification system for seven countries.⁴ In addition, MAST has set up a Trade Barrier Reporter website to encourage the private sector to report market access problems, in particular those involving “procedural obstacles” to trade.⁵

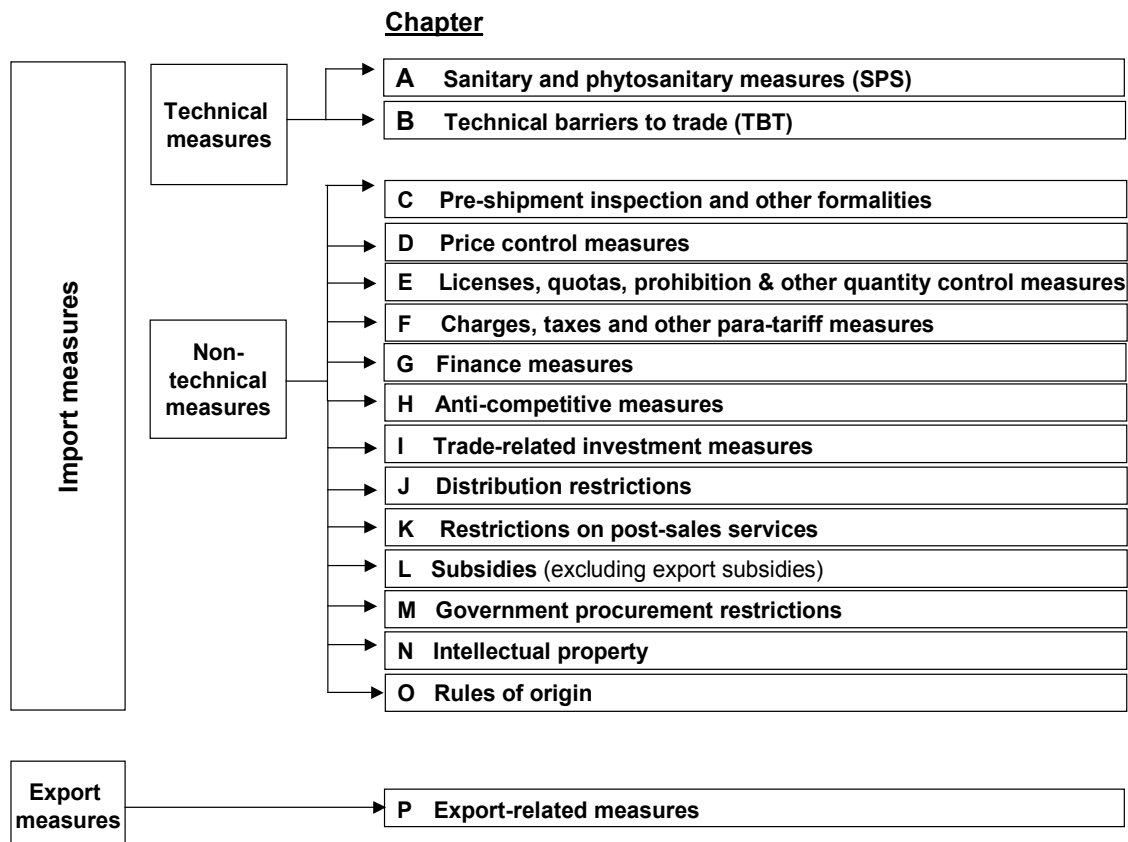
Data collection within the framework of the classification system relies on a mix of company surveys and exporter complaints, official data from importer countries and for major exporter destinations. The information includes the period of application of the measure as well as the tariff classification for the product: where the measure is compliant with an international standard this is also noted.⁶ When completed, the MAST data will be a significant

4 The seven countries are Brazil, China, Thailand, the Philippines, India, Tunisia and Uganda.

5 Access to the website is at <http://ntb.unctad.org>.

6 Another IPC paper deals in more detail with the difficulties that have arisen in finding out which countries adhere to international standards (Roberts and Josling, 2011).

Table 1: Classification of Non-tariff Measures by MAST



improvement from the viewpoint of economic analysts of the importance of NTMs. The current aim is to include about 50 new countries each year. See Table 1, below.

NTM-IMPACT study

Another approach has been taken by a consortium of twenty-one research institutes and affiliated academics to develop the methodological and analytical underpinnings for a NTM database, to include SPS measures.⁷ This would then be used in a comparative study of trade barriers in major markets, together with a series of case studies focusing on commodity clusters and on access by developing countries to the European Union (EU) market. This NTM-IMPACT study is financed under the seventh framework program of the European Commission and focuses on NTM issues of particular interest to the EU.

Results and findings from the NTM Impact study are expected to be released in late 2011. The approach of this exercise is to follow the MAST classification closely and focus on the way in which EU regulations relate to this typology. Some of the preliminary work has involved looking at the OECD studies on indices of complexity in regulations and at ways of expressing regulatory differences. This research project is expected to contribute to efforts to quantify the impact of regulatory heterogeneity.

USDA/ERS Database: Phytosanitary Regulation of the Entry of Fresh Fruits and Vegetables into the United States

The Economic Research Service of the USDA has been moving in a similar direction with respect to US import regulations. One outcome of this work is the construction of a new database covering US import regulations for fresh fruits and vegetables. The unique aspect of this database is its incorporation of detailed information from Animal and Plant Health Inspection Service (APHIS) (the agency responsible for inspection of fruit and vegetable imports) and in particular their manuals as they are applied in the field. This yields a valuable set of observations when linked up with trade flows. By a simple classification of the types of measures (origin restrictions, treatments, destination restrictions, pre-clearance and systems approaches) analysts have been able to link the type of SPS regime with trade

⁷ IPC participates in this consortium. www.ntm-impact.edu.

impacts (Karov, et al, 2009).

The USDA work emphasizes the bilateral nature of SPS regulations. It presents a dimension of SPS barriers that is often ignored: importer standards are often specific to particular exporting countries. The database includes the countries that have been approved by APHIS for the export to the US of particular fresh fruits and vegetables. Thus the question for the exporter is “how to make the list?” This also acts as a reminder of the potential significance of bilateral and regional trade agreements in the area of SPS (and sometimes TBT) measures, though in general the regional and bilateral agreements go little further than the conditions incorporated in the SPS Agreement.⁸

The empirical work that is reported in Karov, *et al.* is also indicative of developments that could greatly illuminate the economic significance of SPS measures. The authors use a “product-specific gravity model” to link the type of SPS measure to the observed trade flows. Transport cost and tariffs replace distance in the traditional gravity model and production in the exporting country of the good in question plays the role of size. The regression is limited to exports to the US of fresh fruits and vegetables and produces some interesting links between such trade and the various types of SPS instrument used.

CIMA

A fourth study takes a somewhat different tack, by emphasizing the need to accumulate information about the cost of meeting the regulations set by the importing country. The International Centre for Trade and Sustainable Development (ICTSD) in Geneva has been exploring the possibility of devising a composite indicator of market access (CIMA) that would combine tariffs, subsidies and other market instruments with the compliance cost of meeting importer regulations.⁹ Though obviously the costs will be dependent on circumstances and differ by exporter as well as by importer, the use of a monetary numeraire is

⁸ The parallel with tariff barriers is notable. Given the proliferation of bilateral and regional trade agreements, the tariff schedule for a country is a complex mix of MFN and preferential tariffs. It is no longer adequate (if it ever was) to focus on the MFN tariff as the operative border measure when analyzing trade flows and trade barriers.

⁹ The initiative came from a meeting on problems of trade in tropical products organized by ICTSD and ICONE, held in Bahia in 2007 (ICTSD, 2007).

essentially the only way to combine regulatory and financial barriers. A pilot study calculating a CIMA for two rice-exporting countries has been completed that shows how this approach might be extended.

The method of calculating the indicator of market access is based on the notion of a price ladder, from production costs all the way through to final selling price for the exporter in the importer market. The steps in the ladder are the defined costs, taxes and subsidies that make up the difference between production costs and final revenue. There will also be an element of profit (or loss) in the price ladder, normally a residual. The steps in the ladder are expressed as costs and returns per unit of the product. The central importance of the ladder is that it ensures consistency and completeness. The actual completion of the ladder through the calculation of the individual steps is a check on the consistency of information gleaned from different sources. Completeness is assured, as the relationship between the parts of the ladder is an identity.

Standards are incorporated into the CIMA by way of the costs of compliance with those standards. These can be of two types: public standards, generally of a health and safety nature, that will be fairly similar across exporters within a country and even across countries; and private standards that will be specific to those firms that choose to undertake the additional costs involved with meeting the requirements of a particular firm in the importing country. Where a higher price is received as a result of meeting more exacting standards then this would also be incorporated in the calculation.

The benefit of the CIMA approach is that it addresses the question of subsidies in a way that reflects their economic importance. Subsidies paid to competing producers in the importing country are different type of market access problem: not restricting access *per se* but tilting the competition in favor of the domestic producer. Export subsidies provided by competing exporters can have much the same effect on the ability of any particular exporter to compete. In addition to subsidies, competitors may enjoy preferential access to the importer's market as a result of participation in free trade areas or regional trade agreements. All this suggests that true market access is a combination of several factors that need to be combined if the exporter

is to get a complete picture of the degree of market access afforded to a product from a particular country. The CIMA tries to incorporate all the relevant exporter costs so as to be able to see the relationship between fiscal barriers such as tariffs and the cost of overcoming regulatory hurdles and where appropriate the additional cost of meeting private standards.

Conclusions

Coordinated efforts to compile a new database of SPS and TBT measures are underway and are to be welcomed. With comparable information on private standards (which poses similar challenges) and on the extent of compliance with international standards (see companion paper) this will represent a major step forward in understanding this complex area of trade policy. Informed debate will hopefully widen from national scientific experts and administrators to trade groups, to academic researchers, and particularly to those in developing countries that do not have the capacity to collect these data themselves. The information could also constitute a base for some future negotiation on removing unneeded barriers to trade. In this regard, the CIMA approach of adding SPS measures to tariffs though the cost of compliance would lead to possible commitments by countries to limit or reduce the total constraints on market access. The analogy with the composite measures of producer support of the OECD is tempting. However, it is unlikely that this will reach the situation where importers will relax health standards for foreign goods in order to be able to increase non-SPS trade barriers to protect domestic producers. The intention would be to ensure that market access opening through (say) lower tariffs were not effectively undone through the higher costs involved in meeting SPS-type measures.

The MAST classification system appears to be suitable for such a purpose and the case studies underway should show whether there is more fine-tuning needed. The NTM-IMPACT study, will be complementary to the initiative by the agencies, in particular by using the MAST classification. It is likely to provide a wealth of data about several countries' import regimes and stimulate a considerable body of work

from the institutes involved.¹⁰

The ERS database on fresh fruits and vegetables is also compatible with the MAST approach, though it emphasizes the bilateral nature of regulations in this area. The experience with the complexity of US import regulation will help others to reproduce similar efforts, perhaps in the context of the EU-funded study. To make full use of the information coming from such a new database, it would be desirable to construct it in a way that was complementary to the information on other market access barriers. The classification of measures into origin restrictions, treatments, destination restrictions, pre-clearance and systems approaches suggests a way to examine each of these from the point of view of the probable cost of compliance.¹¹

The CIMA approach tackles the compliance cost issue directly. But it could also benefit from the development of an improved classification system and a systematic source of information on bilateral import regulations. The categories identified in the MAST work would provide a good structure for searching for compliance cost data. Many of the NTMs will have a cost that is comparable across countries (a particular treatment, for instance) and so this could be a help to those constructing cost-based measures. And this approach may in any case be needed eventually. A measure of the relative openness to imports that included a quantification of the cost of meeting national SPS regulations would allow comparisons among countries and the tracking of a country's changes in SPS regulations over time. Such a tracking system would be crucial if countries are to be asked to take further national commitments in the SPS realm.

This paper has assessed some of the efforts in place or underway to describe in qualitative terms national SPS regulations, as well as efforts to determine the quantitative impacts of SPS regulations on market access. It leads to several recommendations as to the way in which the goals of transparency can be furthered and the burden of meeting

standards of importing countries, while meeting essential animal, plant, and human health objectives, can be reduced. Others have also commented on the need for more systematic information. One such suggestion has been made to include such information in periodic reviews of import regulations (Zahrnt, 2009).

So the need is for institutional leadership and adequate resources to expand on these complementary efforts. Better notification is a valuable step: more systematic reporting through a SPS Trade Policy Review (TPR) will also add significantly to the quality and coverage of data on SPS measures. Agreement on the MAST classification, for instance, would make these other initiatives more useful. It would enable similar types of measures to be compared across countries, and make databases created by different groups and agencies be additive. And the ability to feed information about the cost of meeting technical requirements into quantitative assessments of barriers to market access would help to illuminate a dark corner of international commerce.

10 One would hope that the desirable urge to search for ways to quantify SPS impacts does not lead too far down the path of counting regulations. The CIMA approach of using cost of compliance would seem to be the simpler way of expressing the impact of such regulations in a form useful for economic analysis.

11 An origin restriction, for instance, imposes a prohibitive cost on exporters from that region: pre-clearance and systems approaches may have a relatively small cost where the exporting country has good infrastructure. Destination restrictions may in some cases have no economic cost.

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Annex

This annex contains more details on the database initiatives discussed in the text.

MAST (extracts from website)

It has also been proven difficult to systematically analyze NTMs due to a lack of a common definition and taxonomy, inadequate data on NTMs and an agreed methodology for quantifying such barriers. So far, data on NTMs have always been collected and identified by different institutions for different purposes in different ways using different sources of information.

In July 2006, The Secretary-General of UNCTAD established a Group of Eminent Persons on NTMs to address the urging need for developing a unique definition and classification of NTMs. The Multi-Agency Support Team (MAST) comprising FAO, IMF, OECD, UNIDO, WTO, World Bank, USAID, USITC and ITC, has been tasked to provide the necessary technical support to the Group.

The dialogue to achieve a jointly agreed upon classification took place in 2007. After extensive discussions, the Support Team proposed a new classification on NTMs that is based on UNCTAD's NTMs classification of the early 1990. Salient features of the new NTM classification are: (1) it expanded the category of Technical Measures by clearly distinguishing SPS and TBT measures and their sub-categories; (2) it introduced hitherto unclassified measures such as measures related to government procurement, intellectual property rights, subsidies, etc; and (3) introduction of a new concept of "Procedural Obstacles", whereby rather than the measures themselves, but their implementation poses as a barrier to trade.

The Pilot Project on Collection and Quantification of NTMs is a joint effort by UNCTAD and ITC within the overall project framework that aims at increasing transparency on world trade and in particular NTMs. In the long run, a global approach to collect, classify and store country-level data on NTMs shall be established. In 2008, the data collection process starts on several pilot countries, including Brazil, Chile, India Philippines, Switzerland, Thailand, Tunisia and Uganda.

Data collection will include:

- Data from official sources of both the pilot countries and their main partner countries and
- Business sectors' complaints reported by traders based on their perception

The perception of exporters will be then matched against the official reported data, allowing the analysis of NTMs with respect to both quantification and qualification. It also enables to identify indications for a possible lack of domestic infrastructure and awareness.

The Trade Barrier Reporter is one tool to collect and identify the trade barriers reported by the business sector. It allows identifying the most prevalent trade barriers faced by exporters and importers. The perception of traders is in focus, reflecting the subjective evaluations of firms. This approach will provide a real-world picture of what exporters and importers currently perceive as the most important impediments to the products they trade.

TRAINS (extracts from website)

UNCTAD-TRAINS is a comprehensive computerized information system at the HS-based tariff line level covering tariff, para-tariff and non-tariff measures as well as import flows by origin for more than 160 countries.

It contains:

- Trade Control Measure (Tariff, para-tariff and Non-Tariff Measures) information at tariff line level for over 160 countries.
- Imports by suppliers at 6-digit level of the International Convention on the Harmonized Commodity Description and Coding System (HS) for all countries
- Imports by suppliers at national tariff line level for selected countries
- Quick Query to view or export raw data
- Custom Query to construct customized queries including aggregation of trade and averaging of tariff rates at product aggregates defined in terms of most internationally recognized product classification systems (e.g. SITC, ISIC, etc)

Simulation of tariff changes, such as those proposed in the WTO negotiations or in regional trade agreements

Data for TRAINS are collected from publicly available sources, such as official governments other commercially available publications, including machine readable ones such as those in CD-ROM or downloaded from the web site.

Data are collected by UNCTAD as well as by the International Trade Centre, UNCTAD/WTO (ITC). In addition, the Inter-American Development Bank (IADB) as well as the secretariats of the Organization of American States (OAS), the Latin American Integration Association (ALADI),

Caribbean Community (CARICOM) and the General Treaty on Central American Economic Integration (SIECA) have jointly signed an MOU with UNCTAD for the establishment of a sub-system TRAINS for the Americas, under which the database has been extended with information on bilateral preferential tariffs for the most important trade agreements in the American Hemisphere.

Other subregional institutions which actively contribute to the data collection effort through the inter-active TRAINS dissemination program are: the South Asian Association for Regional Cooperation (SAARC); the Economic and Monetary Community of Central Africa (CEMAC = ex-UDEAC); as well as the Industry and Trade Coordination Division of the Southern African Development Community (SITDC)

USDA/ERS (extracts from website)

Phytosanitary Regulation of the Entry of Fresh Fruits and Vegetables into the United States

This data product identifies which countries, under APHIS phytosanitary rules, are eligible to export to the United States the fresh fruits and vegetables that are most important in the American diet. Current data represent country eligibility as of June 2009. Previous data represent eligibility as of February 2007 and June 2008. Data on the absolute and relative importance of these countries in international production and trade, individually and in aggregate, are also included. This data product supports the objectives of the Program for Research on the Economics of Invasive Species (PREISM) under which ERS funds and conducts research to improve the economic basis of decision-making concerning invasive species issues, policies, and programs.

Under international trade rules of the World Trade Organization (WTO), sanitary and phytosanitary regulations that prohibit or restrict imports of products to combat the potential entry and establishment of pests or diseases are permitted if based on scientific risk assessment. The use of these regulations by countries is widespread. In the United States, APHIS regulates imports of fresh fruits and vegetables under the Plant Protection Act (PPA) of 2000. Advances in science and technology are helping APHIS design less trade restrictive measures that reduce phytosanitary risks while allowing imports that may lower costs or extend seasonal availability of fresh fruits and vegetables to U.S. consumers. Having access to information on countries that are eligible to export these products to the United States can underpin analyses of the market effects of existing import rules and potential changes in these rules. This data product can also facilitate economic analyses of other programs and policies

related to trade in fresh fruits and vegetables that are of interest to market participants, international trade and standards organizations, and development agencies.

NTM-IMPACT (extract from website)

Assessment of the impacts of non-tariff measures - NTMs on the competitiveness of the EU and selected partners

The overall objective of the project is to collect and analyze new data on non-tariff measures (NTMs), particularly on governmental standards and regulations that prescribe the conditions for importing agri-food products into the EU market and into the markets of the main competing players. Furthermore, impacts from EU and trade partner NTMs on least developing country (LDC) exports are examined.

The project will deliver the following results:

1. An analytical framework for defining measures, methods, products and countries.
2. A data base on NTMs in EU, USA, Canada, Japan, China, India, Brazil, Argentina, Australia, Russia and New Zealand.
3. Comparative analyses on the impact of NTMs on agri-food trade of the EU vs. competitors.
4. Policy recommendations from case studies for quantifying NTMs on fruits and vegetables, meat and dairy trade clusters with the EU and competing trade partners.
5. Policy recommendations from case studies on the impacts of EU and trade partner private and public standards in LDCs.
6. Timely dissemination of project results to key stakeholders (< 28 months)

This will be achieved:

- A. By optimizing complementarities with the EC's Market Access Data base and ongoing NTM research on the TRAINS database at UNCTAD.
- B. By organizing the research work in research, database, management and dissemination work packages
- C. By developing research methodologies that are innovative and robust, optimizing the direct usefulness of the end results for the end users.

D. By proposing a partner consortium that together reunites the relevant needs, for:

- Scientific excellence and international project experience
- Appropriate geographic coverage to collect the required data in all countries
- Linkages and complementarities with ongoing international NTM analyses (EC, UNCTAD, OECD, etc.)
- Policy contacts, dialogue and influence
- Efficient and effective project management

The consortium of [21 partners](#) is co-ordinated by [CIRAD](#), Montpellier.

CIMA (extracts from Josling, 2009)

The objectives of the Composite Index of Market Access, CIMA, include its use “in better appreciating and visualising the real magnitude of trade liberalization [that may be] achieved during the Doha Development Round” and the provision of “a powerful tool in pursuing further liberalization and effective reform”. Any reduction in market access barriers, whether by tariff reductions or by less costly ways of meeting standards, should therefore show up as an increase in the market access index. The index should be capable of an easy interpretation, to be useful in visualizing the extent of liberalization achieved and desired.

A CIMA must therefore be comparable among countries for the same commodities, and where appropriate should be able to be compared across commodities. As a tool to assist in negotiations it needs to give a clear indication of whether any particular negotiated outcome could result in “real”

liberalization. To be useful as an indicator in the context of both information dissemination and trade negotiations, the CIMA needs to be:

- easily comprehended,
- based on readily available data, and
- capable of replication.

These conditions imply that it should be appropriate as a “headline” number that can be taken by governments as reliable and not biased toward one position or another. Indicators are a description of the current situation, not estimates of the impact of changes in policy or market conditions. So the CIMA does not purport to indicate the quantitative impact of the policies that are represented, for which a model is required. Changes in CIMA can of course be used in a model, and thus the indicator can be “calibrated” in terms of export volumes or other policy objective. Moreover, it would be instructive to compare CIMA levels with results from other methods of examining the trade effects of market access barriers, such as gravity models. Such comparisons would provide a validation of the CIMA and enhance its credibility. Other approaches to the measurement of protection have had as their objective the estimation of the benefits to be gained from the removal of trade barriers. This requires the concept of a welfare function whose value can be maximized. An indicator of market access, however, does not necessarily have to reflect the magnitude of the benefits gained, so long as a shift in the value of the indicator can

be interpreted as an improvement or deterioration (i.e. it has to be ordinal but need not be cardinal) for the exporter. However, it is useful to have an indicator that has some bounds, so as to be able to have a broad idea as to how it relates to “ideal” conditions.

The **International Food & Agricultural Trade Policy Council** promotes the role of trade in creating a more open, equitable, productive and sustainable global food & agricultural system. IPC makes pragmatic trade policy recommendations to help solve the major challenges facing the global food & agricultural system in the 21st century—the need to promote global food security, to sustainably increase productivity, and to contribute to economic growth and development.

IPC convenes influential policymakers, agribusiness executives, farm and civil society leaders, and academics from around the world in order to clarify complex issues, foster broad stakeholder participation in policy deliberations, and build consensus around pragmatic policy recommendations. More information about the organization and its membership can be found on our website: www.agritrade.org.