Agriculture in the TPP

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Introduction

This paper will describe the prospects for agricultural production and trade in the context of the Trans-Pacific Partnership agreement (TPP). It is widely recognized that there are several other themes of the TPP that are dominating public debate about the agreement: intellectual property, impact on generic drugs, dispute settlement mechanism, handling of electronic data, etc. Because agriculture remains a significant area of employment for many countries, and indeed many farmers are among the poorest in their countries, our hope is to avoid losing this topic in the heated debates taking place over the newer topics, and retain agriculture's issues a place on the agenda of the bargaining table. In light of the fact that the TPP negotiators describe the treaty as path-breaking for the new century, agriculture deserves to be described, along with its achievements and limitations.

Types of Trade Agreements

Economic integration is a term that covers several types of agreements, the broadest being that of the World Trade Organization (WTO). Less ambitious than the WTO are 'free trade agreements' (FTAs) between a small number of countries, which typically have low tariffs for their fellow members, and higher tariffs towards outsiders. Two frequently encountered synonymous terms for FTAs are Preferential Trade Agreement (PTA), and Regional Trade Agreement (RTA).[2] Of course most FTAs do not truly follow *free* trade, even among the members, and more specifically, these arrangements do not have common external tariffs, but have lower tariffs for items produced by their fellow members than for third countries.[3]

The usefulness of the term RTA is limited. It is appropriate when describing Mercosur or ASEAN, but there is no way one can describe the United States to be in the same region as either Chile or Israel, with whom it has such agreements. This motivates many analysts' preference for the use of the term 'preferential' in describing them, so that Preferential Trade Agreement is the term will be used in this paper, except where a specific agreement is widely referred to by another term.

Analysis of Economic Integration and PTAs

In the earliest years of the formal study of economics, Adam Smith and David Ricardo argued that free trade is a beneficial policy for a country to follow, because if each country encouraged production of those goods in which it was more efficient – had a comparative advantage – then there would be more for all. Subsequent writing has certainly refined that argument, emphasizing the importance of the issue of full employment, and showing that in order for a trade policy to benefit the entire country, there will need to be a redistribution of its benefits between those citizens who gain, and those who lose.

The general public and the media retain Smith's initial, positive orientation toward free trade, even when discussing preferential trade agreements, but in this case the technical qualifications of economic analysis of the benefits of PTAs are stronger. For more than half a century economists have pointed out that the increased trade resulting from a PTA may benefit or hurt the country – and by extension the world overall –

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[1] A shorter version of this paper will be presented to the AMEI Congress in Tijuana, Mexico on October 14, 2016; it is available at www-personal.umd.umich.edu/~mtwomey/econhelp/Agriculture_in_the_TPP.pdf. Tables not in the shorter version here are numbered 'old'. These are both revisions of work that was presented to the 2016 LASA meetings in New York.

[2] The media in in the western hemisphere countries tend to use the term Free Trade Agreement, and its Spanish equivalent *Tratado de libre comercio*. The Spanish acronym for NAFTA is *TLCAN*.

[3] Thus the old saw that "[F]ree trade agreements are about a lot less than free trade and a lot more than trade," (George Mulgan; 2008, 31).

depending on the relative size of what are termed trade creation and trade diversion. The classical example of the latter effect occurred when the United Kingdom joined the EEC, giving up its purchases of wheat and other foods from more competitive producers in Argentina, Australia, or Canada. For the TPP, a hypothetical example of trade diversion would be that if Japan and the United States were to enter into a PTA that lowers Japanese tariffs on cotton imported from the US, but not those from a more efficient producer and exporter, say Pakistan. This disadvantageous trade diversion is more likely to occur when the signatory country - Japan here – previously had high tariffs; in today's world that is more likely the case of developing countries who had been pursuing import substitution industrialization behind high tariff walls. The issue of the predominance in a multilateral agreement of trade creation or trade diversion will depend on the specifics of the case in point; i.e. it is an empirical issue, and we will discuss below some relevant statistical studies.

It may be helpful to discuss some of the wide variety of alternative approaches to the analysis and evaluation of economic integration, especially of those associations whose membership is restricted to a small number of countries, ('plurilateral' or 'minilateral' accords). I am referring to work reflecting perspectives of political scientists and students of international relations, that emphasizes concepts like strategy and security. One unmistakably valid motivation for this excursion is the fact that US President Obama initially posited his support for TPP as a (strategic) pivot towards the east, away from the Middle East. For example, "[T]he Obama administration is using the TPP to promote traditional security concerns including the strengthening of bilateral military alliances in the Asia-Pacific, the projection of US power as a counter to China, and the promotion of democracy, human rights, and the rule of law," Capling and Ravenhill (2013, 191-92). We will not dwell on the evident inconsistency between the US administration's suggesting that the TPP is a means of holding China back, and their frequent statements that they would welcome China's incorporation into the TPP.

We might posit a continuum of multilateral trade arrangements with varying relative importance of economic and strategic goals. Arguably, the Israel-US PTA is mostly about political/strategic concerns, but even in that case economic factors are involved. For example, the strengthening of Israel's economy is a means by which the US can help that country, a goal pursued for various political motives. Somewhere else on that continuum would be the European Union's PTAs with several of its neighbors in north Africa and the Middle East – we might label this as PTA as foreign aid. But what should we say about the numerous assertions of strategic competition between Japan and China as a motive for Japan's recent embrace of PTAs? Because China's national income has passed that of Japan, there can be no denying of economic competition between these two countries. This author has found very useful a recent review by Fairlie (2013) of the various integration projects with which Peru is involved; my reading is that from his Andean perspective, the political alliances and limited integration involved with the Andean Community, UNASUR, ALBA, the Alianza del Pacífico, and the MERCOSUR are judged more important than the economic gains represented by signing the TPP, especially given Peru's PTA with the US. It will be clear that the international relations viewpoint is dramatically different from the analysis of this paper, which basically looks for <u>economic</u> gains or losses for the various signatory countries.

For that matter, we should acknowledge the linkage of strategic considerations to these economic arrangements. Accepting the premise that PTAs give preference - that is, economic benefits - to member countries over those who are not members, then clearly there will be a strategic incentive to get in, and perhaps also to keep other countries out. Whalley (1998) highlighted strategic considerations in his analysis of the growth of PTAs, giving examples of international security considerations in Europe, the goal of locking in domestic policy reforms in Mexico, via NAFTA, and strategy in a bargaining sense, of establishing precedents on a small, regional scale as preparation for a bigger game at the level of the WTO. An illustration would be the case described in Dawson (2012, 1), which asserted New Zealand's reluctance to have Canada enter the TPP discussions because Canada's orientation in favor of protection of domestic dairy production would strengthen the position taken by the United States on that issue, thereby reducing the support for free trade that New Zealand supports. Dür (2007) asserts that the EU PTAs with Mexico and Chile were motivated by European desire to guarantee market access in those countries, which had been weakened by NAFTA, and – by implication – with their neighbors. Another example of strategic considerations would be the frequently asserted existence of first-mover advantages in trade associations that are being formed. Many commentators have noted that by being the first low wage country to engage with Canada and the United States in NAFTA, Mexico was able to

influence the structure of that agreement, affecting other potential candidates, and presumably other agreements, such as the TPP itself.

Even the briefest of introductions to the economic analysis of international trade agreements should comment on the ultimate goal of these policies, in terms of the goals being pursued. Most discussions of the benefits and costs of PTAs ultimately form evaluative judgements based on levels of income and production. Such studies typically omit discussion of impacts on the distribution of income, because the presumed links are too disperse, and the relevant data are often difficult to find. Having acknowledged and lamented this, perhaps it also behooves us to recognize that a 21st century issue, perhaps worth investigating with respect to a 21st century trade agreement, is the TPP's effect on the global environment. Unfortunately, this paper will have little to say about this theme, reflecting both the author's lack of training in this area, as well as the apparent lack of interest in environmental issues by those who negotiated and signed the agreement.

PTAs: Stepping Stones or Stumbling Blocks to Free Trade?

One can imagine a reversal of the above-referenced warm feeling towards trade agreements if instead of calling them 'Free Trade' or 'Regional' Trade Agreements, they were instead labeled *Discriminatory* Trade Agreements. This phrase could be justified as a reference to the perspective of those countries who are not participants. The title of the 2008 book by one of the world's most influential international economists since WWII, Jagdish Bhagwati, forthrightly states his opinion: "Termites in the Trading System." This is a position he has defended in many publications, dating back at least to his criticism of the NAFTA accord in the early 1990s. Indeed, he highlights NAFTA as the tipping point between reliance on multilateral tariff reduction as characterized by the GATT/WTO, and the spread of discriminatory trade arrangements characterized by PTAs. Bhagwati's criticisms of PTAs are solidly based on standard economics. The support for this position inside the academic community is significant, if not universal. For example, Jeffrey Schott, a senior scholar at the Peterson Institute for International Economics – an important policy/research group in Washington, D.C. – who reviews these arguments in Schott (2004), vaguely concludes in support of PTAs.

To Bhagwati's long-held skepticism towards PTAs we might note the many contributions of Richard Baldwin, who focused on the north-south dimension the motivation for regional/preferential trade agreements, implicitly assuming a difference in technological achievement in the two regions. In addition, his more direct discussion of production chains, along with increasing returns to scale, helps enlighten our current understanding, because inevitably the roles of multinational corporations are mentioned. The relevant international bargain for north-south PTAs may well involve 'the south' reducing barriers to inward foreign direct investment (FDI) in exchange for reduced protectionism in 'the north.' In this case, the relevant empirical comparison is not changes of a country's exports and imports, but rather its outward trade versus inward FDI, or vice versa – inward trade compared to outward FDI.

Rather than dwell on that unresolved debate I wish to mention briefly two related treatments of PTAs, essentially based on economic analysis. Richard Baldwin (1993) utilized this vision of the negative impact of preferential trade agreements, and incorporated it into a vision of a 'domino theory' of the growth of RTAs (i.e., PTAs), rephrased and updated in 2014 as:

> "…the signing of one RTA tends to induce the signing of more RTAs. As FTAs reduce third nation exports to the FTA nations, they stimulate third-nation exporters to engage in new political economy efforts to persuade their government to redress the new discrimination. In many cases, third-nation governments respond by signing new FTAs with one or both of the recently integrated partners. The dominos continue to fall as each new RTA increases the trade diversion befalling excluded nations.
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> "Old fashioned mercantilist exchanges of market access drove the political economy of 20th century RTAs. The international bargain was, "my market for yours." With 21st century RTAs, the basic international bargain is very different. It is 'Northern factories for Southern reform'." Baldwin (2014, 29)

Baldwin's discussion of these North-South PTAs goes on to bring out the idea that the link between the northern and southern countries will be situated in an international supply chain; he provides as an early example of the 1965 United State-Canada Auto Pact, and comments that the EEC was an even larger example of

such production sharing. He also noted that at that earlier time, Japan had less use for production sharing across its borders, a situation which evidently has changed in the subsequent decades.[4]

An attempt to summarize the above might note that Bhagwati has kept in economists' field of vision a long-held skepticism towards PTAs because of possible trade diversion. Perhaps Baldwin downplays that skepticism, but – among his many contributions – he brings into focus as part of the motivation for regional/preferential trade agreements their north-south dimension, implicitly assuming a difference in technological achievement in the two regions. In addition, his more direct discussion of production chains, along with increasing returns to scale, helps enlighten our current understanding, because inevitably the roles of multinational corporations are mentioned. The relevant international bargain for north-south PTAs may well involve 'the south' reducing barriers to inward foreign direct investment (FDI) in exchange for reduced protectionism in 'the north.' In this case, the relevant empirical comparison is not changes of a country's exports and imports, but rather its outward trade versus inward FDI, or vice versa – inward trade compared to outward FDI.

It may help to turn to a recent book that applies these insights to the regions of interest to us now. Manger (2009) provides a wonderfully informed and detailed analysis of the growth and spread of North-South PTAs, starting with the creation of NAFTA, moving on to the PTA between the European Union and Mexico, then 'the odd couple'- the PTA between Japan and Mexico – proceeding to consider Chile's numerous PTAs, and finishing with a chapter on 'Japan's NAFTA route: preferential trade agreements with Malaysia and Thailand.' Manger has certainly read Bhagwati and Baldwin, but his analysis goes beyond them to emphasize the role of the multinational corporations in the process, by linking the two economies, and their governments. His book, derived from a dissertation recently presented at the University of British Columbia, impresses with the intellectual cohesion of his analysis, covering several distinct cases, based on oral and written information communicated in English, Spanish, French, and Japanese.

A further evaluation of Manger's book would have to acknowledge that its theoretical discussion lacks a clear answer to our original question, about the inherent value of PTAs. For better or worse, this may well reflect the academic orientation of the author, which leans towards political science and international relations; the sub-title of his book is "The Politics of Preferential Trade Agreements between North and South."

Finally, a topic that Manger mentions but I believe does not sufficiently emphasize is that PTAs often involve an increase in protectionism not through tariffs on imports, but through the changes in rules of origin (ROO). Although Article 24 of the GATT prohibits a PTA from raising tariffs, apparently no such explicit rule is stated for ROO. In the case of NAFTA, the Mexican government removed the legislation providing tax-free treatment of trade to and from in-bond factories (*maquilas* or *maquiladoras*). The NAFTA regulations established levels of ROO which entitled qualifying factories to tax-free imports. Inevitably, foreign-owned companies in Mexico whose head offices were not in Canada and the U.S. therefore confronted higher tariffs on their imported inputs.[5] This dynamic plays a central role in Manger's discussion of the motivations for PTAs between Mexico and the EU, and subsequently between Mexico and Japan.[6] Thus Manger both supports and extends Baldwin's domino theory of PTAs.

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[4] The author of this paper was rather surprised to see the frequency of comments in the literature, relevant to the historical process leading to the TPP, of interest to about how one PTA inspired others – a competitive process acknowledged by Baldwin. This observation weighs in on the side of PTAs being stepping stones to free trade.

[5] Another contribution by Manger is to point out that the investments of several Japanese companies was registered through their US subsidiaries, facilitating their satisfying the Rules of Origin.

[6] A similar story of how NAFTA led Japanese authorities to explore the PTA with Mexico is presented by Solís and

intellectual cohesion of his analysis, covering several distinct cases, based on oral and written information communicated in English, Spanish, French, and Japanese.

Some Specific PTAs

The agreement creating the General Agreement on Tariffs and Trade (GATT) was signed in 1947; its successor organization, the WTO, was approved in 1994. Although not all the world's countries are members of the WTO - and thus it could be considered a large PTA - that latter term is more appropriately applied to smaller sets of nations. The same could be said of the European Union (EU), called the European Economic Community (EEC) in its first incarnation. In the post-WWII era, the first major example of a PTA is the European Free Trade Association or EFTA, which was created in 1960 as a group of European countries that consciously differentiated themselves from the EEC, and did not have a common external tariff.

There are numerous examples of PTAs among third world countries - Latin America produced the Latin American Free Trade Association, the Central American Common Market, the Andean Pact, and Mercosur. This last mentioned – initially composed of Argentina, Brazil, Paraguay and Uruguay - remains an important element in world trade arrangements today, and has attracted other South American countries as associates. We will not attempt a summary of the evolution of the Latin American Free Trade Association, except to mention that in 1980 it was reorganized as the Latin American Integration Association – also known as the *Asociación Latinoamericana de Integración*, and that it seems to have been surpassed by the numerically smaller PTAs such as NAFTA and Mercosur, and now perhaps the TPP. Mention should also be made of the Pacific Alliance, formed by Chile, Colombia, Mexico, and Peru, which to date has made greater progress in unifying parts of the members' service areas, but has little to show in the reduction of tariffs on foreign trade.

Rather than list the numerous cases of unsuccessful trade agreements in the rest of what is sometimes still called the third world, let us tell a narrower, more successful story in more depth, by introducing the case of the Association of South East Asian Nations (ASEAN), which at its formation in 1967 was composed of Indonesia, Malaysia, Philippines, Singapore and Thailand, and has since expanded to include Brunei, Cambodia, Laos, Myanmar/Burma, and Vietnam. Although economic issues have always been important to its membership, most authors agree that initially political considerations were dominant, including the desire to keep out communism, and to resolve ethnic conflicts among the member countries.[7] The end of the Vietnam War and the subsequent disintegration of the USSR displaced many of these cold war considerations, while leading the ASEAN countries to an increasing sense of political maturity and cooperation.

The ASEAN Free Trade Area (AFTA) was approved in 1992,[8] while the region's commitment to an ongoing effort seeking fuller economic integration is represented by the approval in November, 2015 of the ASEAN Economic Community (AEC) composed of the ten member countries. Details of the AEC will be consolidated over the coming years, and it currently is the case that the individual ASEAN countries tend to realize more trade with third countries, than with their fellow members.

Along with the growth of cooperation among the ten ASEAN countries has come closer collaboration with their big neighbors. Separate PTA agreements – sometimes referred to as ASEAN+1s – have been signed with China (2007), Japan (2008), Korea[9] (2009), Australia and New Zealand (2010), and India (2015). Negotiations have been ongoing since 2012 for the approval of a preferential trade type agreement between the ten ASEAN countries and the above six countries with whom PTAs have been signed, sometimes referred to as ASEAN+6, or the Regional Comprehensive Economic Partnership (RCEP). Many commentators describe the RCEP as being led by China, suggesting a contrast to the TPP which many feel is dominated by the USA.

A final grouping of this alphabet soup of treaties is the Asian Pacific Economic Cooperation (APEC) comprised of over twenty countries, including the ten from ASEAN, the six regional neighbors (Australia, China, India, Japan, Korea, New Zealand), together with Papua New Guinea, Russia, and from the western hemisphere,

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[7] A related aspect of the ASEAN mode of operation is the norm of non-interference in the internal affairs of other member countries. Aggarwal and Chow (2010) discuss the proposition that this norm makes collective action more difficult for addressing many regional problems.

[8] For Latin Americanists and others with less familiarity with the political history of Southeast Asia, an excellent introduction is Acharya (2012).

[9] All references to Korea are specifically to the Republic of Korea, often referred to as South Korea.

Chile, Mexico, Peru, Canada and the United States.[10] Although there have been moments when it was hoped that APEC would be a leading force in regional integration, this seems less unlikely in the foreseeable future.

The first grouping leading to the TPP consisted of Brunei, Chile, New Zealand, and Singapore, who signed an agreement (the P-4) in 2005.[11] The United States entered into these discussions in 2008, and the other countries came aboard piecemeal, with Prime Minister Abe requesting Japan's inclusion as late as 2013.

PTAs and Negotiations

One aspect of PTA negotiations that can be remarked on is that an individual country's government will be judged on its ability to bargain. Although this should be true for almost any international treaty, in this case the number of participants is small, and one of the points of departure in the negotiations is the government's ability to understand and protect the various interests of the many economic groups in its country.

Obviously related to that is the need to recognize that in the recent past there have been re-negotiations of PTAs after the concepts and texts had been agreed, but before they were approved and implemented. For US treaties, this was said of NAFTA and more strikingly for the PTAs with Korea and with Peru. In early 2016 the media in the US contained several mentions of this possibility for the TPP.[12]

One question that arises from perusing the media about the TPP is the issue of who determines which countries are involved in the negotiations – this question refers back to our discussion of the asymmetry prefigured above, in the image of hub and spokes. Our understanding of the TPP is that the United States asked to be included in the ongoing conversations of the P-4 group, and then quickly assumed leadership. Because the negotiations occurred behind closed doors, the general public does not how democratic the decision-making process had been. This implies that 'final' evaluations will evolve as information on that process filters out.[13]

The other side of that coin asks on what criteria a country should rely to decide if it wants to join.[14] Excellent studies of Japan's situation, which also reveal the dangers inherent in having analyses written by people with native fluency in English, have appeared with titles such as "To TPP or Not to TPP," (Findlay, 2010), and "To TPP or Not TPP," (George Mulgan, 2015). In early 2016 there were several countries that had been rumored to consider joining the negotiations. Korea was the most important. Colombia, Costa Rica and other Central American countries, Indonesia, and the Philippines had operational PTAs with the US or ASEAN, so their inclusion was the subject of speculation, as was indeed, with perhaps less justification, that of China.[15]

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[10] Some listings of APEC will also include Taiwan and Hong Kong, but these areas are not independent of China.

[11] It should be noted that these four countries have espoused free trade for some time. Indeed, Elms (2015, 1) asserts that these four countries got together out of frustration from trying to generate multilateral trade reductions inside the APEC.

[12] Senator Hatch: *Inside US. Trade's Daily Report* (October 10, 2015); Senator Portman *Inside U.S. Trade* (February 5, 2016); Representative Reichert *Inside U.S. Trade* February 5, 2016); Representative Levin on Hilary Clinton being able to get a better TPP deal, and his saying TPP is unacceptable "as negotiated," *Inside U.S. Trade* (February 19, 2016), as well as any number of statements by presidential candidate Hilary Clinton that vaguely allude to renegotiation of the TPP. For discussion of continued work after signing the TPP on its side deals of *Globe and Mail* (October 9, 2015); continued discussion between US and Mexico about the latter's labor reforms, *Inside U.S. Trade* (October 9, 2015); rice and dairy industry, *Inside U.S. Trade* (December 12, 2015); – not surprisingly, each of these cases involves someone with significant objections to the signed, but not ratified, agreement. The October 16, 2015 issue of *Inside U.S. Trade* discusses the previous renegotiation or simply reworking of the Korea US PTA and NAFTA, citing US Trade Representative Michael Froman. Within a few months this had evolved to "Froman Signals Openness to Fixing TPP Problems without Reopening Text," (*Inside U.S. Trade* March 25, 2016), while "[US Treasury Secretary] Lew Reiterates Possibility of TPP Side Deal, but Emphasizes Future Fix," [on financial regulations and exchange rate concerns] (*Inside U.S. Trade* March 25, 2106).

[13] For NAFTA, two useful books in this regard are Cameron and Tomlin (2000) and Von Bertrab (1997). The former book is an excellent example of persistent reading of the publicly available record, combined with interviews with numerous officials from all three countries.

[14] An argument in favor of Canada's joining the TPP negotiations was presented by Dawson (2012).

[15] Soon after the initial agreement was announced in October, 2015, a blogger at the Peterson Institute wrote "Countries like Korea, Taiwan, the Philippines, Thailand, and more recently Indonesia have expressed their strong interest in joining the TPP, while the remaining members of the Pacific Alliance, like Colombia and soon-to-be members Costa Rica and Panama, may also want to join. Notably absent from the Asia-Pacific pact is China, but even China has been closely following the TPP and will study its requisite trade reforms" Cimino-Isaacs (2015).

Ultimately, Korea and the rest did not enter. Japan entered at a relatively late date, and the final agreement is sometimes described as a bilateral Japan-USA FTA, alongside the other arrangements. The literature contains several examples of pre-acceptance negotiations; a good example is that of Japan,[16] and one wonders why Korea did not join. Recent experience is certainly replete with examples in which inclusion in PTA negotiations is affected by political calculations. That the US signed a PTA with Australia but not with New Zealand is commonly attributed to the latter's criticism of the invasion of Iraq. See Dello Buono and Ximena de la Barra (2014/2015, 17) for discussion of the US approval of negotiated PTAs with Colombia and Chile being affected by disagreements over international politics.

Components of Multilateral Trade Agreements: Goods, Services, and Beyond

The agreements on which we focus attention typically incorporate topics distinct from trade in physical goods, such as coffee and textiles. Trade in services is an important case in point, and we recognize the difficulty in monitoring this type of activity. Two further important categories of international exchange are foreign direct investment (FDI) and labor movements. These activities have received more attention in the PTAs of Asia, than in those of Latin America. We should recall that the classic international trade analyses of economic integration referred to trade in goods. Although subsequent extensions of those models to include factor movements such as FDI and immigration typically retain their support for open markets, it is certainly the case that implementation of that principle is not universally welcome in terms of labor movements, and that the real world introduces many complexities on the topic of FDI. Note the statement, provided by a representative of Chile's Ministry of External Relations in a seminar on Peru's FTA negotiations with the US, which reads:

> "Cabe destacar que en estos tratados de tercera generación, el tema de acceso a mercados (tema convencional que estamos acostumbrados a negociar históricamente en el contexto de la mayoría de los esquemas de integración de América Latina) es un tema bastante secundario, ya que lo que se negocia realmente es un gran paquete de articulación institucional y normativa, sobre una gran variedad de temas en el manejo de política comercial." Prieto (2004, 19)

Perhaps for this reason, Japan's treaties typically have entirely different names such as 'Strategic Economic Partnership' or 'Economic Partnership Agreement'.[17] A similar choice - avoiding the label free trade agreement – can be seen in the name of the trade agreement under study, Trans-Pacific Partnership.

Agriculture in Multilateral Trade Liberalization Agreements

This paper is predominantly oriented towards the effect of PTAs on agricultural trade. The original arrangement of the General Agreement on Tariffs and Trade (GATT) sidelined the topic of agricultural trade; a major motivation for this was the priority given to the arrangement known as the Common Agricultural Policy (CAP) of the European Economic Community, now called the European Union (EU).

A major goal of the negotiations of the Uruguay Round (1986-1994) was to extend its coverage into trade of two areas of physical goods not yet incorporated: textiles and agriculture, and this latter is the subject of this paper. As noted elsewhere, for many of the early years of the GATT, there had been an understanding that it would not touch agricultural policy. Thus the GATT's 1995 Agreement on Agriculture (AoA) signified a major innovation, attempting to overcome well-known difficulties. Some key steps to be taken under this agreement were the conversion of non-tariff barriers to their effective equivalent in nominal tariffs (referred to as tariffication), a broad commitment to a reduction of tariffs, and a separate commitment to end export subsidies.

The Uruguay Round was followed by the Doha Round, which was initiated in 2001 – the WTO meetings in 1999 in Seattle, Washington (USA) had ended abruptly due to street protests. It is the case that the Doha Round has had significant problems almost from the start, and observers have declared it dead quite often,

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[16] The CRS report by Cooper and Manyin (2013) supports this interpretation. After dedicating a page to a description of Japan's discussions with the US before it joined the TPP negotiations, Honma (2015, 97) summarizes their experience as having paid a high admission fee.

[17] Supporting this is Ahearn's (2005, 1) citation of a Japanese official affirming his government's preference for "...the EPA label based on the view that it does less to provoke domestic political opposition than the 'free trade' moniker." Note that the Japanese agreement with ASEAN is titled a Comprehensive Economic Partnership.

most loudly in 2008. More importantly for our purposes, one of the key areas of disagreement has been agriculture. Conflicting groups formed on the criteria of developed/underdeveloped countries, as well as the European Union versus the United States. The Cairns Group added a new twist, combining voices from high income countries that favored free trade in agriculture, such as Argentina and New Zealand, with developing countries such as Brazil and India, who criticized both the EU and the US over their failure to remove their own agricultural distortions, while quarreling with each other. Recall that it is commonly stated that frustration over the lack of progress in the Doha Round led the United States to join the P-4 discussions that led to the TPP. In December, 2015 a meeting of trade ministers in Nairobi ended with a statement lamenting their ability to move forward on the Doha round. Some media reports have referred to that meeting as the end of that round.[18]

Rapid Rise in the Number of PTAs

Most members of the general public are not aware of the exponential growth in the number of international trade agreements - like the TPP – as contrasted to the apparently slow increase in membership of the WTO, because almost all major countries are members. At the beginning of 2016, the WTO web page reported having received notification of 452 PTAs, of which 265 were currently in force.[19] Table 1 provides the corresponding data of PTAs in effect for the countries that negotiated the TPP. Chile and Singapore are clearly those who have been most active in negotiating PTAs. Important early PTAs were the EFTA (1960) and NAFTA (1994).

Table 1. Number of PTAs in Operation by the TPP Signatory Countries.

Australia	11		Japan	14		Peru	16
Brunei	8		Malaysia	13		Singapore	22
Canada	11		Mexico	13		United States	14
Chile	26		New Zealand	11		Viet Nam	9

Source: WTO Web-page, at:
http://rtais.wto.org/UI/publicPreDefRepByCountry.aspx
accessed January 5, 2016.

A detailed listing of the PTAs enacted by the TPP countries is presented in Table 2. One of the notable findings is that generally, these countries have signed about half of their PTAs with non-TPP countries. Evidently there is some ambiguity about how to count an agreement signed with a group of countries such as the ASEAN, or the EU. The table clearly illustrates the low number of PTAs entered into by Brunei and Vietnam, the higher PTA activity by Singapore and most prominently Chile (the only country to have signed a PTA with all the TPP signatories), what one might call the belatedness of PTA accords by Peru, and the overall non-exceptionality of the US experience.

Impact of the WTO Agreements on Domestic Agricultural Policymaking

We should not avoid the fundamental question of the degree to which international trade agreements actually influence domestic policymakers in terms of tariffs and other interventions, and it is most appropriate to study this for the agricultural sector. With regard to the WTO and US agricultural policy, Orden (2008, 1) writes "The prospect of whether or not there would be a multilateral Doha Round WTO agreement simmered in the

[18] *Inside U.S. Trade* December 25, 2015, and a *New York Times* editorial, January 2, 2016. The current state of discussion might be summarized by affirming that in spite of rumors in the media, the Doha round isn't dead until the trade ministers agree that it's dead. Some negotiators, the U.S.'s Michael Froman reportedly included, want to declare it dead so that another, less ambitious WTO round can be started that would focus on new topics, such as electronic commerce, while other negotiators are more interested in trying to reach some sort of positive conclusion on agriculture and other topics associated with the Doha Round.

[19] The information provided by the WTO distinguishes RTAs and PTAs; their listing of PTAs involves primarily agreements for special treatment of LDCs, such as Generalized System of Preferences. The WTO site presents no separate listing of Free Trade Agreements – in the WTO's list, these are included in the RTAs.

background but the domestic farm bill debate paid little attention to multilateral rules or constraints." A few years later, a discussion of the 2014 Farm bill concluded that "[T]he United States is unlikely to exceed its World Trade Organization (WTO) domestic support commitment… [but]… Had a Doha agreement been reached, it is unlikely the 2014 farm bill would have been enacted as it is, while its enactment makes achieving the Doha limits more difficult," Orden and Zulauf (2015, 1299). Another report, from the USDA-CRS, states: "As a result of the [breakdown in the Doha] negotiations, a major source of pressure for U.S. farm policy will have dissipated. Supporters of farm bill changes were looking to a Doha Round agreement to require changes in U.S. farm subsidies to make them more compatible with world trade rules. Proponents of continuing farm subsidy programs appear strengthened by the indefinite suspension of the Doha talks," Hanrahan and Schnepf (2007, i). A similar view is offered in Blandford et al. (2008, 4) on the minor influence of WTO agreements on the US's Food Bill of 2008; "With the important exception of dairy policy, the 2008 Act pays little regard to the implications of any future WTO commitments on domestic support, and does not address issues that have been raised by recent WTO panel rulings..." A rather different reading of the link between agricultural agreements in the WTO and US policy is offered by De Gorter and Kropp (2014), who analyze the conflict between Brazil and the US over the latter's cotton subsidies. This was adjudged by the WTO panel in favor of Brazil, leading to substantial changes in the US Farm Bill of 2014, the measurement of whose impacts has not yet reached the series utilized in this paper.[20]

It should be pointed out that experience leads towards the opposite judgement in terms of the impact of WTO regulations on agricultural protectionism in the EU. This is not to ignore the constant quarreling between representatives of the WTO and the EU, but rather to affirm that WTO guidelines often play an important role in public discussions in Europe's agrarian policies.

Treatment of Agriculture in TPP Countries' Multilateral Trade Agreements

Before we delve into the analysis of the empirical impact of PTAs on agricultural production and trade, it should be helpful to summarize what those agreements involved. Elsewhere in the paper we remark on the fact that the GATT did not regulate the agricultural production and trade of the EEC, which was left to the highly protectionist CAP. Indeed, agriculture did not enter into the GATT/WTO until the 1995 Agreement on Agriculture. The year in which each agreement went into effect is also listed.

CUSFTA/NAFTA (1988/1994). The first case we will mention is that of the PTA/FTA between Canada and the United States. Agriculture did not formally enter into that agreement, and there was an implicit acceptance of maintaining that sector's status quo as it had evolved over the years. This precedent was more important when NAFTA was approved a few years later, because there were separate agreements on agriculture between the three countries.[21] Of those, the most important was that between Mexico and the United States.

ASEAN: AFTA (1992) Bowles and MacLean (1996) note that originally, this accord did not include unprocessed agricultural goods. Rice reserved by an exception clause in WTO and AFTA – Aggarwal and Chow (2010, 273). Acosta and Kagatsume (2003, Table 2) provides estimates of what free trade in rice would mean to the ASEAN countries – dramatic increases in consumption in Indonesia and Vietnam, accompanying strong falls in internal prices. These results are affected by an optimistic assumption of increasing yields in rice production, and of course Vietnam has undergone significant change since that date of publication. CGE models inappropriate: Ariyasajjakorn et al. (2009). Significant Malaysian PSE-type protection for rice: Athukarola (2005). Clarete et al. (2013) provide an updated review of how thin international rice markets endanger producers, motivating countries towards protectionism.

[20] As a caution against unjustifiable optimism, note that the upland cotton case made US "…cotton producers not eligible for PLC and ARC payments, but they are eligible to purchase a new insurance product, the Stacked Income Protection Plan." (OECD *Agricultural Policy Monitoring and Evaluation* 2015 p. 289).

[21] Interestingly, Manger (2009) does not mention agriculture in his analysis of NAFTA. Obviously MNCs were more important in autos and other manufacturing, and hence the appropriateness of his attention to their lobbying and interest on rules of origin, but it is also clear that the agri-business complex has been quite important along the border.

ASEAN-Korea (2009) (Corning, 653) Thailand had initially refused to ratify the ASEAN–Korea FTA owing, in part, to Korea's insistence on keeping heavy duties on rice imports (Pratruangkrai 2006), which continues to be true today.

Australia-Japan (2015) Seven years before it was implemented, Capling (2008) described the decision to enter into these negotiations in terms of changing geo-political and strategic motives in both countries, vis a vis the US and China. Honma (2015) sensitivity of wheat, dairy, beef and sugar, with a slowly implemented reduction of the tariff on chilled beef, and eventual exceptions of rice, wheat, sugar, butter and powdered skim milk. See also *Japan Today* Jan 16, 2015 for a discussion of competition in Japan's market from producers in Australia and the US on several products, including beef and pork, and the fact that these beef restrictions will be lowered, but not eliminated. "When Japan signed the Economic Partnership Agreement with Australia… the precedent for exclusions and tariff quotas had thus been set because Japan had introduced them for key products in its FTAs with other countries classing them as 'sensitivities'… [But] these limited concessions were not replicated on other sensitive products such as rice, wheat other sugars, wheat butter, fresh cheese and skim milk powder... A major problem was the fact that Australia's main farm exports coincided with Japan's sensitive products," George Mulgan (2015, 7).[22] The Australian government's Quick Fact Sheet emphasizes Japan's reductions of tariffs – some immediately, others gradually phased-in - on beef, dairy, seafood, horticulture, but does not detail changing quotas.

Australia-Chile (2009)

Australia-China (2015) The Australian government's "Outcome at a glance" notes that China is Australia's largest trading partner. While noting that many Chinese tariffs will be reduced, there is no mention of quotas, nor estimate of the value of increased trade.

Australia-US: AUSFTA (2005): As described in a CRS report by Cooper, agricultural issues were the most contentious to be discussed. In the event, Australia achieved incomplete opening of the US market in beef and dairy products, and no change in limits on US imports of sugar (Cooper 2005; 1, 9-10). The tariff-rate quotas on beef and on dairy products were to be gradually reduced over an 18 year period. Cooper's report also mentions agriculture-related topics, such as SPS and the marketing boards, and appropriately describes other products that were presumably involved in the bargaining process, such as Australia's pharmaceutical industry, and manufactures such as automobiles and trucks. Capling (2008) describes the decision to enter into these negotiations in terms of changing geo-political and strategic motives vis-à- vis the US and China.

Canada-Chile (1997)

Canada-Peru (2009)

Chile-Japan (2007)

Chile-Korea (2004) Did not include Korean imports of rice apples and pears, nor Chilean imports of sugar and wheat (Elms 2013, 115), which agrees with Park and Koo (2007).

Chile-Mexico (2005)

Chile-New Zealand (2008) Baton et al. (2007) emphasize cross-country cooperation for dairy, the result of significant New Zealand investment in Chilean dairy farming. Both countries' wine producers have made significant strides in the quality of their products, so that trade competition between them is less important.

Chile-Peru (2009)[23]

Chile-US (2004) gradual reductions of tariffs; four years for dairy products, more slowly for beef and poultry.

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[22] The material quoted from George Mulgan (2015) included further references to work by Higuchi, Homa, Solís, and Urata, as well as to her own earlier publications.

[23] Baracat et al. (2015) present an analysis that positively contrasts Peru's use of its various PTAs to sustain economic reforms, disseminating a positive view of the country amongst international actors, and extend the application of WTO-based governance principles. This situation is contrasted with that in Argentina, whose "[L]eaders have returned trade politics to the *dependencia* philosophy that sees the international economy as exploitive." These authors state, "Beyond removing restrictions, trade reform in Latin American [sic] in the 1980s and 1990s was in significant part an attempt to change the domestic politics of trade and to reformulate the culture of policy management..." (p. 579).

Japan-ASEAN (2008) Headline in August 26, 2007 *Japan Today* "Japan ASEAN Reach FTA but Rice Excluded." Corning (2009, 653) "Japan's [minister] Amari proposal sensitive agricultural products such as rice and sugar are excluded from tariff elimination and reduction for Japan." Similarly, the [ASEAN-Japan Comprehensive Partnership Agreement] exempted key Japanese agricultural items such as rice beef, sugar and dairy products from tariff elimination or reduction," George Mulgan (2015, 7).

Japan-Mexico (2005). Manger (2009, 141-44) highlights the importance of this agreement as providing Japan with a satisfactory resolution to the negative effects of the NAFTA accord on Japanese industry in Mexico, and through them, into the US, which would be achieved by bargaining for increased Mexican agricultural exports (pork,), which was opposed by Japanese agricultural interests, on the farms as well as in the government. One factor on the Japanese side contributing to the approval was the argument that the resolution of the debate on liberalization of trade with Mexico would be an important precedent for other Latin American markets. Another was the economically liberal attitude of Prime Minister Junichiro Koizumi, along with the firm bargaining position of Mexican President Vicente Fox. Manger's summary of the agricultural part views it as a "moderate liberalization" in areas such as orange juice and pork, involving about 40% of Mexico's total agricultural exports to Japan. George Mulgan (2015, 6-7) agrees with this summary, writing "In subsequent FTAs, Japan moved to pleading the case for special treatment of individual agricultural items that were the focus of specific import pressure… In the free trade negotiations with Mexico, for example, the most serious obstacle to agreement was Japan's strong resistance to liberalizing pork, beef, chicken oranges and orange juice… Vegetables were the only agricultural product on which tariffs were eliminated from the date on which [the Japan-Mexico Economic Partnership Agreement] came into effect. All other agricultural products either had staged reduction followed by elimination of tariffs… or the introduction of tariff quotas (for honey, processed tomato products, pork orange juice beef chicken and fresh oranges)."

Japan-Peru (2012) (Gonzalez-Vigil doesn't mention rice, only asparagus)

Japan- Thailand, Malaysia (2006), Philippines. With regard to the agreement with Thailand, Japan initially requested omitting 350 products, almost all agricultural (Manger p. 202). Subsequently, they offered minor reductions on (wheat?) flour, sugar molasses, and frozen chicken (Manger, p. 203). There was a blanket exclusion of rice; the subsequent discussion of separating japonica rice and (Thai) jasmine rice didn't go anywhere. It was agreed to renegotiate sugar and tapioca starch after 5 years. (Manger, p. 204). In terms of Malaysia, rice, wheat, dairy products, beef and pork were left for subsequent negotiations. (Manger, p. 213). Tariff-free for tropical fruits, prawns, jellyfish, and lower tariffs on margarine from palm oil, and a quota on bananas. " The [Japan-Thailand Economic Agreement] did not cover agricultural commodities such as rice, wheat and dairy products, while the [Japan-Indonesia Economic Partnership Agreement] retained all existing tariffs on agricultural imports into Japan except for bananas and prawns. Similarly, the [ASEAN-Japan Comprehensive Partnership Agreement] exempted key Japanese agricultural items such as rice beef, sugar and dairy products from tariff elimination or reduction... Nor were agricultural products adequately incorporated into the Japan Philippines Economic Partnership Agreement… with some products such as pineapples and chicken subject to tariff quotas as were beef, pork and chicken," George Mulgan (2015, 7).

Japan-Vietnam (2009)

Peru-US (2009) Not in Finan nor Crabtree, but Meade et al. (2010) state that this was helpful in the expansion of Peruvian agricultural exports.

USA-Korea (2012) Duty-free access for several US products will slowly expand, but remain subject to Korean import quotas; US oranges will slowly improve access. (No change in US access to the Korean rice market, slow reduction in tariffs and tariff-rate quotas on dairy products honey, potatoes, with a faster opening of the beef market – after a post-negotiation adjustment of that part of the agreement (Williams et al., 2014). Bargaining is described as US pushing for access to farm products, while Korea wanted access for its industrial products. As summarized by Williams (2014), rice was a "make or break" issue for Seoul, and was therefore excluded out of recognition by the US that if it was pushed, the talks would likely have collapsed. US exports of oranges and various meats were to be phased in over relatively long periods of time. Some other items of interest: parts of the treaty were effectively re-

negotiated in 2010, after having been signed in 2007, due to internal opposition in the US. In that last phase there was a direct trade-off involving Korea opening parts of its agriculture, and the US opening parts of its auto sector. Other contentious issues were the handling of the 'mad cow disease' in the US, and geographical indications of exports of certain US agricultural goods. Jurenas (2011) limits increased Korean agricultural exports to the US to 'ethnic foods,' which would not be substantial.

Perhaps it is worthwhile to mention briefly some agreements that never came to pass. One could also attempt a list of agreements 'under negotiation,' but it would be too long for inclusion.

APEC This free trade proposal for the APEC countries, declared in Bongor, Indonesia in 1994, was as much a series of unilateral declarations of early voluntary sector liberalization. Manger (2009, 138) reports that by 1997 it had become clear that Japan would not commit to this in agriculture, while the insistence by the US on reciprocal concessions – as opposed to unilateral ones – had destined the APEC's proposed PTA to failure.

Free Trade Area of the Americas: Soon after the approval and entry into effect of NAFTA, discussions occurred about extending a bigger agreement including all of Latin America (except Cuba) with Canada and the US. This proposed arrangement had failed by 2005. One roadblock was the unwillingness of the US to liberalize more completely its agricultural markets. Cuba was not the only Latin American country to object, and for that matter there was much vocal opposition in both Canada and the United States.

Measures of Agricultural Trade Interventions: the OECD, the World Bank.

We turn now to review empirical measures of the degrees of interventions by the various governments in their countries' agricultural production and trade. In a few cases a historical perspective is possible. We will review data for several countries, presented by the OECD and the World Bank. Our goal is to get an idea of comparative magnitudes of these interventions, thereby contextualizing the TPP agreement, and providing us indications of the impacts of past trade agreements on tariffs and other interventions on the sector.

OECD: For almost three decades, the OECD has presented comparable empirical estimates for a number of countries, initially including the following signatories of the TPP: Australia, Canada, Japan, New Zealand, and the United States. Its geographical coverage has recently been expanded to include the OECD's new member countries that used to be labeled developing countries, such as Chile, Korea, Mexico, and Turkey, and very recently coverage has been extended to non-OECD countries that are important in world agricultural trade, such as Brazil, China, Colombia, Indonesia, Russia, and Vietnam. In terms of the TPP, coverage by the OECD of its signatory countries is incomplete, because it does not report on Brunei, Malaysia, Peru nor Singapore; the latter presumably because it has no agricultural production.[24] Our inclusion, in several tables, of data from Colombia, Indonesia, and Korea reflects not only their inherent interest as Pacific Rim countries, but also the fact that they have expressed interest in joining the TPP. The FAO does not appear to publish on this aspect of protectionism.

The OECD publications, all based on national sources, report the calculated value of various government programs that affect agriculture, for two major categories, the total support (TSE), and support for producers - the producer support estimate (PSE). These numbers represent calculations of what would be the size of a subsidy that would have the same output effect as those various programs. For example, a tariff is included as the monetary amount that would be equivalent to a producer subsidy having the same effect. It should be clear that there will be debates about these PSE data, with direct implications for the analysis of the impacts of decisions in the WTO - or the TPP – about programs that should be cut back in order to limit distortions. Evidently, there must have been innumerable debates on the methodologies for converting myriad programs to their producer equivalents.

[24] The OECD presents totals for the EU as a single entity, which is what will be reported here. The OECD also includes data for European countries that are not members of the EU, such as Iceland, Norway, and Switzerland, who tend to have significantly higher levels of protectionism than the average for the EU. We will not present the OECD data for them, nor that for Israel, Kazakhstan, South Africa and the Ukraine.

Table 2. Detailed Listing of PTAs by TPP Signatory Countries, by Year the PTA Became Effective.

	Australia	**Brunei**	**Canada**	**Chile**	**Japan**	**Malaysia**	**Mexico**	**NewZealand**	**Peru**	**Singapore**	**USA**	**Vietnam**
Earli	Papua New Guinea - 1981		Colombia-1977								Israel 1985	
1988			**CUSFTA**								**CUSFTA**	
1989	**N.Zealan**							**Australia**				
1992		**AFTA**				**AFTA**				**AFTA**		
1993				Bolivia, Venezuela								
1994			**NAFTA**				**NAFTA**				**NAFTA**	
1996				Mercosu								**ASEAN?**
1997			**Chile**, Israel	**Canada**								
1998												
1999				**Mexico**			**Chile**					
2000					Indonesi		EU, Israel					
2001							EFTA	**Singapore**		**N.Z., Malaysia**	DR-CentAm, Jordan	
2002			Costa Rica	Central America	**Singapor**					**Japan**		
2003	**Singapor**									**Austral.**, EFTA		
2004				**USA**, Korea, EFTA			Uruguay			**USA**	**Chile, Singapor**	
2005	**USA**, Thailand			EU	**Mexico**		**Japan**	Thailand		India	**Australia**	
2006		**P-4**		**P-4**	**Malaysia**	**Japan**		**P-4**		**P-4**, Korea, Panama	Dominican R-Cent.Am., Bahrain, Moroc.	
2007			Korea	**Japan** India	**Chile**, Thailand							
	Australia	**Brun**	**Canada**	**Chile**	**Japan**	**Malaysi**	**Mexico**	**NewZeala**	**Peru**	**Singapor**	**USA**	**Vietna**
2008		**Japan**		**N. Zealand, Peru,** Panama	**ASEAN, Brunei,** Philippines, Indonesia	Pakistan		**Chile**, China				
2009	**Chile**		**Peru**, EFTA	**Australia, Singapore**	**Vietnam,** Switz.	Pakistan	Colombia	Korea	**Canada, Singapore, Chile, USA**	**Peru, Chile,** China	**Peru,** Oman	**Japan**
2010	**ASEAN**			Colombia, China, Ecuad		**New Zealand**	Bolivia	**ASEAN, Malaysia**	Korea, China			
2011			Colombia	Turkey	India	India	**Peru**		**Mex**,EFTA, Korea			
2012			Jordan	**Malaysia**	**Peru**	**Chile**	Central America		**Japan,** Panama	Panama	Korea, Pan, Colombia	
2013	**Malaysi**		Panama			**Australi**			Costa Rica, EU	Costa Rica		
2014	Korea, Thailand		Honduras	**Viet Nam**								**Chile**
2015	**Japan,** China		Korea		**Australia**			Korea				
Countries with which they do not have a PTA in 2015:												
	CA ME PE VN		AU JA MY NZ VN	(none)	CA NZ US	CA ME PE US VN	AU MY NZ MY	CA JA ME PE US	AU MY NZ VN	ME	JA MY NZ VN	AU CA ME NZ PE US

Note: TPP signatories are indicated in bold face.
Sources: WTO listing, and various national sources.

\PTAs, RTAs,FPTAs.xlsx/

We report the following measures of the size of countries' programs benefiting their agricultural sectors: the total support estimate, and its major components, paying most attention to the producer support estimate. Another component of the TSE is the General Service Support Estimate (GSSE) which covers services benefiting the sector which supposedly are not designed to increase the production of specific crops. Examples might be university research, extension programs, insurance, and so on. A third component is transfers, from consumers to producers. The OECD's calculations also include information about the costs to consumers of agricultural policies, in terms of their consumer support equivalent (CSE). Considerable care is taken to avoid double counting between GSSE and CSE, with the OECD listing the net transfer from consumers as 'transfers from consumers to taxpayers' (TCT). [25]The inter-relations among these terms are summarized by the formula TSE = PSE + GSSE + TCT (see OECD 2014, pp. 6, 13). The sizes of TSE, PSE, and their components, will be reported here both in nominal terms, and relative to the value of a country's agricultural output.

In the United States, along with several other countries, a central rationale of agricultural intervention is the protection of family farms. A major step in the growth of this process was the 'New Deal' set of policies during the 1930s Depression. The editors of a recent NBER study state: "The record clearly shows that, throughout the history of the commodity support program, Congress intended that the beneficiaries be family farmers... However, it is well known that most of the support funds go to relatively large farms owned by corporations," (Graff Zivin and Perloff 2012, 3). The next chapter in that book begins with this excerpt of a 2002 television report from Fox News: "What do former basketball star Scottie Pippen, publisher Larry Flynt, and stockbroker Charles Schwab all have in common? The surprising answer is that all are recipients of farm program subsidies. Other notable payment recipients include nine U.S. Members of Congress, David Rockefeller… Ted Turner… and the late Kenneth Laye, the ousted Enron CEO." (Goodwin et al. 2012, 15). One major strain of evidence of the decline of the family farm is the increasing size of farms, as their ownership becomes dominated by corporations. Related to that is the increasing role of non-farm activities in the incomes of farm dwellers. This information is clearly verified in the country's Agricultural Census and numerous household surveys performed by the USDA. An excellent overall introduction is Gardner (2002).

The comment about family farms in the US invites a broader attempt to draw parallels between the agrarian situation in the US and the EU. Although the latter is obviously not a signatory to the TPP, its agrarian policies have world-wide effects. USDA (2004) finds several close comparisons between the agriculture of the United States and that of the European Union: aging of the farm population; growing importance of large farms in total output; growing share of part-time farming, and along with it an increasing fraction of farmers' household income coming from off-farm sources; the composition of their output (grains, dairy and livestock, fruits and vegetables); and the absolute amount of their exports. There is support for the "…claim that U.S. and EU policies have become more similar, particularly under the disciplines of the Uruguay Round Agreement on Agriculture," (USDA 2005, 14). Both entities are moving domestic trade policies toward less trade-distorting programs, and both "…have reduced the use of price support for several commodities," (p. 19), moving toward income support through direct payments to producers.

Our major interest is in producer support, because of its potential impact on output and prices, in contrast to the other programs, which in principle do not have these effects. The OECD subdivides PSE into four distinct categories; policies affecting domestic prices relative to international prices, to be called Market Price Support (MPS); subsidies paid to farmers based on how much of a product they produce; payments based on input use (evidently linked to levels of production); and payments not obviously linked to production, but to the amount of land in use, or the size of livestock herds, historical entitlements, or other considerations, which the OECD reports as a broad category labeled A/An/R/I. Ultimately, our prime focus is on market price support, the impact of the creation of a wedge between domestic and international prices, and the various subsidies. [26]

In other words, the argument is made that instead of considering all support programs, TSE, our focus should be on PSE, because it is related to production. Beyond those elements of the PSEs that are neither directly identified with tariffs nor with production (and export) subsidies, nor direct subsidies relating to input

[25] There is also a miscellaneous, or 'other' category, which is small and will be ignored here.

[26] However, notice should be made of the fact that some critics of the positions of the developed countries in the Doha Round frequently cite the amounts of total aid to farmers, implicitly rejecting the accuracy of this distinction.

use, there is identified a group of programs (A/An/R/I) which should not be ignored, even if they are more indirectly involved.

We turn now to look at the data. The (equivalent) absolute sizes of government programs are presented in Table 3, of the average for the years 2008-2010. Naturally enough, the absolute amounts of support vary considerably amongst the countries, reflecting different sizes of the economies, and differences in policies. In terms of overall magnitude of a country's TSE or PSE, the EU (considered as a single entity) has the largest amounts, followed by China. Third place would go to either the US or Japan, respectively, depending on whether the focus was TSE or PSE. The countries with the smallest absolute levels of TSE, PSE, and MPS are New Zealand, Vietnam, Chile, and Australia.

Secondly, when judging the size of outlays relative to the value of agricultural output, note in Table 4 that the group of countries with the smallest levels of intervention still contains New Zealand, Vietnam, Chile, and Australia, but now includes Brazil – as a result of discounting for its size.[27] Viewed from this relative metric, Japan is placed in the highest level of government support, closely followed by Korea. The other countries now occupy middle ranges, with levels of the EU being somewhat larger than those of the US, Mexico, and Canada. Recent PSE/Ag's in China and Indonesia are close to levels of the US, while Colombia and Russia are also less interventionist than the EU.

Furthermore, it can be noted that the United States is the only country where the value of TSE/Ag is significantly larger than PSE/Ag. In other words, although the US has appreciable amounts of total support to agriculture, this data suggest a smaller fraction of that support might affect or distort world output and prices. That difference is predominantly due to the A/An/R/I, and to the transfers from taxpayers to consumers, a significant component of the programs that provide food aid to low income families – a program formerly referred to in the US as Food Stamps, but now called Supplemental Nutrition Assistance Program.[28]

There are several other interesting aspects in the breakdown of PSE/Ag in Table 4. For many countries, Market Price Support is the major component of PSE; quite noticeably for the cases of largest intervention, Japan and Korea, but also for less dramatic countries, such as Colombia, Vietnam and Russia. That table also reveals significant sizes of subsidized agricultural inputs in Australia, Chile, and Mexico. Finally, the EU, the US, and China each have about half of their PSE resulting from payments for land areas, livestock population, and 'A/An/R/I,' referred to above as historical entitlements. Note that for most of the countries, MPS – the results of tariffs and quotas – are equivalent to a small part of total agricultural output. The degree to which these distort world trade flows remains the subject of debate, to which we now turn.

A key issue in the evaluation of these government programs in agriculture is whether or not they affect people in other countries, by changing international prices or trade volumes. The corresponding discussion utilizes the terms 'coupled' and 'decoupled.' A coupled program is one in which payments to farmers are made because of the specific agricultural item they produce. An increase in those payments will lead to an increase in output, to some degree affecting world prices. A familiar example would be subsidies to maize producers, which by definition depend on how much maize is produced. In contrast, a decoupled program provides funds irrespective of the products coming from the farm; income subsidies for poor farm families would be an example, and payments for actions to minimize soil erosion would be another. The concepts of coupled and decoupled are clearly distinct in theory, but the reader will acknowledge that separating them in practice might

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[27] Other measures of relative size compare TSE and PSE to the amount of agricultural land, or the rural labor force. These variants are usefully explored for Mexico and its NAFTA partners, by Puyana and Romero (2005), which results in high differentials. Hufbauer and Schott (2005, 296) also present a similar exercise.

[28] For an order of magnitude, one newspaper summary assigned the 2014 US Farm Bill's total expenditures of $956 billion over the next decade (2014-2023) into the following categories: food stamps $756 b (79%), crop insurance $90 b (9%), conservation $56 b (6%), commodity programs $44 b (5%), everything else $8 b (<1%) (Plummer, 2014). This represented a slight decline from the previous bill. Critics of US policy point out that US non-military foreign aid amounted to $32 b in 2013, of which $17 b was administered by US AID; aid to local farmers is significantly larger than foreign aid. Not long ago, the OECD changed its methodology for calculating the GSSE for many countries, and its *Agricultural Policy Monitoring and Evaluation* (2014, Box 16.1) discusses how the reclassification of certain outlays for food stamps significantly altered their estimates of the GSSE for the US between 2011 and 2013 – the data in this paper uses the more recent versions.

Tabla 3. Monto total de intervenciones públicas al sector agropecuario, millónes US$. (Promedio 2008-2010).

	Austral	Brazil	Canada	Chile	China	Colom	EU (28)	Indones	Japón	Korea	México	New Zeal	Russia	USA	Viet nam
Apoyo Total	1,927	10,925	8,617	444	103,428	4,659	144,298	9,924	58,616	19,798	7,351	240	21,796	76,333	29
Servicios gob'n	752	1,926	2,097	295	25,519	432	20,824	1,434	10,044	2,777	778	258	3,313	9,505	15
Transferencias	-135	358	0	0	27	0	1,896	1,398	17	48	370	0	523	36,076	0
Apoyos a produ.	1,302	8,641	6,524	230	81,908	4,227	121,578	7,092	48,555	16,972	6,204	53	17,959	30,751	14
Tarifas y precio controlados	1	4,878	3,485	33	45,615	3,673	30,041	4,921	40,257	15,180	1,465	38	13,076	3,909	7
Subsidios a prod y insumos	636	3,665	454	192	13,891	552	17,542	2,127	3,368	633	3,175	15	4,739	7,816	6
A/An/R/I, y Misc	665	98	2,405	6	22,401	1	70,547	43	4,929	1,159	1,565	0	145	14,770	0

Fuente: Cálculos del autor, basados en archivos publicados junto con OECD *Agricultural Policy Monitoring and Evaluation* 2015; datos para Vietnam del OECD *Agricultural Policies in Viet Nam* 2015, de los OECD *Food and Agricultural Reviews*.
Traducción de los términos de la OCDE: Apoyo Total - TSE; Servicios gob'n-GSSE; Transferencias – TCT; Apoyos a produ. – PSE; Tarifas y precios controlados - Market price support; Subsidios a prod y insumos – Subsidies to producers plus subsidies for inputs.

Tabla 4. Montos de apoyos totales, y apoyos a agricultores, como porcentaje del valor de producción agropecuario, y su desagregación por componentes, 2008-10.

	Austral	Braz	Canad	Chile	China	Colombia	EU (28)	Indonesia	Japón	Korea	México	NZeal	Russia	USA	Viet
Total/Ag	5.3	7.7	22.4	6.2	13.6	21.0	31.9	11.3	67.1	57.4	16.6	2.5	28.3	24.4	6.0
% del Total:															
Apoyos prod	68	79	76	52	79	91	84	71	83	86	84	22	82	40	48
Serv gob.	39	18	24	48	21	9	14	14	17	14	11	78	15	12	52
Transferenci	-7	3	0	0	0	0	1	14	0	0	5	0	2	47	0
PSE/Ag	3.6	6.1	17.0	3.2	10.7	19.1	26.9	8.1	55.6	49.2	14.0	0.5	23.3	9.9	2.9
% del PSE:															
Tarifas y precios	0	56	53	14	56	87	25	69	83	89	24	72	73	13	51
Subsidios a produ.insum	49	42	7	83	17	13	14	30	7	4	51	28	26	31	41
A/An/R/I&Mi	51	1	40	2	27	0	61	1	10	7	25	1	1	56	8

Fuente: véase arriba.

be much more difficult. It should not surprise us that there are debates as to the degree to which two categories of TSE – GSSE and Transfers, as well as the A/An/R/I should be considered coupled.

Note that in its publications, the OECD has tended to treat A/An/R/I as decoupled programs, for example, in its 2014 edition of the annual publication *Agricultural Policy Monitoring and Evaluation*. That issue's Executive Summary states: "Other mechanisms to channel support are progressively being introduced, such as payments based on fixed area, fixed livestock numbers, and farm income or receipts which do not directly affect current production decisions," (page 13). Many examples are given in the publication's several country case studies.[29] The author of this paper has not encountered any paper directly testing this.

World Bank: The data from the OECD can be complemented by reference to the World Bank's massive project analyzing agricultural interventions, produced over several years, coordinated by Kym Anderson, and

[29] In their analysis of OECD estimates of PSEs, published by the World Bank, De Groter et al. (2004, 121) classify as trade-distorting domestic support the border price policies, together with output and input subsidies, effectively putting all the A/An/R/I spending into the non-distorting category. An economist from the IMF took a similar position (Tokarick, 2008). In contrast, Anderson et al. (2006, footnote 3 and Table 1) refers to the A/An/R/I programs as 'somewhat decoupled.' We will follow that practice. Because these programs constitute about half of the PSEs of the three countries with the largest agricultural subsidies, the issue is of central importance to policy-makers as well as academics, and should not be abandoned in a footnote.

summarized in Anderson (2009).[30] This book presents case studies of over 80 countries, representing some 90% of world output and trade. Each case study covers fewer individual products than do the OECD's corresponding series, but most case studies cover significantly longer time spans.[31] One unfortunate difference is that the World Bank studies do not present a total measure of intervention for the entire European Union. In close correspondence to the OECD's measures TSE and PSE, the World Bank's authors present data on total assistance, Nominal Rate of Assistance (NRA), and important sub-components.

Anderson (2006) compares these two sources, as shown in Table 5, and finds many similarities, one reason for which is that the World Bank's authors made significant use of the OECD data. One difference is that the OECD expresses PSE percentages as fractions of the actual market price, while the World Bank series express NRA as a fraction of the 'non-intervention' price.[32] In addition, the GTAP's data includes measures of tariffs protecting food processing;[33] that category is not in the OECD data. It is not clear to me how the World Bank studies treat the A/An/R/I programs, which account for a significant portion of the OECD's measure called the PSE, especially for some high income countries. In addition, the World Bank series indicate small or

Table 5. Estimates of Producer Support, OECD and GTAP/World Bank, 2001. (US$ 1,000 million)

	OECD	GTAP		
	OECD Countries Primary Agriculture	Primary Agriculture		Primary Agriculture and Food Processing
		OECD Countries	All Countries	All Countries
Direct Domestic Subsidies	89	90	97	97
Of which, fully coupled	37			
Market Price Support	139	46	122	402
Export Subsidies	na	3	4	30
Import Tariffs	na	46	118	372
All Support Measures	228	136	219	499

Source: Anderson et al. (2006), Table 1.

Note: the discussion in the source states that the GTAP database does not include the effects of non-tariff barriers, which are included in the OECD estimates. In terms of the OECD series, this table's 'All Support Measures' would seem to be the PSE, because the term 'Market Price Support' refers to the same item in both sources. The author's category labeled 'fully coupled' subsidies appears to include the sum of the OECD's output subsidies and input subsidies, so that this table's 'Direct Domestic Subsidies' is the sum of those fully coupled subsidies, the OECD's A/An/R/I, and some miscellaneous 'others.'

[30] Reports and data from this project are freely accessible at the World Bank's web-site http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/EXTPROGRAMS/EXTTRADERESEARCH/contentMDK:21012395~pagePK:64168182~piPK:64168060~theSitePK:544849,00.htmlpage, which is periodically updated.

[31] We should also point out that the work published under the World Bank's name has significant overlap with what seems to this outsider to be a separate endeavor, the Global Trade Analysis Project (GTAP). The overlap includes major authors, geographical coverage, and research interests, but to this reader it is not yet clear to what extent the databases are identical. The GTAP is usually mentioned along with work with major global trade models, typically using computable general equilibrium techniques, and is more often associated with major universities, such as Purdue, Adelaide, and some in France.

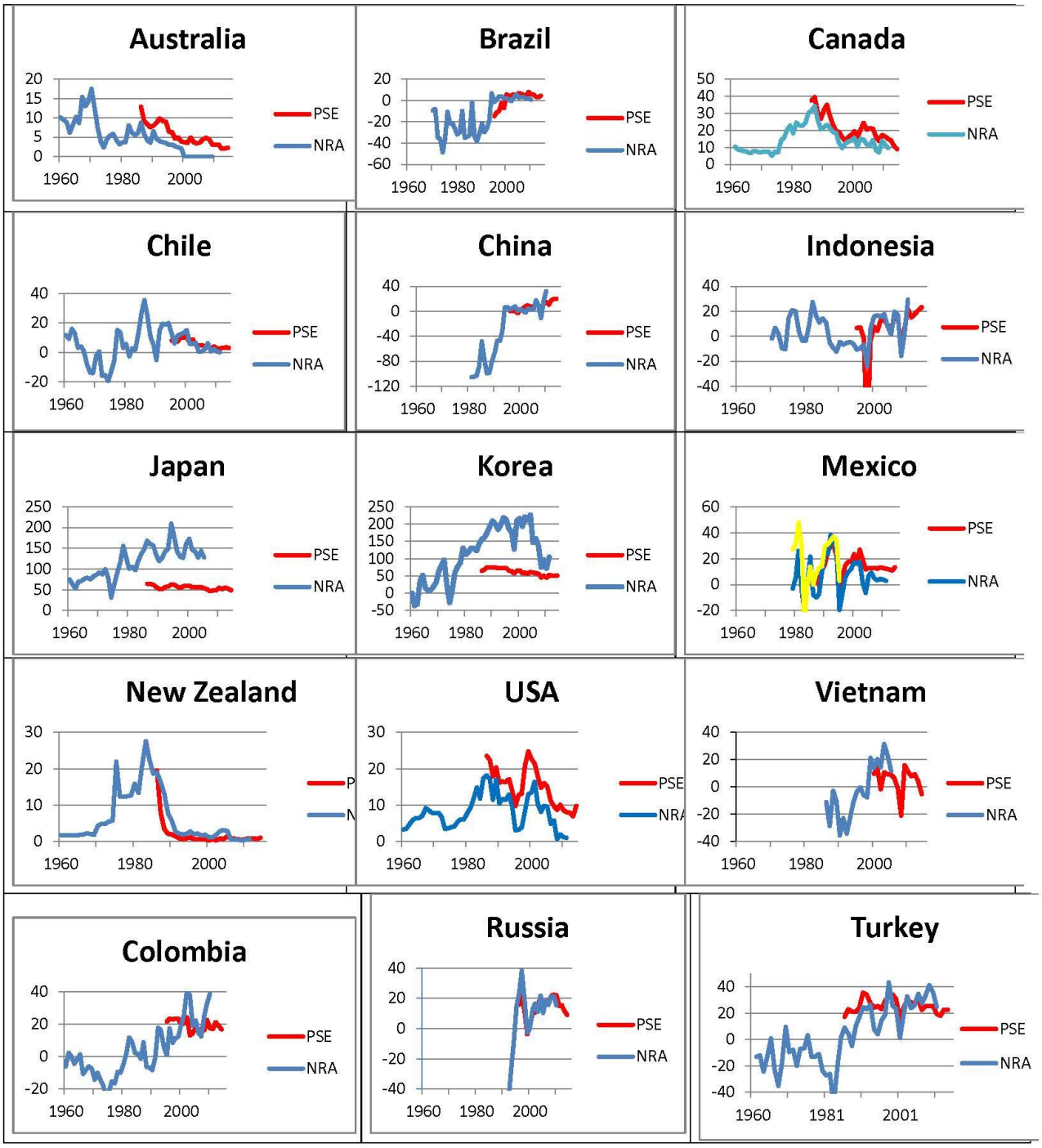
[32] For an individual product, the NRA is the "percentage by which government policies have raised gross returns to farmers above what they would be without the government's intervention (or lowered them, if NRA<0)." (Anderson 2010, 7). Weighted average NRAs are also calculated. "The NRA differs from the producer support estimate (PSE) as calculated by the Organisation for Economic Co-operation and Development (OECD), in that the PSE is expressed as a fraction of the distorted value. It is thus $t_m/(1+t_m)$, and so for a positive t_m it is smaller than the NRA and is necessarily less than 100 percent." Anderson (2009, 589).

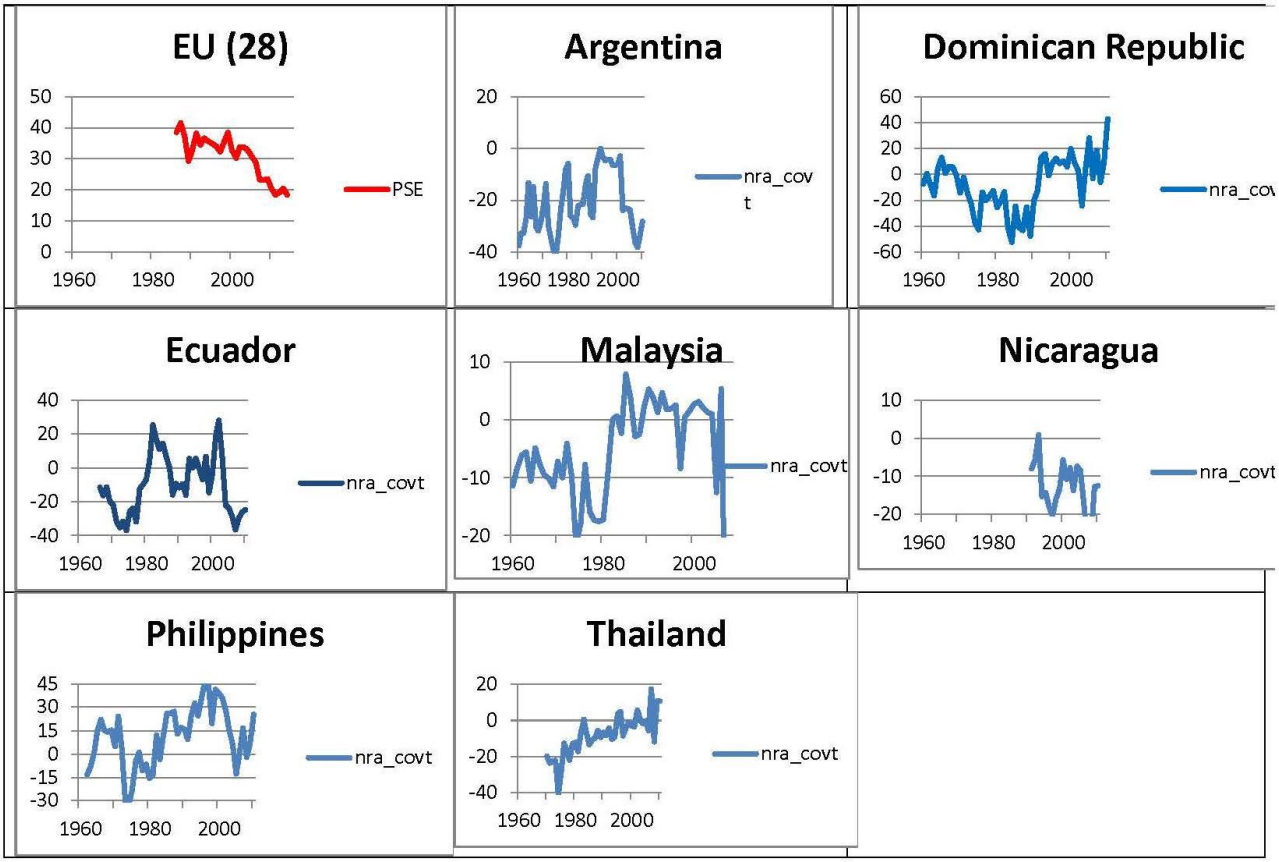
[33] Of the US$ 280,000 m in MPS support to food processing, the GTAP database attributes $198,000 m to OECD countries, and $82,000 m to non-OECD countries (Anderson et al. 2006, Table 1). Not only is tariff support to food processing concentrated in the wealthier countries, but its worldwide total of $280,000 m more than doubles the worldwide support to primary agriculture via the tariff/non-tariff MPS. Note also that the OECD series do not include food processing.

non-existent subsidies for inputs, which is not consistent with the corresponding OECD data.

Let us proceed to look at the time paths of the government intervention in agriculture in various countries over a considerable time period, in Graph 1. Because the TSE and PSE follow similar time paths, we will

Graph 1. Comparison of PSE and NRA, Relative to Agricultural Output. 1960-2014.





Sources: PSE from the OECD sources, and the NRA (a.k.a. nra_covt) from the World Bank site. **PSE-NRA**
Note: The line for Net PSE (WB) for Mexico comes from OECD (1997).

go directly to the PSE and NRA. Evidently these two series are closely correlated[34] – the exceptions being Japan and Korea, whose very high protection for rice and some other products makes the two indices less directly comparable. Graph 1 also indicates that there is a widespread trend for PSEs (and NRAs) to decline among high income countries for the period after about 1986. The PSEs and NRAs of even the most interventionist countries, such as Japan and Korea, have declined slowly and steadily (as they did in non-EU countries in Europe such as Norway and Switzerland), without, however, promising to approach zero. Interestingly, these ratios have also declined in North America and the European Union – with or without inclusion of the 'somewhat decoupled' items, suggesting that the major causes for the decline are changes in the size of the variable MPS (i.e. trade policy) along with subsidies.[35]

The finding of a widespread decline after about 1985 in PSEs among the high income countries deserves further investigation. Recall that the GATT had done very little to affect the agricultural sector, until the Agreement on Agriculture in 1995, which has never achieved its intended effect. Here are two hypotheses for this decline in PSE. First of all, at that time tariff reduction was 'in the air' as a result of positive evaluation of the various GATT rounds. In particular, reducing tariffs was an obvious way of lowering prices. Secondly, there was pressure on governments to reduce expenditures, and there were numerous examples of individuals – and corporations – who were receiving politically unacceptable amounts from programs that were justified as intents to protect 'the family farm.'

[34] This result, and considerations of space, impel us to bypass further comparisons between the two sources.
[35] See also Swinnen et al. (2012, p. 1091)

Graph 1 also illustrates a most interesting contrast, that several third world countries have seen their net ratio of support to agriculture pass from negative to positive, since around 1960. In other words, instead of absorbing resources and funds from agriculture to help the rest of their societies – what has been called 'taxing agriculture' - these countries now provide net support to the sector. This we attribute to the growing acceptance of the free trade policy prescription.

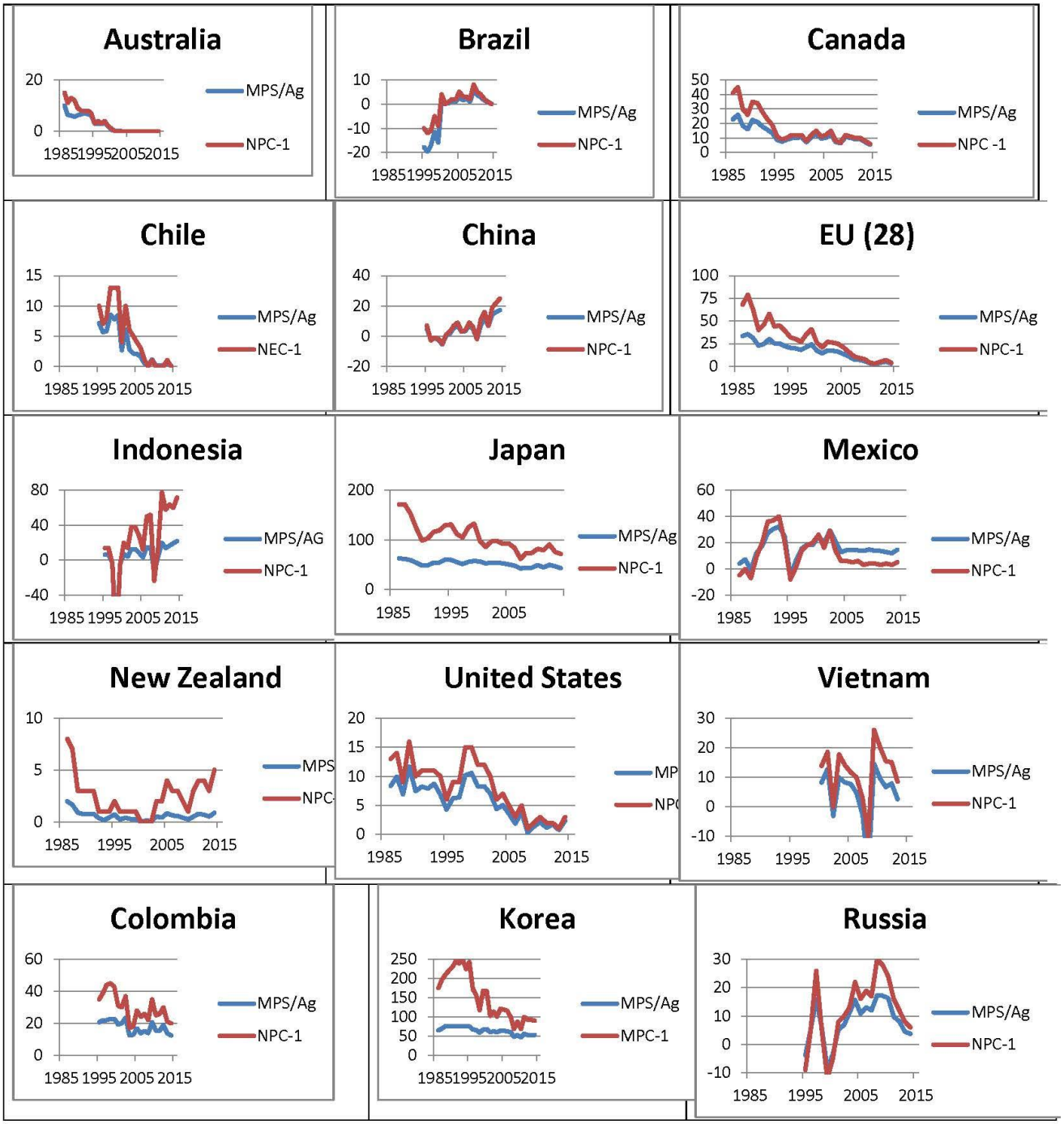
The OECD data on government intervention in agriculture generally begin in 1986 for member countries, and more recently for the others that are included here. For the analysis of the experience of Mexico, there is an important bonus is the existence of estimates going back to 1979, presented in OECD (1997), although using an earlier methodology. Those earlier PSE estimates are also included as a yellow line in Graph 1. First we can note a close correspondence for the period 1986-1995, suggesting comparability between the earlier and subsequent OECD methodologies, and also with the parallel pattern from the World Bank source. More intriguing is that the PSE was higher in the late 1970s than it was fifteen years later – just before NAFTA was signed. Moreover, there was a dramatic decline in the PSE ratio in the early 1980s, during a period of macroeconomic crisis. The OECD report states that the fall was due to a decline in the MPS, which it attributes to "[C]hanges in domestic producer prices and variations in border prices, including changes in the external value of the Mexican peso," (OECD 1997, 20).[36] That Graph offers a similar coverage for Indonesia going back just to 1990, which basically suggests that government intervention was also small during that earlier period.

One way of summarizing the above graphs is to attempt to picture the average intervention on individual products, carried out through tariffs, price controls, and policies that create the gap between domestic and foreign prices. For this the OECD data gives us two similar indicators; the ratio of MPS to Agricultural output, and NPC-1, where NPC – the nominal protection coefficient - is the ratio of domestic producer prices to foreign prices. The series are presented as Graph old3. Consistent with what we have seen above, this price differential declines in many countries, especially wealthier ones. There is also the repetition of the fact that many countries had negative ratios, roughly before the year 2000. This latter fact we attribute to the growing acceptance of the neo-liberal policy prescription. The former result thus becomes our approximation of the decline in tariffs, which has been the goal of the GATT/WTO. We note the recent low levels of both indicators in Graph old03 - less than five percent in Australia, Brazil, Chile, the EU, New Zealand, the United States, and Vietnam, consistent with what was shown earlier in Table 5. For future use, note that the low price differentials imply that tariff reductions negotiated in the TPP or elsewhere will not have significant impacts on these countries.

An extension of this comparison is to utilize the World Bank data to investigate which types of agricultural products are more extensively affected by government interventions – exports or imports. The data in Graph old4 suggests that the tendency has been to bring export interventions close to zero, while leaving imports for a longer time. One hypothesis to explain this would be that countries were quicker to realize that agro-exports were a political and economic necessity, so that intervention was pushed aside. This would be especially true for cases where the products were controlled by foreign companies, such as bananas, tea, etc. In contrast, several imports were felt to be necessities – even though they were most important to higher income people – and so their importation was encouraged, while domestic production was allowed to lapse.

[36] This author does not understand why changes in the exchange rate should affect the MPS and therefore PSE. This issue has a major presence in the internal debate in the US about the omission of exchange rate policy in the TPP.

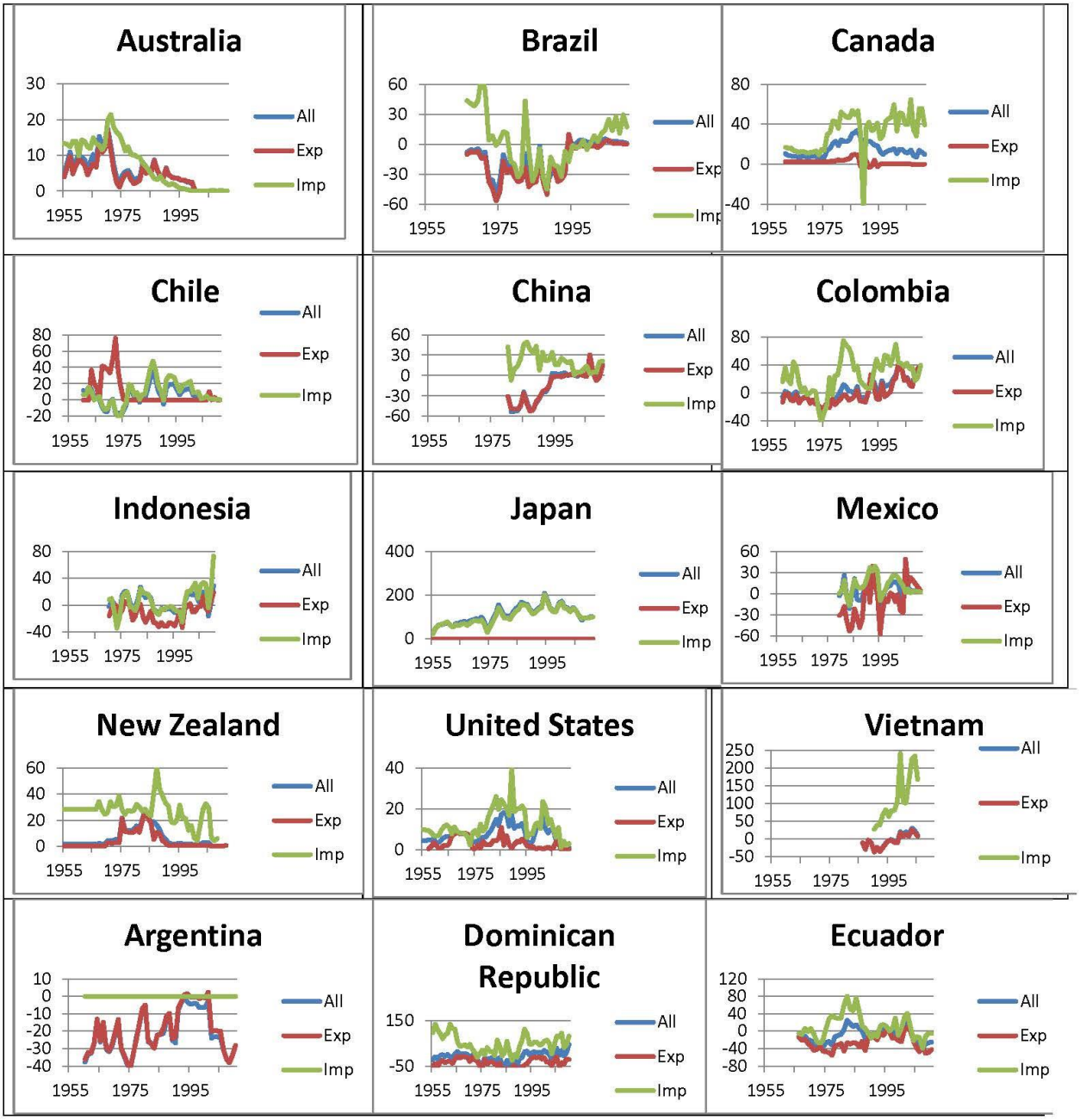
Graph 3. Two Indicators of Border Price Distortions, MPS/Ag and (NPC-1).



Source: Author's calculations, using OECD database.

MPS/NPC-1

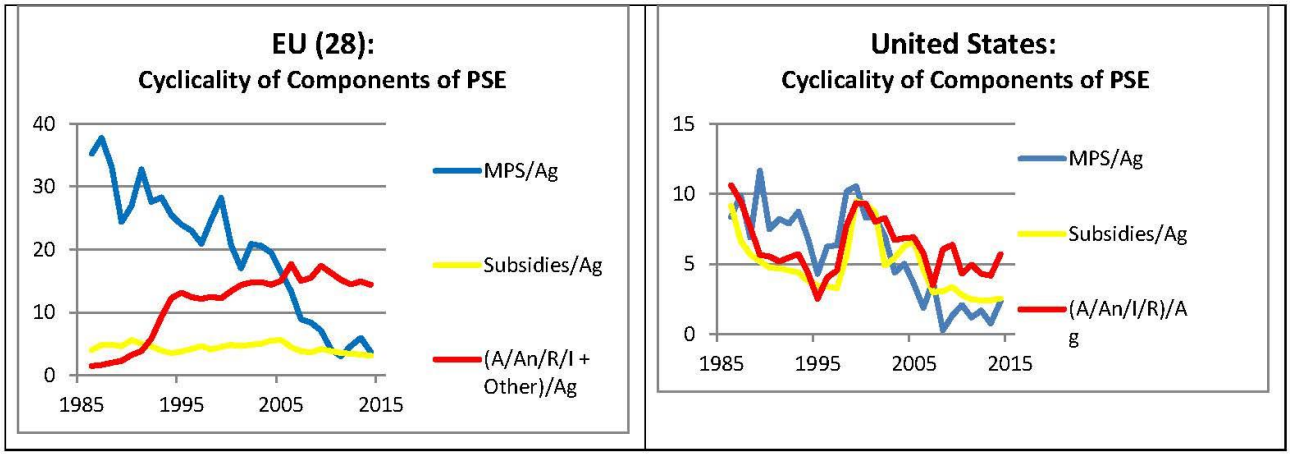
Graph 4. Disaggregation of NRA into Exports and Imports.



One issue of both empirical and policy importance is whether or not countries reduced their trade interventions while increasing other types of interventions, effectively retaining the same impact on production. The best answer for this would come from a detailed study of the individual programs, which is beyond our

means. We opt for a short-cut of analyzing the three major sub-categories of the PSE: market price MPS, output subsidy plus input subsidy, and A/An/R/I plus miscellaneous. For the case of the European Union, Graph 2 does suggest a significant – but incomplete - slippage from MPS to A/An/R/I, wherein over the 1986-2014 period, the EU's decline of MPS/Ag by 33% was counteracted by an increase in the ratio of A/An/R/I plus miscellaneous, to Ag, of 13%. That Graph's portrayal of the pattern for the US does not reflect such a process, and if anything suggest a common cyclicality, i.e. a positive correlation between these components.[37]

Graph 2. Components of PSE in the EU, and the US.



Sources: Author's calculations, using OECD spreadsheets.

\PSE2

For our purposes, an important contribution of the World Bank data is its extension of the time span covered by these series, adding two or even three decades of estimates for earlier years, and also the inclusion of many more countries. Graph 1 above also allowed us to compare the longer time span from the World Bank with the shorter coverage of the OECD reports. There are several important messages, but the primary one is the similarity of these measures between the two sources, at least during the common years. This is less convincing for Japan and Korea, but the methodology used with very high equivalent tariffs was bound to make the series less comparable. A very intriguing – and unexpected – result is that the gradual decline of PSEs after 1986 in Canada, New Zealand and the United States appears to follow a period characterized by increases of the PSEs, which is not covered by the OECD data. Thus, for these countries, PSE and NRA measures peaked around 1986.

There is a similar peak around 2000 in the two series for Vietnam, but caution is needed for conclusions about a case where data problems still persist. Although the PSE and NRA data for the other countries are comparable, no such simple story for the pre-1986 data suggests itself. The earlier values of NRA/Ag tend to be unstable in Brazil, Chile, Indonesia, and Mexico. The PSE and NRA were negative for some years in the OECD estimates for Brazil, Chile, China, Colombia, Indonesia, Mexico, Russia, Turkey, and Vietnam, while the NRA was negative in all the ten additional countries reported only by the World Bank.[38] Note also that although the GTAP

[37] A useful, more detailed analysis of the EU's shifts between coupled and non-coupled projects is Josling and Mittenzwei (2013, 14). Data for Canada provide a less clear picture of this slippage. For most other countries this is not an issue.

[38] That governments tax their agricultural sectors has been known for decades; the recent literature traces its lineage to the article by Krueger et al. (1988). It is interesting to note that that article included manipulated exchange rates as one of the causes of sectoral distortions; the inclusion of this topic has not fared well in the TPP negotiations.

data includes one of the TPP signatories that was not included in the OECD series – Malaysia - it still does not report on Peru, which for many of us is an important case.[39]

The issue of the determinants of countries' sectoral trade policies is evidently too big for us here. One explanation for the finding that several third world countries evolved from negative to currently positive support for their agriculture would include a growing acceptance of free trade perspective, which is a major theme of this paper. One special twist to that hypothesis relates to policies that differ in terms of their impacts on exportable products and import competing ones. The longer version of this paper illustrates the degrees to which countries like Brazil, China, Colombia, Indonesia and Mexico have reduced policies that hurt exported products, which ceteris paribus will raise their NRAs or PSEs. As analyzed in Anderson (2009), this is often the result of significant reductions of the taxing of export-oriented agriculture, along with reductions of tariffs and other means to reduce food imports. The curious end-result is that in some countries that are described as having adopted the neo-liberal economics of the Washington Consensus, their measured level of PSE has risen, as in Brazil, China, Colombia, Indonesia and Mexico.

Finally, let us look at intervention for individual agricultural products, by country, in Graph 3, about which we can make a few comments. First of all, the government intervention tends to be concentrated on products that are imported, rather than those that are exported, and that generally the number of affected products is small, with the corresponding intensity of the program being rather high. The second point returns to the fact that government support for agriculture may be product specific (specific commodity transfers (SCT): such as a wheat tariff, or a cotton subsidy), or it may not be specific, but general - such as an insurance subsidy, subsidies for constructing irrigation or payment for not cultivating land. Crop specific taxes or subsidies for exports are becoming less common. Tariff reductions affect the SCT and therefor lower the PSE; but a free market orientation will push to lower both SCTs and general payments. The various countries differ significantly on the fraction of the PSE that is composed of SCT, and in particular the United States is moving away from SCTs.

WTO: As part of the Uruguay Round, an Agreement on Agriculture was approved in 1995 which attempted to address intervention in the agricultural sector, which as noted above, had pretty much remained untouched under previous rounds. This agreement is described as identifying three areas of interest, or pillars; domestic support – such as production subsidies, market access – referring to tariffs and other import impediments, and export subsidies. Quantification of these areas is necessary both during the phases of negotiation, and subsequently to establish fulfillment of obligations. These processes refer to three categories, or boxes, in a folksy image of traffic lights: the amber box are those policies that should be reduced; blue box are policies that are temporarily acceptable because they are part of a larger plan for overall trade liberalization; and the green box, comprised of actions that are benign because they do not lead to an increase in agricultural production.

The WTO works with an aggregate measure of Total Domestic Support (TDS), and Aggregate Measurement of Support (AMS) using data provided by the various countries. The OECD's categories were determined before the WTO's Agreement on Agriculture, so that any correspondences between estimates of the PSE (total or its components) and the AoA's 'amber' box, or the GSSE and 'green' box, are inherently rather rough.

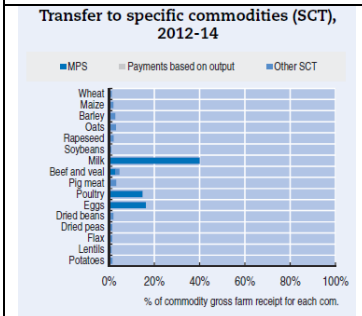
For several reasons – pursuit of which would lead us on a major detour - there are many criticisms of the WTO's categories regarding trade liberalization in agriculture, and the WTO's calculation and presentation of the data. The introduction of Orden et al. (2011, p. 15) lists four deficiencies of the WTO's measure of the MPS, leading to the conclusion that "… the notified MSP, despite its name, has not been a good indicator of economic market price support." Our acceptance of that judgement is the reason we will not dedicate more space to this topic, which initially seemed so promising. A recent edited book elaborating on this position is Meléndez-Ortiz et al. (2009).

[39] A related comment about agro-economic research in Peru by Alan Fairlie, made as that country was negotiating its PTA with the United States, is: "Lo sorprendente es que a pesar de que no se han hecho estudios, ya estamos negociando y además estamos apurados por firmar." (Fairlie 2004, 79).

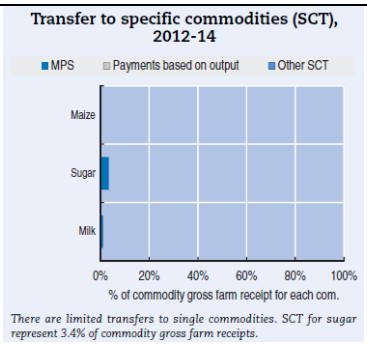
Graph 3. Transfers by Commodities, and PSEs: Various Countries.

Australia: PSE = 2.5 (SCTs are very small) New Zealand: PSE = 0.9 (Poultry and eggs, only) (SCTs also small)

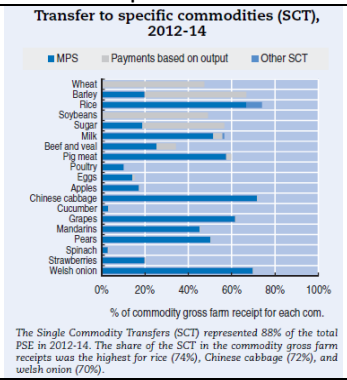
Canada: PSE = 14.5



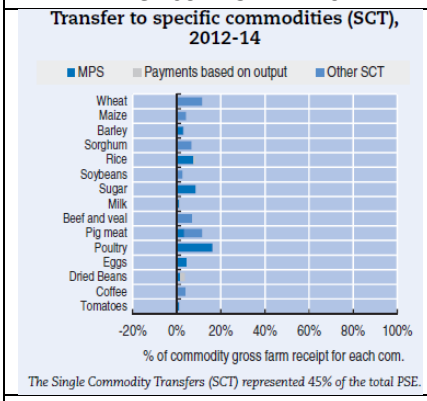
Chile: PSE = 2.8



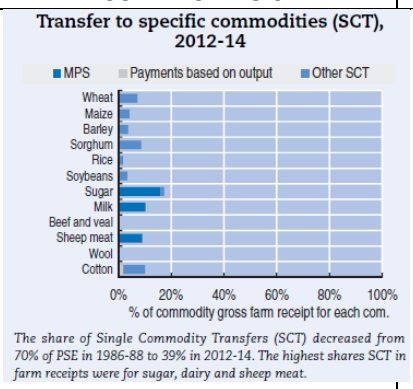
Japan: PSE = 53.2



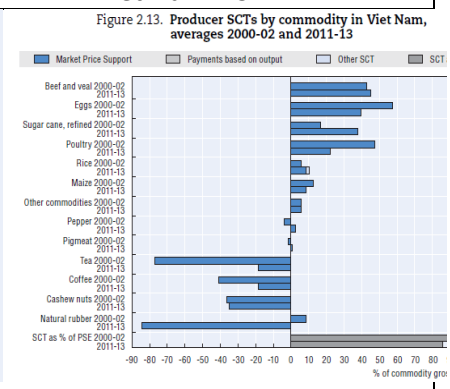
Mexico: PSE = 12.0



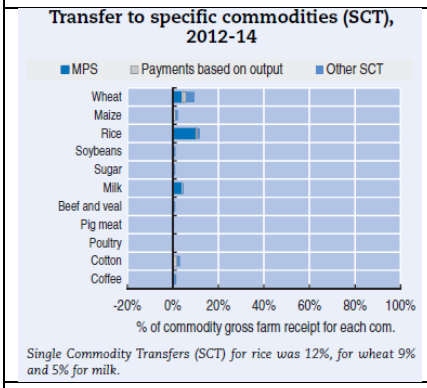
USA : PSE = 8.0



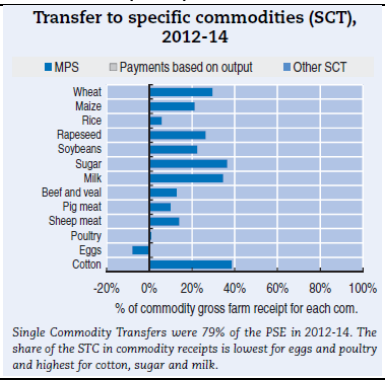
Viet Nam: PSE = 7.1



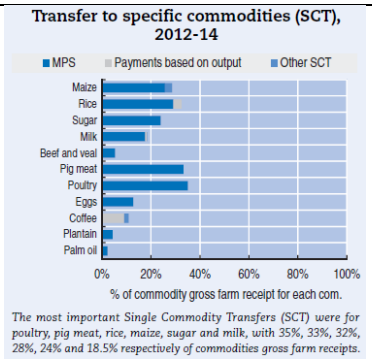
Brazil: PSE = 4.6



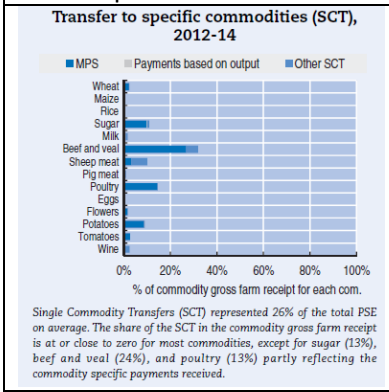
China (PRC): PSE = 14.1



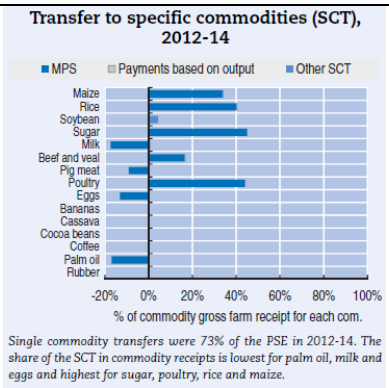
Colombia: PSE = 19.1



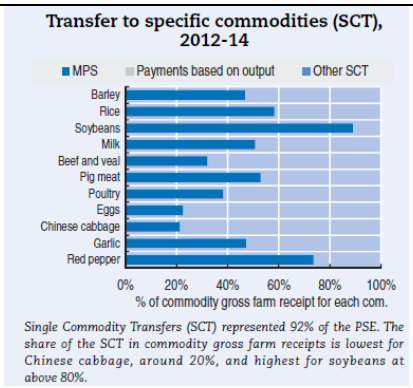
European Union: PSE = 18.9



Indonesia: PSE = 16.4



Korea: PSE = 51.8



Source: OECD *Agricultural Policy Monitoring and Evaluation* 2015. \OECD_PSE-SCTs

Important Experiences of Agriculture in Recent PTAs

Let us turn to a brief analysis of the experiences of some of the TPP countries with the liberalization of agricultural trade, in concrete cases of PTAs. Our source of data will be the FAO; this is quite useful for production and trade in grains and some meats, but there is less comparability of those series for fruits and vegetables, and some dairy products. A simple hypothesis is that for individual crops, trade liberalization will increase net exports or net imports. We will address this by presenting graphs for individual products. Evidently a thorough study would require much more time and analysis than can be attempted here.

NAFTA - Mexico:

In the twentieth century, the increase in agricultural trade links between the market of the US and production in Mexico had many causes; a convenient summary is presented by How (1991), and includes: the beneficial effect of Mexico's early twentieth century agrarian reform; improved transportation and irrigation – especially in the northwest states; the 1962 US embargo on Cuba, which stopped exports of tropical products from the island; the ending of the Bracero program in 1964, reducing the growth of agricultural production in the US.[40] Much of this binational trade remains seasonal, to be sure. The archetypical product is tomatoes, but the current list would include many vegetables such as cucumbers, green peppers, artichokes, avocadoes; the first in the list of fruits would be strawberries. Two very helpful descriptions (originally written in English, but also available in translation) of the evolution in government policy pre-NAFTA are Sanderson (1986) and Mares (1987).

The emphasis on the historical background of this trade helps make the point that the perceived benefits of this trade – on both sides of the border – had been stimulants for a push towards trade liberalization, twenty years ago with NAFTA, and now the TPP.

Reflecting our working hypothesis that PTAs hurt producers of imported agricultural goods, a widely cited paper co-authored by Gonzalo Fanjul and Arabella Fraser and published by as Oxfam (2003), claimed that after NAFTA came into effect, large increases of United States exports of subsidized maize to Mexico displaced Mexican producers of that crop, harming them and worsening overall income distribution, because maize is the mainstay of Mexican small farmers. Timothy Wise expands this position by including an estimation of agricultural income lost in Mexico due to the decline in world prices due to the US subsidies (Fox and Haight, chapter 8). The existence of an impact on world markets of US maize exports is widely acknowledged, as is the fact that US government provides sizeable production subsidies for this and other crops, which were not reduced by the NAFTA agreement.

In a study for the World Bank, Fies and Lederer (2004) argued against the first part of this linkage, noting that although there was a big increase in Mexico's maize imports, the volume of Mexican maize production actually rose after NAFTA entered into effect, and that the Mexican domestic price stayed about constant relative to international prices of the grain. Their conclusion is that any negative impact on producer incentives came from the international market, not from NAFTA per se. Another component of this counter-story is that the government authorities refused to utilize a safeguard mechanism written into the NAFTA accord, which would have allowed them to restrict imports to protect domestic producers. The rationale given for this (in)action was the government's desire to hold down inflationary pressures by increasing total supply through more imports.

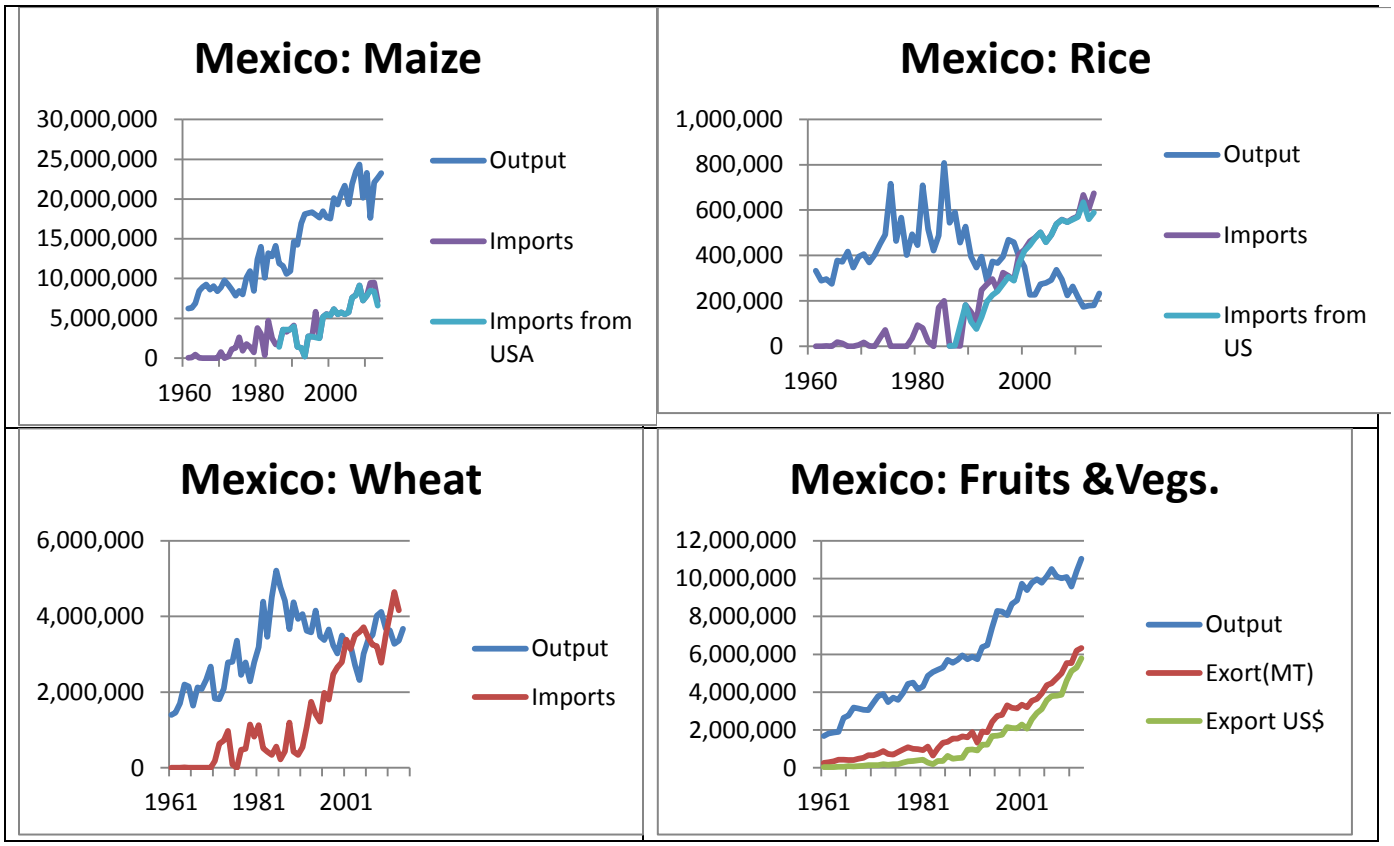
Graph 4 depicts Mexico's experience with production and trade for important products during the period spanning implementation of NAFTA, using data from the United Nations' FAOSTAT database. The graph for maize reveals an upward trend in production since 1961, which continued for about fifteen years after NAFTA's approval. Both production and imports fell after 2010. Note that the graph does not reveal an image of an acceleration of imports after NAFTA went into effect in 1994. A sophisticated econometric analysis of the effects of NAFTA concludes, "[L]o que demonstramos con este análisis es que el TLCAN ha tenido un efecto muy limitado en términos de comercio agrícola, y en consecuencia, que las expectativas al respecto no se han

[40] A similar set of factors is mentioned in Mares (1987).

cumplido después de siete años y medio de vigencia del acuerdo." Yúnez-Naude and Barceinas (2004, 83). We will discuss this argument in more detail below.[41]

Much has been written on Mexican maize production over the decades. For our current perspective, Eakin et al. (2014, 2015) point out that while the increased imports of feed grains (maize, sorgo, soya) displaced local production of these products, this was counteracted, at the national level, by the increase in production in flourishing agribusiness conditions of the northwest, particularly the state of Sinaloa. This northern production was much less labor intensive, so the assertion of a negative income distribution impact remains credible, even as analytical attention should also be directed towards livestock production and consumption.

Graph 4. Mexico, Production and Trade: Maize, Rice, Wheat, Fruits & Vegetables. (Metric Tons)



Source: FAOSTAT database. Author's calculations for fruits and vegetables.
Note that the series that specify exports or imports between two specific countries only begin in 1985, so that no information is available from this source on imports from the US before that year.

In contrast to Mexico's experience with maize, there is a marked change in the country's production of rice, as shown in the section of Graph 4 for rice. This product attained its highest output in the 1980s (i.e., before NAFTA, but as Mexico was rejecting its earlier protectionist stance, concretized by joining the GATT). The subsequent decline in rice output occurred as imports grew.[42] It is the case that apparent national consumption fell, suggesting that the increase in imports was not the only factor at work in reducing output. Without pretending a substantive study of this crop here, we can add that this displacement of domestic output by foreign/US rice as a result of declining Mexican tariffs had been understood by US researchers, and was predicted to continue under NAFTA: look at Fuller et al. (2003) and Fellin et al. (2002).

[41] Note also that the data for total maize imports is practically identical to the series for imports from the US. This is also true for rice, while the US has recently provided just three fourths of Mexico's wheat imports

[42] An econometric study of this process is provided by Fellin et al. (2000).

Mexico's experience with pork and chicken meat had some commonalities with each of those cases (data not shown). Imports of both products began to grow in the late 1980s. In both cases domestic production continued to grow even after significant imports began. While more work could be done on this, this glance at these products does not depict as dismal a picture of negative production effects of trade liberalization, as might have been expected. Milk production rose while imports were stagnant. The case of beef is somewhat distinct, and more complicated. There has evolved a situation of exports of young calves from northern Mexico to the US for fattening and ultimate sale abroad, including back into Mexico. Thus production and trade in the two countries are expected to be more closely correlated, and care should be taken when analyzing this sector.[43]

Analysis of the Mexican situation is complicated by the prior integration of important parts of agricultural production with the United States, under circumstances that seemed to have created - long before NAFTA - the low trade barriers more typical of a PTA, and the resulting increase in trade. This is the case of beef, tomatoes, strawberries, along with several other vegetables and fruits, and was most important in the northwest - Baja California, Sonora, and Sinaloa. There is a long history of this skewered integration of the two agricultural economies, of course; we might start here with the construction of irrigation projects in the late *Porfiriato*, and the completion in 1907 of a railroad line between Culiacán, Sinaloa and Nogales, Arizona, before that latter area was even accepted as a state in the US. Tomatoes were an early export item, provisioning cities in the center and the west of the US (and eventually in Canada), in a seasonal pattern. Another case history of rapid growth of production and exports was famously analyzed as *Strawberry Imperialism* by Feder (1977).

It is interesting to look in some detail at Mexico's production and trade of fruits and vegetables, also shown in Graph 4. Today, fruits and vegetables comprise three fourths of Mexico's agricultural exports (Avendaño Ruiz et al., 2014), having left behind traditional products like cotton, sugar, and even coffee. These crops are produced for export in the northwest of the country, where transport costs to the US market are small, under conditions of irrigation, without danger of frost. Accompanying this growth has been the diversification of fruit and vegetable crops. Also noteworthy is the friction that has arisen between US producers in certain regions (e.g. Florida, California) and the Mexican interests that are responsible for these exports, because the seasons are not so clearly demarcated, there has occurred climate change, and the US political system has grown accustomed to and increasingly accepting of the produce from Mexico. A key factor has been the ability of Mexican farmers and intermediaries to improve the phytosanitary conditions of their production, facilitating their expansion in the US markets. It should also be noted that in the US, fruits and vegetables have not benefited from the product specific subsidies that grains, cotton, tobacco and livestock have enjoyed.

Was NAFTA responsible for the growth of Mexican production and exports of fruits and vegetables? This paper asserts that NAFTA helped, but was not the key factor. This is the position of Schwentesius and Gómez Cruz (1998, 188-189), who, in writing about the growth of vegetable production and exports to the US, asked: "¿Cual ha sido el papel del TLC en esta tendencia?" and answered, "El impacto del TLC, a través de la desgravación negociada, ha sido mínimo." While it is clear that the removal of tariffs must have had an impact on this trade, it is also clear that the agricultural economy of northwest Mexico had been undergoing a structural change for years before NAFTA. Avendaño Ruiz (2016, 9-10) lists about twenty technical innovations for the production and post-harvest handling of fruits and vegetables, and reports that almost all had begun in Baja California before NAFTA was implemented. Schwentesius and Gómez Cruz (1998, 189-201) discuss five factors causing Mexican production to become more competitive than that from the US: a) technological change in terms of varieties with better shelf-life, drip irrigation, natural (non-chemical) techniques for fighting infestations; 2) improvements in marketing, including cooperation with related interests north of the border; 3) the devaluation of the peso in late 1994-95; 4) weather changes in Florida; 5) reduced domestic consumption in Mexico, allowing increased exports.

Further spicing up the conversation is the fact that several products from the fruit and vegetable groups are subject to transformation - both canning and freezing - before consumption. We know that tariffs on processed goods are typically higher than those on the fresh products. Inevitably, this leads to the topic of agribusiness, transnational or not. In referring to vegetable distributors in northwest Mexico and Nogales, Mares (1987, 39) notes the significant financial interests of Mexican growers, "[I]n at least half of the

[43] Similarly, the study of trade in dairy products is hindered because what is traded is not whole milk but concentrates or powdered milk. Presumably better familiarity with Mexican statistical outlets would improve the analysis here.

distributorships in Arizona which handled [Mexican] produce."[44] The results of the analysis by Marin et al. (1998, 50), of the importance of nationality of fruit and vegetable marketers, is that the "[F]irms were rather homogeneous in structure, market outlets... and strategies." More work is needed on this topic; Stamatis Maldonado (1993) reports that the distributors for Mexicali production were non-Mexican, with which Avendaño Ruiz (2016) is apparently in agreement.[45] Marañon (1999, 210) draws a contrast between the Mexican and Peruvian export of asparagus, in that the former was dominated by transnational companies, while the latter was led by nationals.[46]

Several extensions can be proposed to this analysis, further contextualizing the role of the NAFTA agreement, and covering the broad set of liberalization measures undertaken by the governments of Presidents Miguel de la Madrid (1982-88), Carlos Salinas (1988-94) and Ernesto Zedillo (1994-2000). Josling (1992, 146) began his summary of work on NAFTA (before it was implemented) with "The first problem confronting any economist addressing the impact of NAFTA on agriculture is to define the agricultural component in NAFTA in isolation from the changes in government policy now taking place… The NAFTA talks are but one of three sets of policy discussions." Those three areas were: "[T]he change in trade policy subsequent to Mexico's decision to join GATT, which led to a removal of much of the network of import controls and licenses and to a reduction in tariffs; the change in internal market policy, involving the encouragement of private trading and less government intervention; and the revision of the constitutional constraints on land tenure and their consequent impediments to investment." (ibid) There is widespread agreement on the need to place NAFTA inside a broader set of factors, even when different authors will vary on their emphasis on those factors. One part of that story that we will address later is the useful study by Yúnez-Naude (2003) of the dismantling of the state marketing agency CONASUPO, which began around 1982, and removed price supports and production subsidies, while liberalizing consumption. Another major policy action impacting trade balances – not directly related to the entering into effect of NAFTA, was Mexico's major exchange rate devaluation in late 1994.[47] A helpful summary of the experience a decade after NAFTA's implementation is Puyana and Romero (2005).

Attention to the end of the century neo-liberal reforms should not lead us to overlook several other actions affecting agriculture which were clearly interventionist, whose distributional impact was regressive. The essays in Fox and Haight (2010) provide examples of 'subsidizing inequality' via Mexico's corn policy since NAFTA. Scott (2010) extends his much-cited earlier work on Mexican income distribution (national as well as specifically rural), documenting the regressive impact of programs like the *Programa de Apoyos a la Comercialización*, and *Procampo*, partly because of design faults, partly because of lack of transparency, as well as the inevitable differences because of agro-climatic considerations in different parts of the country. The reader is reminded that the OECD estimates that the country's PSE ratios have rebounded from their low levels in the period immediately after the entry into force of NAFTA.

Our tentative conclusion about the Mexican experience with this PTA is that the major factor affecting agricultural production was the overall adoption of a free market orientation for the sector, reversing the policy orientation of the previous six decades. In this, NAFTA was only a contributor.

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[44] Maya Ambía and López Barraza (2009) also discuss the topic of cross-border investment at Nogales, mentioning that there were 27 Mexican firms with firms in Nogales, out of a total of 42 distributorships in that city in 2006. It should be noted that their focus is not on the fraction of the businesses (by number, value of shipments, capital assets, etc.) controlled by interests from each of the countries. This orientation also characterizes the articles in section 2 of Loyns et al. (2000), on foreign investment arrangements in agro-industry among the NAFTA countries. Rather, the authors prefer to discuss strategic alliances and joint ventures, in their search for what modes have been successful.

[45] A related – but conceptually distinct - topic is the impact of NAFTA on foreign investment into Mexican agriculture. Avendaño Ruiz also notes the new foreign investment into Mexican land and production that occurred after NAFTA.

[46] It might be helpful to note the differences between the treatment of multinational firms that was discussed earlier, in terms of the book by Mark Manger, and how they have been discussed here, where the asserted bi-nationality of ownership of firms involved in this trade would seem to reduce their role and influence in lobbying for expansion along PTA lines.

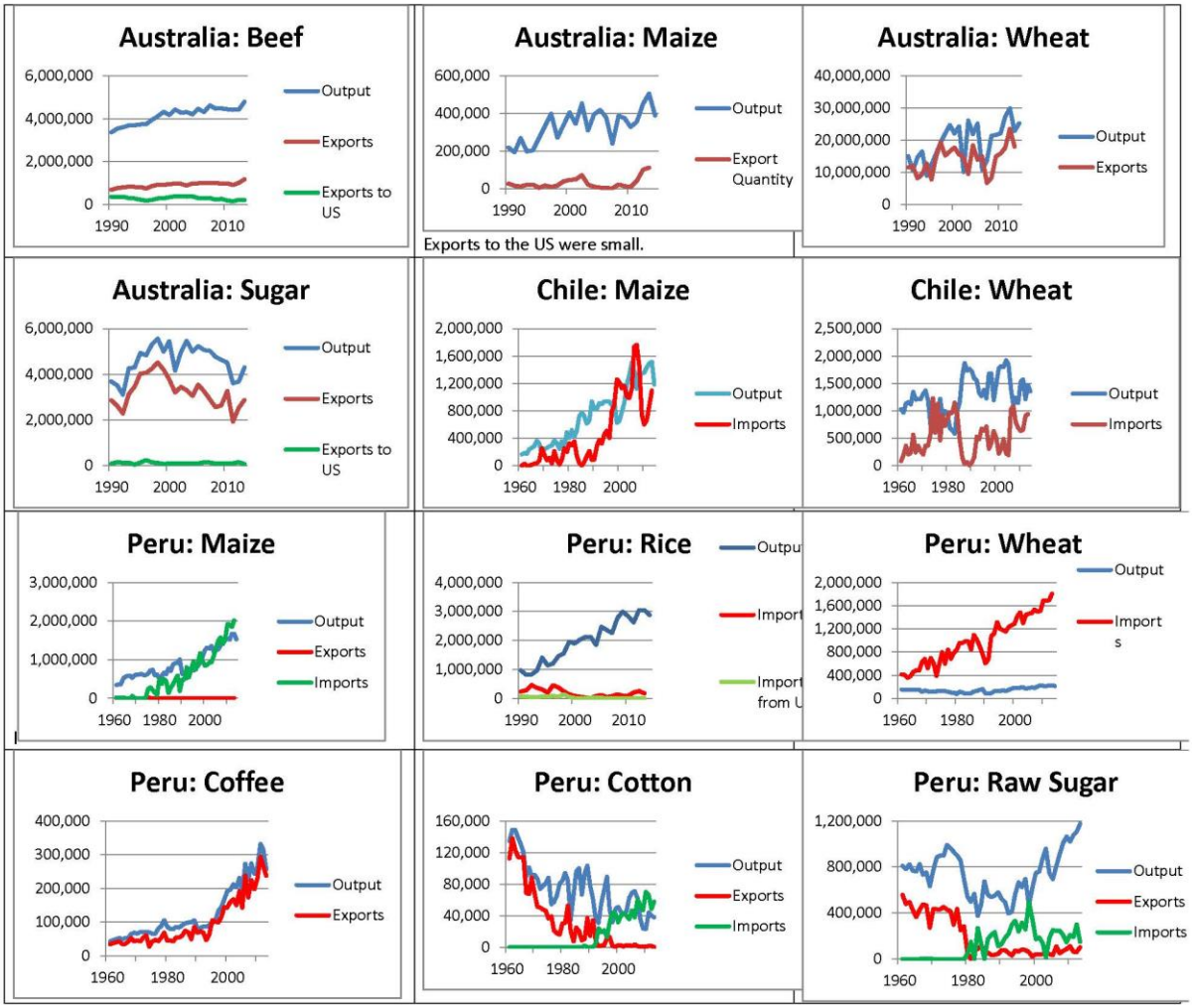
[47] Romalis (2014) also stresses how the prior liberalization, as well as the devaluation of the peso, complicates evaluation of the impact of the NAFTA agreement.

Australia:

In addition to its long-time membership in the GATT/WTO, and the implementation of early PTAs with its neighbors Papua New Guinea and New Zealand, Australia has signed similar agreements with the United States and Thailand (2005), Chile (2009), ASEAN in 2010, Malaysia, Korea, Japan and China more recently. Thus its experience holds the promise of many lessons. As an agricultural exporter, of both tropical and temperate climate products, it competes with other exporters among the TPP countries, while its success at entering the Japanese and Chinese markets also is being watched.

In the section relating to Australia in Graph 5, there are virtually no hints of an impact of the 2005 PTA with the US, which might have increased exports and therefore production, in Australia. The basic explanation of this finding is that Australia's export market in the US is very small as a fraction of the country's exports. The example that emerges as a result of the TPP negotiations is sugar, which the US imports under quotas, distributed by political criteria. Note for subsequent use that not only are Australian exports of sugar to the US quite small, but the negotiated increase in the US quota (65,000 mt; currently it is 87,402 mt; *Food Business News* 10/5/2015) is also small relative to the country's total production or exports. This was an issue in the TPP negotiations, and may well impact the chances of TPP approval in Australia.

Graph 5. Data on Production and Trade of Specified Products: Australia, Chile, Peru.



Source: Author's elaboration of FAO data.

Chile

Chile's agriculture has changed dramatically since the 1970s, caused both by the new policies of the military regime, along with the country's aggressive adoption of free trade orientation. A useful summary - both well-informed and well-written - is Kay (1992). That author divides the post-coup period into two major parts,

before and after the transition to democracy under the *Concertación* forces in 1990. The former period, characterized as "neoliberal authoritarianism," is further subdivided into a decade of "dogmatic neoliberal" policies, followed by a shorter period "pragmatic neoliberal" policies. He notes, "During this second phase, agricultural exports boomed and agriculture became the most dynamic sector of the economy," (p. 470). During this period, land under traditional crops declined, although their yields tended to grow enough to produce frequent increases in output. At this time production of non-traditional agricultural exports such as fruits, horticulture and flowers, and forestry goods grew rapidly, with major effects on labor markets and income distribution. The governments elected since 1990 have retained a pro-trade orientation, concretized by PTAs with many countries, in or out of the TPP, as we saw.

The evidence for the period after 1990 contained in Graph 5 does indicate that growing imports occurred with a decline in domestic production of wheat (as also occurred in beef), along with a stagnation of maize output while imports grew. We have not found evidence of this substitution for the milk and dairy sector. Not surprisingly, imports from the US played a minor role, compared to those from elsewhere. We have not yet been able to construct series of Chile's production and exports of fruits and vegetables, but it is widely acknowledged that the country has had much success in these products.

Japan:

As was commented earlier in relation to Table 2, Japan was slow in negotiating PTAs. Its first agreements were with Mexico, Peru, and Chile, reminding us of Manger's analysis of strategic motivations, to protect a country's multinational firms. This country was the last to be incorporated in the TPP negotiations. Our specific interest in agricultural trade requires mention of the political strength of the country's umbrella organization of the agricultural cooperative association, (JA), which lobbies in favor of its farmers. As shown in Table old04, Japan has unusually high import protection reach levels– in terms of tariff equivalents – for rice (>700%), wheat (~250%), sugar (~380%), and pork (120-380%) Honma (2015, 98).

Table old04. Japanese Tariffs

	Tariff Rate (%)	Value of Production: (100 million Yen)	Import Rate
Rice	778	17,950	9.3
Wheat	252	585	88.8
Barley	256	169	92.5
Powdered Skim Milk	218	6,634	5.0
Butter	360		0
Starch	583	139	35.2
Peanuts	500	98	79.6
Konnyaku Potatoes	990	142	86.0
Sugar	328	839	64.5
Pork	4.3	5,085	44.0
Beef	38.5	4,406	56.8

Note: Import rate = Import volume/(Production + Import volume)

Source: Shujiro Urata "Postwar Japanese Trade Policy: A Shift from Multilateral GATT/WTO to Bilateral/Regional FTA Regimes," page 64 of Aurelia George Mulgan and Masayoshi Honma (eds.) (2015) *The political economy of Japanese trade policy* Houndsmills, Palgrave Macmillan.

A useful description of Japan's current agricultural situation is presented by Honma (2015), who mentions these problems: 1) an aging, declining national population, with low birth rates and no effective opening to foreign immigration for the foreseeable future; 2) a decline in land used in agriculture, and a larger percentage drop in agricultural families and paid workers; 3) significant changes in the national diet, away from

rice towards wheat, meats, and dairy products; 4) farms are very small – currently averaging less than 2 ha/family,[48] reflecting the high importance of off-farm incomes, or what is colloquially referred to as 'weekend farmers;' 5) the historical tendency has been that these problems get worse.

It should be easy to comprehend the collision course that emerges from this picture. On the one hand, Japan has an agricultural sector that apparently has no future, but is protected by a strong political lobby that has erected incredibly high barriers. On the other hand there is ever-increasing pressure from the country's manufacturing and service sectors to sacrifice some of this protection in order to incorporate into the PTAs that are growing rapidly in the region. This has led to much academic discussion in the media and amongst academics, on how there seems to have been a recent change in Japan's orientation towards PTAs. It is difficult to make predictions.

Peru:

For Peru, we have a different story. Recall that the trade pact between Peru and the United States became operational about a decade ago, and Peru's tariff reductions are being phased in gradually, so that a major negative impact of this liberalization on domestic agricultural production is not expected. We must not forget that the country suffered from political unease and internal violence for the better part of two decades. With this as background, note in Graph 5 that the medium term story with regard to maize has been a significant increase in both production and imports. Furthermore, note that the country's source of maize includes other countries besides the United States. In contrast, domestic production of wheat has long been overwhelmed by imports of that product; again, the US is not the sole source of wheat imports. Apparently, rice production has not suffered from imports, certainly not from the US. In terms of livestock (not shown here), meat imports have been constant, as well as, apparently, milk products, so that domestic production has continued to rise.

Quite appropriate for our present interests is the study published by the USDA, Meade et al. (2010), on the growth of Peruvian exports of vegetables. The prime example is asparagus, which is grown in the provinces of La Libertad and Ica. In the 1970s, these areas were known for their production of sugar and cotton; while the outlines of the story of the dissolution of large farms, as the agrarian reform was ending, is well-known, much more could be said about the specifics, by region and crop. Asparagus is not native to Peru, and it is not widely consumed in the country. The US and the EU are the major markets for this product. Of importance for us is the fact that this and other vegetables are quite labor intensive, and in zones like Ica that have water availability as a legacy of the previous export booms, two or even three crops can be grown in a year.[49] Meade et al. identify as a one of the important reasons for this export growth Peru's PTAs with the US, the EU, and China. The Peru-US PTA had an important predecessor, the 1991 Andean Trade Promotion Law, which the authors credit for encouraging private sector agricultural investment.

Vietnam

As will be recalled, in 1975 the United States government and its military withdrew from Vietnam in 1975, and the country was reunited. The successor government embarked on a centralization plan on the farms and in the cities. As these policies were not successful, the government reversed direction in 1986, embarking on the *doi moi* (Renovation) Plan, of gradual, export-oriented, market based liberalization programs throughout society. Trade with the US was restored in 1994, and the country joined the WTO in 2007. In the words of a recent USDA report, "[Vietnam] has since emerged as one of Asia's dynamic economies and a growing market of agri-food trade," Arita and Dyck (2014, i). The authors note that the export-led growth strategy has led to major expansions in Vietnam's exports of textiles and footwear, with lesser growth in exports of rice, coffee, and rubber, while the country is becoming a major importer of cotton, hides, and leather commodities. In addition, "While Vietnam is expected to be one of the largest beneficiaries of the proposed TPP agreement, trade gains in agriculture may be limited. Vietnam's current preferential trade agreements (PTAs) with many of the negotiating

[48] A fuller historical presentation of this situation appears in Honma and Hayami (2009), as a chapter in the World Bank's project on Distortions to Agricultural Incentives. Those authors indicate that in two of Japan's ex-colonies, Taiwan and Korea, the average size of farms in the post-WWII period was of a similar order of magnitude.

[49] A fascinating in-depth treatment of irrigation in Ica is Oré (2005), which provides historical and agronomical detail to this story.

TPP countries already provide low or duty-free rates," (Arita and Dyck (2014, iii). They also see little room for growth for the country's top agricultural export products, which have not been subject to protectionism by their trading partners. Trade data appears in Table old11. As has been the case with many other former socialist countries that are 'transitioning' to a market economy, the agrarian reform was reversed in a process not well-controlled in a political environment of growing corruption. It is sad to read a report - whose lead author is associated with Oxfam – that begins with "Land Tenure in Vietnam is increasingly contested in the context of rapid economic development and growing inequality," (Wells-Dang et al. 2015,1).

Table old11. Vietnam's Agricultural Trade with TPP Countries, and Other Major Markets. (million US$)

	Exports				Imports	
	2009-11	2012			2009-11	2012
TPP Total	2,040	2,927		TPP Total	2,690	3,527
US	832	1,174		US	1,115	1,257
Malaysia	380	622		Australia	615	888
Japan	269	409		Malaysia	525	704
Australia	135	172		New Zealand	204	255
Canada	63	101				
Others				Others		
China	1,357	3,151		EU	683	939
EU	1,517	2,117		Argentina	683	840
Indonesia	559	667		Brazil	417	809
Philippines	886	660		China	584	789
Cambodia	201	458		Indonesia	417	487
Korea	160	327		Thailand	503	408
				Cambodia	112	264
World	9,902	14,927		World	7,844	10,088

Note: The data for 2009-2011 is the three year average.

Source: Arita and Dyck (2014) Appendix tables 1 and 2.

Vietnam's Foreign Trade. (Million $US)

Exports				Imports		
	2009-11	2012			2009-11	2012
Coffee	2,038	3,299		Soymeal & Soybeans	1,200	2,050
Rice	1,844	2,356		Wheat	575	756
Cashnew Nuts	2,019	3,258		Palm Oil	494	595
Cassava	319	576		Corn	338	463
Peppercorns	390	526		Powdered Milk	265	388
Other fruit	269	482		Cotton, raw	694	861

Source: Arita and Dyck (2014) Tables 2 and 5 \VietnamAgExports

One commonality in several of these experiences is that the countries entered into PTAs after making significant changes towards market-oriented policies, especially in agriculture. Chile is an obvious example. Mexico moved decisively towards trade liberalization by entering the GATT/WTO, declaring its agrarian reform finished, and eventually negotiating NAFTA. Peru had undergone some drastic political experiences during the 1980s and 1990s, and their signing the PTA with the United States was a way of anchoring a fragile rebuilding process. Vietnam had experienced a decade of orthodox soviet-style socialism, before embarking on a 180 degree about face, joining the WTO and entering into the TPP negotiations. Not too far from the above scenarios is the example of Prime Minister Abe in Japan, who is frequently described as using the minor trade liberalizations in the Australia-Japan PTA, and now the TPP, as a way of chipping away at the fortress-like strength of the highly protectionist JA farmers' cooperative. The implication of this explanation is that we should not look for dramatic effects of PTAs on agricultural trade, because bigger forces had already been at work.[50]

General Equilibrium Estimates of Agricultural Trade Liberalization

Let us start from the basic point that the impact on a country of liberalizing its foreign trade will have mixed effects of opposite direction, such as that both exports and imports might rise, whose net impact on output and employment would necessitate measurement. In the context of an incomplete liberalization such as represented by PTAs, the situation is more complicated. In terms of what was earlier referred to as trade creation and trade diversion, attention is drawn to Romalis (2007, 416) whose study of CUSFTA and NAFTA found: "…NAFTA had a substantial impact on international trade volumes, but a modest effect on prices and welfare. NAFTA increased North American output and prices in many highly protected sectors by driving out imports from nonmember countries."

Two related questions will guide our glance at the data. First, how would a general, world-wide, liberalization of agricultural markets affect third world countries? Secondly, how might the more limited liberalization involved with the formation (or expansion) of a PTA affect the agricultural sectors of specific countries in (or in line for) the TPP?

International trade theory is generally in favor of free markets, but nevertheless it presents a caution with regard to the first question. Because of the magnitudes involved, a general liberalization might well raise the prices of major traded foodstuffs such as grains and livestock products as high income exporters reduce their subsidies for such goods. The impact of this factor would affect third world countries differently, depending on their net export situation with regards to individual products. Importantly, many third world countries are net importers of these foods, so that an increase in (relative) world prices would harm their urban populations, many of whom are poor. It is argued that, in many situations, poor farmers – whom we used to label as subsistence – would not be much benefited because they are outside the national market economy. [51] These points are often raised, especially in discussing the political positions of third world leaders on agricultural liberalization in the WTO.

A separate consideration about trade liberalization by third world food importers is that they would probably increase their imports of foods from rich industrial countries, who dump their excess production overseas. Trade theory affirms that this provides a net benefit to the importing countries, whose consumption is effectively subsidized by citizens of the rich countries – an argument that many non-economists do not accept, especially those who focus on the interests of small farmers who produce products whose prices have fallen because of that dumping.

There are numerous published works predicting the impact of a hypothetical liberalization of world trade markets, and particularly, of world agricultural markets. Obviously these vary by depth of coverage of both countries and products, and in the assumptions utilized. One such study is the source for Table 6, which presents data for some broad groups of countries, and for nine of the countries in the TPP, in terms of the absolute size

[50] A broader analysis of Japan's motives for entering into the TPP negotiations is provided by Yoshimatsu (2015), who emphasizes regional geo-political considerations, and places its origins in the change of approach that led to the agreement with Singapore in 2002.

[51] Major advances in creating models predicting the impact of the NAFTA accord elaborated this topic. Examples are de Janvry et al. (1996), Levy and van Wijnbergen (1995)

Tabla 6. Impactos sobre el ingreso real de una liberalización general de comercio de mercancias, 2004. (US$ 1,000 milliones, excepto columna 2)

	Aumento del ingreso por año (US$ 1,000 million)	Aumento (%) del ingreso porciento del nivel inicial	Impacto liberalización de comercio agropecuario al PIB agro.	Impacto liberalización de comercio agropecuario PIB no-Agro
Total mundial	167.7	0.6	-12.4	141.4
Paises en desarrollo	64.9	0.9	42.7	79.5
Paises con alto ingresos	102.8	0.5	-55.1	61.9
EU-15	56.8	0.7	-42.9	16.7
África norte y sub-Sahara	0.9	0.2	0.1	5.1
Asia sur y este	29.7	0.9	-1.4	24.4
América Latina	15.8	1.4	40.0	42.2
Europa del este y Asia central	14.2	1.2	-5.2	4.4
Australia	2.4	0.5	2.2	8.4
Canadá	0.6	0.1	0.4	2.5
Chile	0.3	0.4	0.2	0.3
Japón	23.1	0.7	-7.6	4.5
Malaysia	4.2	4.7	-0.2	0.9
México	-0.7	-0.1	-0.2	0.6
Nueva Zelanda	2.2	3.2	2.7	4.1
Estados Unidos de NA	2.8	0.0	-6.4	18.6
Vietnam	1.9	5.3	1.4	0.0

Fuente: Anderson (2009) Tablas 13.13, 13.22, (pp. 536-37, 550-53)
Nota: Brunei, Singapor, y Perú no estan incluidos.
El escenario es la eliminación total de tarifas y quotas – agricultura y no-agricultura – junto con la eliminación de impuestos y subsidios a la producción y comercio de productos agropecuarios.
\AndersonGeneral Equilibrium.

and percentage impact on their total real income of such a trade liberalization. The exercise was performed using a GTAP/CGE model, whose development was co-sponsored by the World Bank, to be used for exercises such as this. The basic idea of this work is to generate a base scenario, in which the conditions to be studied, tariffs for example, do not change. Then an alternative scenario is measured, using the hypothetical new values of – in this example - tariffs. The difference between the values of an endogenous variable of interest, such as imports or output, is measured by subtraction.

The specifics of the model used for Table 6, and its underlying assumptions, are detailed in the source - Anderson (2009) - and will not be reviewed here. The table shows some results that are worth highlighting, because they are representative of these exercises analyzing trade liberalization. First of all, some countries gain from trade liberalization, while some others may lose. The former outcome is expected by reference to the theory of comparative advantage and its emphasis on taking advantage of a country's efficiency. The latter result could derive for agricultural importers, when the hypothesized liberalization raises the world price of its imports, such as occurs here for Mexico. Of additional interest in that table from our TPP perspective, is that the rich countries gain more than the developing countries – a result that would be starker for several countries if

Tabla 7. Proyecciones del impacto de las políticas de liberalización en la época del TLCAN. Varios autores.

Caso	País	%Δ Bienestar	% ΔY	% Δ Empl	% Δ Salario	% Δ TdT	% Δ Ag Q	% Δ Ag Empl	% Δ Ag Exp	% Δ Ag Imp
1a	Canadá	0.7			0.4	-0.5	-0.2	-0.1	0.4	3.2
1b	Canadá	0.2			0.5	-0.5				
2a	México	1.6			0.7	-0.1	0.2	0.2	6.6	3.2
2b	México	5.0			9.3	-2.5				
3a	USA	0.1			0.2	0.2	-0.0	-0.0	0.1	2.0
3b	USA	0.3			0.2	-0.0				
4a	México		0.0	0.0	0.6		1.4		2.9	4.5
4b	México		0.0	0.0	0.4		-7.1		3.5	4.2
5a	México	2.0	1.7	5.1	0.0		1.5	6.6	3.2	10.1
5b	México	2.4	8.0	0.0	16.2		3.6	-8.2	0.5	17.0
6	México		3.5	0.0	-19.4		4.5	0.0		
7a	USA		0.2		-1.7					
7b	México		0.3		1.8					
7c	México		0.2		-0.1					
8	Perú-EU TLC		0.1							

Fuentes:
1a, 2a, 3a. Brown et al. (1992) Table 5 - Caso A, y Tablas 6, 7, and 8. Ag es agricultura, sin incluir alimentos procesados. El escenario utilizado, 'NAFTA: Tariffs and NTBs,' supone eliminar tarifas más un aumento de 25 por ciento de las cuotas estadounidenses sobre productos mexicanos de bienes agríicolas y textiles. El incremento reportado de exportaciones y importaciones incluye el cambio en el total, no solamente el de los socios del TLCAN.
1b, 2b, 3b. Brown et al. (1992). El escenario para el Caso B es el Caso A más el ingreso de IED a México equivalente al 10% del acervo total de capital en el país.
4a, Yúnez-Naude (1992) Cuadros 7 y 10.2, escenario LIBAR1. % ΔAgQ incluye cultivos, pero excluye ganadería y agroindustria. Si se incluyera las tres categorías, el % ΔAgQ sería 0.5%. El %Δ Salarios refiere a pagos al trabajo como facto de producción. El texto dice explícitamente que no hay cambio en el nivel del empleo.
4b. Yúnez-Naude (1992) Cuadros 7 and 10.2, escenario "LIBPNI vs. LIBAR1". El Δ% AgQ incluye cultivos, pero excluye ganadería y agroindustria. Si se incluyera las tres categorías, el % ΔAgQ sería -2.32
5a. Sobarzo (1992) Tablas 5 y 6, versión uno. Limitado al cambio en comercio agropecuario de Norteamérica. En ambas versiones, el escenario es una reducción de tarifas de 100%. La versión uno supone salaries reales son constantes, tal que empleo puede variar.
5a. Sobarzo (1992) Tablas 5 y 8, versión tres. Limitado al cambio en comercio agropecuario de Norteamérica. En ambas versiones, el escenario es una reducción de tarifas de 100%. La versión tres supone pleno empleo y movilidad de capital entre países.
6. Romero (1998), Tablas 3 y 9 – eliminando distorsiones, y considerando el impacto para el año 2008. Hay disminuciones en maíz, trigo, y aumentos en azúcar, ganadería, y bosques. Se supone que frutas y verduras están incluidos en Otros, que aumenta en la Tabla 10).
7a y 7b. Robinson et al. (1991) Opción 2 – elimina todas las tarifas y quotas, y el programa USEEP que subsidia exportaciones estadounidenses a México. El salario estadounidense es urban unskilled, mientras el Mexicano es salario rural.
7c. Robinson et al. (1991) Opción 3; es la opción 2 más la eliminación de programas mexicanos de apoyo al sector agropecuario. El salario mexicano es el salario rural.
8. Fairlie (2004) Cuadro 28, Variante 1, utilizando el GTAP 5. El efecto a largo plazo es 7.39%. Nótese el contraste con el estudio US-ITC sobre el TLC Peru-EEUU.
\Comp_CGE\Macro1

presented in per capita terms.[52] Generally speaking, in these models the changes in both exports and imports are typically much larger than those of output or employment, because of course the macro impacts of those two trade variables tend to counteract each other.

In many cases, the gains in income in Table 6 are less than one percent, as shown in the second column, an amount many observers would consider small, leading some to question if liberalization is worth the effort. Romalis (2007, Table 5) has similarly small estimates for NAFTA. Vollrath and Hallahan (2011) use a sophisticated CGE technique to study the relative amounts of trade creation and trade diversion of agricultural products in recent PTAs, with similar results.

To put into perspective Table 6's predicted impacts on income of global trade liberalization, let us review some of the projections that appeared during the time of the negotiations and entering into force of the NAFTA agreement, a generation ago. Table 7 presents results from some articles that were innovative and influential at the time. We can see that most of those early models generated predicted changes in real income or welfare that were smaller in absolute value than one percent.[53] Many believe that this results from these models' assumption of full employment, thus bypassing what to some is an important issue of PTAs. Re-reading those articles now impresses this author with the importance their authors placed on establishing the order of magnitudes of the changes in trade, in addition to output or employment – indeed, an issue of concern was trade creation versus trade diversion. A final reaction to the table is the much stronger impact of liberalization when the exercise included induced changes in investment, and frequently foreign direct investment (FDI). We know that the issue of FDI is very important in north-south PTAs, but we also know that the empirics of predicting that FDI is still quite basic. The academic treatments of tariff reductions (in PTAs or other contexts) and FDI are quite distinct.

Further comments might be added. First of all, some of the sources in Table 7 were part of an issue dedicated to economic integration in the highly respected journal *The World Economy*, which showcased several articles – relating to NAFTA and other PTAs - that incorporated two facets of what was then referred to as the "New International Economics," namely, increasing returns to scale and imperfect competition, that were being incorporated into computable general equilibrium models.[54] One of the major contributions of this work was to demonstrate that these large models could handle these new issues while providing results of an order of magnitude that was within the range of the conventional wisdom of the time. However, contrary to many people's expectations, those gains were still not large in relative terms. A summary of this work was provided by Arkolakis et al. (2012), who describe how these new models "[H]ave affected answers to an old and central question in the field: how large are the welfare gains from trade? A crude summary of our results is: 'So far, not much'." (Arkolakis et al. (2012, 94).

The second comment on these CGE models is that it is extremely rare to encounter ex-post studies evaluating the accuracy of these analytical exercises. While many explanations suggest themselves, one is the difficulty in isolating the impact of having over-simplified the scenario of behavior of exogenous variables such as growth of income and technology, along with numerous political changes. One example of such an ex-post study is the examination of some of these exercises on NAFTA, by Kehoe (2003). His calculations indicate that the papers under review underestimated growth in the ratios of exports and imports to GDP, which he hypothesizes is due to underestimation of technological change. Unfortunately he did not report on the degree of underestimation of the projected growth of income or employment. One study that explicitly compares the

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[52] A similar treatment using the OECD's Policy Evaluation Model is presented by de Gorter et al. (2004).

[53] Some veterans will remember the perceptive analysis of Paul Krugman, who quickly noted that the early CGE modeling exercises of NAFTA were predicting small changes in output, and titled his paper "The uncomfortable truth about NAFTA: It's foreign policy, stupid." (Krugman 1993). One also notes that Krugman has devoted little of his recent non-technical writing to the TPP, about which he retains a similar analysis, leading to his self-description as a "soft opponent." (Krugman 2016). It occurs to this author that a different option for explaining support for either NAFTA or the TPP – in place of their impacts on output - would be their expected impact on income distribution.

[54] Note also that the papers appeared before the NAFTA negotiations were completed, and thus one neglected aspect of that agreement that is now routinely incorporated in analyses of TPP is an allowance of a multi-year period of changes in tariffs.

projections of some of the exercises referred to above[55] with the eventual outcomes, concludes: "The impact of NAFTA on real GDP and welfare as evaluated by ex-post studies seems to be significantly lower than expected by ex-ante projections," Grunmiller (2014, 10).

Finally, it is worth noting that these exercises have produced few estimates about the ultimate effect of agricultural trade liberalization on income distribution or the levels of poverty in third world countries. One recent effort is that of Hertel et al. (2007), which considered only one high income country (USA), and fifteen developing countries. Overall distributional impacts – such as changes in the Gini coefficient - were not estimated. Chapter 13 in Anderson et al. (2009) contains estimates of changes in real factor incomes - skilled and unskilled labor, returns to capital and to land - which again are generally small, but also were not linked to estimates of income distribution. The collection of studies in Anderson et al. (2010) reports income distributional effects of trade liberalization for a group of third world countries, but unfortunately no TPP country is included.

Modeling Mexican Agriculture in the NAFTA

The early studies predicting what Mexico might experience under NAFTA provide at least two additional lessons. First of all, those authors recognized the importance of distinguishing, and measuring separately, the potential impacts of the NAFTA treaty's reduction of tariffs, quotas and price controls, from the broader liberalization policies of President Carlos Salinas – and the administrations before and after him. Secondly, and relating to our specific interests in this paper, attention is paid to the analysis of the impacts on specific crops, either on production or on trade.

Let us begin by comparing two specific sets of results from the previous table; those by Yúnez-Naude, and by Robinson et al., which are presented in Table 8. In our treatment of the Robinson et al. work, we will follow Yúnez-Naude in creating an indirect estimate for of the impact of the (elimination of the) agricultural programs, by subtracting from the calculated impact of complete liberalization, the amount of the directly calculated impact of the tariff and quotas.[56] Beyond whatever methodological differences they have, Robinson et al. have a smaller number of categories than does Yúnez-Naude, and they also include an analysis of production changes in the USA. These studies agree in predicting different signs for the different liberalization efforts; the liberalization of foreign trade, and the removal of agricultural supports. Yúnez-Naude illustrates the further detail on the differences of absolute sizes of the impacts, depending on whether the crops were grown under irrigation. Related to that difference is the contrast between cases for fruits and vegetables and feed grains - irrigated (yellow) maize, sorgo, and soya. Note also that in both studies vegetables and fruits respond most strongly to the assumed complete NAFTA tariff reductions. The results of Robinson et al. (1991) are similar to those of Yúnez-Naude (1992), although the two papers' projections for maize seem difficult to reconcile. The explanation of those changes in production can be seen in the Table 9; Mexican exports of vegetables and fruits attain strong growth in the NAFTA tariff reduction scenario, while Mexico's imports of white maize and frijoles, as well as feed grains, also rise. Note that both papers analyze separately the impacts of tariff reductions and the removal of price controls, with the former raising exports of fruits and vegetables, while the second increases imports of maize and animal feed crops.

A general overview of the change in Mexico's agricultural policies during this period was presented above, citing the work of Josling (1992). We can move towards a quantification of the separate channels of reductions in tariffs and price controls, vs. reductions in subsidies, by utilizing the PSE data prepared by the OECD. Graphs 6a & 6b illustrate the path of the two major measures of the government intervention relative to the size of the agricultural sector, TSE/Ag and PSE/Ag. Quite notable are the low levels of both indicators in 1986 when the series starts – in 1983, the PSE was actually negative[57] - followed by another significant drop around 1994-95, as NAFTA's implementation began. The next step is to break down the components of the TSE and PSE.

[55] As well as the CBO and the ITC, whose estimates for the TPP are discussed below.

[56] Let us hide in a footnote a true confession of this author's inability to use the information from these two articles to generate comparisons of the actual measures of distortions that were incorporated in the modeling exercises.

[57] Using a previous, somewhat different methodology, as shown in OECD (1997, 232).

Tabla 8a. Impactos de las políticas de liberalización en México en la época del TLCAN:
Cambios en la producción por cultivo como porcentaje del valor del producto bruto respecto al caso base, estimados de Yúnez-Naude (1992)

Escenarios	Liberalización de comercio	Eliminar apoyo estatal para el sector
Total Maíz	0.2	-21.1
Maíz temporal	0.2	-1.3
Maíz bajo riego	0.4	-90.4
Trigo	-0.5	1.2
Total Frijol	0.4	0.6
Total Sorgo	0.0	-8.3
Soya	-0.4	-29.2
Vegetales y frutas	3.1	-0.9
Total Agricultura	1.4	-7.1
Total Ganaderia	0.3	0.7
Total Agroindustria	0.5	0.5
Agropecuario y alimenticio	0.8	-2.3

Fuente: Yúnez-Naude (1992), Cuadros 10.1 y 10.2.

El primer escenario, supone eliminación de tarifas entre los tres países del TLC; es llamado LIBAR1 por el autor.
El segundo escenario, Eliminar apoyo estatal para el sector, es llamado 'LIBPNI versus LIBAR1' por Yúnez-Naude.
LIBPNI incorpora precios internacionales, en vez de precios internos para maíz, sorgo y soya (p. 248), en el calculo de la protección nominal implícito para estos tres productos.
Trigo, Soya y Verduras y frutas - datos se refieren solamente a "bajo riego"

Tabla 8b. Impactos de políticas de liberalización en México y los EEUU en la época del TLCAN, por cultivo, como porcentaje del valor del producto bruto respecto al caso base, estimados por Robinson et al.

	Exportaciones: EEUU a México		Exportaciones: México a EEUU	
Ecenarios de liberalización	Liberalización de comercio	Eliminar apoyos al Sector agrícola	Liberalización de comercio	Eliminar apoyos al sector agrícola
Maíz (consumo humano)	156.0	29.4	0.0	0.0
'Program crops'	40.5	47.7	0.9	-0.9
Frutas y verduras	14.2	-0.6	19.1	-1.5
Otros products	8.3	-1.5	3.0	-1.2
Procesamiento	6.3	-0.6	11.0	-3.9

Fuente: Robinson et al. (1991) Tablas 7a, 8.
'Program crops' incluye maíz para animales, otros granos forrajes, soya, y algodón. (p. 9)
El escenario de liberalización de comercio involucra eliminación de tarifas y cuotas, y la eliminación de los programas de EEUU subsidiando exportaciones a México. El otro escenario es la diferencia entre el escenario núm. 3 de Robinson, y el primer escenario indicado aqui.
CGE\CropOutputs_Macro1a,b

Tabla 9. Impactos al comercio exterior Mexicano, de los programas de liberalización en la época del TLCAN: (cálculos de Yúnez-Naude)

Aumento de las Exportaciones Mexicanos a Canadá y a los EEUU (%)

Escenarios	Liberalización de Comercio	Eliminar Apoyo al Agro
Vegetales y frutas	38.9	15.6
Otros productos agrícolas	7.4	8.3
Ganado bovino	0.4	7.0
Otros pecuarios	8.7	11.2
Vegetales y frutas procesados	43.9	5.5

Fuente: Yúnez-Naude (1992, Cuadro 8).

Aumento de las Importaciones a México, de Canadá y a los EEUU

Escenarios	Liberalización de Comercio	Eliminar Apoyo al Agro
Maíz	3.5	266.6
Trigo	17.8	-22.8
Frijol	0.6	-2.2
Sorgo	-0.5	41.7
Soya	-0.6	71.9
Vegetales y frutas	6.6	-3.7
Otros productos agricolas	4.7	-1.4
Ganado bovino	0.1	-6.2
Otros pecuarios	15.6	-10.0
Carnes & lácteos	11.2	-9.2
Vegetales y frutas procesados	8.0	-1.5
Café elaborado	5.3	0.5

Fuente: Yúnez-Naude (1992) Cuadro 9.1

Nota: Importaciones del resto del mundo fueron apreciables solamente para sorgo y soya.

Tabla 9b. Impactos de las políticas de liberalización de la época del TLCAN, cálculos de Robinson.

	Exportaciones de EEUU a México		Exportaciones de México a EE	
Escenarios	Liberalización de Comercio	Eliminar Apoyo al Agro	Liberalización de Comercio	Eliminar Apoyo al Agro
Maíz blanco (consumo humano)	156.0	29.4	0.0	0.0
Program Crops	40.5	47.7	0.9	-0.9
Vegetales y frutas	14.2	-0.6	19.1	-1.5
Otros productos agropecuarios	8.3	-1.5	3.0	-1.2
Alimentos procesados	6.3	-0.6	11.0	-3.9

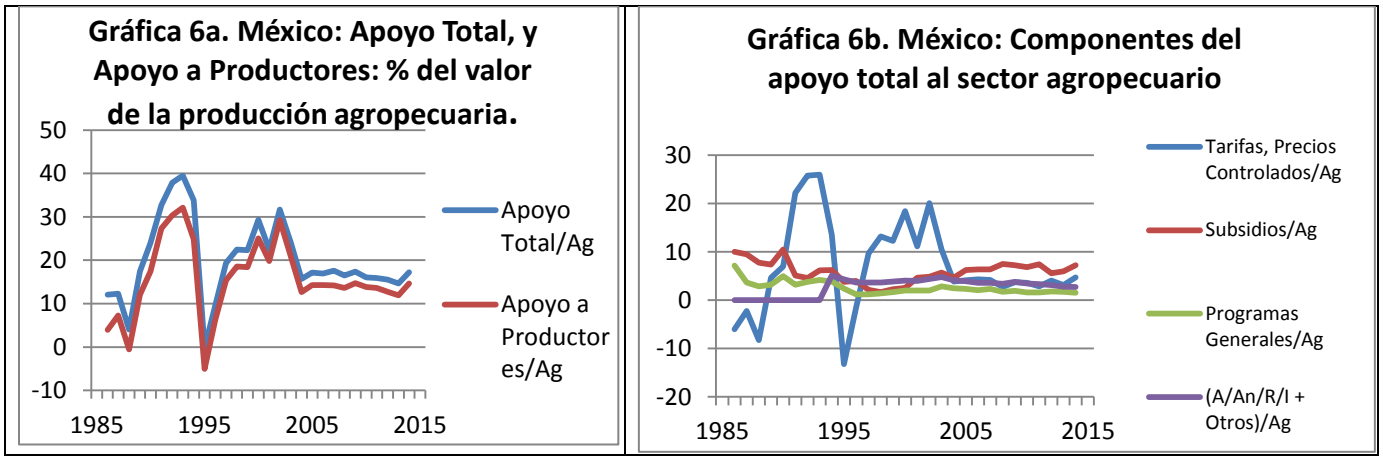
Fuente: Robinson et al. (1991)

Los 'program crops' incluyen granos para consumo animal, y algodón.

Comp_CGE\Trade

The major message in Graph 6b, is that three main components of the Mexican state's intervention - subsidies (to producers and for agricultural inputs), agricultural public goods (GSSE), and the 'other' category, remained relatively constant, as fractions of the value of agricultural output, during the period. Thus the dominant source of change of the PSE was what the OECD labels Market Price Support (MPS). For many countries, MPS is predominantly a reflection of tariffs and quotas, especially on imports. But that was not the case for Mexico, as can be checked rather conveniently in the OECD data. OECD (1997) presents details of the MPS and PSE data for some 14 agricultural and livestock products – but no fruits nor vegetables! – and basically there is no mention of tariffs and quotas. The major component of the MPS is spending by CONASUPO, the state marketing agency. The well-informed analysis of Yúnez-Naude (2003) of the dismantling of CONASUPO is helpful for us here; he notes that process started early in the 1980s, and was essentially completed by 1999 (p. 5). Other state trading organisms were also involved – the OECD mentions those that controlled importation of sugar, export of coffee, tobacco, CONADECA, etc. There are two important implications of this conversation. First of all, the liberalization of the sector started significantly before even the beginning of NAFTA negotiations, and secondly, that this liberalization did not involve significant reductions of Mexico's tariffs. Thus, to describe the changes in Mexico's agriculture of the mid-1990's as a result of the country's tariff reductions for the NAFTA accord is a dramatic misrepresentation of the broader process.

We should extend our point relating to the dismemberment of CONASUPO. The government did not simply walk away from intervention in agriculture. While CONASUPO was being taken apart, a counter-force was creating a blanket organization to help the sector, ASERCA, which had two major branches, PROCAMPO and Ingreso-Objetivo. PROCAMPO was involved in activities that were described as income transfer programs. Efforts were made to guarantee that PROCAMPO would qualify as a 'decoupled' program, to placate the WTO. The analyses in Fox and Haight (2010) indicate that PROCAMPO was neither decoupled in terms of output of products, nor progressive in its income distribution effects. The Ingreso-Objetivo program supported certain farm prices through an instrument known as a "deficiency payment." The work in Fox and Haight (2010, 26) concludes this program has been very regressive, helping farmers with larger plots of land, and with irrigation, such as characterizes north-western producers who export vegetables and fruits. Furthermore, the magnitude of these ASERCA programs was large enough to reverse the declines of the PSE related to the disappearance of CONASUPO, as we see in Graph 6b.



Fuente: datos del anexo de OECD *Agricultural Policy Monitoring and Evaluation, Mexico*. 2015.
Nota sobre la traducción de los términos, de aquellos de la OECD: Apoyo Total - TSE; Apoyo a Productores - PSE; Tarifas, Precios Controlados - MPS; Subsidios incluyen los para productores, y los para la compra de insumos; Programas Generales - GSSE.

The US-ITC Report

There has been an impressive outpouring of studies predicting the impact of the TPP, building on the many studies of previous PTAs. Although there is no other study of trade liberalization as geographically

inclusive as Anderson (2009) – the basis for the above Table 6 - there are two ambitious – but still geographically incomplete - attempts to project the effects of the TPP from US government sources [Burfisher et al. (2014), and US-ITC (2016)], and a third from a Washington D.C. 'think tank' – Petri and Plummer (2016a) - that also provides good comparative estimates specifically focused on this agreement. The United States International Trade Commission (ITC) released on May 18, 2016 a lengthy, detailed analysis of the impact of the TPP on the US economy (US-ITC, 2016). Note that Petri and Plummer (2016a) provides estimates that are asserted to include the latest specifications of the final negotiated version of the TPP, while the US-ITC (2016) evidently has incorporated substantially more details of the final version in their projections.[58] Along with some others, these estimates are presented in Table 10. The Petri and Plummer work operates with a built-in assumption of full-employment; its income effects are positive but inevitably small, at 0.5% by 2030. The Petri and Plummer work appears to be the basis for a recently published piece by the World Bank in Lakatos et al. (2016).
The ITC report is of interest to us both for its potential political impact in the US during the early part of a presidential contest, and for the details of its predictions of agricultural output and trade.[59] In terms of the latter, the ITC predicts that, compared to a baseline projection of no TPP, the approval and implementation of the TPP would increase US real GDP by 0.15% after 15 years, and by 0.18% after 30 years (page 72). The corresponding effect on employment would also be very small.[60] This result is clearly not supportive of the analysis of the TPP coming from the White House or the Office of the Special Trade Representative, and it will strengthen forces opposed to the TPP, perhaps without being decisive in the debate.[61] There is no doubt that the ITC modeling exercise involves a considerably more detailed handling of agricultural tariff and quota reductions, compared to the other studies which have been presented. This should increase the credibility of its results. More broadly, the overall political implication of the ITC report is clear.

The thoroughness of the ITC's analysis reveals that the report's authors were quite careful to incorporate the TPP's policy changes in great detail. In addition, the ITC held many hearings with private sector representatives of interests involved, and summarized them in its evaluations of its predictions. What is not clear to the author of this paper is the degree to which some of the predictions of the private sector representatives were actually imposed on the predictions associated with the ITC's model.

The ITC predictions of a small impact of the TPP on agricultural trade of the United States, thus recalls the results discussed above for the Anderson (2009) analysis for trade liberalization worldwide, where there was virtually no change in US GDP. Both of these projects use the GTAP-based version of a CGE model. The American Farm Bureau, a supporter of the TPP, recently posted estimates that the impact on U.S. net agricultural income, 10 years after implementation of the TPP, would be an increase of $4.4 billion, slightly over one percent of total agricultural income. Farm labor would grow by 40,000 jobs, or less than 2% (American Farm Bureau, 2016). Perhaps reflecting their non-academic orientation, this source has little discussion of the model behind their exercise.

A study predicting negative growth from the TPP is Capaldo and Izqurieto (2016), which uses a model developed for the United Nations to study both the employment and income distribution effects of the agreement; they estimate that income and employment will fall by less than one percent in the United States and Japan, while there would be a widespread decline in labor's share of income. Todo (2013) refers to a study prepared for the Cabinet Secretariat of Japan with parallel results. Park and Koo (2007, footnote 30) cite a

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[58] Of some interest is the response of Petri and Plummer (2016b) to the fact that the US-ITC (2016) predictions of the impact of the TPP on the US economy are smaller than their own. The US-ITC (2016) provides on pages 40-41, as well as 92-104, a significant discussion of the reasons for the differences between their projections and those of Petri and Plummer (who referenced the final agreement) and other authors who wrote before negotiations were finished.

[59] The ITC also had produced a study for NAFTA (US-ITC 1991), which yielded qualitative, but not quantitative estimates of its impact on agriculture.

[60] For comparison, the USDA-ERS study of the impact of the TPP – published in 2014 well before the details of the actual agreement were finalized – predicted an increase of US agricultural output of 0.2% after a decade, for an assumed complete elimination of tariffs and tariff rate quotas; from this author's calculations using Table 13 of USDA (2014).

[61] There is a response to the ITC Report by Petri and Plummer (2016b) which acknowledges the ITC work as solid, but suggests that the ITC's authors are too cautious. Given that the Petri and Plummer (2016a) resulted in a prediction of an ultimate increase of US GDP only twice that of the ITC – still less than 0.5%, it seems unnecessary to pursue this further.

Tabla 10. Proyecciones de los impactos económicos del TPP sobre las economías los los países firmantes, según diversos estudios.

Caso		% ΔY	%Δ Empl	%Δ Ag Q	%Δ Ag Empl	%Δ Ag Exp	%Δ Ag Imp
8	USA	0.2	0.1	0.5	0.5	2.6	1.5
9a	Australia	0.0		2.4		19.2	0.8
9b	Canadá	0.0		0.2		3.7	4.8
9c	Chile	0.0		0.4		2.0	0.9
9d	Japón	+0.0		-1.3		8.4	14.2
9e	Malaysia	+0.0		0.2		3.9	6.6
9f	México	+0.0		-0.1		0.7	1.6
9g	NewZealand	+0.0		2.4		12.9	1.3
9h	Perú	0.0		0.2		5.3	2.2
9i	USA	0.0		0.2		5.4	2.0
9j	Vietnam	0.1		-0.1		6.4	18.5

Caso		% ΔY	Caso		%Δ Welfare	% ΔY
10a	Australia	0.6	11a	USA		0.8
10b	Canadá	1.3	11b	México		7.3
10c	Chile	0.9	11c	Chile		1.6
10d	Japón	2.5	11d	Perú		1.6
10e	Malaysia	7.6	12	USA	0.0	
10f	México	1.0	13	USA	0.7	
10g	New Zealand	2.2	14	USA	0.0	
10h	Perú	2.6	15a	USA		-0.5
10i	USA	0.5	15b	México		1.0
10j	Vietnam	8.1	15c	Chile y Perú		2.8

Fuentes, por caso:

8. US-ITC (2016): Tablas 2.10, 3.6. Scenario is TPP as negotiated, for 2032.

9a-9j. Burfisher et al. (2014) Tables 8, 9, 10, and calculations based on Table 13. Comparisons are for 2025. Scenario is elimination of intra-TPP tariffs and TRQs. Agricultural trade change is intra-TPP trade.

10a-10j. Petri & Plummer (2016) Table 2. Projection for 2030. Scenario is TPP as negotiated. Full employmen

11a-11d. Kawasaki RIETI Discussion Paper (2014) using GTAP 8.1 Table 4. Cited from US-ITC (2016, p 111).

12. Rahman and Ara *South Asia Economic Journal* (2015) using GTAP 8

13. Li and Whalley *World Economy* (2014)

14. Cheong and Tongzon *Asia Economic Papers* (2013) using Dynamic GTAP

15a-15c. Capaldo and Izurieta (2016) Table 5. UN-Global Policy Model. Data are cumulative change after 10 years.

Notación: '+0.0' indica que el dato es positivo en la fuente, aunque redondeandlo, es igual a cero. 'Y' es un indicador real de producción total, Empl es empleo, Exp y Imp son exportaciones y Importaciones. '%Δ' es cambio percentual.

Korean language study of the Chile Korea-PTA which predicts increases in income of less than one half percent. Several studies about the Australia-United States PTA are covered by Armstrong (2015); the author's overall evaluation is quite skeptical. A study for New Zealand's Ministry of Foreign Affairs and Trade predicted a range of total increase in GDP by 2030 of from 0.21% to 1.42% (*Inside U.S. Trade* November 27, 2015).

Many people wish to know why the general finding is that these models predict that PTAs will generate such small impacts on national output, as well as on agriculture. As was noted above, one central reason is that many models assume/impose a condition of full employment – no change in the aggregate level of employment – and hence the expansion of liberalized sectors must inevitably come from drawing down labor from the rest of the economy, with the two effects counteracting each other. The accuracy of this assumption is a central issue that macroeconomists have been debating for almost a century, and we will not resolve it here.

We can suggest other factors that would also contribute to these small results:

1) inaccurate measurement of tariffs, quotas, TRQs – e.g. underestimating the price changes, and thus under-predicting the resulting changes in trade and income;
2) underestimation of dynamic factors for growth;
3) the fact that significant liberalization has already occurred in agricultural trade, especially with US partners in several PTAs;
4) the lack of complete elimination of tariffs and quotas, in both the U.S. and its TPP partners;
5) the exclusion from the TPP of changes in agricultural subsidies, which have been shown to be very important for the United States, and certainly larger – more distortionary - than still existing tariffs.

The first two potential explanatory factors are, to some extent, unavoidable. It is clear that specialists are constantly trying to reduce the first issue, of mismeasurement. The topic of potentially underestimating dynamic factors is another undeniable aspect of this endeavor, and again, efforts to resolve this are ongoing.[62] We will now comment on the other three potential factors.

Why the Existence of Prior PTAs Will Reduce the Specific Impact of the TPP on Agricultural Output.

Let us turn first to the issue of how the prior existence of several PTAs - signed and operationalized among many of the signatory countries of the TPP – will lower our predictions of the impact of a TPP. Common sense agrees that if two countries had previously reduced some (or all) of their bilateral tariffs, then the approval of an agreement such as the TPP will not change trade conditions very much. Indeed, many commentators have pointed out that for countries like Chile, Mexico, and Peru, the main interest of the TPP negotiations was simply to protect their status quo.

It was mentioned above that Chile had already signed PTAs with all the TPP countries, and that the United States was rather 'in the middle of the pack' in this regard. With regard to how this issue will affect the US, a handy point of reference is the set of product specific 'fact sheets' published by the U.S. Department of Agriculture, after the completion in late 2015 of negotiations on the TPP. The fact sheet for wheat is reproduced below as Graph 7. Their description of the 'significant new market opportunities for U.S. exporters' states, "U.S. exports already duty-free under NAFTA, [or by an] existing trade agreement," for six of the country's 11 partners: Australia, Canada, Chile, Mexico, Peru,[63] and Singapore. We should further note that the Canadian markets for US exports of poultry and some dairy products were not completely liberalized by NAFTA, and indeed they are still not. Given its size and non-agricultural profile, one should not expect any big changes to come from Brunei.

This leaves four countries for whom the TPP might significantly impact the US position in agricultural trade: Japan, Malaysia, New Zealand, and Vietnam. Of them, the larger changes might be expected from Japan and Vietnam, as trade with Malaysia in livestock products is limited by religious regulations, that country has been relatively free trade otherwise, and there are many similarities between the production profiles of

[62] Recall again that the Brown et al. (1992) work was generally considered an important step by introducing increasing returns to scale into the CGE exercises, without, apparently, dramatically altering the basic conclusions.

[63] The sheets carefully note that the timing of Peru's reduction of tariffs on US agricultural exports varies by products, with some being as many as xx years; the timing was not changed.

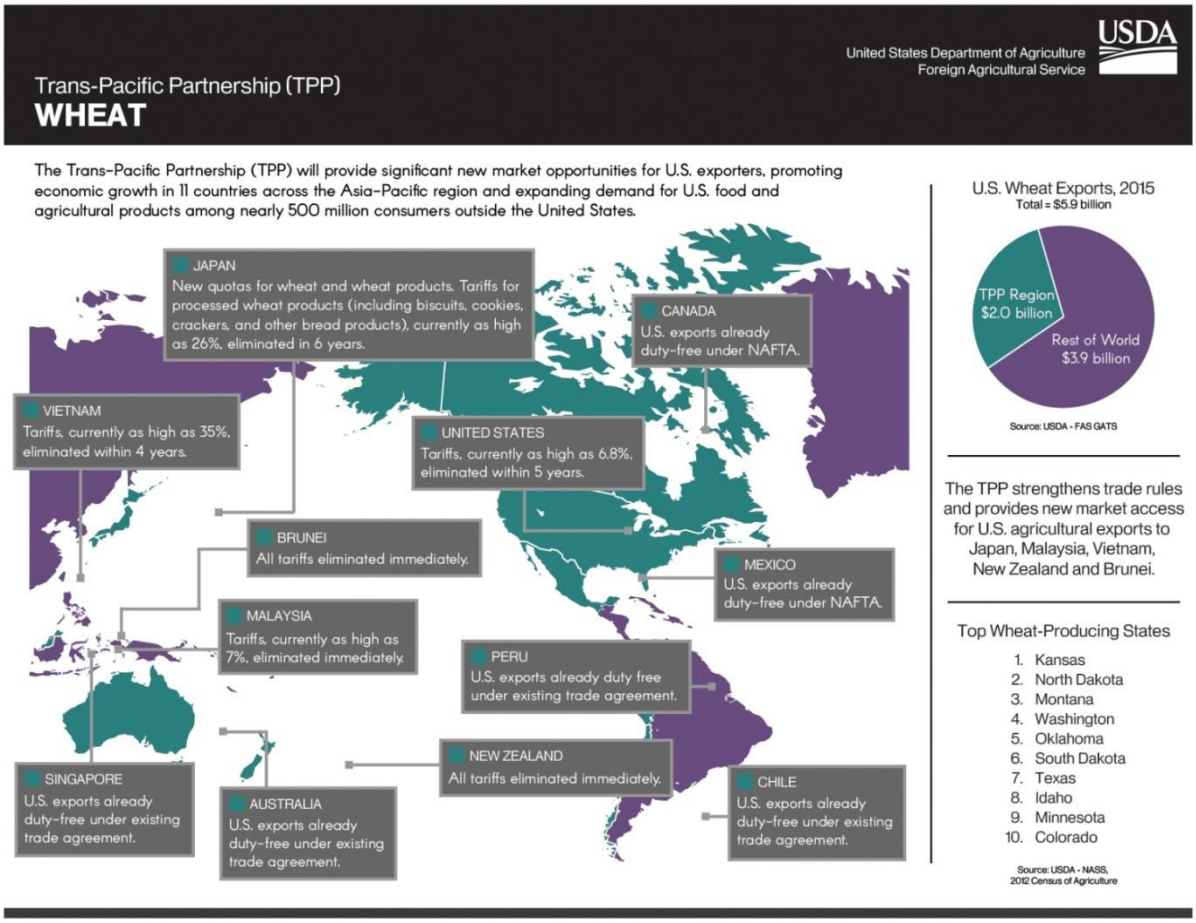
Australia and New Zealand.[64] A non-quantitative but still useful set of predictions of the impact of TPP on Vietnam is presented by Hiep (2015); there will be increased exports of tropical products, along with increased imports of beef, dairy and other high income goods.

This reduction of the predicted impact of the TPP does not affect the validity of any theory of how trade liberalization affects output. We might suggest that the issue of pre-existing agreements alters our perspective in at least two ways. First of all, the TPP is a major accord between certain Asian countries and several in the western hemisphere. It provides a forum for these groups to interact, whose importance is heightened because of the stagnation of the WTO negotiations. Secondly, Australia and New Zealand play an entirely different role in the political-economy of the western Pacific than do Japan, Malaysia and Vietnam, and the western hemisphere countries will have to learn to play the game on a differently sloped field.

Another advantage of the USDA fact sheets is that they provide significant information on the levels and timing of tariffs (and quotas) for many products. While we could not expect them to be completely thorough, they are quite informative in the format of one page per product. Similar official information sheets on agricultural trade under the TPP can be found for Australia, Canada, and New Zealand. Further information will be sought from the Latin American and Asian TPP signatories.

This author's reading of the US-ITC's 100 page chapter on agriculture leaves a strong impression that the basic story is that the TPP and its changes in quotas and tariffs will mainly affect US trade with other high income countries, because of the products involved, and the different arrangements negotiated with the high income countries. To the extent that this is correct, then we should acknowledge that this paper comes up short

Graph 7. Wheat in the TPP.



[64] It is commonly accepted by virtually all authors that pre-existing trade agreements imply smaller impacts of the TPP on trade and income among the signatories; important for our purposes are this treatment in US-ITC (2016) and Petri and Plummer (2016a).

on its goal of describing the changes in agricultural trade and output of the TPP's middle and low income countries.

At this point, we should underline that the TPP agreement on agricultural products can be said to have been limited to changing protectionism on products (tariffs, quotas, tariff-rate quotas), but not the other major contributors to agricultural distortions – subsidies to production and input use, and to the A/An/I/R complex, which for the U.S. and some other countries, have larger impacts on world trade. It has been stated that the refusal to discuss removal of subsidies results from an unwillingness to consider policies that will hurt domestic interests while benefiting all trade partners, not simply those who are co-signers of the treaty at hand.[65] This leads us directly back to the earlier question; are TPAs stepping stones or stumbling blocks to free trade? This section's unavoidable answer is that they are stumbling blocks.

Crop Specific Analysis of the TPP

As in many branches of social science research, it is helpful - for this task - to move between macro and micro levels of analysis – in this, looking for the explanation of the TPP's impact on a country, by examining several crops. Specifically, we can see a breakdown of the US-ITC's predicted changes in that country's exports by major product groups in Table 11. Although the source does not provide all the individual crops for all partner countries, it is notable that the cases mentioned in its text were exports to Japan, Vietnam, and Canada, while the imports were from New Zealand and Mexico. In addition, the major products which were mentioned were dairy and meats, along with processed foods. The Canadian case is due to changes in the supply management system of that country for dairy products, which in principle is not related to the TPP's changing of tariffs, but is effectively the result of bilateral negotiations under the TPP. The implication of this latter finding is that the TPP will benefit countries that are competitive in these temperate climate goods, leaving behind tropical countries that are not in that league. That Japan and Vietnam present the largest new opportunities for US farmers might nevertheless be a tantalizing perspective for the agricultural sectors of lower income countries – for the three Latin American countries, those markets are also quite new and under-utilized. Very specifically, that Japan and Vietnam are expected to import significantly more vegetables and fruits from the US leads us to hope that countries like Chile, Mexico, and Peru will be able to repeat their earlier successes with exports of these non-traditional products, hopefully to those Asian countries.

The converse of that point should also be mentioned. Beyond vegetables and fruits, the most important export items for the USA are processed foods, dairy products, and beef. One would hypothesize that the Latin

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[65] This writer has not found support in the standard news media of his hypothesis that the US trade office imposed as a pre-requisite on entry into TPP negotiations that the candidate country agree not to discuss the elimination of these susidies, but limit the discussion to a reduction of tariffs and quotas. Carlos Pomareda begins his statement on the potential PTA between Peru and the US with, "La negociación con los EEUU será muy compleja, y más aún, cuando se sabe que este país no negociará temas como subsidios a la producción, subsidios a la exportación, ni ayudas internas," Pomareda (2004, 57). Attention can also be drawn to an article in the Mexico City newspaper *El Economista*, of November 2, 2015, which cites the Mexican ambassador to the WTO, Fernando de Mateo, explaining the absence of TPP discussion of agricultural subsidies as follows: "Esto no se puede hacer; si México da subsidios y Estados Unidos da subsidios, ¿ambos van a eliminarlos mientras el resto de los países no los van a tocar?" That position is also stated by two very-well informed US economists, who in writing a ten year appraisal of NAFTA, state "[D]omestic agricultural subsidies will not be negotiated down across the board within NAFTA, because the United States and Canada will agree to 'disarm' only with the assurance of comparable commitments from the European Union and other major agricultural producers," Hufbauer and Schott (2005,345). This logic is impeccable, but it seems to this observer to be inconsistent with pressure on Canada during the TPP negotiations to remove its supply management system in wheat and dairy, which affected all of Canada's trading partners, not just their NAFTA/TPP colleagues. Recall that for the US, "Market Price Support" only accounts for 13% of producer supports, while the rest comes from different forms of subsidies, so that negotiating only tariffs and quotas avoids the major interventions of that country. An example of the flip-side of this position should also be made explicit. In other parts of this paper it is asserted that NAFTA – by itself – was not responsible for a significant change in Mexico's agricultural trade and production. Instead, we argue that the changes that occurred in the two decades after the country's adoption of free-trade positions in the mid-1980s were in fact just the type of unilateral, non-reciprocated, liberalization policies (rejection of Article 27, elimination of CONASUPO and other producer supports) that standard economics supports, but the United States refuses to contemplate.

American countries will have difficulty entering into these markets. Note also that rice plays a minimal role in this listing, as it also did in the calculations of USDA (2014), which of course could not incorporate the details of the final agreement. We know that Japan is a major consumer of rice, and that its hostility to lowering its barriers against rice imports is legendary. Of the TPP countries, Vietnam is a major rice exporter. However, they export indica rice, which has a minor role in Japan's rice market, which consumes the japonica variety. Evidently the low volume of this trade might change, with time.

At this point, we should underline that the TPP agreement on agricultural products can be said to have been limited to changing protectionism on products (tariffs, quotas, tariff-rate quotas), but not the other major contributors to agricultural distortions – subsidies to production and input use, and to the A/An/I/R complex, which as noted earlier, for the U.S. and some other countries will have larger impacts on world trade. It has been stated that the refusal to discuss removal of subsidies results from an unwillingness to consider policies that will hurt domestic interests while benefiting all trade partners, not simply those who are co-signers of the treaty at hand.[66] This leads us directly back to the earlier question; are TPAs stepping stones or stumbling blocks to free trade? This unavoidable answer of this section – and this paper - is that they are stumbling blocks.

[The following part is quite incomplete. My goal remains to illustrate the size of quotas/TRQs which remain in place inside the negotiated TPP]

Products covered by quotas:

US sugar import quota increases by 86,300 metric tons (mt); that from Australia initially to increase by 65,000 mt – current US consumption is over ten million mt. The ITC states on p. 124 that the increased imports from Australia are likely to occur at the expense of Mexico.[67]

Japan: increase of imports by 1%.

Japan's imports of rice. US quota on rice exports to Japan rises by 10,000 mt immediately, up to 70,000 mt after 13 years. Currently Japanese total consumption is about eleven million mt. US exports account for about half of

[66] This writer has not yet found support in the standard news media of his hypothesis that the US trade office imposed as a pre-requisite on entry into TPP negotiations that the candidate country agree not to discuss the elimination of these subsidies, but instead limit the discussion to a reduction of tariffs and quotas. However, the topic has certainly been addressed in public. Carlos Pomareda begins his statement on the potential PTA between Peru and the US with, "La negociación con los EEUU será muy compleja, y más aún, cuando se sabe que este país no negociará temas como subsidios a la producción, subsidios a la exportación, ni ayudas internas," Pomareda (2004, 57). Attention can also be drawn to an article in the Mexico City newspaper *El Economista*, of November 2, 2015, which cites the Mexican ambassador to the WTO, Fernando de Mateo, explaining the absence of TPP discussion of agricultural subsidies as follows: "Esto no se puede hacer; si México da subsidios y Estados Unidos da subsidios, ¿ambos van a eliminarlos mientras el resto de los países no los van a tocar?" That position is also stated by two very-well informed US economists, who in writing a ten year appraisal of NAFTA, state: "[D]omestic agricultural subsidies will not be negotiated down across the board within NAFTA, because the United States and Canada will agree to 'disarm' only with the assurance of comparable commitments from the European Union and other major agricultural producers," Hufbauer and Schott (2005,345). This logic is impeccable, but it seems to this observer to be inconsistent with pressure on Canada during the TPP negotiations to remove its supply management system in wheat and dairy, which affected all of Canada's trading partners, not just their NAFTA/TPP colleagues. Recall that for the US, "Market Price Support" only accounts for 13% of producer supports, while the rest comes from different forms of subsidies, so that negotiating only tariffs and quotas avoids the major interventions of that country. An example of the flip-side of this position should also be made explicit. In other parts of this paper it is asserted that NAFTA – by itself – was not responsible for a significant change in Mexico's agricultural trade and production. Instead, we argue that the changes that occurred in the two decades after the country's adoption of free-trade positions in the mid-1980s were in fact the results of just the type of unilateral, non-reciprocated, liberalization policies (rejection of Article 27 of the Constitution, elimination of CONASUPO and other producer supports) that standard economics supports, but the United States government refuses to contemplate.

[67] This had been an ongoing issue during the negotiations, as Mexico did not wish to lose previous advantages in the US market. See *El Economista* (*Mexicana*) July 31, 2015, and issues of *Inside U.S. Trade* of August 7, 15, September 11, 2015.

Tabla 11. Proyecciones del US-ITC de aumentos de exportaciones e importaciones de EEUU, debido al TPP, por regiones/países, US$ Millones, a precios de 2017.

	Aumentos atribuibles al TPP:												
		Nuevas exportac. brutas de EEUU a todos los socios del TPP						Nueva Export Netas EEUU socios TPP			Nuevas importaciones brutas from All TP Partners		Nuevas Importa'ns Netas de socios TPP
	Total US Ag Produc-ción	Total	De los cuales: Socios del TLCAN	Canadá	Nuevos Socios: Todos	Japón	Vietn				Total	De:[a]	
Agric y alim.	10,015	11,115	2,921		7,951	3,600[b]	3,300[c]	7,227		Agric y alim.	2,024		2,734
Azúcar	518	130	4		84			130		Azúcar	132		132
Productos lácteos	1,839	1,974	1,200	1,200[d]	755	534		1,846		Productos lácteos	369	NZ & C 372	349
Carne de res	615	995	13		973	840		876		Carne de res	438	NZ & C 437	419
Carne de puerco	180	387	116		254[e]	210		219		Carne de puerco	94		94
Carne de pollo	266	588	151		332		134[f]	174		Carne de pollo	-19		-17
Arroz	-18	82	-9		86			-13		Arroz	11		15
Trigo	-8	-47	44		-123			-2		Trigo	19		18
Maíz	207	133	58		82			-31		Maíz	2		3
Alim. Procesados	2,397	1,916	97		1,783	1,200[g]		1,540		Alim. Procesados	-203	México 400	427
Frutas y verduras	172	990	-1		995	275[h]	721[i]	575		Frutas y verduras	133		119
Seafood	-515	116	0		115			74		Seafood	332		232

Fuente: US-ITC (2016), tablas 3.6, 23.7, and assorted pages.

[a] Los tres datos para importaciones de países específicas aparecen en la página 127 del US-ITC (2016).
[b] US-ITC (2016) p. 125.
[c] US-ITC (2016) p. 125.
[d] US-ITC (2016) p. 125.
[e] Del total de US$254 million a todos los nuevos socios, 19.3 million corresponden a Nueva Zelanda: US-ITC (2016) p. 163.
[f] US-ITC (2016) p. 175
[g] US-ITC (2016) p. 125.
[h] US-ITC (2016) p. 195
[i] US-ITC (2016) p. 125

Notas: La categoria 'azucar' incluye dulcificantes. Frutas y verduras incluye nueces
NZ & C: Nueva Zelanda y Canadá.

\US-ITC\Details

Japan's total imports (i.e., 385,000 mt). Japan will increase imports of rice from Australia by 6,000 mt, as much as 8,400 mt by year 13. Note that the ITC report contains (p. 188) a discussion of "U.S. Rice and Market Access to Japan: Documented vs. Undocumented Commitments." Japan's rice tariff remains 778%.

Japan reduced tariffs on beef from 38/5% to 9% by year 16. (The Conversation: 10/8/2015). The ITC report is a bit fuzzy about a specific number of the volume for its projected increase of US beef exports to Japan, but states (p. 154) that the TPP would raise the value of US beef exports to Japan to $839 million, which is more than 50% higher than without the TPP. The ITC report also states that the biggest benefit of the TPP for US beef producers is to eliminate the advantage Australian producers had achieved with the 2015 Australia-Japan PTA. A similar evaluation – on a smaller scale - is offered of the effect of US beef exports to Vietnam. The situation of beef trade is complicated by issues of disease ("mad cow"), or suspicions of them. The market in Malaysia is complicated by religious requirements that the beef production be supervised or approved by an appropriate religious authority, to assure that it is halal.

Mexico lowers tariffs on beef and other meats. Same for Peru.

Pork: Japan operates a "gate price system" that combines tariffs with minimum prices. This system would be significantly reduced under the TPP, which the ITC states (p. 162) will increase US exports in 2032 by the amount of US$ 230 million, or 7.8%. The US business media has contained reports of backtracking by Japan on this topic.

Some improvements in Australian dairy to Japan.

Japan lowered tariffs on horticulture products.

Vietnam committed to significant cuts in horticulture tariffs. (Aust. ABC News October 6, 2015)
Japan lowered tariffs on beef, pork, poultry, wheat, citrus, other fresh fruit, frozen vegetables (USDA fact sheets Oct. 6, 2015)

Canada: limited TPP access for supply managed products; 3.25% of domestic dairy, 2.1 % of domestic chicken. (*iust* of Oct. 7, 1995)

Topic Not Included

Do low income farmers have any rights over the varieties they have developed and utilized over millennia, even if they have not formally taken patents/copyrights over them? This question surges to the fore if an enterprise that controls the patent to this germplasm, confronts those farmers and forbids them to use the strain without suitable payments. These questions assume larger importance as they accompany an agreement that many critics feel cedes too much power to large firms – typically multinational – and gives them unusual power to assert their power to challenge national government laws and regulations.

There have been mentions of this issue in the Peruvian newspaper *El Comercio*, for example on July 31, 2015, Mr. Edgar Vásquez, Vice Minister of Foreign Trade, stated that the Peruvian negotiating team for the TPP had requested of the negotiators of the environmental chapter, that natural environment resources and biodiversity, along with ancestral knowledge, be recognized and protected in the negotiations. Specific mention is made of genetic resources.

An early book developing this position is Brush and Stabinsky (1996); an elaboration is Parfitt (2013). Some success stories are discussed in Andersen and Winge (2013). Supporters of indigenous rights assert that modern agricultural science is perpetrating a new 'enclosure' movement, and raise the specter that large seed companies will modestly manipulate germplasm that has been developed and shared among local farmers over millennia, obtaining cultivation rights that allow the companies to prohibit those local farmers from planting their own varieties. These issues are beyond this author's competence to judge. What is noteworthy is that media discussions of the TPP have almost completely ignored them, which is especially disconcerting for a treaty that will set the pace for the new century.

By way of Conclusion:

Let us summarize the major conclusions. The TPP is an innovative trade agreement, in that it crosses the ocean and includes both advanced and lower income countries. To some extent, the Mexican experience is taken as a model of what might happen to other countries. This paper has argued against that analysis. First of all, the changes that occurred around the time of NAFTA's entry into force had been underway for some years – even decades. These structural changes caused large changes in the economy. Further souring our appreciation of NAFTA's impact has been the increases in income inequality, accompanying the broader process.

It should not surprise that this unenthusiastic view of NAFTA's impact accompanies a similar verdict on the TPP, at least in the agricultural sectors of the signatory countries. One line of argument has been to review the results of several numerical models, which predict small changes. In particular, these exercises seemed trapped by their need to assume full employment, which inevitably limits the prospect of predicting more substantial changes. Beyond that, there are three other aspects of the TPP which further constrain optimism. The first is the rather innocuous observation that for countries that already have an operational trade agreement with each other, this new accord will not change much. In addition, we note that the TPP did not break down major protectionist sentiments; Japan retains its isolationist stance in rice, meat and dairy products, while the United States continues to import sugar under a controlled scheme. Beyond that, the US also retains its vast array of production subsidies, and knowledgeable observers assert acceptance of this stance will remain a 'litmus test' for accepting potential new signatory countries into negotiations.

Finally, a few more personal comments.

1) First of all, I am struck by the small size of the predicted impacts of the TPP on production and trade. Having taught international trade for several decades, this should not be a surprise, but it still is.
2) Staying in the confessional mode for a second, I must acknowledge my under-appreciation of the importance of the ASEAN, which adds tremendous importance to the TPP. I was certainly not prepared for the news about Vietnam.
3) Correspondingly, I had not realized the number and geographical extension of PTAs. After looking at this for a few months, I am moved to be less supportive of the 'Termites in the Trading System' criticism of them, because of the evidence of competitive pressure to reduce tariffs via PTAs.
4) It is quite disappointing to me that the TPP agreement did not touch almost any agricultural subsidies, and that many quotas were allowed to remain. It is misleading – one might say deceitful - of the US government and most other supporters of the TPP not to acknowledge this.
5) It seems that international trade of fruits and vegetables will continue to grow, which is good for both producers and consumers. In contrast to livestock, dairy, and grains, these products do not have to overcome the barriers created by a tradition of specific commodity programs to help their producers in high income countries. There will come a time when major importing countries will have to reduce the seasonal component of their trade regulations for these crops.

Acronyms

AFTA	ASEAN Free Trade Agreement
A/An/R/I	Area Planted/Animal numbers/Receipts/Income
AoA	Agreement on Agriculture (of the WTO, 1995)
AMS	Aggregate Measurement of Support
APEC	Asia-Pacific Economic Community
ASEAN	Association of South East Asian Nations
CRS	Congressional Research Service (USA)
CSE	Consumer Support Equivalent
CUFTA\CUSFTA	Canada-United States Free Trade Agreement
EEC\EU	European Economic Community/European Union
FAO	(United Nations) Food and Agriculture Organization
FDI	Foreign direct investment
FTA	Free Trade Agreement
FTAA	Free Trade Agreement of the Americas
GATT	General Agreement on Tariffs and Trade
GSSE	General Service Support Equivalent
GTAP	Global Trade Analysis Project (co-sponsored by the World Bank)
ITC	(United States) International Trade Commission
iust	Inside U.S. Trade (business-oriented weekly news report)
JA	Agricultural cooperative association in Japan
MFN	Most-favored nation
MNC	Multinational corporation
MPS	Market Price Support
mt	metric ton
NAFTA	North American Free Trade Association (or Agreement)
NPC	Nominal protection coefficient
NRA	Nominal Rate of Assistance
OECD	Organization of Economic Cooperation and Development
P-4	The 2005 trade agreement (Brunei, Chile, New Zealand, Singapore); precursor to TPP
PSE	Producer Support Estimate
PTA	Preferential Trade Agreement
RCEP	Regional Comprehensive Economic Partnership
ROO	Rules of origin
RTA	Regional Trade Agreement
SCT	Specific Commodity Transfers
TCT	Transfers from Consumers to Taxpayers
TDS	Total Domestic Support
TPA	Trade Promotion Authority
TPP	Trans-Pacific Partnership
TSE	Total Support Equivalent
WTO	World Trade Organization

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