Perspective Paper

The Challenge of Subsidies and Trade Barriers

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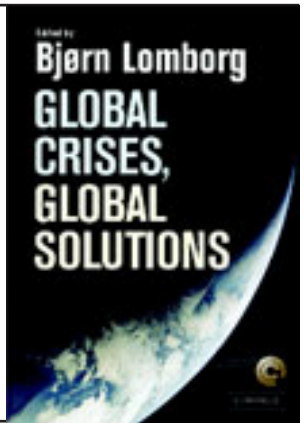

Opponent's Comments on

"Subsidies and Trade Barriers" by Kym Anderson

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1 Introduction

Kym Anderson has done an excellent job of articulating the challenge of trade liberalization facing the world economy today. He correctly points out that this challenge in modern times has been with us for 75 years. While substantial progress has been made, barriers to trade in goods and trade-distorting agricultural subsidies continue to cost the world economy billions of dollars each year. Luckily, there is ample opportunity to eliminate these remaining barriers.

Anderson identifies four such opportunities that can be exploited:

- *Opportunity 1*: Unilateral, nondiscriminatory liberalization by countries acting solely on their own.
- *Opportunity 2*: Reciprocal, nondiscriminatory liberalization on a multilateral basis under the auspices of the WTO Doha Round.
- *Opportunity 3*: Region-wide liberalization either on a nondiscriminatory basis as under the auspices of APEC or on a discriminatory basis as under the auspices of customs unions and free trade areas such the European Union and Free Trade Area of the Americas (FTAA), respectively.
- *Opportunity 4*: One-way trade preferences by the rich to the poor, especially least developed countries.

In the key sub-section 4.1.6 entitled "How best to reduce subsidies and trade barriers globally by 2010," Anderson is critical of both free trade areas such as NAFTA and FTAA (Opportunity 3) and one-way trade preferences (Opportunity 4) and urges that we hang the future liberalization strategy on unilateral and multilateral liberalization

(Opportunities 1 and 2, respectively).[1] I wholeheartedly endorse this conclusion. In my own writings, I have been critical of the preferential approach--whether reciprocal or one-way (Bhagwati and Panagariya, 1996; Bhagwati, Greenaway and Panagariya, 1998; and Panagariya, 1999a on reciprocal preferences and Panagariya, 2002 on one-way preferences)--and have advocated sticking to the non-preferential, nondiscriminatory approach implemented at the national, regional or multilateral level.[2] Therefore, I am delighted with Anderson's key recommendation.

Unfortunately, my role here is that of the opponent, which means I must criticize the paper. Being in agreement with the bottom line offered by the author, my criticisms have to be in the form of suggestions and qualifications, which is what I shall offer in what follows. In Section 2, I offer some broad criticisms of the paper; in Section 3 suggestions for how we can beef up the case for free trade; in Section 4, further reasons why opportunities 1 and 2 are desirable and 3 and 4 are not; and in Section 5, some concluding remarks.

2 Broad Concerns

The Anderson paper has three substantive sections numbered 2-4. Section 2 offers a general discussion of why the elimination of trade barriers is beneficial; Section 3 identifies the four opportunities; and Section 4 offers estimates of the benefits from

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[1] I must admit, however, that the message does not come out as sharply in the paper as stated here. For example, the language at the end of the first paragraph of p. 9 and at the beginning of the second paragraph leaves the impression that Anderson does not view unilateral liberalization as a realistic option for meeting the challenge of trade liberalization. Likewise, the discussion on p. 10 seems to endorse both the FTA route and unilateral trade preferences. It may be best to state the conclusion sharply in the introduction.

[2] Indeed, I was among the first ones to articulate the case for nondiscriminatory liberalization on a region-wide basis in East Asia in Panagariya (1994).

liberalization by seizing each of the four opportunities followed by a general discussion of the costs of liberalization and its relationship to the other challenges including the environment, poverty and climate change.

Let me begin by making four broad points that may be worthy of attention in the revised version of the paper. First, the reader will benefit from being told of the barriers and subsidies that exist in different countries. These can be presented in some aggregate form as done, for example, in Gillespie and Low (1999) and Panagariya (1999b) in the case of trade barriers. Without a clear sense of how high are the barriers, for which products and in which countries, one cannot fully appreciate the political economy of liberalization and hence the cost of available opportunities to be exploited. Countries do view liberalization through the mercantilist lens--lately even more so since the rich countries have begun to fear trading with the poor countries--and therefore informing them of the CGE estimates of the gains from liberalization is far from sufficient to persuade them to liberalize. They need to know what market access they can get in return for the access they yield.

Second, in a number of places, the paper strays from the challenge at hand--border barriers and agricultural subsidies--reporting instead on the gains that can be had from the liberalization of trade in services, investment and even labor mobility. While such extension is interesting in itself, it is not a part of the challenge undertaken. It may be best to minimize these references or even eliminate them altogether.

Third, in some key areas that I will point out in my discussion of the specific opportunities below, there is a need to disaggregate the global effects into those relating to country aggregates. I am not suggesting a country-by-country analysis, which will be

obviously counterproductive but by broad groups of countries according to the way their welfare is impacted qualitatively differently. Sometimes, the effects on some developing countries may be negative while it is positive on others. In such cases, the aggregation of these two groups into a single category can be quite misleading.

Finally, I think the paper relies excessively and uncritically on the estimates derived from the Computable General Equilibrium Models (CGE). These models are not based on detailed time series data in the way the econometric models are and do not have the predictive power of the latter. Instead, they assume a certain structure of the economy with functional forms and parameter values, calibrate the initial equilibrium around a base year and then change the trade policy parameters to solve for the change the model implies. Thus, only the data from the base year are used to build the model.[3] Not surprisingly, in a recent *ex post* evaluation of the NAFTA CGE models written in the late 1980s and early 1990s by some of the same researchers cited frequently in the present paper, Kehoe (2003) demonstrates entirely convincingly that these models uniformly failed to predict the changes in the Mexican economy by a long shot. In my own work (Panagariya and Duttagupta, 2001), I have systematically demonstrated how the model structure, specific functional forms and parameter values can alter the results in these models even qualitatively.

I am not unsympathetic to the use of the model estimates since these are (almost) all we have by way of numbers relating to the future liberalization. But I would prefer some warning and qualification regarding the likely errors as also somewhat greater

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[3] In addition, some of the parameters may be estimated though even these are often taken from the existing literature rather than estimated for the specific economy under analysis.

reliance on the qualitative arguments and, especially, country experiences that amply demonstrate the value of outward-oriented policies. I elaborate on this theme immediately below.

3 Making the Case for Liberalization

In making the case for liberalization in Section 2, the paper relies almost exclusively on the cross-country regression studies for empirical evidence. While these studies are a useful complement, they have come under severe criticism from not just free-trade skeptics such as Rodriguez and Rodrik (1999) but also the most prominent pro-free-trade economists Srinivasan and Bhagwati (2001). Conclusions along the lines that a 10 percent reduction in trade barriers *leads to* x percent jump in the growth rate, offered by these studies, are quickly countered by the skeptics who point to the many countries in Africa and Latin America that liberalized trade during the 1980s and 1990s but actually saw their growth rates plummet.[4]

Therefore, the case for openness has to be more nuanced. The proposition that is entirely defensible and is consistent with the cross-country regression studies without relying on them is that the countries that have grown rapidly on a sustained basis have almost always done so in the presence of either low or declining barriers to trade. Or, more precisely, openness is necessary but not sufficient for sustained rapid growth.

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[4] The common assertion that each country can crawl along the fitted cross-country regression line provided it adopts the policy changes represented by the independent variables in the line is seriously flawed. Even after we ignore the errors in the measurement of variables, which are especially serious in the cross-country regressions, *and* accept all the assumptions relating to the distribution of various errors terms and the functional form--usually linear and therefore separable in the policy variables--the estimation gives us a *bend* of estimates (or what is called the *interval* estimate in technical terms) with a specified probability rather than the mean value of these estimates shown by the regression line.

Making the case this way anticipates the criticism that openness does not always lead to faster growth right away.

In Panagariya (2004a), I have offered a systematic defense of free trade along these lines. I identify all countries that have grown at 3 percent or more in per-capita terms during the last four decades and show that these growth "miracles" uniformly took place in the presence of low or declining barriers to trade. I also identify the growth debacles--the countries that did not experience any growth in per-capita terms on a sustained basis or actually declined--and show that they are rarely the outcome of openness. Thus, while openness is an important part of the miracles, it does not lead to debacles.

Making the case in this manner also allows one to bring individual country experiences documented in the landmark studies of Little, Scitovsky and Scott (1970), Bhagwati and Krueger (1974) and Balassa (1982) as evidence supporting the case for outward oriented policies. Country experiences such as those of East Asia starting 1960s; China, India and Chile starting 1980s; and many Latin American and African countries during 1960s and early 1970s offer compelling evidence favoring the hypothesis that outward-oriented trade regime is a necessary ingredient in the high-growth recipe. Indeed, it is difficult to come up with examples of countries that grew rapidly on a sustained basis while maintaining high wall of protection that was not coming down during the growth process.

4 The Opportunities

Let me now turn to the specific opportunities identified in the paper and suggest improvements that can be made in the paper in the light of the existing studies not covered by the author.

4.1 Opportunity 1: unilateral Liberalization

There is now ample evidence of many developing countries embracing unilateral liberalization and benefiting from it. A recent volume edited by Bhagwati (2002) entitled *Going Alone* systematically documents the experience of Asia and Latin America. I would urge making a stronger pitch for working toward exploiting this opportunity than is done in the current version of the paper. Among other things, it will be useful to document at some length the experience of India and China, which did poorly over three decades (1950-80) under autarkic policies but were able to grow at miracle level growth rates during the past two decades while following the path of unilateral liberalization.[5]

Critics of trade liberalization have seized on the observation that Latin America aggressively liberalized trade during the 1980s and 1990s but found its growth rates plummet. But such criticisms are misplaced. The key source of Latin America's plight in the 1980s was the macroeconomic instability resulting excessive foreign borrowing with or without capital-account convertibility and had little to do with trade liberalization. The seventies had been characterized by rising foreign debt in many Latin American countries with debt-service as a proportion of exports rising to 30 percent or more by early 1980s in many cases. On top of that came the Volcker-era interest-rate increases in the United States, which led capital to flow out of Latin America abruptly and choked all growth potential.

But even the Latin America of the 1980s onward offers an example that supports the hypothesis that trade openness is necessary for growth. During the past two decades,

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[5] The experience of India is documented in Panagariya (2004b).

Chile is perhaps the only major country in Latin American that has registered sustained rapid growth. Its GDP grew annually at rates of 5.3 and 5.9 percent respectively during 1981-91 and 1991-01. During the same time periods, its exports of goods and services grew annually at 8.6 and 9 percent, respectively, with the imports to GDP ratio rising from 26.8 percent in 1981 to 32.7 percent in 2001.

Like many other Latin American countries, Chile opened up its economy to trade by slashing tariffs unilaterally and undertook reforms such as privatization. What distinguished it from the former, however, was the management of macroeconomic affairs. For example, on the average, Chile had a balanced budget during 1980s and a fiscal surplus during 1990s. Through prudent management of monetary policy, Chile also brought inflation down from 21 percent in 1989 to 3 percent in 1999. Above all, Chile has avoided financial-capital-flow crises through a credible policy regime in general and judicious taxation of capital inflows that loosely corresponded to the local version of the Tobin Tax.

4.2 Opportunity 2: Multilateral Liberalization via the Doha Round

In discussing this opportunity, the paper considers industrial and agricultural goods simultaneously and focuses on achieving a 50 percent reduction in all tariff barriers and the same for agricultural subsidies. In my judgment, it is worth de-linking the discussion of the liberalization in industrial goods from agricultural protection and subsidies.

Multilateral liberalization in industrial goods has now been under way for over five decades and the remaining barriers are relatively low. Therefore, it is realistic to consider complete elimination of the existing barriers in this sector as a part of the Doha Round. Admittedly, the actual elimination of the barriers by 2010 is unrealistic as is even the 50

percent reduction proposed in the paper. But an *agreement* to eliminate the remaining industrial tariffs by a date certain as a part of the Doha Round agreement is not unrealistic. Indeed, the current proposal on the table by the United States proposes just that. According to this proposal, the WTO members would agree to eliminate all industrial tariffs by 2015. Because there is some concern that developing countries need a longer phase-out period due to their lack of adjustment assistance programs and social safety nets, the U.S. proposal may be modified to move the date for developing countries to eliminate the tariffs to 2020. Given the benefits from unilateral liberalization for the developing countries that have little market power in the global economy and their failed attempts over the last four decades to get developed countries to even lower tariffs on the labor-intensive products including apparel and footwear let alone eliminate them, this is an attractive option to explore.

In agriculture, the scene is more complicated. For one thing, the process of liberalization in this sector began only recently and the existing border barriers and subsidies are very high. As such, the achievement of an agreement for zero tariffs and subsidies in this sector in the foreseeable future is unrealistic. As such, the goal of 50 percent reduction in the barriers as considered in the paper would seem to be a reasonable benchmark.

It is important, however, to recognize that the majority of the least developed countries will actually be hurt by the removal of the agricultural subsidies and perhaps even tariffs in the case of the European Union. It has become a cliché in recent years to assert that the subsidies in the rich countries are hurting the poorest countries in the world. The reality, however, is that the major beneficiaries of the removal of these

subsidies will be the countries that give them and the Cairns Group of countries that include developed and relatively richer developing countries with comparative advantage in agriculture. Perhaps the largest beneficiary will be the United States, which stands to benefit both from reduced distortions domestically as it lowers its own subsidies and tariffs as well as increased market share as its highly competitive agricultural sector expands in response to tariff liberalization and removal of subsidies by the EU.

In so far as the poor countries are concerned, drawing on the work of Valdes and McCalla (1999), I have argued in Panagariya (2003a) that a large majority of them stand to lose from the liberalization of subsidies in agriculture.[6] Thus, consider Tables 1 and 2, taken from Valdes and McCalla study, which show the status of various developing countries in international trade in food and agriculture. There are 148 developing countries in all, which the World Bank divides into 63 Low Income Countries (LIC), 53 Lower Middle Income Countries (LMIC) and 33 Upper Middle Income Countries (UMIC). Based on the 1995-97 trade data, Valdes and McCalla further divide these countries into Net Food Importing (NFIM) and Net Food Exporting (NFEX) Countries on the one hand and Net Agricultural Importing (NAIM) and Net Agricultural Exporting (NAEX). The two-way division is shown in Tables 1 and 2.

According to Table 1, as many as 48 out of 63 Low Income Countries are net importers of food. Even among the Low Middle Income Countries, 35 out of 52 are net food importers. In so far as the subsidies apply with potency to food items, their removal will raise the world prices of the latter and hurt the real incomes of the importing countries.

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[6] Also see Panagariya (2003b) in this context.

Table 2 classifies the three groups of countries according to their net position in agriculture as a whole. Here more Low Income Countries appear as exporters—33 versus only 15 when we consider trade in food. But the picture is less pretty if we focus on the least developed countries only. At the time Valdes and McCalla wrote, there were 48 Least Developed Countries (LDC). Of these, as many as 45 were net food importers and 33 net agricultural importers.

Table 1

	LIC	LMIC	UMIC
NFIM	48	35	22
NFEX	15	17	11
Total	63	52	33

Table 2

	LIC	LMIC	UMIC
NAIM	30	32	23
NAEX	33	20	10
Total	63	52	33

Some argue that the end to subsidies will nevertheless benefit the poor countries because even those that currently import food and agricultural goods will become exporters of these products. For one thing, the basis of this assumption is far from clear:

true, the rise in the prices will expand output but how can we be sure that this will be sufficiently large to change the status of a large number of the countries from net importers to net exporters. But more importantly, as I explain in Appendix 1, the change of status from net importer to net exporter is far from sufficient to ensure net gains. As the countries turn into an exporter, initially the losses from the terms-of-trade deterioration as importer would dominate the gains from the terms-of-trade improvement as an exporter. Only if the exports of the country cross a critical level will the loss be offset by the gains.

A closely related issue concerns the existing trade preferences that the least developed countries enjoy in the EU market. As explained in Appendix 2, in so far as these preferences also apply to agriculture, the removal of tariffs would hurt even the net exporters of the agricultural products even as the subsidies are removed simultaneously. Domestic and export subsidies lower the world prices but the tariffs keep the EU *internal* prices above the latter. The exporting poor countries with tariff-free access to the EU market benefit from the arrangement since they have access to the EU high internal EU prices. While subsidy reductions will raise the world price, tariff reductions will lower the EU internal price. In so far as the least developed countries sell at the latter price, they will be hurt from the change.

The simulations conducted by Yu and Jensen (2003) offer numerical examples supporting these points. For example, they simulate the combined effect of implementing the Everything But Arms (EBA) initiative and a 50 percent reduction in the EU import tariffs on food and agriculture. They find that this leads to a loss in the real incomes of the majority of the least developed countries, especially in Sub Saharan Africa. In

another simulation, they combine EBA with the EU export subsides on all food and agricultural products and obtain similar results.

It is important for the policy community to stop repeating, without critical examination, the assertion that the subsidies are hurting the poorest countries and that they constitute the most important obstacle to the development of the poorest countries. While there is no doubt that the subsidies constitute a major distortion of agricultural trade and must be removed, such removal is likely to hurt the majority of the least developed countries and is surely not about to put many of them on a sustained, higher-growth trajectory. Only after we recognize this fact will begin to design appropriate social safety nets and adjustment assistance for the poor countries that are net importers of agricultural products and will actually lose from the increase in the price of agricultural products following the removal of the subsidies. If we continue to assert that the poorest countries stand to benefit big from the end to the agricultural subsides, there would be no case for sinking resources into such assistance and safety nets.

4.3 Opportunity 3: Preferential Trade Liberalization

I entirely agree with the paper that there is no need to proactively promote preferential trade areas (PTAs) such as NAFTA and FTAA. To the arguments made in the paper, I will add four more.

First, the growth effects of PTAs remain unproven. Whereas there is overwhelming country evidence supporting the hypothesis that low or declining trade barriers on a nondiscriminatory basis are necessary for growth, similar evidence in favor of PTAs is simply lacking. One is hard-pressed to find examples of countries that have chosen to hang their growth strategy on FTAs and have grown successfully on a sustained basis.

Mexico, in particular, consciously chose the path of preferential liberalization and has also implemented the policy package that is usually associated with reforms but has not been able to achieve high rates of growth. Portugal and Span may offer some favorable evidence but such evidence has two limitations. One, these countries went on to become a part of a customs union that was truly striving to be a single market, which is not what the rest of the PTAs today are doing. And two, as these countries joined the EC/EU, they also achieved considerable *external* liberalization since the EC tariffs were well below theirs. As such, their success should be attributed at least partially to unilateral, nondiscriminatory liberalization.

Second, there is already political momentum for more of these arrangements than are desirable. The trading system has come to be fragmented on account of the large number of FTAs negotiated over the past decade. The competition for FTAs has created so much discrimination in the tariff policy in the major markets based on the origin of the product that the Most Favored Nation principle of the General Agreement on Tariffs and Trade (GATT) can be scarcely recognized. In the name of free trade, we now have what Bhagwati has called the Spaghetti Bowl phenomenon whereby the tariff on a product depends on the stage of implementation of the FTA with the trading partner exporting the product and the concomitant rule of origin (Bhagwati and Panagariya 1996). The only way to clean up the system now is not more FTAs but multilateral liberalization.

Third, in so far as agricultural subsidies are concerned, their liberalization necessarily requires the multilateral context. Domestic production subsidies are not aimed at specific trading partners and therefore will not be eliminated in the context of an FTA. Likewise, preferential removal of export subsidies is politically problematic.

Preferential removal of tariffs makes within-union suppliers more competitive relative to outsiders and therefore finds political support among producers of the member countries. But preferential removal of export subsidies does just the opposite: it makes outsiders more competitive relative to insiders! Not surprisingly, the negotiations for the FTAA have come to a standstill on account of differences on agricultural subsidies (among other things).[7]

Finally, from the viewpoint of the poorest countries, FTAs involving the United States come with various strings attached. These latter include the link between trade and labor, restrictions on the use of capital controls, WTO plus intellectual property rights regime and commitments in the area of the investment regime whose desirability for the host country is questionable. Indeed, a close examination of the recent U.S. FTAs suggests that the driving force behind them is not market access but these "non-trade" commitments it is able to obtain from small countries such as Chile, Jordan, Singapore and various Central American countries.[8]

4.4 Opportunity 4: One-way Preferences by Rich to the Poor Countries

Once again, let me add two arguments to those already provided by Anderson to support the view why this opportunity is of dubious value even though the political pressure for its implementation remains intense.

First, like FTAs, these one-way preferences have by and large failed to produce major success stories in terms of growth. They have largely helped shift some rents from the rich to the poor countries but without generating an upward shift in the long-term

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[7] This paragraph is based on Bhagwati and Baldwin (2004).
[8] See Bhagwati and Panagariya (2003) for a more detailed exposition of this argument.

growth.[9] There are a number of reasons for why this happened some of which are discussed by Anderson while others can be found in Panagariya (2002). An important one, not mentioned by Anderson, is that the existence of the preferences has had a detrimental effect on the trade liberalization in the recipient countries. The export lobby that often drives the liberalization process has been diluted in the recipient countries.

Second, even though the Enabling Clause requires that the preferences be entirely unilateral and thus without *any* strings attached, they have effectively turned reciprocal. In the United States, they have been used to promote tougher intellectual property protection and higher labor standards in the recipient countries. Likewise, the EU preferences under the Generalized System of Preferences (GSP) have come to be used as a reward for enforcement against drug trafficking.

5 Conclusions

I whole-heartedly endorse according the highest priority to the removal of trade barriers and subsidies advocated by Anderson as also the strategy of exploiting actively opportunities 1 and 2 for this purpose. The *economic* cost of meeting this challenge being negligible--unlike the fight against the AIDS epidemic, the removal of trade barriers and subsides does not require the investment of financial resources--the rate of return on the small investment in building pro-liberalization constituencies is very high. Indeed, meeting the "trade and subsidy liberalization" challenge is essential to meeting

[9] Indeed, it is the existence of these rents in favor of the exporting firms that have created a lobby in favor of the continuation and expansion of the schemes.

all other challenges. If we fail in this area, it is unlikely that we will achieve significant success in other areas.

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Appendix 1: Agricultural Subsidies and Net Importer Developing Countries

In Figure 1, DD and SS denote the demand and supply curves of a net importer of an agricultural product, wheat. The price in the presence of subsidies by the rich countries is given by line $p_s p_s$ and the gains from trade to the country are represented by the triangular area marked "a". The removal of the subsidy raises the price to the free-trade level indicated by $p_f p_f$. The gains from trade are now given by the triangular area b, which is smaller than area "a". Thus, the country loses on a net basis.

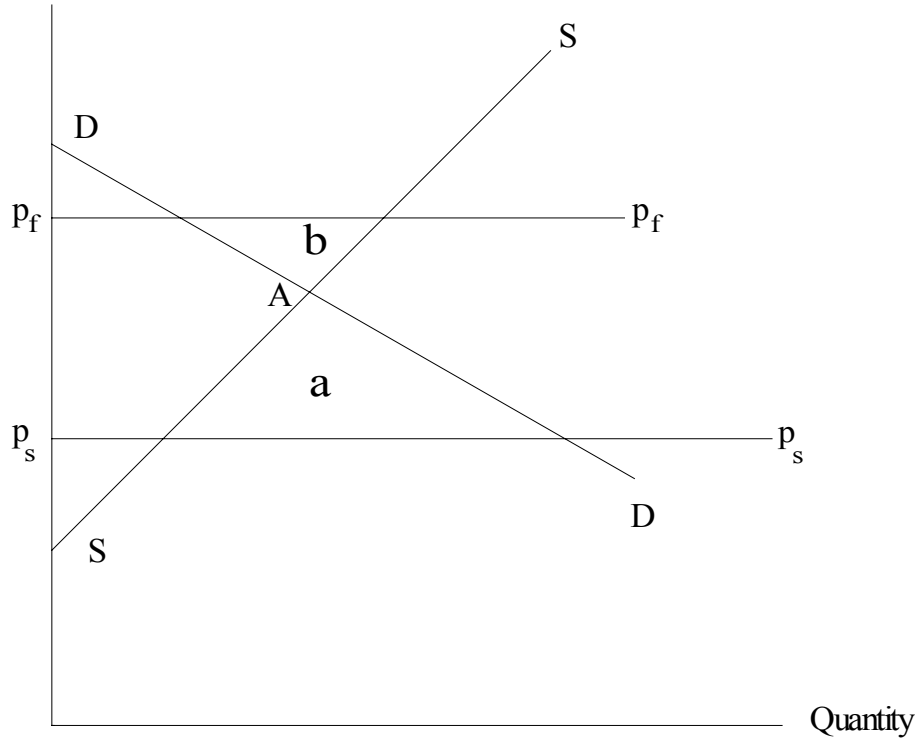

Figure 1: Subsidy removal and Impact on the Importing Countries

To explain the effects further, observe that the equilibrium under autarky would be at point A with the consumers' plus producers' surplus given by the area enclosed by the demand and supply curves and the vertical axis. Under the subsidy regime with imports permitted freely, Imports at price p_s allow the consumers' surplus to expand to

the area under the demand curve and above $p_s p_s$ while the producers' surplus shrinks to the area above the supply curve and below $p_s p_s$. Thus, the net increase in the surplus relative to autarky is area "a".

The removal of the subsidy leads to a rise in the price to $p_f p_f$. The area below the demand curve and above $p_f p_f$ plus that above the supply curve and below $p_f p_f$ exceeds the surplus under autarky by "b". As drawn, this area is smaller than area "a". Thus, even though the country turns into an exporter upon removal of the subsidy, it ends up losing from the change. Those who argue that the a net importer country also stands to gain from the removal of the subsidy because it will turn into a net exporter miss the point that the price increase initially constitutes a *deterioration* in the terms of trade and only after point A is crossed does it turn into an *improvement* in the terms of trade.

Appendix 2: The Impact of the Tariff and Subsidy Removal on the Preference-receiving Exporter Country

Subsidies have kept the world prices low while tariffs have held the internal prices in the rich countries high by preventing arbitrage between the two prices. Leaving aside a few sensitive items, the EU grants the least developed countries duty free access to its high internal price. The lowering of subsides will raise the world price while lowering of tariffs will lower the internal EU price. Since the least developed exporters have access to internal EU price, they will actually be hurt by the change.

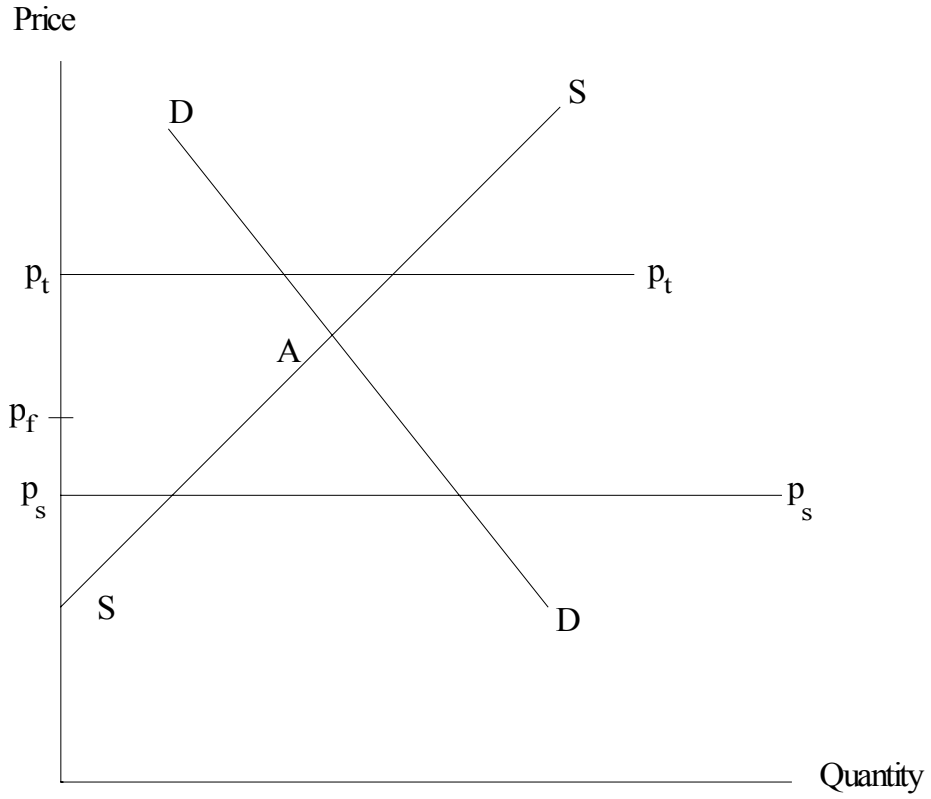

Figure 2: Impact of the Removal of the EU Export Subsidy and Tariff on the EU Internal Price

Figure 2, which relates to the EU, helps explain this point. DD and SS denote the EU demand and supply curves for an agricultural commodity in which it lacks

comparative advantage. Under free trade, it would be an importer of the product with the price settling at $p_f p_f$. But an export subsidy combined by a tariff turns it into an exporter of the product. Thus, suppose it gives an export subsidy equal to $p_t p_s$ per unit, complemented by a tariff at the same or higher rate. These measures push the external (world) price to p_s (since EU is a large exporter in the world market) and the internal price up to p_t. The least developed countries with duty-free access to the EU market sell at the internal price, p_t. When the subsidy and tariff are removed, the world price settles at p_f, which is lower than p_t. The least developed exporters are hurt.

It is easy to extend this analysis to the case in which the EU is an exporter of the product under free trade but pushes the exports beyond the free-trade level through an export subsidy supported by a tariff. All we need to do is to shift up all three prices shown in Figure 2 by the same fixed amount until p_f lies above point A.