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Preference-Dependent Economies and Multilateral Liberalization: Impacts and Options

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List of Acronyms

ACP	African, Caribbean and Pacific
AGOA	African Growth and Opportunity Act
AMS	Aggregate Measure of Support
ATC	Agreement on Textiles and Clothing
ATPA	Andean Trade Preferences Act
ATPSM	Agriculture Trade Policy Simulation Model
CBI	Caribbean Basin Initiative
CCCT	Commonwealth Caribbean Countries Tariff
CCFF	Compensatory and Contingency Financing Facility
CGE	Computable General Equilibrium
DCB	Domestic Commercial Bank
EBA	Everything But Arms
EIB	European Investment Bank
EVI	Economic Vulnerability Index
FTA	Free Trade Agreement
GPT	Generalized Tariff Preference
GSP	Generalized System of Preferences
GTAP	Global Trade Analysis Project
IDA	International Development Association
IFC	International Finance Corporation
MFA	Multi-Fibre Arrangement
NFIDC	Net Food-Importing Developing Country
PDE	Preference-Dependent Economy
SDT	Special and Differential Treatment
SFA	Special Framework of Assistance
SME	Small and Medium-Sized Enterprises
SSA	Special System of Assistance
T&C	Textiles and Clothing
TIM	Trade Integration Mechanism
TRQ	Tariff Rate Quota
UR	Uruguay Round
URAA	Uruguay Round Agreement on Agriculture
VER	Voluntary Export Restriction

I. INTRODUCTION AND SUMMARY OF MAIN POINTS

Introduction

Since their emergence in the late 1960s, preferential market access schemes for developing countries have significantly impacted global trade and investment decisions for both developed and developing countries. Trade preferences have emerged in tandem with trade barriers in major industrialized markets. Barriers to global free trade create distortions, and distortions create both costs and benefits. In the case of trade preferences, the benefits have accrued not only to the markets which they are intended to protect, but also to a small but significant number of developing countries whose economies have become dependent on their preferential access to major developed markets.

When preferential access is eroded, the balance of winners and losers is reversed. For countries whose cost structures hinder their competitiveness in a liberalized global market, factors of production must be reallocated into new, higher-growth sectors. This study aims to assess the impact of trade liberalization on preference-dependent economies. Although the complex web of preferential schemes and the changing political economy of global trade complicate any effort to estimate future losses, this study provides an estimate of the costs and suggests measures to assist countries in adjusting to a more competitive trading environment.

Main Points

Many preferential access schemes are being phased out. Commitments both from the previous Uruguay Round and the ongoing Doha Round negotiations threaten to erode the value of preferential access in the short-, medium and long-term. Despite the average positive welfare gains for many countries, there is a sub-set of trade preference-dependent countries who may suffer net losses. Trade preferences generate quota rents; that is, income transfers to preferred exporters from tariff revenue foregone in preference-granting markets.

The value of preferential schemes, measured by quota rents, is often a significant share of economic activity in recipient countries. The annual value of agricultural preferences for three of the most protected tariff-peak products – sugar, bananas and beef – are estimated at $536 million, with estimates for sugar alone ranging from 71 percent to 91 percent. In textiles and clothing (T&C), the annual value of quota rents in preference-dependent economies is estimated at $1.32 billion. As preference erosion has occurred in both sectors since the end of the Uruguay Round, these estimates should be considered a lower bound.

This study estimates the annual loss of income transfers at $1.72 billion in agriculture, textiles and clothing. In agriculture, the potential annual losses in income transfers equal $402 million, with welfare losses of $318 million among the most dependent economies. Estimates for the sugar sector alone range from $288 million to

$297 million. Adding quantity adjustments, estimates for losses of export revenues in the sugar sector range from approximately $350 million to $447 million, with some estimates nearly double this range. In the T&C sector, losses of quota rents are estimated at $1.32 billion. Adding supply changes on a country-by-country basis, estimates for the annual losses of export revenues in the clothing sector are estimated at $1.5 billion with overall welfare losses estimated at $1.15 billion.

Many preference-dependent economies suffer multiple economic handicaps. Given the combination of high poverty levels, market smallness and vulnerability of export sectors, these losses entail a significant negative external shock. These countries are unlikely to be able to finance the necessary adjustment to a more liberalized trading environment without external assistance. The scale of the losses implies preference-dependent economies will incur net losses from multilateral liberalization.

The existing support framework for preference-dependent economies is not sufficient. The study reviews the existing framework, including multilateral and bilateral instruments. The study proposes a framework for assistance based on seven principles:

i. Financing for adjustment to preference erosion should be additional to existing commitments.

ii. The aggregate level of financing, instruments used and lending terms should be conducive to investment, growth and debt sustainability while reflecting the scale and long-term nature of adjustment.

iii. Adjustment financing should facilitate bankable investments by private sector and commercially-run public sector firms.

iv. Financing should encourage competitive upgrades where existing production is competitive and diversification into non-preferential export sectors when it is not.

v. To increase capacity in recipient countries, financing should be coupled with adequate technical assistance focused on increasing absorptive capacity for new financing and project development among potential investors.

vi. To ensure that diversification and competitiveness investments are made *before* a shift in relative prices occurs, financing should be disbursed as soon as reasonable *ex ante* estimates of economic losses are available.

vii. Where necessary, support should be provided for a safety net to mitigate the social costs of adjustment.

Based on the above-mentioned framework, donor financing to preference-dependent economies should be channelled through three main channels:

i. A ***private sector channel*** to facilitate investment start-up, expansion, restructuring or rehabilitation in export sectors by private sector or commercially-run public sector firms.
   - *Instruments*: Debt, quasi-equity, equity and guarantees
   - *Terms*: All loans will be provided on market-related terms. Competitiveness upgrades in existing sectors will receive short-term while diversification investments will receive longer-term loans. Currency denomination will vary on a case-by-case basis.
   - *Grants*: Donor financing will provide separate one-off matching grants, on a case-by-case basis, of up to 50% of 'transformative' costs (including technical assistance, outside services and capital goods), disbursed directly to investors. The grant percentage will consider cash flows of the company and the nature of the costs.

ii. A ***public sector channel*** for enabling investments in infrastructure and capacity-building as well as support for longer-term development programmes. Concessionality should account for country-specific per capita income and debt sustainability criteria as well as potential economic, social and environmental benefits.

iii. A ***social safety net channel*** to provide grant financing to defray adjustment costs such as voluntary retrenchment, unemployment insurance and labour retraining.

Financing will be focused on 'bankable' export-oriented investments. Eligible sectors will include most productive sectors. Eligible investments must satisfy strict lending criteria for viability set by individual lenders.

Access to financing will be focused on public and private investors in preference-dependent economies. Eligible countries are those which may see significantly large decreases in revenues, production and welfare from erosion of preferences. Eligibility will be based on *ex ante* estimates of losses from collaborative research currently underway at major multilateral organizations. Access can be based on either:

1. A 'common pool' approach where access is open to any investor/government from a preference-dependent economy; or
2. A 'country envelope' approach where each country is allotted *a priori* financing shares according to estimated losses.

Total nominal financing ranges between $6.88 billion and $17.2 billion. This estimate assumes:

- The $1.72 billion annual losses in income transfers for sugar, beef, bananas, textiles and clothing producers in trade-preference-dependent economies;
- Once liberalization has begun, producers required 14 to twenty years to adjust, of which the first ten is absorbed by the slow implementation of WTO commitments and there is little to no erosion of quota rents; and
- After the end of the ten-year implementation period, producers require a further four to ten years to adjust.

Discounted: In textiles and clothing, the ten-year implementation period finishes in 2005. In agriculture, the assumed ten-year implementation period is assumed to begin in 2005. Applying a hypothetical 3% discount rate to the two sectors yields total NPV of financing between $6.0 billion and $13.8 billion.

This study also considers bilateral alternatives by analyzing current EU initiatives. As the final EU action plan is not expected until end-2004, it is difficult to predict the precise modalities of EU support. An analysis of past EU support to ACP banana producers implies that future EU initiatives will increasingly focus on diversification. While a large share of EU funding has been channelled through the public sector, the EIB has been increasingly active in funding the private sector in ACP countries. The EU is likely to use a combination of approaches, tailored to different country circumstances. This might involve some mixture of direct budget support for public reform programmes to improve administration, institutional arrangements or infrastructure, tied funds for labour retraining and increased mobility required for industrial restructuring, and of soft loans programmes for industrial restructuring that cannot be supported by the market.

II. THE NATURE AND IMPACT OF QUAD PREFERENCES

The first calls for preferential market access in the late 1960s led to a proliferation of bilateral and regional preferential schemes for developing-country exports. The so-called 'Quad' countries (European Union, United States, Canada and Japan) currently administer a large number of overlapping regimes. There is a wide range of preferences offered, differing both in the number of beneficiaries, number of commodities covered, and the value of the concessions provided.

The sectors where such access yield the greatest benefit is in so-called "sensitive sectors", where domestic Quad producers are protected by a domestic price premium above world prices. This price premium arises from import restrictions and/or support measures to domestic Quad producers. The sensitive sectors examined in this study – textiles and clothing (T&C) and agriculture – are quite often those where developing countries have a comparative advantage due to their relatively larger endowments of land and unskilled labour.

The levels of protection in Quad markets, and the resulting benefits for preferred exporters, are the subject of contentious negotiations in the WTO. The quota-based systems are a departure from normal GATT/WTO principles in that they apply on a country-specific basis, in contradiction to the non-discrimination principle. Although sensitive sectors have thus far avoided any substantial reduction in protection, there is reason to believe that large cuts in support and preferential access are due in the medium and longer term. Any such changes will have far-reaching impacts for countries currently benefiting from preferential access to protected Quad markets.

Section A provides a brief historical overview and general design of the individual Quad preferential schemes in agriculture and T&C.[1] Section B provides a brief overview of the ongoing multilateral negotiations in each sector. Section C identifies the broad theoretical issues to be focused on in this study. Sections D and E estimate the value of preferences in both agriculture and T&C, identifying key preference-dependent economies.

A. Evolution of Preferential Access to Quad Markets

i. Origins of the GSP

Preferential market access for developing countries has its roots in the notion that unilateral preferential trade liberalization could favour development. The inward-oriented trade measures of the late 1960s and early 1970s were paralleled with outward-oriented demands for preferential access to developed-country markets. The growing calls to use

[1] Each scheme has undergone (and is still undergoing) substantial revision and any such survey must be regarded as a snapshot in time. A far more comprehensive overview of the Quad schemes can be found in UNCTAD (2001).

the international trading system as a spur for development and growth led to the enshrinement of Special and Differential Treatment (SDT) for developing countries in the pre-WTO GATT system. Unilateral trade preferences became an integral part of SDT, culminating in a resolution of the second United Nations Conference on Trade and Development (UNCTAD) in 1968. UNCTAD II recommended the establishment of a voluntary Generalized System of Preferences (GSP) that was "generalized, non-reciprocal and non-discriminatory"[2] amongst beneficiary countries.

UNCTAD II led to the proliferation of developed-country national schemes of preferential access. The European Union and Japan introduced their GSP programs in 1971, Canada in 1974, and the United States in 1976. As the GSP schemes violated the GATT Most Favoured Nation (MFN) principle, the GSP schemes were given a 10-year waiver. This waiver was replaced in 1979 with the Enabling Clause, which provided permanent legal cover for the GSP scheme and included greater leeway for developing countries to use restrictive trade practices.

ii. European Union

ACP Preferences: Seventy-eight countries spread over the Africa, Caribbean and Pacific (ACP) regions, receive non-reciprocal trade preferences from the EU under the Lomé Convention. The beneficiaries include forty-eight countries from Sub-Saharan Africa, fifteen Caribbean countries, and fifteen in the Pacific; of which forty-one are given Least Developed Country (LDC) status by the United Nations. The Lomé Convention, elaborated in a series of five-year agreements from 1975 to 2000, introduced trade preferences for most ACP export to EC markets.

There are additionally separate trading protocols for sugar, beef and bananas[3]. The sugar protocol buys annually a fixed quantity of sugar at its internal sugar prices. Under the beef and veal protocol the EU refunds 90% of tax normally paid on beef imports from protocol producers. The banana protocol commits the EU "to examine and where necessary take measures aimed at ensuring the continued viability of their banana export industries and the continuing outlet for their bananas on the Community market."[4]

The expiration of Lomé IV in 2000 led to the Cotonou Agreement, which envisages a radical overhaul of the EU-ACP trading relationship. During the implementation phase, the current regime with its trade preferences and the special protocols will give way to Economic Partnership Agreements (EPAs). As the EPAs are envisioned to be GATT-compatible, this means that the current non-reciprocal trade preferences granted by the EU will eventually give way to reciprocal FTAs.

[2] Much of the historical background from this section is summarized from UNCTAD (2001) and Topp (2001).
[3] The original Lomé agreements contained a rum protocol, which has since been discontinued.
[4] The full text of the Cotonou Agreement is available at http://europa.eu.int/comm/development/body/cotonou/agreement_en.htm

Bilateral FTAs: The EU has built a vast network of Free Trade Agreements (FTAs) with more than 30 countries in Eastern Europe, Africa, Latin America and Asia. In 1976-77, the EC signed cooperation agreements with several of its Mediterranean partners, providing both trade preference and direct aid. These cooperation agreements have been superseded by the Euro-Med Partnership launched in 1995, which envisions the creation of a bilateral FTA by the year 2010 and a substantial expansion of EU financial assistance.[5]

GSP: The EU GSP scheme is open to all developing countries. The original EU GSP scheme was characterized by quotas and ceilings for individual products and countries. Since 1995, the EU has replaced the quotas with generalized tariff preferences which vary according to the sensitivity of products. The sensitivity is in turn determined by the situation of the sector manufacturing the same product in the EC. The EU maintains five different GSP arrangements: general arrangements (open to all developing countries), and special arrangements to protect labour rights, combat drug trafficking, protect the environment, and a special LDC provision.

The EU GSP scheme is further characterized by a 'graduation' mechanism whereby a country may be excluded from GSP either altogether (due to increased development) or in specific sectors (by reaching a degree of competitiveness in the sector). Like most GSP schemes, it contains safeguard provisions that may suspend preferential market access.

EBA: In September 2000, the EU announced that it was granting duty-free and quota-free access for all goods (except arms) exported from the LDCs, an initiative known as Everything But Arms (EBA). Liberalization for virtually all LDC goods is immediate except for fresh bananas, rice and sugar, where access will be phased in gradually (2006 for bananas, 2009 for rice and sugar). It is important to note that the majority of these products from these countries already received duty-free treatment under the GSP or Cotonou agreements. The EBA proposal extended duty-free access to a remaining 919 products, of which the overwhelming majority are agricultural goods.

The EBA was adopted as an amendment to the existing EU GSP scheme in order to ensure its compatibility with WTO rules. A crucial difference between the EBA and other EU preferential regimes is that EBA provisions are granted for an unlimited period and not subject to periodic review. This is expected to provide greater certainty of access for LDC exporters.[6]

The EBA contains a number of safeguard provisions. Preferential access may be suspended in case of failure to comply with a number of conventions including money laundering and suspect certificate of origins, or potential cases of unfair trading practices on the part of a beneficiary country. MFN duties may also be reinstated if exports originating from a beneficiary country cause 'serious difficulties' to a competing EC

[5] Panagaryia (2002)
[6] These features of EBA, and an excellent assessment of its potential impact is provided by Brenton (2003).

producer. The criteria for 'serious difficulty' include reduction in production or market share and low profitability.[7]

iii. United States

GSP: Unlike the EU GSP, the US scheme grants duty- and quota-free access to a select number of eligible products from eligible countries. The US GSP excludes China and several other mostly East and Southeast Asian "graduated" countries, as well as textiles, clothing and many other agricultural products. The US GSP scheme is unique in that it contains a number of conditionality clauses – such as effective protection of intellectual property rights and labour rights – as well as a per capita GNP ceiling for eligible countries which acts as a graduation mechanism.

The GSP provisions contain a number of safeguards wherein products can be excluded if they pass a 'competitive need limit' - $100 million per tariff line or $13 million if the exporting country has more than a 50% share of US imports. Furthermore, products can be excluded from GSP treatment if products fail to meet domestic content or direct shipping requirements (so-called 'administrative exclusions').

Bilateral Initiatives: The US has initiated several regional preferential market access schemes. The *Caribbean Basin Initiative* (includes most Caribbean and Central American countries) and the *Andean Trade Preferences Act* (includes Bolivia, Colombia, Ecuador and Peru) grant duty-free access to most products except petroleum products, textiles and apparel, certain leather products and canned tuna. The ATPA was expanded in 2002 to include many exports previously excluded, subject to restrictive rules of origin.

The *African Growth and Opportunity Act* (AGOA), passed in 2000, includes most sub-Saharan African countries and substantially enhances market access for a limited number of products on a duty- and quota-free basis. The key provisions of AGOA include: (a) the entrenchment of US GSP benefits until 2008, past the current 2006 expiry date; (b) elimination of the 'competitive need limit'; (c) the inclusion of a number of products such as wine, footwear, leather products and most crucially clothing exports for a limited number of beneficiaries. As with the US GSP scheme, AGOA contains conditionality provisions such as beneficiary countries' adherence to market-based economies, poverty reduction policies, and protection of health/labour rights.[8] AGOA beneficiaries must also fulfil the requirements of a 'visa' system to prevent illegal trans-shipment of eligible exports.

iv. Canada

[7] A comprehensive overview of EBA safeguard provisions and a comparison with Cotonou and WTO safeguards can be found in UNCTAD (2001).

[8] These features of AGOA, and an excellent assessment of its potential impact is provided by Brenton and Ikezuki (2004b).

GPT: Canada's GSP-like Generalized Tariff Preference (GPT) regime provides preferential tariff treatment for imports from developing and transition economies. The GPT scheme includes most industrial and agricultural items, with partial coverage for textiles, clothing and footwear. Agricultural products under quotas are excluded. In 1998, the GPT scheme was enhanced by an LDC preferential tariff, which allowed entry for 82 percent of LDC tariff line imports to enter duty-free (this has been since expanded to include 90 percent of tariff lines). Although safeguard mechanisms may be applied, unlike other GSP schemes, the Canadian GPT does not have a graduation mechanism.

Bilateral: Canada provides lower-than-MFN access for a number of countries, including its NAFTA partners, Chile, Israel, Australia, New Zealand and the Commonwealth Caribbean countries. The latter under the Commonwealth Caribbean Countries Tariff (CCCT) enjoy duty-free access on virtually all industrial products excluding textiles, apparel and footwear.

v. Japan

GSP: The Japanese GSP scheme includes a positive list of eligible agricultural items and a negative list of ineligible industrial goods (including textiles)[9], combined with import ceilings which may trigger reinstatement of MFN tariffs. Japan has improved LDC market access by increasing the number of tariff lines enjoying duty- and quota-free market access, including textiles and clothing. LDC exports are also exempt from the general GSP import ceilings.

vi. Textiles and Clothing

Like agriculture, the textile and clothing (T&C) sectors have been historically considered a 'sensitive' sector in Quad countries. As such its negotiating modalities have in the past remained outside GATT/WTO norms. For nearly half a century, world trade in textiles and clothing has been subject to quantitative restrictions under derogation from GATT rules, evolving through a number of arrangements into the Multifiber Arrangement (MFA) in 1974. The salient feature of the MFA was bilateral quotas, negotiated between individual importing (typically developed) and exporting countries (typically developing). The MFA is highly product-specific and involves a large number of exporting countries, each subject to a quota whose impact is not unlike a voluntary export restriction (VER). The United States has quotas on textiles and apparel from 46 countries; the European Union maintains quotas on 21 countries.

[9] See UNCTAD (2001).

B. Changing Protection in Quad Markets

i. Uruguay Round Commitments in Agriculture

Agriculture in OECD countries remains heavily protected and receives substantial public sector support. Border measures such as import tariffs and export subsidies are the main mechanisms of market price support, although several other instruments (export credit on favourable terms, food aid and state trading companies) may influence producer incomes as well. Successive rounds of multilateral negotiations attempted to address the substantial OECD budgetary outlays in agriculture (estimated at US$311 billion or 1.3% of GDP in 2001)[10].

The UR Agreement on Agriculture (URAA) led to the tarrification and binding of existing levels of support, as changes in bound tariffs are the foundation of reciprocal WTO negotiations. Non-tariff measures were to be converted to bound tariffs at the start of the implementation period with average tariff cuts by developed countries of 36 percent, subject to a minimum cut of 15 percent. Tariff rate quotas (TRQs) were introduced to guarantee minimum market access by the end of the implementation period. Domestic support (as measured by the total Aggregate Measure of Support or AMS) was to be reduced by one-fifth, with exempt subsidies listed in various "boxes".

The URAA called for substantial reductions in export subsidies, one of the most criticized elements of the EU agricultural support regime. Export subsidies provide exporters with a per-unit payment, allowing them to sell their exports on to the world market. By setting a guaranteed price that lies above world price levels, the EU has induced production of many crops above domestic consumption needs. The excess production is then sold onto the external (world) market, leading to downward pressure on world prices.[11]

Despite the URAA, the level of protection in Quad markets remains high. Liberalization has been thus far quite limited to non-sensitive and non-tariff-peak products, with little substantive impact on overall levels of support. However, recent negotiating proposals in the WTO put forward by both the United States and the EU would sharply reduce support levels, including significant reductions in tariffs, de-coupling of subsidies from production, and reductions in export subsidies.

ii. Uruguay Round Commitments in Textiles and Clothing

The MFA was extended several times until the Uruguay Round Agreement on Textiles and Clothing (ATC) took effects in 1995.[12] The ATC requires the gradual abolishment of

[10] The information in this section was summarized from IMF and World Bank (2002).
[11] Milner et al (2003)
[12] IMF and World Bank (2002)

quota restrictions over a ten-year period (1995-2005) and the integration of traded textiles and apparel products into the GATT/WTO framework which disallows quantitative restrictions such as import quotas. The ATC was seen by many observers as one of the crowning achievements of the Uruguay Round and the sector from which the largest average welfare gains were expected.[13]

The ATC envisioned four liberalizing "tranches" wherein importing countries would liberalize, on a product-specific basis, increasing percentages of their importing volumes. The ATC also mandated the expansion of import quotas during the phase-out period. In practice the phase-out of the MFA has differed from the gradual phase-out intended in the ATC. A recent WTO review of the implementation of the ATC[14] found that of the 1271 quotas in existence in the US, EU and Canada, only 165 (less than 13%) had been eliminated for all countries within the MFA.[15] Liberalization under the ATC, despite the imminent December 31, 2004 deadline, has been effectively "back-loaded" to the last minute. Although the ATC deadline is considered binding and final on all members, there is considerable political pressure on Quad governments to further postpone its implementation in the most sensitive products.

C. Preferences in Perspective

i. Quota Rents and Income Transfers

In sensitive Quad sectors, several instruments act to provide a price cushion above world price for domestic producers:

- high tariffs,
- quantitative restrictions on imports (quotas); and/or
- producer support measures such as export subsidies and price support.

These instruments result in a price premium in the domestic market. Depending on the actual quantities of preferred exports entering the Quad markets, exporters given preferential access to the domestic market can partially or wholly capture the price premium. The profits derived from trading goods subject to quotas (and therefore artificially scarce) are known as *quota rents*. In practice the design and administration of preferential access differs widely; the precise methodology for deriving the scale of quota rents in various sectors will be addressed in greater detail in sections D and E.

Since quota rents represent returns in excess of those provided by the market in the absence of quotas, they also represent income transfers from consumers or government treasuries to quota beneficiaries. This income transfer can be conceptualized as the tariff

[13] Spinanger (2003)
[14] See "Major Review of the Implementation of the Agreement on Textiles and Clothing in the Second Stage of the Integration Process", World Trade Organization, Geneva 2002.
[15] Spinanger (2003)

revenue foregone by donor countries to producers in exporting countries[16]. The income transfer from preferential access is often targeted to developing countries as a means of generating income in their export sectors. In this study, the two terms will be used interchangeably.

ii. Measuring Economic Loss

It is important to underscore at the outset the many facets of economic "loss". This study will look at two dimensions:

- Losses in quota rents; and
- Losses in export revenues due to the supply responses of preferred and non-preferred producers.

Quota Rents: Countries supplying a protected market under quotas can earn quota rents. Changes in access or the level of protection can result in changes in quota rents. Any country given preferential access to a highly protected market can gain a price premium over the normal rate of return that is required to encourage investment in the domestic economy, thus generating a powerful incentive to allocate resources to that sector.[17] Where such allocation would occur in the absence of preferences – i.e. driven by the most efficient employment of resources – then the removal of the quota rent incentive may have little economic impact.[18] However, where quota rents have been concentrating resources in uncompetitive sectors, a loss in income transfer may reduce the investment incentive for that country or that sector. This is the first aspect of economic "loss".

Export Revenues: Reductions in protection (quota abolition, tariff reduction, etc) often enhance market access for competitive suppliers. If these suppliers respond rationally to that enhanced access (and are not restrained by new protection) there will undoubtedly be changes in relative prices, supply patterns and export revenues. High-cost producers who lose market share to more competitive suppliers may potentially suffer losses in output, employment and export revenues. Oftentimes these losses are several orders of magnitude larger than the initial losses in quota rents. These losses can in turn negatively affect internal and external balances where the sector in question is a primary source of foreign exchange. This is the second aspect of economic "loss".

This study separates the "incentive loss" from quota rent reductions and the "competitive loss" from supply changes. Although the distinction is often far from clear in practice, maintaining a theoretical separation is useful when determining modalities to assist countries suffering economic harm from liberalization.

[16] The quota rents can also be captured by donor-country importers who have been allocated the right to import under the quota. This will be examined in further detail in section D.
[17] Brenton and Ikezuki (2004a)
[18] Where quotas have been restraining production below its potential and discouraging the concentration of resources, such as the Chinese apparel industry, there is a significant gain from the removal of preferences.

iii. Adjustment Needs Following Liberalization

In both theory and policy, the balance of costs and benefits of trade preferences have been hotly contested. As preferences have discriminatory properties, their trade and welfare effects have always been considered 'second best' or sub-optimal, especially where the potential trade diversion effects of preferential access or dependence are taken into account.[19] The policy literature has largely focused on assessing:

- the *actual* benefits vis-à-vis the *potential* benefits for beneficiary countries;[20]
- the potentially distortionary effects of trade preferences on the international trading system as a whole; and
- the relatively concentrated geographical benefits, and the subsequent concern for inter-developing-country equity.

Given these reservations, much of the literature has expressed a marked scepticism regarding the longer run usefulness of current arrangements and advocated either their discontinuation or significant modification to enhance their economic impact.

Yet it is clear that many developing economies have responded rationally to the incentives provided by preferential market access. Many studies on trade preferences emphasize the *average* low benefit from trade preferences, and by extension the negligible cost of their abolition. However, there is a wide dispersion in the data that is hidden by simple averages. This dispersion shows a number of preference-dependent economies (PDEs) concentrated in tariff-peak products. In these economies, the income transfers and production from preferential industries are a substantial proportion of export revenues in major sectors.

Where the trade preferences have concentrated resources in uncompetitive, high-cost production, there are potential efficiency gains from moving export industries away from preferred sectors where resources can be reallocated into higher-growth sectors. Irrespective of future gains, any large-scale reallocation of production and income could undermine external balances and impose high adjustment costs. There is strong evidence that the smallness, vulnerability and poverty levels in many PDEs create substantial obstacles to the efficient and timely reallocation of resources into new sectors while substantially narrowing the possibilities for profitable, high-growth investment. In sum, the erosion of preferences will undoubtedly create competitive "winners" both in the developed and developing world. Given the possibility that countries will incur net losses despite rising global welfare, it is important to consider the sub-set of PDEs in isolation, rather than relative to global averages.

D. Estimating the Value of Agricultural Preferences

[19] UNCTAD (2003b)

[20] "The idea behind trade preferences was that they would assist beneficiary countries by increasing the value of their exports, promoting their industrialization, and accelerating their rates of economic growth… [leading to] higher national incomes, and potentially greater aggregate levels of prosperity." Topp (2001)

i. The Economics of Agricultural Preferences

Levels of Protection: For most products traded on world markets, standard MFN tariffs are relatively low. However, a simple average hides a wide dispersion where many products have very high tariff rates (so-called 'tariff peak' products). Table 1 shows that tariff peaks vary from country to country, but the highest agricultural tariffs are in the EU and Japanese markets, while tariffs discriminate against industrial products in the United States and Canada.

For a given product, the size of the preferential margin is the difference between the full MFN duty and the preferential duty. Table 2 shows the difference between preferential and non-preferential unweighted average tariff rates across both peak and all Quad imports. The EU preferences for tariff peak products show a significant margin on average, reflecting the highly protected nature of the EU market. The average margin for ACP producers is the highest at 28 percent on average.

The large tariff-rate differentials translate into substantial price premiums above world prices for preferred exporters. Table 3, derived from the ATPSM database[21] shows that in a small number of major sectors – notably bananas, beef and sugar – the price premium ranges from 64 percent to over 100 percent. Other products such as fish, tobacco, fresh fruit and vegetables are also important sources of income transfers for beneficiary countries[22].

Quota Rents: Tariff rate quotas (TRQs) for agricultural goods were introduced following the Uruguay round, where the URAA established a two-tier tariff system based on import quotas for 1,379 tariff lines. The three instruments of a TRQ are the in-quota rate (the preferential tariff paid by beneficiary producers), the out-quota rate (for imports exceeding the quota), and the actual level of the quota itself. While in principle the in-quota rate may be duty-free and the out-quota rate equal to the MFN rate, in practice the levels vary by commodity and by donor country. The levels of the import quota are generally established through the relevant bilateral agreements.

Figure 2 provides a simple graphical demonstration of quota rents as well as in-quota tariff revenue (i.e. the wedge between world prices and in-quota preferential rates) and the out-quota tariff revenue, both captured by the donor government. It is clear that quota rents increase as (a) the in-quota tariff is lowered, (b) the out-quota rate is increased, and/or (c) the quota level is increased. A number of methodological issues relating to estimates of agriculture income transfers are discussed in Annex I.

ii. Agriculture Preference-Dependent Economies

[21] ATPSM does not contain domestic price data. Rather it assumes domestic prices are a function of world prices plus domestic border protection and domestic support policies (expressed as tariff equivalents). See Annex III for details.

[22] See Tangermann and Josling (1999) for an earlier analysis of liberalization impacts for these sectors.

Table 4 (derived from the ATPSM database) provides an indication of the importance of income transfers. Table 4 shows a wide dispersion between agricultural PDEs in the degree of dependence on income transfers in preferred sectors, ranging from 50.8% of agriculture export revenues in Fiji to below 10% in Swaziland, Suriname, Cameroon, Mozambique and the Dominican Republic.

Sugar: As sugar comprises the largest share of agriculture income transfers, it is worth considering a sample of results from the many studies undertaken on the future of sugar exporters under Quad regimes. [23] This section considers the results in Milner et al (2003).

The largest Sugar Protocol ACP exporters were Mauritius (an average proportion of 22.2 percent of the total Protocol sugar exports), Swaziland (18.7 percent), Fiji (12.9 percent), and Guyana (11 percent).[24] Table 5 shows the average EU and World (I.S.A.) sugar import prices covering the period 1971-2001. At the time of signing the Sugar Protocol in 1977 the EU offered a slightly higher price than the world price. Since 1981, the EU's internal prices have remained well above world prices.

For sugar exporters who have been able to benefit from preferential access to the EU market in particular, the economic activity associated with the sugar sector has been significant. Table 6, from Milner et al (2003), lists the income transfer for ACP Protocol sugar exporters both in absolute terms and as a percentage of total exports (agricultural and merchandise), GDP and on a per capita basis. Several points should be noted from Table 6. First, the measure of the total income transfer for sugar is broadly comparable to the ATPSM estimate, despite divergent data sources and methodology[25]. Secondly, the income transfer is concentrated in a few countries that are significantly dependent on the income transfer as a share of GDP and total exports.

E. Estimating the Value of Textile and Clothing Preferences

i. The Economics of T&C Preferences

Much like the agricultural context, protectionist measures in the textiles and clothing sector lead to higher prices in the domestic market. Exporters who have access to the restricted markets are then able to sell their output at a higher price, thus generating profits above those that would exist in a more competitive, unrestricted market structure.

[23] See Milner et al (2003), LMC (2004), EC (2003), Mitchell (2004), OXFAM (2004), and Frandsen et al (2001) as a starting point for the vast literature on sugar.

[24] Milner et al (2003). Zimbabwe has traditionally been a major exporter of agricultural goods under EU preferences, however due to recent extreme variations in agricultural output its data has not been included in the present study.

[25] Milner's estimates include the margin between world prices and preferential rates as well as the margin between preferential and MFN rates, so it somewhat overstates the income transfer relative to the ATPSM results.

However, there are several important differences. First, the MFA quotas do not rely on two-tariff TRQs and the T&C sector lacks the dominating factor of domestic support measures such as export subsidies that further depress world prices. Thus determining price premiums in the various T&C markets is not as straightforward as calculating the price effects of in- and out-quota tariffs as in agriculture. Tariffs in the T&C sector are high compared to average MFN tariffs, however there is no equivalent of the in-quota tariff set in the context of bilateral treaty such as the Cotonou Agreement. For example, prices in the T&C sector are not fixed at an "intervention" price as they are in the EU agricultural sector.

To determine price premiums for individual exporting countries in various importing markets, import demand curves need to be derived reflecting the Armington assumption of heterogeneous goods distinguished by country of origin. Such demand curves require detailed country-level data. The Global Trade Analysis Project (GTAP) model contains such data but only for a limited number of MFA exporters.[26] However, the GTAP results can be used to determine approximate levels of quota rents for a number of PDEs by extrapolating from regional aggregates.

The second important difference is that unlike the agricultural sector, many preference-dependent countries in the T&C sector export to both quota-restricted and unrestricted markets. For example, Bangladesh sends 56% of its T&C exports to the EU (where it does not face any MFA restrictions) and 38% to the US (where it faces quotas).[27] Thus Bangladesh earns quota rents in the US but not the EU. This of course does not imply that Bangladesh will not be impacted by the MFA phase-out in the EU as Bangladesh benefits from MFA restrictions on its major competitors such as China. It implies however that the major losses to the Bangladeshi T&C industry will arise from supply shifts rather than pure preference erosion

Levels of Protection: Like agriculture, the T&C sector is considered 'sensitive' and benefits from substantial protection in Quad markets. The most lucrative markets are the EU and US markets. Table 7 shows that EU and US import-weighted tariffs on T&C imports are substantially higher than those on other manufacturers. Despite historically high levels, during the Uruguay Round tariffs on T&C were cut less than in other manufactures and (as Table 7 shows) tariff escalation remains common.[28]

Quota Rents: Figure 3 from Khaturia et al (2001) summarizes the basic economics of the MFA. Individual demand curves are drawn for MFA-restricted (D_R) and unrestricted (D_U) markets, with a horizontal summation (D_T) representing global demand for a given exporter. The intersection of D_T and the exporter's supply curve will yield the uniform

[26] See Annex I for some methodological issues in estimating income transfers in textiles and clothing. See Annex IV for a more detailed explanation of the GTAP model.
[27] In contrast, ACP agricultural producers send the majority of protocol goods to the EU due to the much higher price differentials available vis-à-vis the US.
[28] IMF and World Bank (2002). Tariff escalation is evident from the higher tariffs applied to clothing relative to textiles.

price (P_W) at which exports are sold. When imports under quotas (Q) are introduced into the model, the quantity exported into the market declines, increasing the price received for exports from P_W to P_R. The shaded area represented by $Q(P_R - P_W)$ is the measure of the quota rent, which is conceptually analogous to the producer gains in agriculture. There is of course an offsetting loss to the wider economy – since the protectionist regime leads to dumping on the world market, depressing prices in the unrestricted market from P_W to P_U, producers suffer an efficiency loss from redirecting output towards MFA-restricted markets.

In the existing literature, the quota rents arising from the MFA have been evaluated within the context of an export tax equivalent (ETE). This concept is neatly summarized by Khaturia et al (2001):

> The presence of a quota of a certain size provides no clear indication as to whether exports are being restricted by a large or a small amount. MFA quotas are administered by exporters, and hence the value of the scarce quotas accrues to those exporters who hold the quotas. In order to export apparel or textile goods subject to quota, exporters must either buy quotas for these goods, or pass up the opportunity of selling quotas they already hold. For many purposes, it is useful to think of an export quota as being effectively the same as an export tax in its restrictive impact on exports. The price of a quota per unit of exports is then equivalent in its impact to an export tax of the same magnitude. If we divide the quota price by the value of the good in the absence of quotas, we obtain a measure of the quota rent in proportion to the value of the export.

The ETE indicates the quota premium as a percentage of the unit value of exports excluding the premium, i.e. the value of the quota divided by the price received by a producer who does not own the quota license. As ETEs are included in the GTAP database, they will be the basis for the quota rent determination in this study. A number of methodological issues relating to estimates of income transfers in textiles and clothing are discussed in Annex I.

ii. T&C Preference-Dependent Economies

Table 9 lists a number of countries for whom the quota rent / income transfer in the T&C sector is a substantial proportion of merchandise export revenues. The list of countries is notable in several ways. First, the annual income transfer of $1.3 billion is nearly three times that of the agriculture case. Secondly, the share of the income transfer in total merchandise exports is quite low, mostly reflecting the low ETEs (although as discussed below these estimates should be considered a lower bound).

Third, the list is considerably shorter than the agricultural PDE list. This is primarily due to its focus on quota rents deemed at risk of being phased out, partially or wholly, over the medium-term. In Table 9, this is denoted in the final two columns as TBA (To Be Abolished). The list of T&C PDEs includes significant ATC suppliers such as

Bangladesh,[29] Sri Lanka and Pakistan. This classification excludes a number of countries whose preferential access derives from regional initiatives such as the Caribbean Basin Economic Recovery Act[30] and EU-EBA. Several African countries such as Lesotho and Madagascar are also excluded as (a) they were not previously subject to ATC quotas; (b) they are both eligible for EU-EBA and (c) they are eligible for liberal global sourcing rules of origin under AGOA. Although Mauritius is AGOA/EBA-eligible, it is included as it was subject to binding ATC quotas until 2000 and the offsetting impact of AGOA may be substantially limited due to its more restrictive rules of origin under AGOA.[31]

III. ESTIMATING LOSSES FROM PREFERENCE EROSION

Forecasting the effects of trade liberalization allows an assessment of costs and benefits of different policy scenarios, including their magnitude and distribution. The robustness of results depend on the complex interaction of country characteristics, existing patterns of protection, and feasible outcomes for trading arrangements (which in turn hinges on the political economy of multilateral trade negotiations).[32]

As such, any estimates should be treated with caution. Attempting to pre-judge the outcome of multilateral rounds – let alone the *ex post* implementation of agreed commitment schedules – is fraught with difficulty. Any resulting estimate will be highly sensitive to initial assumptions. Yet a sufficiently rich representation of the status quo compared with a range of probable outcomes can provide policymakers with a general sense of future resource needs.

Section A details possible sources of preference erosion at both the international and domestic levels. Sections B and C estimate losses in the agricultural and textile sectors. Annex II discusses a number of methodological issues to consider when modelling the impact of trade policy changes.

A. Sources of Preference Erosion

i. Changes in MFN tariffs

[29] It is important to reiterate that Bangladesh's T&C exports to the EU are not quota-constrained and are eligible for permanent preferential access under EU-EBA. As such the EU preferential margin has been left out of the quota calculation.
[30] This excludes many countries such as Haiti, Honduras, El Salvador, and the Dominican Republic, for whom T&C exports are more than 50% of total exports.
[31] As Mauritius is not included in the GTAP database, it exhibits similarly low utilization rates as Sri Lanka, so its quota rents have been estimated on the basis of the same quota wedges. Similarly, the quota wedges for Cambodia have been estimated using estimates for Vietnam in 1997.
[32] UNCTAD (2001)

Since many sensitive sectors such as agriculture and T&C are protected by tariff peaks resulting in high domestic prices, any reduction in tariffs will tend to lower domestic prices. This generates a terms-of-trade deterioration which reduces the value of profits earned by exporters who sell into that market.

In the agricultural TRQ context, any reduction in the MFN tariff and out-quota rates will erode the value of the income transfer to quota producers. An important consideration is whether the preferential tariffs are 'linked' to (i.e. expressed as a percentage of) MFN rates. If the initial MFN rates are sufficiently high, further MFN cuts will reduce the nominal preferential margins only marginally as beneficiary producers will still retain tariff advantages over other preferences. Where preferences are 'de-linked' to corresponding MFN rates, tariff cuts will inevitably reduce preferential margins.[33]

Moreover, certain tariffs (EU beef, for example) are prohibitive and contain a significant element of redundancy ('water in the tariff'). For these tariffs, domestic prices in the Quad market are significantly below world prices plus the MFN tariff. In these sectors, MFN tariff reductions simply reduce the 'water' in the tariff with no direct effect on the preferred exporter.[34]

ii. Changes in design of preferential schemes

Changes to the structure of preferential arrangements, such as the modification or outright elimination of quotas, can have significant effects on preferred exporters. For example, a shift from country-specific quotas to a global quota (i.e. for a group of countries or an entire region) can shift the source of imports from producers in one country to another. Quota elimination can occur from the phased removal of existing quotas, or an accelerated increase in the growth rates of quotas, or both (as is the case for the MFA elimination). Changes in scheme design can come from either implementation of WTO agreements (e.g. the UR ATC for textiles and clothing) or WTO panel decisions, which – notably in the case of bananas and sugar – have significantly impacted WTO agricultural negotiations.

iii. Changes in sector support

In many peak-tariff sectors – most notably agriculture – the impact of changes in MFN tariffs levels or the design of preferential schemes pales in comparison with the impact of changes to sector support in Quad markets. In the EU agricultural sector, for example, a unilateral reduction in export subsidies results in a fall in the domestic price as producers can no longer receive a higher price from exporting the good. The EU's recent proposal to reform is sugar sector, for example, does not include any substantive changes to tariffs

[33] UNCTAD (2002)
[34] Tangermann and Josling (1999)

or ACP quotas; however, there are substantial changes to internal EU prices which will greatly impact sugar producers.[35]

B. Agriculture

i. Scenarios

The findings presented in this study are derived from the ATPSM database, a partial-equilibrium, deterministic, comparative static model. In order to present the widest possible range of outcomes, the model presents three different scenarios.

Conservative: A slight improvement on the default Uruguay Round outcome with developed countries implementing 36 percent reductions in out-quota tariffs, 45% cuts in export subsidies, and 55% cuts in domestic support. Developing countries implement 2/3 of these reductions and the least developing countries implement none. The primary difference with the Uruguay Round is that (a) the cuts in export subsidies and domestic support are higher and (b) the reduction in MFN tariffs is across-the-board rather than the UR scenario where a minimum 15% cut was required so long as total cuts averaged 36%. This scenario is similar to a recent EU proposal tabled at the WTO negotiations, although the EU's negotiating position has changed markedly over time.

Ambitious: A complete elimination of export subsidies and domestic support and an across-the-board reduction in bound MFN tariffs with a "Swiss" coefficient of 25. The Swiss formula is designed to eliminate tariff peaks and tariff escalation by making proportionately higher cuts in for higher tariff levels.[36] This proposal is similar to that made by the United States and the Cairns Group of agricultural exporters.

Harbinson: This scenario illustrates the "Chairman's Text"[37] proposal tabled in February 2003 at a special session of the WTO Committee on Agriculture. The text calls for a complex formula, summarized in Table 10, to reduce bound tariff rates over a period of five years. Reductions range according to developed/developing country status (for developed countries the middle range is between 15 and 90 percent with the lower and upper bounds lying on either side; for developing countries the middle range is 20 to 120 percent). The Harbinson scenario also contains a 20% import quota increase for developed and developing countries.

ii. Changes in Income Transfers

[35] The EU sugar sector proposal will be discussed in further detail in Part V.
[36] The "Swiss Formula" takes the following structure: $T_1 = (T_0/c) / (T_0+c)$ where T_1 is the new tariff rate, T_0 is the initial tariff rate, and c is the reduction coefficient.
[37] WTO (2003)

The ATPSM model yields substantial losses in annual income transfers for preferred exporters of the three major preferential goods – sugar, bananas and beef. Tables 11 through 13 provide more detailed results, which are summarized below:

- For *sugar* producers, the estimated annual losses range from $172 million to $288 million;
- For *banana* producers, the estimated annual losses range from $8 million to $35 million; and
- For *beef* producers, the estimated annual losses range from $0.41 million to $78 million.[38]

Welfare in ATPSM has three components. The first, producer surplus, is the aggregate difference between price and marginal cost plus any quota rent received on exports. The second, consumer surplus, is the aggregate different between marginal valuation and price. The third, net government revenue, only relates to revenue from import tariffs, including both within quota and out-of-quota tariffs, and expenditure on export subsidies and domestic support. In almost all liberalization scenarios, changes in welfare for the PDEs listed are overwhelmingly negative due to the dominating loss of income transfer.

iii. Alternative Estimates for the Sugar Sector

Despite the numerous studies on preference erosion, only a small number explicitly model changes in income transfers and even fewer report results within a well-defined economic model.

Milner et al (2003) considers a range of existing studies and models the impact of implied price movements on income transfers. The range of estimates (shown in Table 14) lies in between two scenarios:

- The *Current WTO Case* scenario, reflecting the case brought by Brazil and Australia, assuming a reduction of EU subsidized exports according to Uruguay Round commitments; and
- The *Full OECD Liberalization* scenario assuming the removal of all OECD export subsidies and protection of domestic production.

Milner's results vary more than the ATPSM findings[39] yet high-case total annual loss of income transfer ($297 million) is broadly comparable to the ATPSM high-case scenario ($288 million).

iv. Modelling Quantity Adjustments

[38] The lower figure is likely due to the substantial "water" in the beef tariff and the fact that the Conservative scenario applies to bound rates only.
[39] Mainly due to the relatively more conservative assumptions in the lowest-case scenario.

Modelling shifts in supply is highly sensitive to initial assumption of supply elasticities and what role income transfers play in production.[40] In addition, modelling competitive effects – i.e. the possible re-shaping of individual markets after a change in trade policy – is highly sensitive to assumptions of current and future cost structures, supply capacities, consumer demand and government policy.

Modelling these responses at an aggregate level requires substantial amounts of country-level data. At present only the GTAP database[41] contains econometric estimates of supply and demand elasticities which allows for credible estimates of a post-preference scenario. However none of the agricultural PDEs listed above are in the GTAP database. Regional aggregates are available, but to make such scenarios workable at the country level (especially the developing country level, where such data is scarce) introduces a substantial margin for error.

Nonetheless, it is likely that supply responses and market exit will follow any loss of preferential access in high-cost producing countries, as world prices are expected to fall below the cost of production in many economies reliant on agricultural trade preferences. A number of studies have been conducted (mostly on the sugar sector) to determine post-preference market outcomes.

Sugar: *Milner et al (2003)* considers a unitary elastic export supply response (Table 15), where as predicted the losses in income transfers are substantially higher (more than 30%) than estimates assuming fixed quantities. Sugar producers are assumed to scale back production in response to changes in quota rents. Figure 1 shows the predicted changes in output for individual countries given the high-case scenario. As expected the countries with the largest losses in income transfers (Mauritius, Guyana, Fiji, and Jamaica) suffer the largest falls in output among the ACP sugar states.

LMC International (2004) presents an alternative and far more pessimistic range of scenarios by considering costs of sugar production in ACP countries relative to feasible price movements in the EU market. Unlike Milner et al (2003), the LMC study does not model income transfers explicitly, focusing instead on export revenue losses.

In estimating production costs, the LMC study assumes that sugar producers either (a) maintain their current industry structure, or (b) restructure their operations in accordance with existing national sector restructuring plans. The study then models the supply responses of each country under the range of price cuts implied by each scenario, the average selling price in each market, and by extension changes in industry revenue and export earnings. The LMC study considers a range of estimates from a 'Status Quo' scenario (where the EU market price for white sugar is cut by 17%), a 'Price Cut' scenario(a 38% decrease in white sugar prices) to a 'Full Liberalization' scenario where all price support is abolished and any economic rent earned above the world price would disappear.

[40] Please see Annex II for a more detailed discussion.
[41] See Annex IV.

The LMC study concludes that under the 'Price Cut' and 'Full Liberalization' scenarios sugar production will disappear entirely in several ACP countries (Barbados, Belize, Cote D'Ivoire, Jamaica, Madagascar, St. Kitts and Trinidad) while falling by up to 76% in Tanzania, 43% in Guyana and 28% in Zimbabwe (see Table 16).

In the 'Full Liberalization' scenario, the resulting losses in export revenues are estimated to be €863 million annually, with only Fiji, Guyana and Swaziland and Zimbabwe earning more than €10 million. The LMC study assumes that percentage falls in employment are broadly in line with changes in production.

CEC (2003), based on a staff paper of the Commission of the European Communities, considers a range of estimates of export revenue losses for ACP producers. The CEC scenarios range include:

- 'Status Quo' scenario (similar to the 'Current WTO Case' in Milner's study);
- 'Fall in Price' (assuming a quantitative market balance by adjusting supply to quota-free prices); and
- 'Full Liberalization', with the abolishment of all domestic support and tariff barriers.

The study concludes that the range of annual export revenue losses lies within the 150 million euro – 350 million euro range. The disaggregated results for the middle-case 'Fall in Price' scenario are presented in Table 17.

C. Textiles and Clothing

i. Changes in Income Transfers

In order for an exporter capture the benefits of a price premium in a protected market, they must be given preferential access to that market. Once that preferential access is taken away, even if the producer continues supplying the market, the benefit has been eliminated. The quota rents which once accrued to preferred producers are now passed on to consumers in the form of lower prices. Post-quota, there is no longer an incentive for a producer to invest in a given country bar the standard market considerations which allocate factors of production based on inter-country comparative advantage.

It should be reiterated at this point that, in effect, preference erosion in the T&C sector has already begun. As seen in Table 18, after multiple extensions of the MFA, there have been a number of phases in which successive tranches of imports have been integrated into WTO norms. Although many sensitive sectors have been left out, there have already been considerable shifts in the market. Thus the levels of quota rents listed earlier are again considered to be a lower bound.

Nonetheless, when the ATC textile and clothing quotas are dismantled, there will be no more ATC quota rents. The losses in quota rents are exactly equal to the initial amounts presented earlier (reproduced in table 19). For the major T&C PDEs who will not have

compensating duty-free access to the EU or US markets under another preferential regime[42], the total annual losses in income transfers total approximately US$1.32 billion.

ii. Modelling Quantity Adjustments

The potential post-MFA supply picture has attracted a large volume of academic studies. In contrast to the agricultural context, the T&C studies are marked by systematic use of computable general equilibrium (CGE) modelling. CGE models allow for a more comprehensive treatment of supply and demand responses from producers and consumers in affected countries. In the T&C sector such modelling is feasible due to the presence of large suppliers (China, India, Bangladesh, Sri Lanka) allowing for country-level modelling. Undoubtedly, the much larger T&C trade vis-à-vis preferential agriculture has also contributed to the considerable academic interest.

The impact of the MFA phase-out has been foreshadowed by competitive supply shifts leading up to the 2005 deadline. The Phase III experience is summarized in Table 20. The results show growing supplier concentration in China and India, largely at the expense of higher-cost producers in Eastern Europe, Latin America and the industrialized countries.

In terms of predicting future market shares, the vast majority of the studies have been undertaken using the GTAP model[43]. Data for T&C PDEs is often scarce as most studies aim to report results at regional or global aggregates; a limited number of these countries are included as separate regions in GTAP. The results for studies on Bangladesh, Sri Lanka and Pakistan are summarized in Table 21.

Bangladesh: Many studies conclude that Bangladesh is not sufficiently competitive to maintain its share in a quota-free market after 2004. This has been borne out by recent experience, as quota abolishment under Phase III saw actual declines in both the US (-41 percent) and the EU (-46 percent) markets for Bangladeshi exports.[44]

Mlachila and Yang (2004) find the largest estimated losses in the GTAP studies. In their baseline "central elasticities" scenario[45], losses in export revenues of -17.7% in the clothing sector and -4.7% in the textiles sector, translating to respectively $1.9 billion and $100 million in 1997 prices. Using recent export revenue data from the ITC[46], these percentages translate into losses of $892 million in the clothing sector and $20 million in the textiles sector.

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[42] Again, Mauritius is included as its benefits from AGOA may be highly constrained by restrictive rules of origin.
[43] See Annex IV for details.
[44] The losses in the EU market are surprising considering that Bangladesh, much like Mauritius, has preferential access to the EU market under EBA. However such access will be highly limited by rules of origin requirements, and estimate that less than half of Bangladesh's exports actually receive duty-free treatment under EBA. (Mlachila and Yang 2004)
[45] Assuming constant nominal wages and medium levels of elasticities.
[46] See http://www.intracen.org

Losses in GDP (-2.3%) and employment (-4.5%) are also quite considerable. The authors also report a "higher elasticities" scenario (double the central elasticities), with a near-doubling of the corresponding losses. *Lips et al (2003)* find smaller output changes (-11% in clothing, and an increase of 1% in textiles) in both a base case (ATC elimination) and a WTO scenario (ATC elimination plus reduction in T&C tariffs), although welfare losses are substantial (up to $425 million in the WTO scenario). *Spinanger (2003)* finds much milder effects (-7.9% in clothing, +15% in textiles) with a negligible effect on GDP.

Sri Lanka: Like Bangladesh, the outlook for the Sri Lanka textile sector is fairly pessimistic. Phase III saw steep declines in both the US (-51 percent) and the EU (-21 percent) markets.[47] However, the GTAP studies give a fairly mixed picture. *Francois and Spinanger (2001)* use GTAP to model the elimination of Chinese ATC quotas on T&C, and find negligible effects on textiles but a strong (-6.5%) impact on clothing which, assuming recent export revenue data from the ITC, translate into losses of $162 million. Spinanger also finds a correspondingly sharp fall (- $452 million in 1995 prices) in welfare. *Lips et al (2003)* find negligible output changes (-2.4% in clothing, and an increase of 12.7% in textiles) with welfare losses of -$228 million in their base case scenario; results are much more favourable for the WTO scenario.

Pakistan: *Martin et al (2004)* use GTAP to model the effects on Pakistan of abolition of ATC quotas on itself and its major competitors. Although the authors estimate high efficiency gains for Pakistan, they determine that the losses in quota rents for Pakistan outweigh the efficiency gains and produce a net welfare loss of $280 million, with a 15.7% increase in textile exports offset by a 17% decrease in clothing exports. Again, using recent export revenue data from the ITC, these percentages translate into a loss of $374 million in the clothing sector.

IV. PREFERENCE DEPENDENCE IN THE MULTILATERAL CONTEXT

Parts I through III of this study have estimated the absolute economic losses for a number of highly preference-dependent economies. These losses must be considered in a wider context. First, the losses in many PDEs will occur in what are already small and vulnerable developing economies. The substantial losses from preference erosion and the knock-on effects in the rest of the economy may risk further economic marginalization of these countries in the absence of determined policy action both domestically and internationally. Second, these losses occur in the potentially globally-welfare-enhancing context of a multilateral round of trade negotiations. For many PDEs, their unique economic context may entail net losses from implementing WTO commitments. If indeed multilateral liberalization is to provide a "win-win" scenario and deliver a true development round, the interests of PDEs must be taken into account.

[47] (Mlachila and Yang 2004)

A. Poverty, Smallness, Vulnerability and Preference Dependence

i. Multiple Handicaps

Almost any list of preference-dependent economies includes a disproportionate number of small and poor states. Countries are considered small if they account for less than 0.05 percent of the world's imports of goods and services and poor / low income if their per capita GDP measured in PPP terms lies below US$4630. Table 23 lists a number of small and poor countries where significant economic activity derives from preferential market access. The same table also indicates that country rankings according to the UN Economic Vulnerability Index (EVI).[48] It is immediately apparent that a number of preference-dependent economies suffer from the multiple handicaps of smallness, poverty and high vulnerability.

The ultimate impact of a terms-of-trade shock from preference erosion must be considered in the context of these economic obstacles. Grynberg and Remy (2004) neatly summarize the dilemma of many PDEs:

> [These countries] comprise small states and small island states which in particular suffer from a combination of inherited and inherent characteristics that impede their ability to integrate into global economy. These characteristics include smallness, physical isolation from markets, dispersion of small pockets of populations and a small and highly specialized human and physical resource base. These together raise the operating cost structure of small economies and render market adjustment more difficult. The high cost structure that has traditionally been associated with these economies has meant that many have predicated their export trade upon products or services where the export price includes either market or institutionalized quasi-rents, as few other activities have proven viable for these very small producers. These market-based quasi-rents have been based on either short temporary booms which have facilitated resource extractive activities and created transitory rents or short-term niche markets. The institutional sources of quasi-rent have stemmed either from trade preferences, tax concessions or sovereignty-based activities.

The degree to which individual states embrace globalism, encourage free trade and investment and explore lucrative niches on the market is highly sensitive to the country's specific economic endowments and capacities. The ability identify new long-term high-growth sectors, and efficiently reallocate factors of production to minimize adjustment costs, can be severely hampered by the combination of handicaps facing many PDEs as they adjust away from rent-based sectors.[49]

Lack of Economies of Scale: The relative lack of economies of scale substantially influences the structure of the economy. Most economies are able to have a wide variety of different-sized firms. When economies are small, either the economy becomes very specialized (thus becoming highly vulnerable to demand swings) or the average size of

[48] If a country's EVI rating is above 31, it is considered vulnerable; above 36, highly vulnerable.
[49] This list is a combination of factors from Josling (1998), Winters and Martins (2004) and UNCTAD (2002).

the enterprise remains small (thus costs remain high). The economy cannot both diversify and achieve lower costs.

No Large Consumer Market: Given the prohibitive cost of offering a wide variety of goods for consumers in small and poor economies, the economy is unlikely to attract significant levels of investment (either domestic or foreign). Fixed costs are likely to be large relative to the scale of investments. When demand is low, firms are forced to remain at a small scale, with subsequent inefficiencies in the rate at which inputs can be transformed into outputs.

High Operating Costs: For many small economies everyday transportation and infrastructure costs – such as airfreight, utilities, fuel, and air travel – are often prohibitive relative to larger economies. In potentially lucrative sectors such as electronic assembly, clothing and hotels/tourism, the cost inflation factors for small and micro economies can range from 6.2 percent to 57 percent[50]. As these cost premia often cannot be passed onto consumers, the only way that most firms can export is if one of the factors of production accepts lower returns than it would in the case of a larger economy. As many small and poor PDEs exhibit high levels of risk and correspondingly prohibitive risk-adjusted interest rates, investment rates in these economies are often below those required for economic sustainability.[51]

High Export Concentration: The implications of a narrow resource base and excess trading costs that the set of goods that will be traded internationally will be much smaller in these economies. In practice, many high-cost countries lack 'operational' comparative advantage; that is, there is no good or service which they can export because their transaction costs or real production costs are too high to permit any trade on a commercial basis. Taking world prices as given and subtracting the minimum costs of trading, there is little or nothing left for value added and (in some cases) subsistence. In the absence of trade preferences or non-trade flows of foreign exchange, the country may be disconnected from the world economy.[52] Over-reliance on a narrow export base implies an increase vulnerability to large swings in terms-of-trade when world prices fluctuate. Such imported instability can destabilize an economy, particularly when import items are important inputs into manufacturing processes.

ii. Impact on Poverty

This study has reiterated on several occasions the difficulties in assessing, *ex ante*, producer responses to preference erosion. Any estimate of the potential impact on poverty is similarly fraught with difficulty. However, the multiple handicaps faced by preference-dependent economies and the labour market characteristics of the affected sectors imply that adjustment may increase poverty in some countries.

[50] Winters and Martins (2004)
[51] Hughes and Brewster (2002)
[52] Winter and Martins (2004)

The literature exploring the theoretical links between trade liberalization and poverty is vast.[53] Direct applications to the PDE context are scarce. However, the typology employed by McCulloch et al (2001) provides a useful starting-point. The study lists three pathways through which trade liberalization can have a direct effect on poverty:

- *Price transmission*, depending on whether poor households are net consumers or net producers of the product whose price has changed;
- *Enterprise profits*, depending on changes in employment, the types of labour that poor households supply and where the various wage rates lie relative to the poverty line; and
- *Government fiscal positions*, particularly if trade taxation is an important source of revenue.

Concerning price changes from preference erosion, a number of small and poor PDEs, most notably island states where arable land is highly constrained, are net importers of agricultural products. The reduction in trade measures such as export subsidies and domestic support may lead to substantial increases in heretofore artificially depressed world prices and increases in food import bills. Most studies estimate a rise in food prices of between 4 and 8 percent, although some simulations of a full elimination of trade-distorting subsidies arrive at a price impact of up to 20 percent for major food staples.[54] It is important to reiterate that household-level analysis would be required to confirm the degree to which these economy-wide price increases would adversely affect poor households in PDEs.

A small number of studies have examined the possible impact on enterprise production and subsequent employment. The textiles and clothing sectors in Sri Lanka and Bangladesh are forecast to shed jobs following the MFA phase-out. In Bangladesh, for example, the T&C industry plays a key role in employment and in the provision of income to the poor, directly employing about 1.8 million people, or about 40 percent of manufacturing sector employment, 90 percent of whom are women. The industry supports indirectly about 10–15 million people.[55] Mlachila and Yang (2004)'s GTAP results for Bangladesh show a 4.5-7.7% decrease in overall employment. The UNDP's oft-quoted estimate of 500,000 to 1 million job losses in Bangladesh is broadly in line with the GTAP results.

In agriculture most studies have focused on the sugar industry. Employment in the sugar industry is dominated by rural based unskilled labour, particularly of family-based self-employment on small-scale farms. Consequently, it is this labour group that is greatly impacted in the event of a loss of sugar trade preferences.[56] *LMC International (2004)*

[53] The theoretical framework for this section is summarized from McCu llough et al (2001), which provides an excellent overview of the theoretical debate.
[54] Matoo and Subramaniam (2004) and Stephen Tokarick, 2003, "Measuring the Impact of Distortions in Agricultural Trade in Partial and General Equilibrium," IMF Working Paper 03/110
[55] Mlachila and Yang (2004)
[56] Levantis et al (2002)

estimates changes in employment for the sugar sector in ACP protocol producers.[57] The study finds an overall negative impact on the ACP group. Table 22 shows that under the 'Full Liberalization' scenario, the LMC study finds a 63% drop in field employment levels and a 47% drop in factory employment levels.

Levantis et al (2002), using a general equilibrium model of the Fijian economy (FIJIGEM), find decreases in unskilled rural employment ranging between 5-6%. The Fijian study concludes on a pessimistic note which can easily be applied to many preference-dependent economies:

> What is clear in the quantitative analysis is that the loss of preferential access will lead to considerable structural change, with the rural poor incurring the bulk of the burden of structural change. It could take many years for there to be sufficient alternative employment opportunities for the rural poor and it is these people who will be least capable of adjusting to changing labor market conditions. Even if the funds transferred to Fiji under the sugar preferences scheme were diverted to Fiji as alternative forms of aid, there may never arise sufficient employment opportunities if the aid schemes were not chosen carefully. What is not accounted for in the modeling exercise is the possible implications for law and order of a structural rise in urban surplus labor and the ensuing consequences for business and investment — particularly for Fiji's lucrative tourism industry.

B. The Multilateral Context [58]

With the accession of a large number of new developing country members, the two-tiered approach in the WTO was abandoned to create a symmetry of obligations among WTO members. Ever since the conclusion of the Uruguay Round and the advent of the Single Undertaking, many PDEs have become increasingly vocal in articulating their interests in the multilateral trade negotiations. The launch of the Doha Round of trade negotiations has been predicated on the assumption that developing countries' needs would be explicitly incorporated into the negotiating agenda, and any agreements reached would reflect the true costs and benefits of integrating developing countries into the global trading system.

However, the loss of preferences on a scale described in Part III, combined with the economic handicaps described above, implies that the interest of many preference-dependent economies are only imperfectly aligned with the broader liberalization agenda of the multilateral trading system. First many small and poor PDEs lack sufficient market size to be attractive to the larger WTO members. The cornerstone of WTO negotiations – reciprocal bargaining yielding mutually beneficial market access – is immediately put into question as many of these countries are structurally disadvantaged in reciprocal negotiations.

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[57] The LMC estimates are based on calculations of the number of workers that will be employed in the field and factory sectors are based on the average number of factory workers per mill, and the average number of field workers per hectare.

[58] Much of the theoretical framework of this section is summarized from Mattoo and Subramaniam (2004)

Secondly, where in fact small and poor PDEs are engaged with the global economy, there is a possible negative terms-of-trade shock threatening to leave these countries worse off. Many PDEs face the prospect of falling consumer surplus from rising food import bills, falling government tariff revenue from MFN tariff reductions, and most crucially large falls in producer surplus from the erosion (or in some cases wholesale disappearance) of trade preference-based income transfers.

Many of the new WTO disciplines may entail costly resource allocations for already budget-constrained PDEs who are already struggling to implement past agreements, let alone take on new commitments. Several new preferential schemes have been tabled (such as the EU's EBA and the US AGOA), however the potential positive impact of these schemes have been greatly curtailed by the political economy surrounding their design.[59] Such an overwhelmingly negative outcome, irrespective of the wider context of rising average global welfare, may lead to further marginalization of PDEs and has led to (not unreasonable) scepticism over the net benefit of agreeing to subsequent reductions in global trade barriers.

V. INSTRUMENTS TO ASSIST PREFERENCE-DEPENDENT ECONOMIES

A. Preference Erosion, Financing and Adjustment

When a country is hit by a negative shock, it must decide the appropriate mix of adjustment to the impact of the shock and the appropriate use of external or domestic financing. The financing-adjustment mix will ultimately depend on the nature of the shock and its direct and indirect economic effects. *A country must ultimately adjust to a permanent shock*. However, where the short- to medium-term impact of the shock may be significant relative to the economy's capacity to adjust, an immediate adjustment may not be feasible or desirable, and financing to smooth the adjustment path to the new equilibrium may be warranted.[60]

An important consideration in the financing-adjustment decision is the nature of the recovery. If one expects a negative shock to be followed by an offsetting period of positive growth, financing must be designed in such a way that it channels resources to both mitigate the negative impact of the shock while laying the groundwork for growth in the following period. Another important consideration is the country's capacity to weather the shock, based on a number of country-specific factors such as fiscal, balance-of-payments and debt positions.

A negative preference erosion terms-of-trade shock is distinct in several ways:

[59] See UNCTAD (2003a), UNCTAD (2003b), Brenton and Ikezuki (2004a) and Brenton and Ikezuki (2004b) for an analysis of these initiatives.
[60] A more detailed analysis can be found in IMF (2003a).

- It impacts specific sectors, yet is spread unevenly across a wide variety of low- and middle-income countries;
- As preferential schemes are embedded in the political economy of multilateral trade negotiations, preference erosion involves multiple donors, sectors, and beneficiaries, each with varying degrees of negotiating capital;
- The actual time-path of erosion is difficult to forecast is it is based on the actual implementation of WTO commitments by separate donor countries[61];
- The impact on affected producers can be approximated *ex ante*, yet the impact on the wider economy – e.g. output and incomes, growth and investment – *ex post* is difficult to predict;
- The erosion of the income transfer will be permanent and negative for affected producers, yet is taking place in a context of multilateral liberalization where new high-growth sectors may emerge;
- The new high-growth sectors will emerge in a far more competitive trading environment than the impacted preferential sectors.

Any instrument focused on mitigating the impact of preference erosion must take the above into account. Yet the final goal of any such instrument must be clear: export diversification led (to the greatest degree possible) by the private sector. For preference-dependent economies facing large-scale erosion of income transfers in their major export markets, financing must be focused on encouraging private and public sector investments in new higher-growth industries, and on rationalizing existing preferential sectors to maintain international competitiveness.

Ideally, a 'first-best' instrument would foresee the scale and timing country-specific adjustment needs and disburse funds accordingly. As previous sections have demonstrated, this is a difficult (if not impossible) task. A 'second-best' instrument, proposed by this study, envisions the foregone income transfer – over a reasonable adjustment horizon for these economies – passed on as investment financing for producers in non-traditional sectors. Although foregone income transfers are an uncertain basis to allocate investment aid, they may provide useful proxies for future resource needs.

Section B reviews a number of multilateral initiatives to mitigate commodity export terms-of-trade shocks and encourage export diversification. Section C assesses the utility of such instruments in the PDE context and outlines a number of criteria which preference-erosion instruments should satisfy. Section D proposes modalities for donor assistance and section E considers bilateral alternatives.

B. Previous and Existing Initiatives

[61] This phenomenon was brought into stark relief by the implementation of the Uruguay Round Agreement on Textiles and Clothing. In principle, implementation was gradually phased in over a ten-year period. In practice, the implementation has been "back-loaded" until the last possible minute, turning a smooth adjustment into a sudden shock.

i. Multilateral

IMF CCFF: Established in 1963, the Compensatory (and Contingency) Financing Facility (CCFF) operates as a concessional loan arrangement that helps recipient countries to mitigate balance-of-payments difficulties in the face of export earnings shortfalls caused by unexpected exogenous factors, such as a temporary decline in export earnings or a temporary increase in cereal import costs.[62] Access is rules-based, determined by calculating the deviation of the shortfall or excess year from the trend over a five-year period. In 1987 a significant modification was made to include a contingency facility that permitted countries to borrow *ex ante* in anticipation of a balance-of-payments shortfall. Repurchase obligations under the CFF fall due 3¼–5 years from the date of drawing, and repurchase expectations arise over 2¼–4 years. Since January 2000, no purchases have been made under the CCFF.

IMF TIM: In April 2004, the Executive Board of the IMF approved the Trade Integration Mechanism (TIM). The TIM is not a new lending facility. It is a lending policy which provides enhanced access to existing IMF facilities for countries experiencing a net balance of payments shortfall resulting from multilateral liberalization. IMF missions will establish, with country authorities, a baseline scenario on the anticipated size and timing of the shock. The TIM includes a 'deviation feature' (capped at 10 percent of a country's quota for the lifetime of the arrangement) if the actual BOP deterioration is larger than anticipated.[63] TIM funding will be used in line with existing IMF financing; i.e. to strengthen international reserves to offset BOP shocks. In a high-case scenario in which all countries potentially affected would avail themselves of the TIM (31 PRGF countries and 17 non-PRGF) the IMF has projected TIM financing at $600 million in the PRGF and $850 million in the general resources account.[64]

Country Strategies: The World Bank and several regional development banks provide financing through country-specific lending arrangements. These lending arrangements take a variety of forms, including project lending, budget support, and direct lending to firms. Table 24 summarizes lending arrangements taken by the World Bank Group in a selected number of PDEs.

ii. Bilateral

EC STABEX: STABEX was established by the EC in 1975 as part of Lomé arrangements. It was originally conceived as a concessional loan agreement, but evolved into a grant-based program. STABEX provided period export earnings compensation with a similar trigger mechanism to the CCFF (loss relative to a six-year trend). Initial

[62] More detailed summaries of the existing instruments can be found in Razzaque et al (2003) and IMF (2003a)
[63] See IMF Press Release No. 04/73, "IMF Executive Board Approves Trade Integration Mechanism", April 13, 2004.
[64] See "Transcript of a Teleconference with Journalists on 'Trade Integration Mechanism'", IMF, April 13 2004.

compensation under the scheme was untied, providing extra-budgetary support to recipient governments; STABEX later moved to project-based grants. It was discontinued under the Cotonou Agreement.

EC SYSMIN: SYSMIN was established in 1980 by the second Lomé convention, applying to all minerals except oil, gas and precious metals. Disbursements under SYSMIN were granted if an important mining input was under threat or there was a drop in export earnings of an eligible commodity. SYSMIN also included a substantial technical and financial assistance element for research and investment. As with STABEX, SYSMIN was dismantled following the expiration of the Lomé Convention in 2000.

EC FLEX: Established under the Cotonou Agreement, FLEX is a mechanism for providing 'fast-disbursing' grant support to ACP countries with fluctuating export earnings. FLEX is triggered by export revenue losses and to the worsening of the programmed public deficit. Support is limited to four successive years.

Special Programs:[65] The EC has implemented a number of special programs to assist ACP producers, largely in the bananas sector. In 1994, the EU introduced the Special System of Assistance (SSA), providing technical and financial assistance measures and income support for banana producers. SSA funds were primarily aimed at increasing productivity and competitiveness. Assistance under the SSA was determined by a formula estimating the gap between current competitiveness of the country concerned and the level to be reached in order to be fully competitive. The mode of assistance (income support or financing agreement) was determined by whether market prices had fallen or not. In total 78 million ECU was allocated out of a total envelope of 95 million ECU. The SSA was replaced in 1999 by the Special Framework for Assistance (SFA). The SFA also allocates funds using the 'competitiveness gap' criteria. SFA commitments are substantial larger (averaging €45 million per year) than the SSA, and there are explicit provisions for reducing assistance to chronically uncompetitive countries and for allocated SFA financing to diversification activities.

iii. Market-Based

Donors (both multilateral and bilateral) have invested much effort in recent years to provide market-based financial derivatives to assist developing countries to manage commodity price shocks using a number of tools, including futures, options, swaps and commodity-linked notes. Unlike the above-mentioned financing schemes, market-based instruments did not provide new external financing; rather they re-distributed risks away from public balance sheets and onto private agents and intermediaries.

[65] This section was summarized from Laurent (2004) and Hubbard et al (2000)

C. Strengthening Assistance to PDEs: Seven Principles

The various methods of intervention listed above provide both a framework and important lessons for designing instruments to help prevent or mitigate preference erosion shocks in PDEs – that is, whether they address the stylized facts listed above in Section A. This section lists seven essential principles to assist these economies adjust to preference erosion.

i. Additionality

Financing for adjustment to preference erosion should be additional, where appropriate, to existing commitments.

The exogenous shock resulting from preference erosion is unique; financing to assist countries to adjust should reflect that uniqueness. Existing financing arrangements such as the Cotonou Agreement and its instruments for financial co-operation have earmarked assistance in many preference-dependent economies. However, it is open to question whether donor country assistance strategies and the instruments adopted fully reflect the scale of adjustment. It is vital that resources to assist countries in coping with the one-off preference erosion shock are not diverted from existing longer-term donor commitments.

ii. Instruments and Terms

The aggregate level of financing, instruments used and lending terms should be conducive to investment, growth and debt sustainability while reflecting the scale and long-term nature of adjustment.

Preference erosion, unlike a commodity price shock or a natural disaster, is a permanent rather than transitory shock. An instrument whose primary focus is on temporary consumption smoothing or relieving short-term balance-of-payments pressures may mitigate negative impacts in the short- and medium-term. However, in the case of preference erosion, the compensating efficiency gains may only occur after a protracted period of adjustment and resource allocation. Such a period may easily outlast the disbursement cycle and increase country risk far above the terms provided by existing arrangements. If the PDE is already heavily indebted, contracting new loans (even on a highly concessional basis) may easily aggravate borderline debt burdens and turn a smooth adjustment into a twin export-sector/balance-sheet crisis. Table 25 shows a number of PDEs whose debt indicators are already high compared to the policy-dependent debt indicator thresholds (indicated in brackets).[66]

[66] See Section C for a more detailed summary of these policy-dependent thresholds.

Determining debt dynamics *ex ante* is a difficult task. Yet the Guyanese context yields some insight. In 2002, Guyana's total external debt stood at U$1.459 billion. Of this total, $196 million is incoming IDA lending, nearly matched by $154 million in outgoing debt service payments. Despite substantial debt forgiveness under the HIPC initiative, Guyana's debt profile remains well above its 'safe' thresholds[67]. When one considers that its estimated income transfer losses in agriculture amount to between $36 million to $66 million *annually*, it is clear that contracting further lending even at IDA terms[68] on this scale – at a time of potentially falling output in the very sectors from which external debt would be potentially repaid – could easily lead to even more unsustainable debt dynamics.

Similarly, increased lending under the IMF TIM mechanism would in principle increase access to PRGF funds. However, despite a below-inflation interest rate of 0.5 percent, PRGF repayments begin after only five-and-a-half years, with full repayment due at the end of ten years. It is doubtful that a country (such as Guyana) experiencing significant output losses and external imbalances from preference erosion would have the export capacity in place to repay loans after such a short period of time. For less concessional IMF facilities such as the Extended Fund Facility (EFF), the repayment time is even shorter (4½ to 7 years) and loans are charged at the IMF basic rate plus a surcharge.[69]

Despite the significant donor resources flowing into developing countries, the multiple donor and country objectives often means that resources allocated for adjustment to preference erosion fall short of needs. Table 24 demonstrates this problem for the World Bank, which among the multilateral banks is relatively well-endowed and has an institutional presence in many PDEs. With the exception of Mozambique, resources explicitly earmarked for export diversification – whether through project lending or budget support – remain low relative to the potential needs estimated in this study. In many IDA-eligible countries this may reflect the multilaterals' focus on poverty reduction programs and macroeconomic structural adjustment rather than export diversification per se. In the bananas sector, external flows from the EU (€45 million under the SFA) have been commensurate to the estimated losses, however as noted above the absolute amounts spent on diversification activities has only recently exceeded 50%.

Furthermore, several PDEs are already constrained by the high level of their pre-existing commitments to multilateral lenders. Guyana, for example, is eligible for concessional lending through both the IMF and the World Bank. Its existing three-year PRGF loan of SDR 54.55 million (about US$ 75 million) already absorbs 63% of its IMF quota. Guyana's IDA-13 allocation is up to $26 million for the three-year IDA-13 period, of which $4 million consists of a Public Sector Technical Assistance Credit and the

[67] Guyana has had six separate rounds of Paris Club debt treatments, all of which remain active (i.e. not fully repaid) and of which the last two have been within the HIPC framework.

[68] IDA loans have a typical maturity of 20, 35 or 40 years with a ten-year grace period. IDA loans have no interest charge but typically carry a service charge.

[69] The IMF basic rate is based on the SDR interest rate which is revised weekly to take account of changes in short-term interest rates in the major international money markets. The rate of charge was 2.23 percent as of April 30, 2004. Surcharges are applied to the combined credit outstanding under the SBA and EFF of 100 (200) basis points on the amounts in excess of 200 (300) percent of quota.

remaining amount for two Poverty Reduction Support Credits. A matter of concern is that even in Guyana, which among PDEs has a relatively long-standing relationship with the international donor community, the resource needs for adjustment relative to those currently allocated are significant.

iii. Focus on Investment

Adjustment financing should facilitate bankable investments by private sector and commercially-run public sector firms.

In order to allow PDEs to compete in a liberalized global market, adjustment financing should focus on supporting commercial investments in the export sector. Private sector firms (or commercially-run public sector firms) alone can provide a 'lead engine' for sustainable export growth and development in a post-preferences trading environment. While public sector investments (e.g. infrastructure and assistance in meeting international standards) are vital, financing should focus on creating financial incentives that target developing-country exporters (i.e. as preferences once did) but without the associated distortions and inefficiencies associated with preferential incentives.

Intervention can be focused on a number of different levels, from large-scale enterprises to SMEs to micro enterprise. Intervention in the SME sector has become a *sina qua non* for recent multilateral efforts to encourage broad-based private sector growth and impact poverty levels in developing countries. These efforts, spearheaded by agencies such as the World Bank Group's International Finance Corporation (IFC)[70], are still in their infancy. Each donor in tandem with country authorities and investors must determine what scale of enterprise to target based on country-specific circumstances.

Another important consideration is the form that such intervention takes. Most multilateral lending to the private sector is on-lent through local intermediaries with upward interest rate adjustments for both country and institutional risk on top of the IFC's own cost of lending. In many PDEs the resulting risk premium, although mitigated by the multilaterals' investment-grade rating, often puts the cost of funds out of reach of most investors. This is most notable in the initial 'transformative' stage where the wider economy is suffering a systemic shock from preference erosion yet the capital needs are greatest. Although local financial institutions may be well-capitalized, the resulting risk premia may discourage lending on the lower scale, where it is often needed most.

iv. Balancing Diversification and Competitiveness

[70] The IFC supports SME investment through loans on its own account (so-called "A" loans"), equity financing, quasi-equity loans ("C" loans), syndicated loans ("B" loans) and a number of risk management and partial credit guarantee instruments. The IFC also administers a number of regional technical assistance facilities to support the SME sector. For more information, see IFC (2003)

Financing should encourage competitive upgrades where existing production is competitive and diversification into non-preferential export sectors when it is not.

Most instruments have tended to focus on protecting public sector balance sheets and mitigating economy-wide fluctuations, rather than focusing resources on areas of potential future growth. As such, financing was directed to central bank international reserves and to provide budgetary support for the government ministry overseeing the relevant sector. However, there is ample evidence[71] that financing channelled in this manner was used primarily as compensation payments to affected sectors. This tying of aid to the recovery of ailing sectors was prone to the fallacy of composition argument, as it encouraged further dependence on weak sectors and led to distortions in the private sector.[72]

The case of EU bananas is instructive. An analysis of the effectiveness of EC SSA assistance[73] concluded that allocating funds on the basis of a 'competitiveness gap' into declining sectors resulted in a waste of EU resources. While in certain countries financing was effective in upgrading productivity, the low share of SFA funds spent on diversification (12% in 1999) was a flagged as a possible factor in the low levels of growth in banana-producing countries, despite the substantial inflows of external financing. The recent increase in the diversification share (up to 64% in 2002) points to an increasing realization by PDEs of the need to finance diversification activities.

Donor assistance to PDEs should be structure to discriminate, as transparently and realistically as possible, between preferential industries which have a competitive future post-preferences, and those in which resources are best allocated into other export sectors. It is difficult to forecast on a country-by-country basis the degree of rationalization and market exit. It is reasonable to assume that in each country there will be a varying share of non-preferential investments (diversification) and rationalization and competitive upgrades in existing preferred sectors. Donor assistance should, as far as possible, flow through institutions with a comparative advantage in funding market-oriented investments such as the IFC and the EIB.

v. Adequate Technical Assistance

To increase capacity in recipient countries, financing should be coupled with adequate technical assistance focused on increasing absorptive capacity for new financing and project development among potential investors.

Recent lending experience, especially to SMEs, has shown that a high degree of technical assistance is required to initiate successful bankable enterprises, especially those geared

[71] See Razzaque et al (2003), IMF (2003a) and Hubbard et al (2000)
[72] See Razzaque et al (2003), IMF (2003a) and Hubbard et al (2000)
[73] Hubbard et al 2000

towards extemal markets. A number of multilateral organizations[74] have recently committed increasing amounts of resources to improving the investment climate for the private sector, and SMEs in particular. The IFC for example administers a series of specialized SME facilities to provide technical assistance for SMEs to attract financing and a larger Capacity Building Facility to support small business development projects.

vi. Flexible, Forward-Looking Investment Incentives

> *To ensure that diversification begins before a shift in relative prices occurs, financing should be disbursed as soon as reasonable ex ante estimates of economic losses are available.*

A major flaw in the existing PDE financing architecture is the misalignment between allocation and needs. In the balance between *ex ante* preventative versus *ex-post* mitigating actions, many instruments opted overwhelmingly for the latter.[75] Instruments such as STABEX disbursed funds for loss of export earnings relative to a trend, and entailed significant administrative costs (such as detailed statistical analysis) to justify disbursements. The resulting frequent delays in delivering supplementary financing implied that disbursements tended to be pro-cyclical, rather than responding counter-cyclically to adverse shocks.[76]

Although more recent initiatives such as the FLEX mechanism are explicitly intended to be 'fast-disbursing', they are still relatively backward-looking.[77] Often such delays result from the gradual onset of terms-of-trade shocks and the difficulty in determining *ex ante* how long they will last: in the typology of IMF (2003a), commodity price shocks are often 'silent crises'. In addition, several instruments disbursed funds according to strict conditionalities, further limiting their usefulness.

Preference erosion differs from traditional commodity price shocks in that its occurrence, if not its approximate impact, is foreseeable. However, the preventative 'cure' – export diversification – is difficult to anticipate. Diversification must begin *before* a shift in relative prices occurs, ensuring that new investment come to fruition as the preference erosion shock hits the wider economy. Moreover, prejudging sector-specific outcomes in a changing, liberalized market when export diversification is led by private sector agents may be unworkable and undesirable. Yet the establishment of clear financial incentives in the years ahead of the preference erosion shock may yield high returns on expenditures relative to the costs of mitigating the negative impact after the fact.

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[74] Chief among them the World Bank and the United Nations Conference on Trade and Development (UNCTAD).

[75] Again, this subject is explored in greater detail in Razzaque et al (2003) and IMF (2003a).

[76] Of 311 STABEX disbursements analyzed over the period 1975-1995, 60 percent occurred in periods of increasing government revenues. (IMF 2003a)

[77] The IMF TIM proposal is an exception as baseline and deviation projections are meant to be designed *ex ante* under the lending arrangement.

vii. Support for Social Safety Nets

Where necessary, support should be provided for a safety net to mitigate the social costs of adjustment.

The exogenous shock from preference erosion cannot be mitigated through investment alone. The shifting relative prices will inevitably exacerbate medium-term unemployment in many PDEs and lead to a potential deterioration in social indicators. Donor support should assess country needs to determine which social sectors may be adversely impacted by production changes in preferential industries and tailor their assistance programs accordingly.

D. The Benefits of a Stronger Framework

i. Beyond the "Spaghetti Bowl"

Although the costs of preference erosion are often highly concentrated, sources of external assistance have been relatively ad-hoc. The "spaghetti bowl"[78] of funding sources often burdens beneficiary countries with multiple (and conflicting) donor-specific priorities and country strategies, individual country relationships with donors and loan-specific disbursement schedules. In such an environment countries with limited administrative capacities will find it difficult to effectively marshal resources towards mitigating the impact of preference erosion.

The fact that preference erosion occurs in the context of multilateral trade liberalization introduces even greater uncertainty for PDEs. As the history of recent multilateral trade rounds confirms, outcomes are often shaped by ever-changing political economy considerations rather than concrete analysis. Predicting time-lines for round closings and commitment phase-ins can be often more an art than a science. New preferential regimes are often established as soon as old schemes are phased out. Although financing has been provided for such terms-of-trade shocks, the analytical process by which the funds are established and disbursed is often less than transparent.

A more consistent, clear and transparent framework could have the following potential benefits:

- A more objective analysis of the potential losses from preference erosion to provide advance notice to PDEs and donors of potential liabilities;
- More effective use of donor resources in providing incentives for export diversification;

[78] To borrow a phrase of Jagdish Bhagwati in referring to countries' increasing use of bilateral and regional trade agreements and the dangers they posed to multilateral trade negotiations.

- Greater "buy-in" from borrowing PDEs, as their preventative efforts to encourage investment in non-preferential sectors would be visibly backed both politically and financially; and
- A simple, harmonized framework for donors and beneficiaries to assess the costs and benefits of preferential schemes into future trading rounds.

ii. Towards Flexible, Broad-Based and Poverty-Reducing Growth

It cannot be emphasized enough that diversification alone will not ensure a smooth adjustment for economies hit by loss of trade preferences. Broad-based, poverty-reducing growth is a multi-faceted objective which necessarily balances several tensions – for example, long-term ambition versus budget constraints, comprehensiveness in addressing the different dimensions of development versus focus and prioritization, meeting the expectations of the international community versus country ownership and implementation capacity. Any strategy for PDEs must necessarily be grounded in a wider consideration of country priorities, some of which (education and health, for instance) may be only indirectly linked to an adjustment strategy focused on export diversification. Three points can be made in this regard.

First, PDEs comprise a wide range of countries, from HIPCs to middle-income economies with varying endowments and levels of per capita GDP. Any financing arrangement focused on PDEs must not only account for this diversity but also recognize that vulnerability to external terms-of-trade shocks – such as preference erosion – is a key cause of increases in poverty. Exogenous shocks can affect poverty through the destruction of assets of the poor or near poor and through direct income losses, lower overall growth in the economy, higher inflation, and lower government social spending. Shocks tend to hurt the poor disproportionately because they generally have limited labor skills, limited savings to draw on in response to a shock and limited access to credit.[79] While government spending on social sectors such as health and education can partially offset the impact of external shocks on the poor, ultimately reliance on a narrow export base leaves the economy vulnerable to these adverse terms-of-trade price movements. A diversification strategy can act to prevent poverty, by creating a stronger and more flexible external sector.

Second, a country whose primary priority is poverty reduction cannot ignore the need for growth and adjustment in the productive sector. Recent reviews of the PRSP/HIPC experience, both by the IMF and HIPC governments, support this hypothesis. A recent IMF review[80] found that linkages between PRSPs' discussions of macroeconomic performance, growth prospects, and proposed sectoral and structural policies remain weak; nor did countries implementing PRSPs appear to consider the need for adjustment of sectoral policies in light of their recent macroeconomic experiences. Recent HIPC ministerial declarations at the 2002 Washington and 2003 Kigali meetings urged a greater

[79] IMF (2003)
[80] See IMF, "Poverty Reduction Strategy Papers – Progress in Implementation", September 2003.

focus on accelerating economic growth and creating financing mechanisms to protect developing countries from negative external shocks.

E. Proposal for Donor Modalities

Based on the seven-principle framework for assistance, donor financing to preference-dependent economies should be channelled through a private sector, public sector and social safety net channels:

1. A ***private sector channel*** to facilitate investment start-up, expansion, restructuring or rehabilitation in export sectors by private sector or commercially-run public sector firms.
    a. *Instruments*: Debt, quasi-equity, equity and guarantees
    b. *Terms*: All loans will be provided on market-related terms. Competitiveness upgrades in existing sectors will receive short-term while diversification investments will receive longer-term loans. Currency denomination will vary on a case-by-case basis.
    c. *Grants*: Donor financing will provide separate one-off matching grants, on a case-by-case basis, of up to 50% of 'transformative' costs (including technical assistance, outside services and capital goods), disbursed directly to investors. The grant percentage will consider cash flows of the company and the nature of the costs.

2. A ***public sector channel*** for enabling investments in infrastructure and capacity-building as well as support for longer-term development programmes. Concessionality should account for country-specific per capita income and debt sustainability criteria as well as potential economic, social and environmental benefits.

3. A ***social safety net channel*** to provide grant financing to defray adjustment costs such as voluntary retrenchment, unemployment insurance and labour retraining.

iii. Eligibility

Financing will be focused on 'bankable' export-oriented investments. Eligible sectors will include most productive sectors. Eligible investments must satisfy strict lending criteria for viability set by individual lenders.

Access to financing will be focused on public and private investors in preference-dependent economies. Eligible countries are those which may see significantly large decreases in revenues, production and welfare from erosion of preferences. Eligibility will be based on *ex ante* estimates of losses from collaborative research currently underway at major multilateral organizations. Access can be based on either:

i. A 'common pool' approach where access is open to any investor/government from a preference-dependent economy; or

ii. A 'country envelope' approach where each country is allotted *a priori* financing shares according to estimated losses. Countries will qualify for funding based on "substantial loss" criteria:
   - For agriculture, annual losses of income transfers must be no less than 10% of total agricultural export revenues.
   - For textiles and clothing, annual losses of income transfers must be no less than 5% of total merchandise export revenues.
   - Eligibility will be based on *ex ante* estimates of losses from collaborative research currently underway at major multilateral organizations (UNCTAD, World Bank, OECD). Each country will be eligible for a share of funding proportional to its share of total losses, although country-specific allocations will account for existing funding envelopes and country assistance strategies.

iv. Total Financing

Nominal: The losses in income transfers for sugar, beef, bananas, textiles and clothing producers in trade-preference-dependent economies are estimated in the Commonwealth Secretariat study at $1.72 billion annually. Total nominal financing ranges between $6.88 billion and $17.2 billion. This estimate assumes:

- Once liberalization has begun, producers required 14 to twenty years to adjust, of which the first ten is absorbed by the slow implementation of WTO commitments and there is little to no erosion of quota rents.
- After the end of the ten-year implementation period, producers require a further four to ten years to adjust.

Discounted: In textiles and clothing, the ten-year implementation period finishes in 2005. In agriculture, the assumed ten-year implementation period is assumed to begin in 2005. Applying a hypothetical 3% discount rate to the two sectors yields total NPV of financing between $6.0 billion and $13.8 billion.

v. Grant Element

Private sector channel: IBRD- or IDA-eligibility will determine the concessionality of matching grants through the private sector channel. For investors in IBRD-eligible countries, matching grants will equal up to 30% of transformative capital costs. For investors in IDA-eligible countries, matching contributions will equal 50% of costs.

Public sector channel: The grant element of funding through the public sector window can be determined in two ways:

A standardized approach implying loans on IDA terms for IBRD borrowers, and "IDA plus" (largely grants) for IDA borrowers.

A country-specific approach where the grant element will be determined using the enhanced debt sustainability analysis (DSA) framework recently proposed by the IMF and World Bank. It uses policy-dependent thresholds (varying according to weighted governance indicators) above which a country is more likely to experience 'debt distress' (see Table 27). Each country's percentage distance from the three thresholds is combined to yield a composite indicator, upon which a "traffic light" is assigned:

- More than 10% below the threshold: green light;
- Between 10% below and 10% above threshold: yellow light;
- More than 10% above threshold: red light.

The grant element of funding can be increased according to whether a recipient country shows a green, yellow or red light. Either current debt ratio levels or the results of a DSA using baseline, low-case and high-case scenarios can be used.

Social safety net channel: Assistance will be disbursed as grants.

F. Bilateral Alternatives

i. Current EC Initiatives

In July 2004, the EU unveiled a set of proposals to reform its sugar regime[81]. The proposals included changes to the system of minimum price guarantees and production quotas. Most importantly, the EU proposed a 'significant' two-step reduction of the institutional support price for EU sugar with the abolition of intervention and the introduction of a reference price (see Table 28). In recognition of the significant income loss to sugar beet producers, the EU has proposed to set up a direct payment system whereby EU sugar beet farmers would receive a de-coupled payment of 60% of their estimated revenue losses.[82]

For ACP protocol producers, the EU continues to guarantee the volume of sugar imports at 1.3 million tonnes. However, it will only buy these exports at the new (lower) reference price. These countries therefore could maintain export volumes at the agreed

[81] See CEC (2004)

[82] According to estimates in CEC (2004), the aggregate financing envelope for support to EU sugar farmers will be introduced in two steps: one payment totalling €895 million in 2005/6 and 2006/7 and one payment totalling €1.34 billion from 2007/8.

level to the EU but receive a lower price.[83] The EU's proposal explicitly recognized the need for adjustment but remained vague on specific measures:

> The Commission will initiate a dialogue with the Sugar Protocol countries (and India) on the basis of an action plan to be proposed before end 2004, in order to define appropriate accompanying measures. These should correspond to both the trade and development measures. As regards trade measures, the Cotonou Agreement foresees the review of the Sugar Protocol in the context of EU-ACP negotiations on Economic Partnership Agreements. The Sugar Protocol should be integrated into the EPAs in such a way that does not prejudge the EU's commitment to LDCs for full market access for sugar from 2009 and that ensures full compatibility with WTO rules. As regards development assistance measures, the Commission will propose the introduction of specific measures to help Sugar Protocol countries/India to adapt to the new market conditions. Such programmes should focus on improving the competitiveness of the sugar sector where economically viable, and on supporting diversification, where improvements in competitiveness in the sugar sector are not sustainable.[84]

ii. Bananas: Lessons Learned?

As an action plan is not expected until end-2004, it is difficult to predict the precise modalities of EU support. However, past evaluations of EU support to ACP banana producers may provide a general outline of any future proposal. As noted above, the 2000 evaluation of the efficiency, effectiveness, impact and viability of SSA financing concluded that the assistance had covered a broad range of initiatives and that its greatest impact on competitiveness had been where it involved improving productivity in the field.[85] The study further suggested prioritizing diversification in future programs.

In 2002, the EU published a biennial report to the Commission on the SFA; its findings are summarized in Table 29. The footnote to Table 29 shows that country projects were selected from a number of options, ranging from irrigation and drainage to institutional support. The study found that actions to promote diversification have increased relative to actions to promote productivity improvements in the banana sector. The increase in diversification largely occurred in agricultural/rural development projects, with relatively smaller increases in social projects and microcredit.

The increasing focus on diversification, while still channelling financing through the public sector, is perhaps the best *a priori* indication of the EU's revealed preference in assisting ACP economies. Such an approach would be in keeping with the SFA general approach of providing technical and financial support to specific projects presented by the countries concerned, based on a long-term strategy previously agreed with and approved by the Commission.[86] Interestingly, a comparison of SFA funding shares with recent banana export values (Table 30) shows a low level of correlation, implying that country-specific allocations have not necessarily been tied to production levels (hence income transfers, as suggested in this study). Ultimately, it must be emphasized that the

[83] The possible impact of the EU proposal on world prices and ACP producers, summarizing the findings of Milner et al (2003), can be found in Milner and Morgan (2004).
[84] CEC (2004)
[85] See Laurent (2004)
[86] CEC (2004)

EU is likely to prefer a combination of approaches, tailored to different country circumstances:

> Indeed [the EU] is likely to want to see its assistance targeted on broader development strategies. This might involve some mixture of direct budget support for public reform programmes to improve administration, institutional arrangements or infrastructure, tied funds for labour retraining and increased mobility required for industrial restructuring, and of soft loans programmes for industrial restructuring that cannot be supported by the market. An emphasis on market-based transformation and diversification is likely to mean that direct subsidies and cash grants to the sugar industries are likely to be eschewed.[87]

EIB Assistance:[88] Further assistance to ACP private sector producers is forthcoming through the European Investment Bank (EIB). The Cotonou Agreement mandates the EIB to provide reimbursable aid to projects, alongside grant aid from the European Commission. In 2003-2008, the EIB is expected to channel €3.9 billion to ACP projects, of which €1.7 billion will be lent from the EIB's own resources and €2.2 billion will be provided under a new five-year Investment Facility. The Facility provides various forms of loans, guarantees and risk sharing financing instruments and is intended to become a self-financing revolving fund. All EIB funding is reimbursable (i.e. it does not provide grants). There are no allocated amounts or fixed floors/ceilings per country. The EIB primarily lends to larger enterprises, although approximately 25% of funding in the past five years has gone to the SME sector.

Whether the EIB alone can assist PDEs in mitigating the preference erosion shock is open to question. The EIB differs substantially from its IFI counterparts in Washington in that it does not generate its own country assistance strategies (they are formulated in the relevant EC bodies). Furthermore, the EIB's capacity constraints (it has a lower staff-to-euro-disbursed than other IFIs means that a large portion of its lending its via on-lent "global loans" through local financial sector intermediaries. It is not clear whether it is these intermediaries or the investors themselves who ultimately benefit from the EIB's investment-grade funds. Thus while the EIB does provide subsidized lending under certain circumstances, it is not clear whether EIB lending is "development-friendly" as it appears disconnected from other donor assistance.

[87] Milner and Morgan (2004)
[88] Summarized from EIB (2002)

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TABLES AND FIGURES

Table 1: Tariff Lines and Rates in Quad Countries

	United States	European Union	Japan	Canada
Tariff Peak Products				
Number	307	317	233	732
of which:				
Agricultural products	48	290	178	85
Industrial products	263	27	55	647
Tariff peak products' share of all tariff lines	6.1%	6.2%	4.6%	14.3%
Standard MFN tariff rates (unweighted)				
All Products	5.0%	7.4%	4.3%	8.3%
Tariff Peak Products	20.8%	40.3%	27.8%	30.5%

source: Topp (2001)

Table 2: Tariff Rates Applied by Quad Countries in 1999 by Trade Agreement

	Tariff Peak Products			All Products		
	Non-Preferential Rate	Preferential Rate	*Gain*	Non-Preferential Rate	Preferential Rate	*Gain*
United States						
Caribbean Community	20.8	13.5	*7.3*	5.0	1.6	*3.4*
GSP-only	20.8	16.0	*4.8*	5.0	2.4	*2.6*
LDCs	20.8	14.4	*6.4*	5.0	1.8	*3.2*
European Union						
GSP-only	40.3	19.8	*20.5*	7.4	3.6	*3.8*
LDC ACP	40.3	11.9	*28.4*	7.4	0.8	*6.6*
Non-LDC ACP	40.3	12.4	*27.9*	7.4	0.9	*6.5*
Other LDC	40.3	12.6	*27.7*	7.4	0.9	*6.5*
Japan						
GSP-only	27.8	22.7	*5.1*	4.3	2.3	*2.0*
LDC	27.8	19.0	*8.8*	4.3	1.7	*2.6*
Canada						
Caribbean Community	30.5	23.3	*7.2*	8.3	4.3	*4.0*
GSP-only	30.5	28.2	*2.3*	8.3	6.2	*2.1*
LDCs	30.5	22.8	*7.7*	8.3	4.4	*3.9*

source: Topp (2001)

Table 3: Price Premiums in the EU Agricultural Sector
(US$/metric tonne unless otherwise indicated)

	Beef	Milk	Cheese	Bananas	Sugar
EU	4761	3034	5170	569	466
World	2300	2159	3764	347	274
EU Price Premium as % of World Price	107%	41%	37%	64%	70%

source: ATPSM database

Table 4: Annual Income Transfers for Sugar, Bananas and Beef (SBB) as a Percentage of Agricultural Exports (AXR)
(all figures in US$ unless otherwise stated)

	Annual Income Transfer				Value of Agriculture Exports	SBB as % AXR
	Beef	Bananas	Sugar	Total (SBB)		
Fiji	146	0	78,594,470	78,594,616	154,693,000	50.8%
Mauritius	4	0	105,880,478	105,880,481	246,872,000	42.9%
Congo (Rep)	0	292	5,435,931	5,436,223	15,064,000	36.1%
Botswana	45,806,104	857	10,141	45,817,102	140,006,000	32.7%
St. Lucia	0	6,860,189	48	6,860,237	25,428,000	27.0%
Namibia	40,762,192	0	0	40,762,192	167,055,000	24.4%
Guyana	0	76	36,744,610	36,744,685	151,954,000	24.2%
Barbados	61	0	13,610,312	13,610,373	58,034,000	23.5%
Jamaica	0	4,925,090	42,180,135	47,105,226	242,303,000	19.4%
Belize	19,621	3,795,559	16,667,673	20,482,852	108,547,000	18.9%
Dominica	0	2,499,437	0	2,499,437	16,380,000	15.3%
St. Vincent	0	3,467,587	0	3,467,587	27,249,000	12.7%
Swaziland	956,631	49,376	7,166,668	8,172,675	141,565,000	5.8%
Suriname	0	2,581,259	0	2,581,259	48,399,000	5.3%
Cameroon	1,270	11,837,589	8,566	11,847,424	362,494,000	3.3%
Mozambique	0	0	1,065,381	1,065,381	39,260,000	2.7%
Dom. Rep.	0	4,924,116	8,934,977	13,859,094	528,835,000	2.6%
Total/*Avg*	**109,640,347**	**41,011,365**	**385,691,922**	**536,343,631**	**2,474,138,000**	***20%***

source: ATPSM database and FAOSTAT database

Table 5: Average Sugar Prices
(US cents/Kg)

	EU Price	World Price
1971-1980	28.66	30.64
1981-1989	42.48	19.31
1990-2001	61.14	22.20
1971-2001	45.25	24.09

Source: Milner et al (2003)

Table 6: Annual Income Transfers From Sugar
(all figures in US$ unless otherwise stated)

	Value of Sugar Exports to EU	Total annual transfer	Share of total transfer (%)	Transfer as % of total exports	Transfer per capita	Transfer as % of GDP
Mauritius	304,200,000	180,714,700	36.9	11.9	150.6	4
Guyana	102,500,000	60,879,400	12.4	12.7	79.4	8.7
Swaziland	94,900,000	56,377,200	11.5	7	51.3	4.3
Fiji	82,100,000	48,754,200	9.9	8.6	59.2	2.9
Jamaica	78,100,000	46,399,300	9.5	3.8	17.2	0.6
Barbados	27,200,000	16,150,700	3.3	7.1	60.2	0.6
Belize	24,900,000	14,798,800	3	8.9	59.9	1.9
Trinidad & Tob.	24,700,000	14,678,400	3	0.3	11.3	0.2
Malawi	20,600,000	12,219,700	2.5	3.9	1.2	0.7
Madagascar	8,300,000	4,924,100	1	0.5	0.3	0.1
Zambia	8,100,000	4,796,200	1	0.6	0.5	0.1
Tanzania	7,500,000	4,473,100	0.9	0.6	0.1	0
Cote d'Ivoire	5,500,000	3,268,200	0.7	0.1	0.2	0
Kenya	2,000,000	1,186,900	0.2	0.1	0	0
Congo, Rep	1,100,000	660,100	0.1	0	0.2	0
Total/*Average*	**791,700,000**	**470,281,000**		***4.2***	***30.8***	***1.5***

source: Milner et al (2003)

Table 7: Import-Weighted Tariffs in the US and EU (%)

	EU	US
Textiles	9.1	11.2
Clothing	11.9	13.3
Other Manufactures	3.6	2.8

Source: IMF and World Bank (2002)

Table 8: Exports (millions US$) and Quota Wedges (%) in US and EU Markets

	Exports To US		Exports To EU		US Quota Wedges		EU Quota Wedges	
	Textiles	**Clothing**	**Textiles**	**Clothing**	**Textiles**	**Clothing**	**Textiles**	**Clothing**
Cambodia	..	1,100	..	49	6.9	7.1		
Bangladesh	371	2,353	..	1,858	0.0	20.4		
Pakistan	1763	1,000	1,647	400	9.8	10.3	9.4	9.2
Sri Lanka	200	1,689	189	632	15.3	8.1	5.5	6.4
Mauritius	…	467	…	589	15.3	8.1	5.5	6.4

Data on export levels from IMF country documents, INTRACEN and Martin et al (2004). Data on quota wedges from Spinanger and Francois (2002). Ellipses (…) indicate not available or negligible amounts.

Table 9: Annual Quota Rents (millions US$) as Percentage of Merchandise Exports (MXR, M US$)

	Annual Quota Rents	**Total MXR**	**Quota Rents as % of MXR**	**US Access**	**EU Access**
Cambodia	78	1295	6.03	TBA	EBA
Bangladesh	480	5495	8.74	TBA	EBA
Pakistan	467	9170	5.10	TBA	TBA
Sri Lanka	218	4327	5.04	TBA	TBA
Mauritius	76	1448	5.22	AGOA	EBA
Total	**1,319**	**21,735**			

Source: Secretariat calculations. TBA = Quota Access To Be Abolished

Table 10: Harbinson Scenario Reductions in Tariffs and Support Measures

	Out-quota Tariff Reduction				
	Upper Range	**Middle Range**	**Lower Range**	**Export Subsidy**	**Domestic Support**
Developed Countries	60% average with 45% minimum	50% average with 35% minimum	40% average with 25% minimum	80%	60%
Developing countries	40% average with 30% minimum	33% average with 23% minimum	27% average with 17% minimum	70%	20%

Table 11: Changes in Annual Income Transfers and Welfare – "Ambitious" Scenario
(all figures in US$ unless otherwise stated)

	Change in Income Transfer					Change in Welfare
	Total	**of which: beef**	**of which: bananas**	**of which: sugar**	**As % of AXR**	
Fiji	-72,423,863	-146	144	-72,423,862	-46.8%	-62,962,159
Mauritius	-97,656,428	-4	156	-97,656,580	-39.6%	-87,952,867
Congo	-5,012,265	0	3,388	-5,015,652	-33.3%	-5,422,350
Botswana	-40,950,190	-40,939,747	-758	-9,684	-29.2%	-31,668,836
St. Lucia	-5,857,891	0	-5,857,891	0	-23.0%	-5,729,651
Guyana	-33,810,466	16,720	943	-33,828,128	-22.3%	-29,802,679
Namibia	-36,472,346	-36,472,346	0	0	-21.8%	-22,193,902
Barbados	-12,548,562	-61	0	-12,548,501	-21.6%	-11,606,598
Jamaica	-43,041,144	0	-4,112,577	-38,928,567	-17.8%	-40,677,038
Belize	-18,582,235	-6,051	-3,314,849	-15,261,334	-17.1%	-16,033,295
Dominica	-2,146,916	0	-2,146,916	0	-13.1%	-2,052,398
St. Vincent	-2,980,128	0	-2,980,128	0	-10.9%	-2,916,459
Swaziland	-6,837,898	-829,433	-46,727	-5,961,737	-4.8%	19,972,082
Suriname	-2,220,770	0	-2,220,770	0	-4.6%	-2,476,196
Cameroon	-10,116,363	-1,270	-10,106,860	-8,234	-2.8%	-9,783,160
Mozambique	-818,426	0	2,164	-820,590	-2.1%	-2,592,029
Dom. Rep.	-10,663,246	0	-4,219,969	-6,443,277	-2.0%	-4,764,241
Total/*Average*	**-402,139,137**	**-78,232,338**	**-35,000,650**	**-288,906,146**	***-18.4%***	**-318,661,777**

source: ATPSM database simulations

Table 12: Changes in Annual Income Transfers and Welfare – "Harbinson" Scenario
(all figures in US$ unless otherwise stated)

	Change in Income Transfer					Change in Welfare
	Total	**of which: beef**	**of which: bananas**	**of which: sugar**	**As % of AXR**	
Fiji	-57,343,802	-146	481	-57,344,137	-37.1%	-52,112,979
Mauritius	-76,874,153	553	520	-76,875,226	-31.1%	-71,477,743
Congo	-3,873,270	273	12,082	-3,885,625	-25.7%	-4,082,321
Botswana	-26,708,958	-26,706,949	3	-2,011	-19.1%	-21,723,387
Guyana	-26,331,750	39,857	3,350	-26,374,957	-17.3%	-23,939,282
Barbados	-9,921,984	96	42	-9,922,122	-17.1%	-9,507,383
Namibia	-23,768,782	-23,773,132	0	4,350	-14.2%	-14,890,743
Jamaica	-32,683,465	2,005	-1,978,500	-30,706,971	-13.5%	-31,708,786
Belize	-13,860,688	33,759	-1,893,230	-12,001,217	-12.8%	-12,474,459
St. Vincent	-3,063,892	72	-3,064,540	576	-11.2%	-3,001,696

Table 12: cont'd
(all figures in US$ unless otherwise stated)

	Change in Income Transfer					Change in Welfare
	Total	of which: beef	of which: bananas	of which: sugar	As % of AXR	
Dominica	-1,146,995	74	-1,147,275	206	-7.0%	-1,095,887
St. Lucia	-1,191,893	70	-1,194,523	2,560	-4.7%	-1,329,368
Suriname	-1,597,817	31	-1,598,258	410	-3.3%	-1,572,860
Swaziland	-3,459,033	-448,312	-33,094	-2,977,628	-2.4%	11,411,693
Cameroon	-5,228,189	16,944	-5,260,603	15,470	-1.4%	-5,149,329
Dom. Rep.	-5,574,291	2,236	-2,228,943	-3,347,584	-1.1%	-1,910,156
Mozambique	-400,186	9,996	7,215	-417,397	-1.0%	-1,567,776
Total/*Average*	**-293,029,149**	**-50,822,572**	**-18,375,274**	**-223,831,303**	***-12.9%***	**-246,132,462**

source: ATPSM database simulations

Table 13: Changes in Annual Income Transfers and Welfare – "Conservative" Scenario
(all figures in US$ unless otherwise stated)

	Change in Income Transfer					Change in Welfare
	Total	of which: beef	of which: bananas	of which: sugar	As % of AXR	
Fiji	-43,839,532	43	380	-43,839,955	-28.3%	-40,865,673
Mauritius	-59,065,120	1	412	-59,065,533	-23.9%	-56,202,303
Congo	-3,015,698	0	9,538	-3,025,236	-20.0%	-3,209,060
Guyana	-20,477,490	43	2,646	-20,480,179	-13.5%	-19,583,058
Barbados	-7,566,049	20	0	-7,566,069	-13.0%	-7,374,405
Jamaica	-24,144,427	0	-630,830	-23,513,597	-10.0%	-23,677,586
Belize	-10,216,879	102	-1,148,442	-9,068,539	-9.4%	-8,806,890
St. Lucia	-1,364,708	0	-1,364,664	-44	-5.4%	-353,578
Dominica	-564,110	0	-564,110	0	-3.4%	-231,628
St. Vincent	-791,102	0	-791,102	0	-2.9%	-353,578
Swaziland	-3,045,311	-986	-33,958	-3,010,367	-2.2%	5,414,796
Suriname	-602,822	0	-602,822	0	-1.2%	-363,264
Mozambique	-337,050	0	5,708	-342,758	-0.9%	-1,719,758
Cameroon	-2,475,404	3,222	-2,471,328	-7,298	-0.7%	-1,394,102
Dom. Rep.	-3,206,713	603	-1,088,950	-2,118,366	-0.6%	-1,092,748
Namibia	-48,447	-48,447	0	0	0.0%	5,306,029
Botswana	-5,175	3,599	-282	-8,492	0.0%	3,667,302
Total	**-180,766,035**	**-41,800**	**-8,677,802**	**-172,046,433**	***-8.0%***	**-150,839,504**

source: ATPSM database simulations

Table 14: Change in Gross/Net Income Transfer Assuming Fixed Quantities
(all figures in US$)

	"Current WTO Case"			"Full OECD Liberalization"		
	Transfer from EU	**Non-EU Export Earnings**	**Net transfer**	**Transfer from EU**	**Non-EU Export Earnings**	**Net transfer**
Mauritius	-19,104,000	1,957,000	-17,147,000	-139,022,000	4,374,000	-134,648,000
Guyana	-6,439,000	1,892,000	-4,547,000	-46,857,000	4,227,000	-42,630,000
Swaziland	-5,960,000	10,976,000	5,016,000	-43,370,000	24,526,000	-18,843,000
Fiji	-5,159,000	3,044,000	-2,114,000	-37,541,000	6,803,000	-30,738,000
Jamaica	-4,904,000	298,000	-4,606,000	-35,689,000	666,000	-35,024,000
Zimbabwe	-2,106,000	7,181,000	5,075,000	-15,326,000	16,046,000	721,000
Barbados	-1,709,000	0	-1,709,000	-12,440,000	0	-12,440,000
Belize	-1,563,000	1,551,000	-12,000	-11,372,000	3,465,000	-7,907,000
Trinidad & Tobago	-1,550,000	471,000	-1,079,000	-11,282,000	1,053,000	-10,229,000
Malawi	-1,296,000	1,066,000	-231,000	-9,435,000	2,381,000	-7,054,000
Madagascar	-522,000	203,000	-320,000	-3,801,000	453,000	-3,348,000
Zambia	-511,000	3,782,000	3,271,000	-3,719,000	8,451,000	4,732,000
Tanzania	-468,000	0	-468,000	-3,408,000	0	-3,408,000
Cote d'Ivoire	-345,000	1,296,000	951,000	-2,513,000	2,896,000	384,000
Kenya	-126,000	0	-126,000	-915,000	0	-915,000
Congo, Rep	-68,000	1,507,000	1,439,000	-495,000	3,367,000	2,871,000
St Kitts	0	567,000	567,000	0	1,267,000	1,267,000
Protocol Total	-51,832,000	35,790,000	**-16,042,000**	-377,184,000	79,975,000	**-297,210,000**

source: Milner et al (2003)

Table 15: Change in Gross/Net Income Transfer Assuming Unitary Elastic Export Supply
(all figures in US$)

	"Current WTO Case"			"Full OECD Liberalization"		
	Transfer from EU	**Non-EU Export Earnings**	**Net transfer**	**Transfer from EU**	**Non-EU Export Earnings**	**Net transfer**
Mauritius	-20,361,000	2,290,000	-18,071,000	-205,611,000	6,037,000	-199,574,000
Guyana	-6,863,000	2,214,000	-4,649,000	-69,301,000	5,834,000	-63,467,000
Swaziland	-6,352,000	12,844,000	6,492,000	-64,143,000	33,853,000	-30,290,000
Fiji	-5,498,000	3,563,000	-1,936,000	-55,523,000	9,390,000	-46,133,000
Jamaica	-5,227,000	349,000	-4,879,000	-52,784,000	919,000	-51,865,000
Zimbabwe	-2,245,000	8,403,000	6,158,000	-22,666,000	22,148,000	-519,000
Barbados	-1,822,000	0	-1,822,000	-18,398,000	0	-18,398,000
Belize	-1,666,000	1,815,000	149,000	-16,819,000	4,783,000	-12,036,000
Trinidad & Tobago	-1,652,000	551,000	-1,101,000	-16,687,000	1,454,000	-15,233,000
Malawi	-1,382,000	1,247,000	-135,000	-13,954,000	3,286,000	-10,668,000
Madagascar	-557,000	237,000	-320,000	-5,621,000	625,000	-4,996,000
Zambia	-545,000	4,426,000	3,881,000	-5,501,000	11,665,000	6,164,000
Tanzania	-499,000	0	-499,000	-5,040,000	0	-5,040,000
Cote d'Ivoire	-368,000	1,517,000	1,149,000	-3,716,000	3,998,000	281,000
Kenya	-134,000	0	-134,000	-1,354,000	0	-1,354,000
Congo, Rep	-73,000	1,763,000	1,690,000	-733,000	4,647,000	3,914,000
St Kitts	0	663,000	663,000	0	1,749,000	1,749,000
Protocol Total	-55,243,000	41,880,000	**-13,363,000**	-557,850,000	110,385,000	**-447,465,000**

source: Milner et al (2003)

Table 16: Impact of 'Price Cut' Scenario on ACP Sugar Industry

	Change in Production (percent)		Export Earnings (millions €)	
	Current Cost Structure	Future Cost Structure	Current	Future
Barbados	-100%	-100%	32	0
Belize	-100%	-100%	35	0
Congo, Rep	0%	0%	16	8
Cote d'Ivoire	-100%	-100%	13	0
Fiji	0%	0%	117	56
Guyana	0%	-43%	121	88
Jamaica	-100%	-100%	73	0
Madagascar	-100%	-100%	12	0
Malawi	-19%	-19%	25	13
Mauritius	-100%	-100%	291	0
St Kitts	-100%	-100%	11	0
Swaziland	-20%	-24%	105	58
Tanzania	-3%	-76%	16	0
Trinidad	-100%	-100%	30	0
Zambia	-14%	-14%	31	17
Zimbabwe	-28%	-28%	70	39
***Average*/Total**	***-55%***	***-63%***	**998**	**279**

source: LMC International (2004);export earnings based Current Cost Structure

Table 17: Change in Export Earnings from EU Reform
(all figures in euros)

	Current (€523.70/t)	After Stage 1 Reform (€435.0/t)	After Stage 2 Reform (€290.0/t)
Mauritius	257,152,935	213,598,485	142,398,990
Fiji	86,592,747	71,926,380	47,950,920
Guyana	83,483,017	69,343,350	46,228,900
Jamaica	62,161,095	51,632,760	34,421,840
Swaziland	61,715,426	51,262,575	34,175,050
Barbados	26,348,394	21,885,720	14,590,480
Trinidad & Tobago	22,912,398	19,031,685	12,687,790
Belize	21,130,771	17,551,815	11,701,210
Zimbabwe	15,828,832	13,147,875	8,765,250
Malawi	10,905,528	9,058,440	6,038,960
St Kitts & Nevis	8,165,007	6,782,085	4,521,390
Madagascar	5,635,012	4,680,600	3,120,400
Congo	5,334,408	4,430,910	2,953,940
Cote D'Ivoire	5,334,408	4,430,910	2,953,940
Tanzania	5,334,408	4,430,910	2,953,940
Total	**678,034,386**	**563,194,500**	**375,463,000**
Change from Current Earnings		***-114,839,886***	***-302,571,386***

source: CEC (2003)

Table 18: Protection and Liberalization in the T&C Sector

1973: December	The MFA is agreed to commence on January 1, 1974, and to last for four years.
1977: December	The MFA is extended for four years.
1981: December	The MFA is renewed for five years. The USA, under pressure from increased imports resulting from dollar appreciation, negotiates tough quotas.
1986: July	The MFA is extended for 5 years, to conclude with Uruguay Round.
1991: July	The MFA is extended pending outcome of the Uruguay Round negotiations.
1993: December	The Uruguay Round (UR) draft final act provides for a 10-year phase-out of all MFA and other quotas on textiles in ATC. MFA extended until UR comes into force.
1995: January 1	1st ATC tranche liberalized by importing countries – 16% of 1990 import volume.
1998: January 1	2nd ATC tranche liberalized by importing countries – 17% of 1990 import volume.
2002: January 1	3rd ATC tranche liberalized by importing countries – 18% of 1990 import volume.
2005: January 1	4th ATC tranche liberalized by importing countries – 49% of 1990 import volume.

source: Spinanger (2003)

Table 19: Annual Quota Rents (millions US$) as Percentage of Merchandise Exports (MXR, M US$)

	Annual Quota Rents	Total MXR	Quota Rents as % of MXR
Cambodia	78	1295	6.03
Bangladesh	480	5495	8.74
Pakistan	467	9170	5.10
Sri Lanka	218	4327	5.04
Mauritius	76	1448	5.22
Total	**1,319**	**21,735**	

source: Secretariat calculations

Table 20: Selected Countries' Exports of Textiles and Clothing to the United States and EU (Products Liberalized in Phase III of ATC, Percentage Changes Jan.-Sept. 2001 vs. Jan.-Sept. 2003)

	Exports to the US			Exports to the EU	
Origin	**Change in Value (US$)**	**Change in Volume**	**Origin**	**Change in Value (€)**	**Change in Volume**
World	16.7	64.4	World	5.1	27.5
China	193.6	652.6	China	90.8	377.1
Pakistan	13.2	27.7	Romania	19.9	27.2
India	12.2	1.8	Czech Rep.	7.8	1.3
Turkey	-9.5	-9.2	Turkey	-3	-22.8
Egypt	-20	-20	Tunisia	-4.3	-18
Mexico	-20.5	-10.8	India	-12.5	-9.5
Indonesia	-35.7	-36.3	Morocco	-12.7	-19
Cambodia	-43.2	-31.1	Sri Lanka	-21.6	-0.6
Bangladesh	-43.6	-41.9	Bangladesh	-41.2	-8.4
Philippines	-57.9	-53.8	Thailand	-44.8	-26.9
Sri Lanka	-57.9	-64.5	Vietnam	-49	6.6
Thailand	-62	-64.7	Indonesia	-50.1	-30.7

source: IMF (2004)

Table 21: Change in Major Economic Aggregates for Studies on South Asian T&C Sector

	Clothing Exports	**Textile Exports**	**GDP**	**Employment**	**Welfare (M US$)**
Bangladesh					
Mlachila and Yang (2004)	-17.7	-4.7%	-2.3%	-4.5%	…
Lips et al (2003)	-11.3%	1.0%	…	…	-401 to -425
Spinanger (2003)	-7.9%	15.5%	-.014%	…	…
Sri Lanka					
Francois and Spinanger (2001)	-6.55%	-0.62%	…	…	- 452
Lips et al (2003)	-2.4%	12.7%	…	…	- 228
Pakistan					
Francois and Spinanger (2001)	-17.0%	15.7%	…	…	-280

Ellipses (…) indicate estimates unavailable

Table 22: Total Employment in the Sugar Industry as a % of the Labour Force, Average 2000-2002

	Total Sugar Employment		*of which:* Field Employment		*of which:* Factory Employment	
	% Labour Force	No. of Employees	Current	Full Lib.	Current	Full Lib.
Barbados	1.8%	2,612	2,107	0	505	0
Belize	12.5%	10,290	9,643	0	647	0
Congo	0.1%	1,000	800	800	200	200
Côte d'Ivoire	0.1%	5,000	4,200	0	800	0
Fiji	7.1%	23,132	21,280	0	1,852	0
Guyana	7.2%	23,860	21,955	8,425	1,905	714
Jamaica	2.4%	32,729	30,698	0	2,031	0
Madagascar	0.3%	24,300	20,300	0	4,000	0
Malawi	0.3%	16,215	14,737	14,737	1,478	1,478
Mauritius	5.5%	28,144	25,219	0	2,925	0
St Kitts	8.0%	1,766	1,201	0	565	0
Swaziland	4.5%	17,174	14,162	14,162	3,012	3,012
Tanzania	0.1%	23,075	17,689	18,242	5,386	6,463
Trinidad	4.2%	24,410	23,710	0	700	0
Zambia	0.2%	7,000	5,900	5,900	1,100	1,100
Zimbabwe	0.5%	27,189	24,389	24,389	2,800	2,800
Total/*Average*	***3.43%***	**267,896**	**237,990**	**86,655**	**29,906**	**15,767**

Table 23: Selected Small, Poor and Vulnerable Preference-Dependent Economies (2000)

	Imports of Goods and Services (in billion US$)	(world share)	Per Capita GDP	WTO Member	EVI Score
Suriname	0.72	0.01%	n.a.	Yes	44.28
Lesotho	0.76	0.01%	2320	Yes	53.11
Guyana	0.79	0.01%	4560	Yes	51.41
Fiji	1.03	0.01%	4730	Yes	37.39
Swaziland	1.10	0.01%	4330	Yes	35.02
Haiti	1.32	0.02%	1920	Yes	45.61
Congo (Rep.)	1.40	0.02%	950	Yes	46.90
Madagascar	1.47	0.02%	810	Yes	26.75
Mozambique	1.53	0.02%	1000	Yes	37.36
Zimbabwe	1.96	0.02%	2450	Yes	40.94
Cambodia	2.01	0.03%	1760	AP[1]	61.00
Tanzania	2.10	0.03%	510	Yes	36.23
Cameroon	2.38	0.03%	1640	Yes	31.59
Cote D'Ivoire	3.50	0.04%	1550	Yes	32.81
Jamaica	4.33	0.05%	3590	Yes	31.18

source: Mattoo and Subramaniam (2004) and Grynberg and Remy (2004) ; [1]WTO Accession in Progress

Table 24: Overview of World Bank Group Assistance to Selected PDEs

	World Bank	IFC
Fiji	No active IBRD/IDA projects.	South Pacific Project Facility (SPFF) estimated to disburse $10.5 million over entire South Pacific region during 2001-2005.
Botswana	No active IBRD/IDA Projects.	Cumulative IFC commitments total US$8.8 million in three enterprises.
Belize	The Bank maintains two active projects in Belize with a net commitment of US$21.4 million: a *Social Investment Fund* (SIF) targeted towards poverty reduction and a *Roads and Municipal Drainage Project* designed to rehabilitate or construct drainage infrastructure in six municipalities to reduce flooding.	The IFC portfolio consists of a $15 million investment in hydroelectricity and two investments in shrimp farms totalling $16 million.
Guyana	Guyana's IDA-13 allocation of up to US$26 million will consist of a Public Sector Technical Assistance Credit (PSTAC) of approximately US$4 million and a series of two Poverty Reduction Support Credits (PRSCs) for the remaining amount.	Since FY98, the IFC has invested a total of $2.9 million in three small projects in the manufacturing, tourism and financial sectors.
Mauritius	The Bank has currently three projects in its portfolio supporting the financial and infrastructure sectors, for a total commitment of $19 million. The Bank is currently planning two to three public expenditure reform loans (PERLs) of $40 million to support public sector reforms.	The IFC has a total portfolio of $1.6 million consisting of two projects (a steel project and a venture capital fund). No new investments have been made since 1996.
Mozambique	The Mozambique portfolio currently has 21 active projects with a commitment value of about US$800 million, including a $120 million Economic Management and Private Sector Adjustment Credit Project.	The IFC's committed portfolio as of June 2003 totals $154 million and consists of fourteen projects in agribusiness, the hotel industry, banking, and general manufacturing.

Source: Organizational websites, World Bank country program matrices and country documents.

Table 25: Debt Indicators in Selected Preference-Dependent Economies

	Debt/Exports (100,200,300)	Debt/GDP (30/45/60)	Debt Service / Exports (15,25,35)
Guyana	200.92	219.49	23.0
Mauritius	59.32	39.74	8.24
Congo	209.36	234.68	0.98
Jamaica	119.6	75.28	18.39
Belize	161.96	109.58	36.48
St. Lucia	113.96	67.29	7.2
Dominica	147.87	94.96	7.94
St. Vincent	118.38	60.15	7.58
Zimbabwe	n/a	42.29	n/a
Mozambique	362.78	135.24	5.95
Average	***181.39***	***98.06***	***12.86***

Source: Global Development Finance 2004

Table 26: Hypothetical Donor Financing Envelope
(million US$ unless otherwise indicated)

	Textiles & Clothing	Agriculture	Total
Income Transfer Loss	1,319	402	1,721
Implementation Period (years)	1995-2005	2005-2015	
Nominal			
4-year	5,276	1,608	6,884
10-year	13,190	4,020	17,210
Discounted			
4-year	4,903	1,112	6,015
10-year	11,251	2,552	13,803

Source: Secretariat calculations

Table 27: Indicative Policy-Dependent Debt and Debt-Service Thresholds (in percent)

	Assessment of Institutional Quality		
	Strong	Medium	Poor
	CPIA = 3.6	2.9 < CPIA < 3.6	CPIA = 2.9
NPV of debt-to-GDP	60	45	30
NPV of debt-to- exports	300	200	100
Debt service-to-exports	35	25	15

Source: World Bank (2004)

Table 28: Proposed EU Sugar Sector Price Changes

	Reference period	2005/06	2006/07	2007/08
Institutional Sugar Price (EUR/t)	632	506	506	421
Cumulative reduction in institutional price	0.0%	–20.0%	–20.0%	–33.0%
Minimum Sugar Beet Price (EUR/t)	43.6	32.8	32.8	27.4
Cumulative reduction in minimum sugar beet price	0.0%	–25.0%	–25.0%	–37.0%

Source: CEC (2004)

Table 29: Amount and Type[1] of SFA Assistance
(amounts in millions euros)

Boosting Productivity

	1999		2000		2001		2002		Total
	Amount	**Type**	**Amount**	**Type**	**Amount**	**Type**	**Amount**	**Type**	
Belize	3.1	(1)	3.1	(2/6)	3.0	(1)	2.7	(2/3)	11.9
Cameroon	6.2	(1/2/5/11)	5.7	(1/2/5/11)	5.6	(1/2/5/11)	5.1	(1/2/5/11)	22.6
Cape Verde	---		---		---		---		0.0
Côte d'Ivoire	4.3	(1/2/5/14)	4.1	(1/2/5/9/14)	2.6	(1/2/5/9/ 14)	2.6	(6/7/14)	13.57
Dominica	5.8	(1/14)	5.5	(1/14)	---		---		11.3
Grenada	0.4	(1/5/8/14)	0.5	(1/14)					0.9
Jamaica	5.3	(3/5/6/12)	5.3	(1/2/3/4/5/6/8)	3.5	(10)	2.9	(1/2)	17.0
Madagascar	---		---		---		---		0.0
St Lucia	5.8	(1/14)	5.4	(1/14)					11.2
St Vincent	6.1	(5/8/14)	6.5	(5/8/14)	6.4	(8/14)			19.0
Somalia	---		---		---		---		0.0
Suriname	3.1	(1/14)	2.7	(1)	2.7	(1)	2.5	(1)	11.0
Total	**40.1**		**38.6**		**23.8**		**15.8**		**118.3**

Diversification

	1999		2000		2001		2002		Total
	Amount	**Type**	**Amount**	**Type**	**Amount**	**Type**	**Amount**	**Type**	
Belize					0.5	(9/10)	0.80	(7)	1.3
Cameroon	---		---		---		---		0.0
Cape Verde	0.5	(7)		---	---		0.5	(7)	1.0
Côte d'Ivoire	0.38	(7/14)	0.3	(7/14)	0.3	(7/14)			0.93
Dominica	0.7	(7/10)	1.0	(7)	6.7	(7/11)	6.4	(10/13)	14.8
Grenada	0.6	(14)	0.5	(10)	0.5	(10)	0.5	(10)	1.6
Jamaica					1.5	(14)	1.8	(7)	3.3
Madagascar	---		---		---		0.5	(7)	0.5
St Lucia	3.4	(7/11)	3.5	(7/11)	9.2	(7/10/11)	8.8	(7/10/11)	24.9
St Vincent							6.1	(11/13)	6.1
Somalia	---		---		0.6	(7)	2.8	(7)	3.4
Suriname									0.0
Total	**5.6**		**4.8**		**19.2**		**28.2**		**57.9**

Source: CEC (2004). [1]Guide to 'Type' of Assistance: (1) Irrigation and drainage; (2) Renewal of plantations; (3) Phyto-sanitary treatment; (4) Fertiliser; (5) Packing; (6) Cold storage; (7) Agriculture/rural development; (8) Road; (9) Social infrastructure; (10) Microcredit; (11) Social project; (12) Training; (13) Institutional support; (14) Technical Assistance.

Table 30: SFA Assistance and Banana Export Values (1999-2002)
(millions euros)

	SFA Assistance		Value of Exports		
	Total (M€)	**Share of Total (a)**	**Average (M US$)**	**Share of Total (b)**	**Difference (b) - (a)**
Belize	13.2	7.5%	25.5	10.3%	2.8
Cameroon	22.6	12.8%	46.2	18.6%	5.8
Cape Verde	1.0	0.6%	0.0	0.0%	-0.6
Côte d'Ivoire	14.50	8.2%	72.4	29.2%	20.9
Dominica	26.1	14.8%	11.5	4.6%	-10.2
Grenada	2.5	1.4%	0.2	0.1%	-1.3
Jamaica	20.3	11.5%	23.5	9.5%	-2.1
Madagascar	0.5	0.3%	0.0	0.0%	-0.3
St Lucia	36.1	20.5%	22.6	9.1%	-11.4
St Vincent	25.1	14.2%	17.3	7.0%	-7.3
Somalia	3.4	1.9%	7.2	2.9%	1.0
Suriname	11.0	6.2%	21.9	8.8%	2.6
Total	**176.2**	**100.0%**	**248.1**	100.0%	0.0

Source: CEC (2004) and FAOSTAT database

Table 31: Quad Imports of Least Developed Countries Under GSP Schemes
(millions US$ unless otherwise indicated)

	Total Imports from LDCs	**Dutiable Imports**	**Imports Covered By GSP scheme**	**Imports Receiving Preferential Treatment**	**Potential Coverage Rate (%)**	**Utilization Rate (%)**	**Utility Rate (%)**
	(1)	(2)	(3)	(4)	(3)/(2)	(4)/(3)	(4)/(2)
Canada	256	92	9.8	5.8	10.6	59.3	6.3
European Union	3562	3100	3075	1035	99.2	33.7	33.4
Japan	1248	756	314	229	41.0	73.0	29.9
United States	2613	2078	113	89	5.4	78.6	4.3

source: Topp (2001); Figures for United States exclude petroleum.

Table 32: Imports of Least Developed ACP Countries in the EU under Lomé/Contonou

			ACP Imports				
Year	**Total Imports**	**Dutiable Imports**	**Covered**	**Receiving**	**Coverage (%)**	**Utilization (%)**	**Utility (%)**
(1)	(2)	(3)	(4)	(5)	(4)/(3)	(5)/(4)	(5)/(3)
1998	5,619,463	2,154,202	2,153,103	1,467,413	99.9	68.1	68.1
1999	5,676,094	1,943,815	1,943,815	1,578,683	99.4	81.6	81.2
2000	7,572,540	1,719,521	1,719,243	1,226,470	99.4	71.7	71.3
2001	8,060,711	2,063,470	2,059,787	1,570,442	99.8	76.2	76.1
2002	8,440,687	2,237,059	2,162,641	1,768,022	96.6	81.7	79.0

Source: UNCTAD (2003b)

Table 33: Quota Enlargement (%)Under the ATC, 2004-1994

	Textiles		Clothing	
	EU	**USA**	**EU**	**USA**
Bangladesh	na	168	na	168
China	50	33	38	41
Hong Kong	16	37	22	17
India	50	141	79	116
Indonesia	83	134	117	133
Korea	70	37	38	12
Pakistan	79	139	119	150
Sri Lanka		134	204	132
Philippines		134	112	119
Thailand	59	127	116	123
Taiwan, China	34	22	24	4

source: Martin et al (2004)

Figure 1: Net Changes in Export Volumes for "Full OECD Liberalization"; source: Milner (2003)

(thousands tonnes)

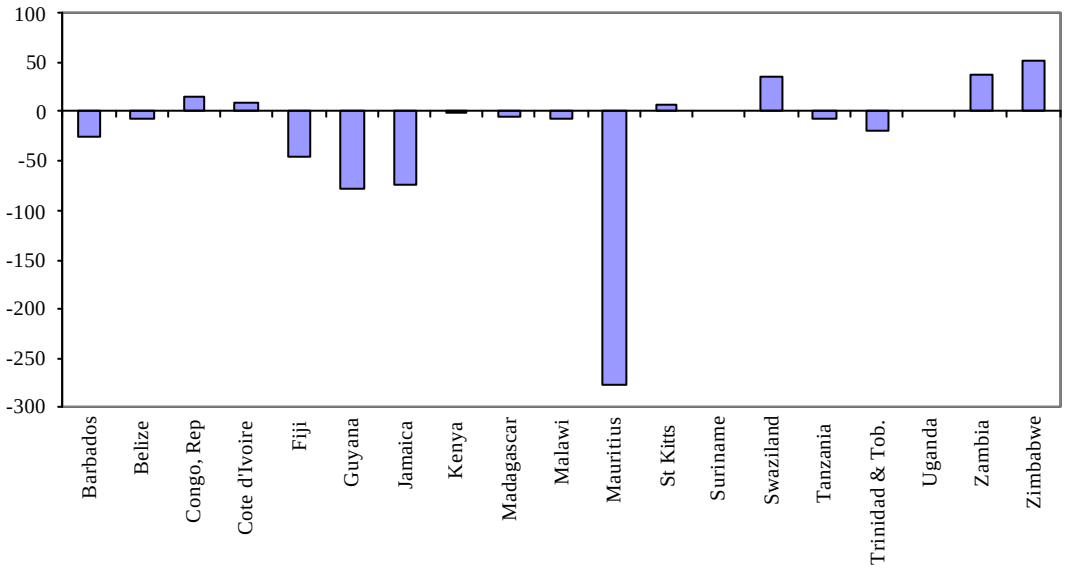
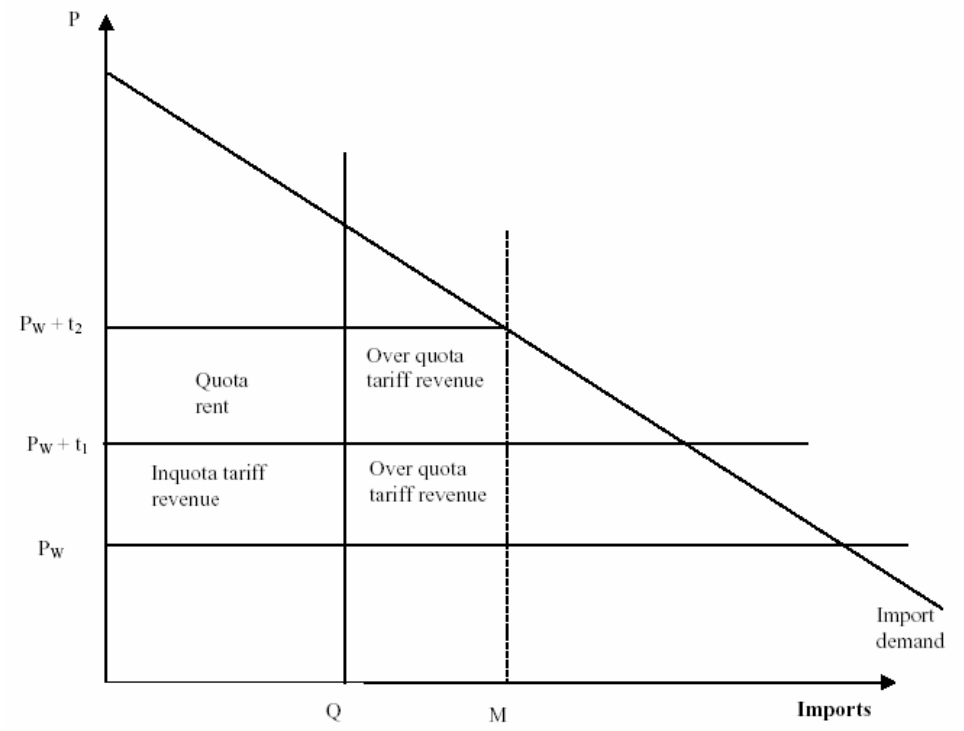
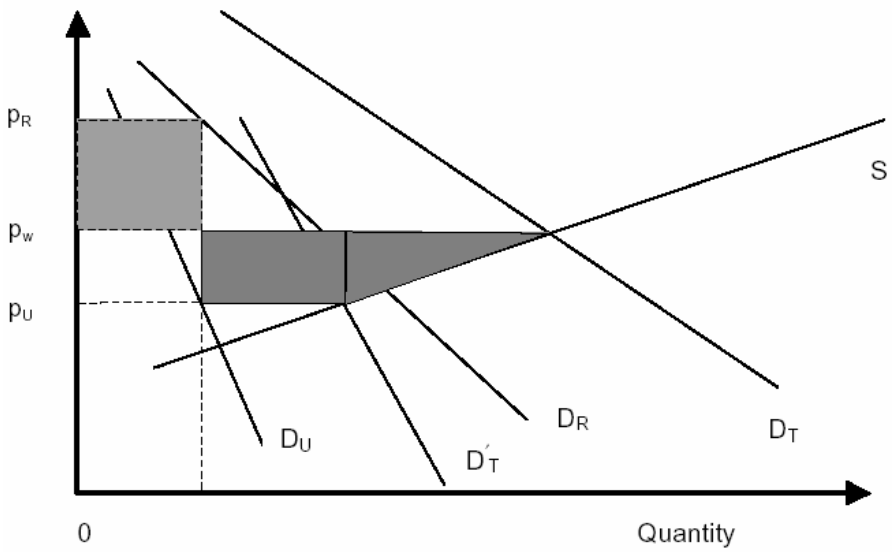


Figure 2: Quota Rents with Binding Out-Quota Tariff



Source: Vanzetti and Graham (2002)

Figure 3: Market Equilibrium in the Presence of Quotas



Source: Khaturia et al (2002)

ANNEX I: ESTIMATING INCOME TRANSFERS: METHODOLOGICAL ISSUES

A. Agriculture

i. Coverage, Utilization and Utility Rates

The first consideration is that it is often difficult to assess the actual level of beneficiary exports that utilize the preferential schemes. In practice the actual reach of preferential schemes varies widely. The generosity (in practice and in principle) of such schemes can be assessed using three variables:

- The *product coverage ratio* is defined as the ratio between imports covered by the PTA and total dutiable imports from the beneficiary countries.[89] The higher the percentages, the more generous the preference may appear.
- The *utilization ratio* is defined as the ratio between imports actually receiving preference and eligible imports. The higher the percentage, the more a beneficiary country is availing itself of the preferences it has been granted.
- The *utility ratio* is the ratio of imports actually receiving preferences and total dutiable imports.

The three final columns of Table 31 show the values of these three ratios for Quad imports from LDC GSP beneficiaries. It is apparent that the product coverage ratio varies widely between donor countries. For the EU, most of the potentially dutiable imports are covered by preferences, as is Japan. However Canada and the United States – once petroleum is excluded – show relatively lower rates of coverage. This is most likely due to the political economy considerations of trade preferences, where donor countries balance the competing interests of exporters in the domestic economy and in beneficiary countries.

Table 31 further shows that, on average, actual imports receiving preferential treatment as a percentage of total dutiable imports – the utility rate – has been very low.[90] However once again it is important to note the wide dispersion in the data. For the least developed ACP countries under the Lomé/Cotonou Partnership Agreement during 1998-2002, the utilization and utility rates of EU preferences are nearly double that of the Quad averages (see Table 32). The utilization rate for major LDC exporters such as Senegal, Mauritania, Madagascar, Tanzania, Mozambique, Angola and Uganda have been well over 80%.[91]

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[89] The various definitions contained in this section are from UNCTAD (2003b)

[90] It is important to note that many organizations – most notably the World Bank, UNCTAD and the Commonwealth Secretariat– have been spearheading recent efforts to increase the 'take-up' of preferential schemes, largely through the modification of the more restrictive rules of origin in new initiatives such as EBA and AGOA. See Brenton and Ikezuki (2004a), Brenton and Ikezuki (2004b), Brenton (2003), IMF and World Bank (2002), UNCTAD (2001), World Bank (2004).

[91] See UNCTAD (2003b) for a detailed breakdown of individual Quad schemes for LDC exporters.

ii. Binding Instruments

Whether or not preferential quota arrangements generate rents for exporters in beneficiary countries depends on which of the three TRQ instruments is considered binding[92]:

- If the in-quota tariff is binding, the quota is unfilled, domestic prices equal world prices plus the in-quota tariff and there is no quota rent.
- If the quota is binding, imports equal the quota and the rent is positive but indeterminate.
- If the out-quota tariff is binding, then imports exceed the quota and the rent is positive, equal to the quota times the difference between the in-quota and out-quota rates.

Ideally, the import quota fill rate (i.e. reflecting utilization) should determine the domestic price. If the quota is unfilled domestic prices should be determined by in-quota tariffs, and prices should be high only if the quota is filled or overfilled. However, from the previous sections, it is clear that an intermediate case exists in practice: quotas are unfilled (preferences are underutilized) but domestic prices are high in the relevant importing market. The previous section outlined many of the administrative and political economy reasons why such under-filling existing. However the existence of high domestic prices in Quad markets for preferential goods reflects the often highly prohibitive out-quota rates rather than the relatively lower in-quota preferential rates or world prices, thus the existence of quota rents can be assumed.[93]

iii. Rent Capture

Quota rents in theory are distributed between the different economic agents in the supply chain – exporters, processors, taxpayers, consumers and governments. Much depends on the relative bargaining power (and market position) of the various agents. If a small number of potential supplying countries receive the preference – especially if importers cannot switch imports between preferred states, or do not wish to in order to maintain high domestic prices – then a higher share of the quota rents accrues to beneficiary exporters.[94] If there is considerable rent-seeking activities or inefficient quota administration, then a share may accrue to governments. The form in which quota shares are allotted – whether through auction, or on the basis of historical trade flows – further affects the distribution of quota rents.

[92] This formulation is from Vanzetti and Graham (2002).
[93] The ATPSM database used in this study assumes that global quotas do not exceed imports, thus combining both actual trade flows with the assumption of binding out-quota rates. See Annex III for more details.
[94] Stevens and Kennan (2003)

B. Textiles and Clothing

i. Calculating ETEs

It is important at the outset that there is substantial variation in ETE estimates for specific countries. Accurately estimating ETEs often requires actual quota prices, which are highly variable over time. This is primarily due to the changing interaction between supply and demand in the ATC market and the composition of the quotas. A major objective of the ATC was to progressively return these sectors to normal market disciplines through accelerated growth in quotas. Many ATC suppliers saw significant expansion in their quotas (see Table 33). The expansion of ATC quotas, while falling well short of full liberalization, has had a large impact on the shifting shares between MFA-restricted suppliers. The expansion of quotas for competitive Chinese, Indian and South-East Asian producers has caused significant shifts in the market well before the 2005 phase-out date. Although T&C PDEs such as Bangladesh and Sri Lanka have also seen a similar percentage expansion of their quotas, actual T&C export volumes for producers in China, India, Indonesia and the Philippines are significantly higher.

In addition, the restrictiveness of a quota for a given producer is an important consideration when calculating ETEs. In countries such as Sri Lanka where quotas have been expanding rapidly yet there has not been a concomitant increase in supply, the resulting low utilization rate has depressed ETEs down to zero in some estimates.[95] However as in the agricultural case, the presence of high prices and low utilization rates may point to other constraints – in this case, restrictive rules of origin – which result in low supply levels relative to quota, rather than low demand.

ii. Utilization Rates

Furthermore, the utilization rates of textile and clothing quotas vary widely. The likely culprit behind low utilization lies in the significant administrative costs related to enforcement of rules of origin. These onerous rules are intended to prevent trans-shipment of goods from non-eligible countries, and often require substantial documentation whose cost of implementation effectively negates the potential benefit from the preferential tariff scheme. They are often explicitly protectionist in intent – for example, the so-called 'triple transformation' rule in textile requires clothing to be made from textiles produced with yarn spun in either the preference-granting or the beneficiary country.[96] In addition, the limited validity period of many preferential schemes has been a potential deterrent for exporters in beneficiary countries. It is hoped that the indefinite nature of the EBA preferences will mitigate this uncertainty; however the EU EBA policy is at present the exception among Quad donors.[97]

[95] Spinanger (2002), Martin et al (2004).
[96] World Bank (2004)
[97] For the US, the current GSP expires at end 2006; AGOA expires in 2008. For the EU, current GSP expires end 2004; the current Japanese GSP expires in 2011.

ANNEX II: ESTIMATING THE IMPACT OF TRADE POLICY CHANGES

Economists modelling trade policy face a critical trade-off between keeping the model workable, and keeping it realistic enough to be useful to the policy community. Out of necessity, this involves compromises regarding the sector and region coverage of the models, the modelling of production and demand, representation of complex commercial policies, and the design of policy experiments.[98] This section outlines a list of methodological issues involved in modelling trade liberalization, although the list is by no means exhaustive.[99]

i. Market Structure

The results from applied analysis are quite sensitive to the extent to which products of alternative origin can cat as substitutes for each other in trade. The more similar is the export pattern of a given pair of countries, the stronger the likelihood that preferred exporters will be displaced by other countries due to preference erosion. In order to capture the likely effects of trade liberalization, it is necessary to obtain data on import elasticities between all foreign goods for individual import markets (so-called "Armington" elasticities).[100] The Armington assumption is consistent with perfect competition, making estimates of scale economies unnecessary (as would be required for monopolistic competition models, where products are differentiated at the firm and country level, thus providing producers with a degree of market power).

The results of models are highly sensitive to initial assumptions of these trade substitution elasticities. Technically, these elasticities are derived through econometric work that uses time series price variation to identify an elasticity of substitution between domestic and imported goods. Like market power measures used in an imperfect competition setting, there is a great deal of uncertainty in the economic literature about the "correct" parameter values.[101] Models with Armington assumptions generally yield smaller trade and outp ut effects than models with either homogenous goods or models with firm-level product differentiation. Small trade elasticities reduce generate large terms-of-trade effects by reducing the responsiveness of export demand and reduce the likelihood of trade diversion, as import sourcing becomes less sensitive to relative prices.

ii. Supply Responses

[98] Francois (2000)
[99] An ideal source for the interested reader is the website of the Global Trade Analysis Project (GTAP) at Purdue University (www.gtap.agecon.purdue.edu)
[100] This is the structure of the GTAP model (see Hertel 1997). Chapter IV of UNCTAD (2001) estimates a number of export similarity indices for broad regional aggregates.
[101] Francois (2000)

A closely related issue is that of modelling supply responses from producers facing changes in their production incentives. Introducing assumptions about the shape of country- and firm-level supply curves, hence the scale of quantity adjustments in response to price changes, can multiply the effects (positive and negative) of any change in model parameters.

This is further complicated when one moves away from simple price movements and towards less empirically defined variables such as income transfers. It is not yet clear what role the income transfer plays in production. Is the transfer wholly 'rent' (shared between capital and workers in the form of higher profits and wages respectively) or is it wholly necessary to maintain production a normal profit levels, or is it some mixture of the two?[102] The ATPSM model used in this study for the agricultural sector assumes that producers do not alter supply decisions in responses to changes in quota rents. Milner et al (2003) by contrast provides a twin-track approach –one assuming constant quantities of exports being supplied by preferred exporters, and one with quantity adjustments assuming a one-for-one (unitary) export supply elasticity – yet also acknowledges its limitations:

> The perfectly inelastic values might be thought as representing either shorter term outcomes or ones where there are capacity (e.g. land area) constraints on supply expansion or land or other factor specificities which restrict diversification out of sugar into alternative activities… For longer term effects and for large scale sugar reforms it may be more appropriate to focus on the unitary elastic supply values. A unitary value is chosen for presentational reasons, rather than because there are strong priors or clear indicators from the existing empirical work about the appropriate elasticity to use for each country.[103]

However in practical terms it is not unlikely that, given an erosion of preferential access, there will be some sort of supply response from producers and a concomitant shift in supply away from high-cost preferential producers. Such a shift inevitably entails rationalization and market exit among producers in preferential sectors. These supply shifts often magnify the effects of price changes, leading to more extreme results than those based on fixed quantities. While it is often these results which are most of interest to producers in the affected sector, the data requirements and fragility of assumptions in such "crystal ball" analysis often leads to easily refutable conclusions.

iii. Intersectoral Effects

A crucial modelling decision involves choosing between a partial equilibrium versus a general equilibrium framework. Generally, inter-sectoral linkages (such as cross-price elasticities) are ignored in the former, whereas they are explicitly included in the latter. The partial equilibrium setting focuses on particular sectors, without accounting for price and resource allocation changes elsewhere in for example the labour markets. The computable general equilibrium (CGE) framework allows the modelling of inter-sectoral

[102] Milner et al (2003)
[103] Ibid. The actual results are examined in more detail in the following section.

reallocation of resources associated with changes in model variables, and the effects on the input-output structure of the economy.

Although CGE modelling provides a richer representation of cross-sector effects, it has it limitations. The CGE analysis brings increased estimation demands – most particularly the estimation of trade elasticities discussed above – which are present in the partial equilibrium setting but increase considerably when one moves to the CGE setting, proportionally increases the scope for bias in the results. Second, due to the Armington assumption, CGE modelling may lead to an overestimation of the terms of trade effects as the supply curve of each good tends to appear highly rigid. Finally, CGE modelling may not be optimal when policy reforms are concentrated in a few sectors. Due to the data demands of CGE analysis, often the data is presented in a highly aggregated basis, which makes analysis for smaller countries less feasible.[104] It is largely for this reason that the partial-equilibrium ATPSM model was used as it includes the majority of PDEs and explicitly considers quota rents in the model.

iv. Specifying Trade Policies

In order to quantify the effects of changes in model variables, the levels and impacts of trade policies must be converted into numerical equivalents. Thus trade measures such as specific and mixed tariffs, export subsidies and domestic farm support must be expressed as tariff *ad-valorem* equivalents (i.e. as a percentage of world prices). In this way changes to the trade regime – such as a reduction in domestic support levels – can be expressed as an equivalent percentage reduction in the ad-valorem equivalent. The ATPSM database uses this approach.

However in practice the conversion is not entirely straightforward. It is not clear to what extent different forms of domestic support impact production and trade. This is a complex issue concerning the method of administration, perceptions of risk, wealth effects of direct payments and the likelihood of changes in government policies. In addition, there are potential problems of double counting in that if border support is removed, reducing domestic prices, there may be no role for domestic support.[105] In the agricultural sector direct income support and payments to factors of production have differing impacts than, for example, export subsidies. However each is the subject of contentious WTO negotiations and precise data on the level and impact of support measures and subsidies is often unavailable.

v. Specifying Scenarios

Of all the methodological pitfalls in modelling changes in trade policies, perhaps the most difficult is forecasting the actual shape and time-scale of liberalization. Even in the case

[104] See UNCTAD (2001) for a more in-depth comparison of partial vs. CGE modeling and results.
[105] Vanzetti and Peters (2003)

of textiles, where liberalization commitments were enshrined in the ATC following the Uruguay Round, actual implementation may differ substantially from the agreed-upon schedule. The Uruguay Round brought agriculture into the multilateral negotiating setting, yet the determining the state-of-play and the range of negotiations at any given time is highly dependent on the negotiations between major trading partners. Individual proposals can be highly detailed and their specification to fit individual models can vary accordingly.

Scenarios can vary according to:

- Level changes in quota instruments, such as quota growth rates, in- and out-quota tariffs;
- The capture rent of quota rents according to the market structure of the commodity concerned;
- The use of applied versus bound tariff rates;
- The time-scale assumed for implementation; and
- The tariff-cutting formulas assumed by the scenario.

ANNEX III: MODELLING AGRICULTURAL POLICY REFORM WITH ATPSM

(Summarized from Vanzetti and Peters 2003)

ATPSM is a deterministic, comparative static, partial equilibrium model. This means that there are no stochastic shocks or other uncertainties, and there is no specific time dimension to the implementation of the policy measures or to the maturing of their economic effects. The comparative static nature of the model doesn't imply that the policies take effect instantaneously. Rather, it compares two states at a similar point in time, one with the policy change, the other without. Finally, whereas the model aims at estimating far-reaching details of the agricultural economy, it does not deal with the repercussions of trade barrier reductions on other parts of the national economy. Thus, neither effects on the government budget (except for tariff revenues and subsidies to exports and domestic production) nor on the industrial and service sectors of the economy or the labor market are analyzed. Simplifying the model in these respects allows for a detailed specification of policies in a large number of countries for numerous commodities.

Quota Rents: A further simplifying assumption is that quotas are filled, either explicitly or through administrative constraints. This implies that in the model the applied tariff or out-of-quota tariffs, rather than the in-quota tariff, drives the domestic prices. This further implies that changes in in-quota tariffs do not have price and quantity effects, as these instruments are not binding. (They do, however, change the distribution of rents.)

Coverage: The present version of the model covers 160 individual countries plus one region, the European Union, which includes 15 countries. Those countries not covered are mostly small island economies. Countries designated here as 'developed' are defined by the World Bank as high income countries with per capita GNP in excess of $9266. A third group is the 49 least developed countries. There are 36 commodities in the ATPSM data set. This includes many tropical commodities of interest to developing countries, although many of these have relatively little trade by comparison with some of the temperate products. Included commodities comprise meat, diary products, cereals, sugar, edible oils, vegetables, fruits, beverages, tobacco and cotton.

Volume data are from 2000 and are compiled from FAO supply utilization accounts. The year 2000 represents the base year for the model. The price data are also from FAO. Parameters on elasticities and feedshares are from FAO's World Food Model. These are based on a trawling of the literature and are not econometrically estimated specifically for the model. Some of the elasticities were modified by the authors where this was necessary. Inquota tariffs, outquota tariffs and global quotas, notified to the WTO, are obtained from the AMAD database where available and aggregated to the ATPSM commodity level. Export subsidy data are notified to the WTO. Bilateral trade flow data relate to 1995 and are from UNCTAD's Comtrade database. These are used to allocate global quotas to individual countries. The UNCTAD TRAINS database is the source of information on applied tariffs.

Aggregating Goods: The relationship between world and domestic prices is complicated by the existence of two-way trade of the one (aggregated) good. To accommodate heterogeneous goods with one price, the approach taken here is to estimate composite tariffs for determining the domestic consumption and production price. To derive a composite price products are divided into three groups: imports; exports; and production supplied to the domestic market (S_d).

First, a domestic market price wedge (t_d) is computed as the weighted average of two tariffs, the export tariff (t_x) and import tariff (t_m), where the weights are exports (X) and imports (M):

$$t_d = (X\ t_x + M\ t_m)/(M + X)$$

Then, a consumer price wedge is computed as the weighted average of the import tariff (t_m) and the domestic market price wedge (t_d), where the weights are imports (M) and domestic supply (S_d):

$$t_c = (M\ t_m + S_d\ t_d) / D$$

Similarly, a producer price wedge is computed as the weighted average of the export tariff (t_m) and the domestic market price wedge (t_d), where the weights are exports (X) and domestic supply (S_d) plus the domestic support tariff (t_p):

$$t_s = (X\ t_x + S_d\ t_d) / S + t_p$$

The consumer and producer price wedges are added to the border price to give domestic prices. These calculations are applied both to the baseline and the final tariffs. A feature of this structure is that if there are no exports, domestic producer prices are determined by the tariff plus the domestic support. If there are no imports the export subsidy effectively determines the producer price. Finally, if there is two-way trade the share of total production or consumption influences the importance of each tariff. The need for a composite price such as this is the requirement for one price with essentially two goods. The heterogeneous nature of imports and exports also requires a means of specifying the volume of either imports or exports. In this model exports are specified as a proportion of domestic production and imports are determined as the residual of production, consumption and exports. An alternative and popular approach to heterogeneous goods in international trade is to use an Armington specification which requires elasticities of substitution between goods from different sources.

ANNEX IV: MODELLING TEXTILES AND CLOTHING REFORM WITH GTAP

(summarized from Mlachila and Yang 2004)

The Global Trade Analysis Project (GTAP) model used in this paper is a comparative static, global general equilibrium model based on neoclassical theory. Firms maximize their profits while consumers maximize their utility. All markets are assumed to be perfectly competitive, and constant returns to scale prevail in all production and trading activities. Firms use both a composite of primary factors and a composite of intermediates to produce their output according to Leontief production technology. The primary factor composite is a constant elasticity of substitution (CES) function of labor, capital, land and natural resources, while the intermediate composite is a Leontief function of material inputs, which are in turn CES blends of domestically produced goods and imports. Imports are sourced from all regions, with their share depending on trading prices (the Armington approach).

On the demand side, each country or region is assumed to have a "super" household disposing of regional income in fixed proportions in the form of private consumption, government expenditure and savings. Household consumption is assumed to be a constant difference in elasticities (CDE) function of various consumer goods while government expenditure is based on a CES function of various commodities. Both household and government consumption are CES blends of domestically produced goods and imports, which are in turn sourced from all trading regions based on the Armington approach.

In closing the model, regional savings are assumed to be homogenous and contribute to a global pool of savings, which is then allocated among regions for investment in response to changes in regional expected rates of return. These changes are assumed to be equalized across regions, thus giving rise to capital (i.e., savings) mobility across regions. This allows for greater changes in the trade balance as a result of trade liberalization and tends to dampen the terms of trade effects. In contrast to savings, capital stocks are assumed to be immobile across regions, although they are perfectly mobile within a region, as is labor. Land and natural resources are industry-specific, and only limited transformation of their uses among industries is possible.

The simplicity of the GTAP model makes its simulation results relatively easy to interpret, but limits its capacity to deal with more complex economic issues, such as the adjustment path over time and long-term effects of trade policies associated with investment accumulation, technology and productivity change. Also absent in the model are adjustment costs associated with trade liberalization. These limitations must be kept in mind when interpreting the results presented in this paper.

The GTAP database provides data on key trade policies, as well as on other essential data for a large number of countries and commodities. The base year for the data is 1997.

The estimates of ATC quota rents (and hence of the corresponding export tax equivalent rates) are based on Francois and Spinanger's (2000) estimates. The basic methodology

employed involved detailed calculations for Hong Kong and mainland China, based on quota prices, industry interviews, and confidential industry data. The estimates were extended to the other GTAP countries, taking the GTAP version 4 estimates as a starting point, with adjustments reflecting recent evolution in values and volumes, along with trade and interview data and confidential firm data. The rates for countries besides Hong Kong and mainland China were based on interviews, confidential documents, World Bank information, and relative export demand trends, generally involve increases from earlier, 1995 estimates, as specified in the GTAP 4 data base. This growth in quota rents follows from two phenomena — economic growth in the major import markets, which has been fueling import demand, and underlying growth combined with the recent recession in major export markets, which has been fueling supply.