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GLOBAL MARKETS AND RURAL POVERTY: DO THE RURAL POOR GAIN OR LOSE FROM GLOBALIZATION?

By

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- Provide support to initiatives that enable a better understanding of trade and policy issues that impact the competitiveness of Florida and southeastern agriculture specialty crops and livestock in the U.S. and international markets

Abstract: The paper advances the view that if global markets "worked" as theory suggests, then the answer to the question posed would be in the affirmative. Six reasons are given why this does not occur, namely: (1) the prevalence of trade manipulation; (2) the nature of markets in poor countries; (3) exceptions to neoclassical efficient market theory; (4) theoretical and empirical inconclusiveness regarding the relation between open trade policies and growth; (5) income inequality; and (6) the institutional framework of global trade. Trade in food and the Millennium Development Goals (MDG) for food security and poverty reduction illustrate the arguments and the paper concludes with some recommendations.

Key Words: Globalization; market and/or policy failure; Millennium Development Goals (MDG); neoclassical economics market efficiency theory; poverty and food insecurity; rent seeking behavior; rural poor; special and differential treatment; WTO Agreement on Agriculture (AOA).

GLOBAL MARKETS AND RURAL POVERTY: DO THE RURAL POOR GAIN OR LOSE FROM GLOBALIZATION?

Clive Y. Thomas and Carlton G. Davis[1]

Introduction

This paper is organized into three sections. The first section offers a theoretical response to the challenge posed by the question: Global Markets and Rural Poverty: Do the Rural Poor Gain or Lose From Globalization? The paper advances the view that if global markets "worked" as they are supposed to in theory, then the answer would definitely be in the affirmative. In practice, they do not, and six reasons are given as to why, in our opinion, this is the case. The second section uses the example of trade in food and the United Nations (UN) Millennium Development Goals (MDG) for food security and poverty reduction to concretize the arguments advanced in the first section. The third section offers some conclusions and policy recommendations to address the problems and issues considered in the paper.

The Issue

As stated by the organizers, the primary objective of this Symposium is "to explore the impacts of globalization on markets, trade and rural communities". From this perspective there is no singular answer to the question posed to our panel on Global Markets and Rural Poverty: Do the Rural Poor Gain or Lose From Globalization? The

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term, has different meanings to different people as pointed out by Davis, Thomas and Amponsah in a recent article. To avoid a long discourse on the meaning of the term globalization, we adopt the United Nations Development Program (UNDP) 1997 (p. 82) definition that: "globalization is the widening and deepening of international flows of trade, finance, and information in a single global market." Its necessary corollary is, of course, the active pursuit of policies of market liberalization in all areas of the economy. Based on this definition the impact of globalization on the rural poor is captured in the truism: globalization offers opportunities (e.g., access to third markets, enforceable rights and so on) as well as challenges to the livelihoods of the poor (arising out of obligations of poor countries to open their markets, follow WTO-rules and so on).

Markets matter for the poor in the sense that ***if*** they work, producing incentives, opportunities, and rewards they should be able to offer: (1) predictable access for the rural poor to sell their products and/or their labor in conditions of growing and stable demand at remunerative prices; and (2) opportunities to acquire finance and obtain their input requirements and consumption needs at competitive non-disadvantageous prices. If these two conditions are fulfilled, then the welfare of the rural poor is likely to be enhanced. Indeed, we might go further and state that the situation described here provides the rationale for the assertion that: liberalized markets and global trade together constitute the engine of growth for poor countries. As the World Bank puts it: "Integration into global markets offers the potential for more rapid growth and poverty reduction" (World Bank 2002, p4). According to this view, if existing market barriers prevent poor countries from seizing these opportunities then the correct response would be greater efforts to have those barriers removed. For a variety of reasons however,

these two conditions are rarely fulfilled in practice and the substantial, let alone full removal of market barriers remains a very distant prospect. Six of these reasons are important for this presentation and these are described below in the remainder of this Section. They are: (1) the prevalence of trade manipulation; (2) the nature of markets in poor countries; (3) exceptions to neo-classical efficient market theory; (4) theoretical and empirical inconclusiveness over the relation between open trade policies and growth; (5) income inequality; and (6) the institutional framework of global trade.

First, traditionally, and up to today, politics, ideology, geo-political and geo-strategic concerns play the lead role in shaping global market outcomes. Irrespective of the legal standing of commitments to de-regulate trade, covert and overt control and manipulation of markets by governments and large firms are the rule rather than the exception in all the major global markets that impact on the livelihoods of the rural poor, whether they are agricultural commodities, raw materials, energy, transportation, manufactured equipment and tools, chemicals, communications, or services. The emerging literature on "rent-seeking"[1] behavior in trade is an attempt to develop a theoretically plausible explanation for this phenomenon (Kruger; Just, Hueth and Schmitz; de Gorter, Rausser and Schmitz).

Second, the general nature of markets in poor countries poses special difficulties that are not readily overcome. Intrinsically, all markets are networks for transactions between buyers and sellers and these networks are mediated through a number of institutions, including traders, dealers, financiers, and the courts. These flanking and support institutions maturate very slowly, and historically, they have evolved through distinct development stages, with each stage broadly reflecting the overall condition of

the economy. A good example of this staged development is rural financial markets. Thus we find that typically in poor countries, in contradistinction to rich ones, rural markets suffer from incompleteness, asymmetry of information, the prevalence of moral hazard, weak incentives, ill-defined or undeterminable contractual limits, the absence of rules and enforcement mechanisms, weak organizational support, and minimal regulation and oversight. In such circumstances, markets have been aptly labelled as either imperfect, informal, localized or segmented. Indeed, very often, crucial markets are "missing", as is the case with rural credit, insurance, and futures markets, particularly in rural areas. In this context, if market failure occurs, as it frequently does, contagion is rampant and its negative effects aggravated by the significant inequality of income and assets that prevail in these communities (Abbott; Bonnen, Eicher and Schmid).

Third, neo-classical economics efficient market theory, which provides the rationale for market liberalization, tells us that resources are efficiently allocated if, and only if, each product's price is equal to its marginal cost of production. If the price exceeds that, then the product will be "under-produced"; if it were less, then the opposite would occur. Where this rule is violated, and in particular for reasons that are ***intrinsic*** to the nature of the product and its production process, "market failure" occurs and state involvement with its production is deemed consistent with economic rationality.[2] The form of that intervention however, may be quite varied and could include direct action with respect to production of the product in question, fiscal incentives and penalties, tradable permits, or the encouragement of "private remedies" along the lines of Coase. Furthermore, the same theory also tells us that because private markets do not possess a self-regulating mechanism to ensure continuous dynamic macroeconomic balance at the

aggregative level, and by force of circumstance, markets are continuously exposed to exogenous and/or endogenous shocks, government macroeconomic stabilization has become a necessary feature of all liberalized market economies. To complicate matters further, recent financial and economic crises in Asia, Russia, Brazil and Argentina, allied with the global slump since 2001, have heightened concerns about the relationship between macroeconomic stabilization on the one hand, and the linkage between trade and development on the other (Drabek and Laird). As Weller and Hersh (p. 4) indicate, a number of studies show that: "…the probability of financial crises in developing countries rise in direct relation to rises in unregulated short-term capital flows." Lustig also identifies macroeconomic crises as the single most important factor in explaining increases in poverty in Latin America and the Caribbean (LAC).

The neo-classical efficient market theorem recognizes the well-known cases of "public goods", which unlike private goods are not depletable (that is, they are non-rival in their use) and can be consumed readily by non-payers (free riders) (that is, they are non-excludable). The marginal cost of producing these types of goods is theoretically zero, and here again , a case for government involvement in production can also be established, consistent with neo-classical economics rationality. In like manner, the production of some goods also entails positive externalities (marginal social cost exceeds marginal private cost) and negative externalities (marginal social cost is less than marginal private cost). Here also, governments can enhance market efficiency if they involve themselves in the production of these goods, since high positive externalities will lead to a situation where there is insufficient market incentive for private producers. This

type of situation often occurs in key areas of development such as education, training, and Research and Development (R&D).

There are other related reasons why governments may involve themselves in economic activity in a market efficient manner. One set is socio-economic (for example, to protect employment); another set is based on the desire to contain exploitation by private monopolies. Likewise, the prevalence of imperfect information, high transaction costs, and moral hazard in poor countries cause market failure and make government intervention consistent with market efficiency. Finally, given the manner in which a market rate of interest is arrived at in most economies, it is difficult to reconcile this with an "objective" or optimal discount factor, which avoids market failure and guarantees inter-generational equity.

Two observations appear to be particularly appropriate and relevant at this stage. The first is that many of the conditions of market failure identified in neo-classical economics prevail in the agricultural economies of most countries. This consideration has caused in large measure the widespread practice, prior to formation in 1995 of the World Trade Organization (WTO), of governments protecting domestic agriculture from import competition, with richer countries better able to accomplish this effectively than poor ones. The contribution of this reasoning to the existing distortions in global agricultural markets can hardly be exaggerated. Second, lest the case for intervention is overstated, ***government or policy failure*** is also recognised in neo-classical market theory as a likely occurrence, for a number of reasons. The one that is usually emphasized in the literature, is the role of self-interested behavior by those who control the state along the lines of choice-theory in the New Public Management literature and in the rent-seeking

literature referred to earlier. To avoid a long discourse on the neo-classical tenets of policy/government failure, it is sufficient for our purposes to point out that these conditions exist when: (1) the public sector fails to redress market failure through legal, regulatory, economic or other means when it is clearly feasible to do so or; (2) when public sector activity magnifies existing market failure (Miranda and Muzondo). Following along these lines of observations, Panayotou argues that the prevailing configuration of market and policy regimes under which poor countries operate , results in "dissociations" between resource scarcity and price, benefits and costs, rights and responsibilities, actions and consequences. But, the tendency for market configuration to generate dissociations and hence market or policy failures, can be compromised by institutional reforms and policy intervention. It is within this context that the argument has been advanced that, "A market failure is nothing but a policy failure, one step removed" (Panayotou, p. 357).

The fourth reason why practice tends to diverge from theory is that economic theory and quantitative assessments have failed to provide definitive conclusions on which to base policy, concerning the relationship between the pursuit of an open trade policy and economic development. In the literature, whenever this relationship appears robust, two conditions are usually attached to it. First, it is posited that it holds true over the long term, and secondly, when other complex measures (whose contributions are not readily disentangled from it) go hand-in-hand, for example, macroeconomic stability, governance, institutional support and capacity building (Dollar; Dollar and Collier; Dollar and Kraay, 2001a; Dollar and Kraay, 2001b.). Weller and Hersh, after careful study of the evidence, challenged the studies in support of the favorable outcome.

There are also a number of well – recognized practical difficulties facing impact measurement, so that while there may be a trend towards more open trade and market liberalization, the available data make it very difficult to quantify the extent to which this has occurred. Thus in practice, there are numerous divergences between "bound" and applied tariff rates across countries; tariff-rate quotas (TRQs) are notoriously difficulty to convert into their ***ad valorem*** equivalents; tariff administration generates a significant level of difficult-to-measure non-tariff barriers to trade as well as a number of anomalies; existing non-tariff barriers (NTBs) and technical barriers to trade (TBTs) are complex and difficult to quantify; and, the practice of stacking NTBs alongside TRQs further complicates the difficulties.

Some growth models, particularly of the endogenous variety, advance the view that there is a strong positive relationship between the practice of an open trade policy and growth. This is usually attributed to the impact of new products and new ideas in a situation of non-diminishing returns in the rate of growth of output and productivity (Romer). It should be recognized, however, that these models are rooted in conditions of market failure, such as, monopoly market structures, externalities and the prevalence of public goods such as R&D, extension, infra-structural/institutional support, and non-diminishing returns. Because of this, the specific circumstances of each economy, including its initial level of endowment, technology in use, specialization patterns, factor mobility and so forth, are required data before the appropriateness and likely success of policies of freer trade can be determined (Edwards; Mosley; Rodrick and Rodriguez 1999; Rodrick and Rodriguez 2001).

Fifth, there is abundant evidence that unregulated private markets generate inequalities. That is why governments, as a rule, have a re-distributive role to play in market based societies. Globalization and liberalization have been no exception. Indeed this process has been associated with dramatically widening income inequalities. Thus, after a careful survey of the data Weller and Hersh (p. 1) found that:

> "In 1980, median income in the richest 10 percent of countries was 77 times greater than in the poorest 10 percent; by 1999, that gap had grown to a staggering 122 times. Inequality has also increased within a vast majority of countries".

They further contend that the gains in poverty reduction over the previous two decades were relatively small and geographically isolated.

Our sixth and final point is that the liberalization of capital markets and the consolidation of the institutionalized global trade regime along WTO lines presents special challenges for the rural poor. The WTO is premised on the view that trade without discrimination optimizes the welfare of all participants engaged in it. With this in mind its main goals may be summarised as securing a situation in which the following conditions exists:

- All trading partners are treated equally (that is, full reciprocity and the eventual end to all special market access for poor countries)
- Non-discrimination is practised between national and foreign products, services, and nationals.
- The removal of ***all*** WTO-defined barriers to trade.
- The linkage of freer trade to a growing number of "trade-related" areas
- Predictability is assured, in that barriers to trade cannot be arbitrarily re-introduced or raised.
- The removal of all unfair trading practices.

While the long-term goal of freer trade is becoming increasingly the norm, the burdens of implementing WTO commitments and the short-run effects of liberalization on the rural poor have become a major pre-occupation of our times. The biggest concession that the WTO makes to the conditions of the rural poor are contained in its time-bound special and differential (SD) treatment of developing and least developed countries, which permits greater flexibility and more time in taking on WTO obligations. However, this is designed in a manner to ensure that these remain unquestionably "transitional arrangements", which will cease over the medium term. The issue therefore is that the role of trade in the livelihoods of the poor cannot be separated from the institutional/regulatory framework in which that trade is taking place (Walters, Lowe and Davis).

The remainder of this paper elaborates on the issues raised in this Section with reference to the concrete example of global trade in food and the United Nations MDG for global food security and poverty reduction. This choice is guided by the nexus between food (in) security and poverty. Indeed the data indicate that high and stable rates of growth of the rural/agricultural sector and food supplies have a greater impact on the reduction of poverty because of the major role this sector plays in providing livelihoods (Eastwood and Lipton; Lipton and Ravallion). Sometimes, as much as two-thirds of the population in poor countries live in rural communities. Agriculture accounts for 27 percent of GDP and exports of developing countries, and about 50 percent of their employment. Among the least developed countries, it is even more important and the range of their agriculture products available is substantially narrower. Also the topic selected is also the subject of on-going research by the authors.

Open Trade in Food and Food Security[3]

In this Section we first establish the MDG for food security and briefly refer to achievements to date. Next, the impact of globalization/liberalization on food security is assessed in the context of the WTO's liberalization agenda. Following this, certain policy conclusions are drawn.

As part of the global initiatives to reduce poverty, 186 countries at the 1996 World Food Summit adopted the Rome Declaration, (FAO, p. 1), which among other things expressed:

> "Commitment to achieving food security for all and to an ongoing effort to eradicate hunger in all countries, with an immediate view to reducing the number of undernourished people to half their present level no later than 2015".

The number of such persons was then estimated at 840 million. Five years later, the Summit re-convened (June 2002) to evaluate progress in relation to the target.

During the past 50 years, there have been at least 30 quantitative estimates and projections of future global food security. The most regular producers of these are the Food and Agriculture Organization (FAO) of the United Nations (UN) and, the U.S. Department of Agriculture (USDA). Other agencies like the Organization for Economic Cooperation and Development (OECD) and International Food Policy Research Institute (IFPRI) have done so occasionally (McCalla and Revoredo; Pinstrup-Andersen, et. al.). These studies conclude that since the early 1990s, trends do not give hope that the 2015 target will be met. Recently, the Economic Research Service (ERS) of USDA reported that only one in three countries has reduced the number of hungry persons in their

population, and in the case of the 67 low income countries that it monitors annually, it found an overall deterioration for 2001 relative to 2000. Its global projections for the next decade indicate an annual decline of 1.6 percent for the total number of hungry people, an amount that falls well short of the target of 3.5 percent needed to meet the commitment in the Rome Declaration. FAO's projections show an even slower rate of annual decline in the number of hungry people worldwide.

At present 800 million people worldwide suffer from severe malnourishment and over 2 billion experience micronutrient deficiencies. About three-quarters of the malnourished and the poor live in poor rural areas, relying on farming for their livelihoods. Diseases due to inadequate, unbalanced, and unsafe food are also prevalent in these areas, and children, female headed households, the homeless and other such vulnerable persons bear the brunt of food insecurity and its related hunger and disease. These terrible trends are expected to persist as global population growth takes place and pressures on material resources continue unabated. It is of course paradoxical that this is occurring at a point in time when the world has never produced so much food, when food has never been cheaper, and when food stocks have never been so high. Since the early 1960s world grain output has doubled and livestock production trebled. The result is that, on a worldwide basis, per capita food availability has risen to over 2700 calories per day. These are of course average figures and as such do not take into account the distribution of food at the individual household level, where ultimately food security has to be established (Thomas 2000; Thomas 2001, 2002; Thomas and Davis).

The 1996 World Food Summit had emphasized availability, affordability, and stability of physical and economic access as the key dimensions of food security. Based on this, the main obstacles identified as preventing progress in achieving food security are: natural disasters, political conflicts, high production variability, population growth in some areas, weakening import capacity/external debt burden, economic shocks, variable global growth, natural resource degradation, distribution/equity concerns, declining Official Development Assistance (ODA), weak safety nets, and variability of food aid (FAO).

Poverty is seen as the main cause of food insecurity. The MDG for poverty is to reduce the number of persons living in extreme poverty in 1990 (that is, living on less than $1(1993 PPP US$))[4] by half by 2015. This is a modest target, as it means that there would still be about 900 million people living in extreme poverty in 2015. Between 1990 and 1999, however, the poverty rate fell only from 29 percent to 22.7 percent and the total number of poor persons fell from 1.28 billion to 1.15 billion. This target, like the food security target therefore, is unlikely to be met if present trends persist (IFAD).

In the context of globalization and liberalization, food security has to be examined in relation to the institutional framework regulating trade in food. The WTO/Uruguay Round (UR) Agreement of 1995, with its subsidiary Agreement on Agriculture (AOA), provides the canopy/umbrella framework under which trade in agriculture is being liberalized. The AOA is not a final undertaking of the signatories to the WTO, it is a work-in-progress subject to on-going revision based on its built-in agenda items and agreed to work programs. At the Doha 2001 Ministerial meeting, multisectoral trade negotiations were launched as a single undertaking and agriculture was included in

these.[5] Significantly, the AOA (Article 20) acknowledges food security concerns as part of the on-going negotiations.

The underlying theoretical rationale that drives the AOA is neo-liberal trade theory, which postulates that a liberal trading regime would ensure that all countries reap the "efficiency benefits" of competition based on differences in comparative advantage, along with the "transfer benefits" of capital, skills, and technology flowing from resource-rich to resource-scarce countries and regions. In relation to food, these many benefits would permit: (1) filling of gaps as they arise between domestic supplies and demand; (2) minimizing the adverse impact on domestic consumption of domestic supply variations; (3) domestic consumption of food growing faster than domestic supplies; (4) enlarging the opportunities for undertaking domestic production on the basis of access to larger (external) markets than the domestic; (5) widening of consumer choice; and (6) overall faster economic growth. This rationale is the direct antithesis of the non-market considerations that presently characterize global food production and trade where state intervention, domestic protection, subsidies, and other forms of regulated production are the norm (Davis, Thomas and Amponsah; Thomas 2000, 2001, 2002; Thomas and Davis).

According to Thomas and Davis, there are seven mechanisms of the WTO that impact significantly on trade in food and therefore directly and indirectly on food security. These are:

1) ***The export subsidies provision of the AOA:***

> The provision is that the ***quantity*** of exports subsidized should be reduced by 21% by 2000 and for developing countries two-thirds of that or 14% by 2004 and

budgetary outlays on subsidized exports should be reduced by 36% by 2000 and for developing countries by two-thirds of that or 24% by 2004, based on the1986-90 average. (Both of these apply on a product-specific basis).

2) ***The market access provisions of the AOA***:

This entails tariffication or removal of non-tariff barriers (NTBs) and their conversion to tariff equivalents – e.g. import quotas, licensing, state trading, etc. The tariff equivalents are based on 1986-88 data. Tariffs are bound and are to be reduced by 36% on average for developed economies by 2000, and for developing countries by 24%by 2004. The minimum cut per product was set at 15 and 10 percent, respectively. (The practice of "dirty tariffication" should be noted, as this entailed declaring tariffs at extremely high levels, so that after percentage reductions are made, the absolute level of the tariff still remains high).
Tariff-quotas to replace quotas. This is designed to maintain current access opportunities through incorporating existing plurilateral/multilateral arrangements basing these on import levels for the 1986-88 period and affording a general minimum access opportunity for imports up to a minimum percentage of domestic consumption and
minimum access. In anticipation of dirty tariffication countries have agreed to maintain current access opportunities and establish quantitative commitments for new access opportunities, if imports in the 1986-88 base period were low or non-existent. The minimum access commitment starts at 3% and should rise to 5% by the end of the agreement and
the ***safeguard clause,*** which allows for the imposition of additional duties if trade is seriously disrupted.

3) ***The domestic support provision of the AOA***:

The total aggregate of support (subsidies) is the sum of commodity specific and sector wide aggregate support given to rural producers. Using the traffic lights metaphor, items in the Amber Box are the most trade-distorting and these are to be reduced by 20% by 2000 based on the base period levels of 1986-88. For developing countries, the ratio is two-thirds of this over a period of ten years. Support measures that are deemed as non-trade distorting are exempted. (These include "Green Box" subsidies which are subsidies that have no or minimal trade distorting effects on production and do not provide price support to producers and "Blue Box" subsidies which cover direct payments on product limiting programs). These latter subsidies are dominant among the developed countries while other support measures prevalent in developing countries e.g., investment and input subsidies are not so exempted. Other clauses such as the ***De Minimis*** allowed for exemptions once it does not exceed 5 percent of the value of the product or the total value of agricultural production.

4) ***The Trade-related Aspects of International Property Rights Agreement (TRIPS***) and patent protection for micro-organisms and biological processes, including genetically-engineered animals and plants.

5) ***The provisions relating to food aid (international and national).***

6) ***The provisions governing sanitary and phytosanitary measures (SPS) and technical barriers (TBTs).***

7) ***The general provisions made for the special and differential (SD) treatment of developing countries***:

This covers: (1) LLDCs (least developed countries) which are exempted from reduction commitments; (2) other developing countries, which have smaller commitments (e.g. (two-thirds and a longer period to comply, 2004 and not 2000; (3) net food-importing developing countries (NFIDCs), which are recognized, although no specific commitment to them is made; (4) LLDCs have provisions for food aid and technical assistance; (5) trade in food security stocks at administered prices.

Before offering an assessment of these provisions in relation to food security it would be useful to observe some general characteristics of global trade that are important for our arguments. First, there has been a lowering of the simple average of Most Favored Nations (MFN) tariffs. Applied tariff rates however, show a higher average the lower the level of development. Thus the World Bank (2002) reports a simple average of 17.9 percent for the least developed countries, 14 percent for other developing countries, and 5.2 percent for industrialized countries. In practice these rates do not capture the full operational range of barriers, which would include TBTs, SPS, TRQs, contingent protection, prohibition, tariff escalation, tariff dispersion (peaks), and administrative hurdles. Second, there has been a marked tendency for global trade to grow faster than global output, accompanied with significant shifts in the composition of that growth, generally in a direction away from food. Thus over the past five decades the total value of world trade has grown at an average annual rate of 10 percent, resulting in the value of

that trade at current prices at the end of the Millennium exceeding that in the 1950s by a multiple of 50. Third, across all major regions there has been a rise in the trade-openness ratio, that is, (exports plus imports divided by GNP), with the increase strongest in East Asia and the Pacific, with sub-Saharan Africa showing a downturn in the 1990s in contrast with its strong performance in the 1960s and 1970s. Fourth, the developing countries managed as a group to increase their share of world merchandize trade from less than 20 percent in the mid 1980s to 30 percent by the end of the 1990s, with East Asia responsible for much of this achievement, and Africa and Latin America and the Caribbean losing shares. Relatedly, the share of merchandize trade as a proportion of total trade among developing countries rose from about 25 percent in 1980 to above 40 percent by the end of the 1990s (World Bank 1999).

Fifth, mainly because of East Asia the share of manufactures in the exports of developing countries has risen from about one-fifth in 1980 to over two-thirds at the end of the 1990s. Over the same period, food products and agricultural raw materials declined from about one-third to one-eight. Notably, the leading sub-sector within the group manufactures has become food processing especially "newer" products like fish, speciality foods and preserved fruit. Sixth, commodity prices have been very volatile and during the 1980s and 1990s the prices of many commodities fluctuated from below 50 percent to above 150 percent of their average prices. When it is considered that more than 50 poor countries depend on three or fewer commodities for half of their export earnings, and in about 20 this reliance is over 90 percent, the critical importance of this price volatility is revealed. More than 30 developing countries spend more than 20 percent of

their import expenditure on food and fuels. In Africa in particular, this commodity dependence is very great (ComSec).

Seventh, the annual price decline in a number of food items including vegetable oils, rice, maize, wheat, soybean, and coffee has been in excess of 2 percent per annum since 1950. This decline reflects a broader decline in primary commodity prices due to the effects of expanded output as a result of improved technology, reduced costs, the more liberal trade environment, and, the usual primary commodity price cycles. This led the World Bank (1999, p. 7) to conclude that:

> "…this suggests that commodity prices may have taken another step down in the long history of declining prices relative to thlose of manufacturer goods."

For poor primary exporting countries, this could be bad news.

The data above generally convey a picture of robust growth in trade that spans the entire period of globalization. Barring major global upheavals and recessions, the trend towards a faster growth of trade than GNP is likely to persist for some time to come. The World Bank (2002, p. 4), has claimed in relation to the MDG for poverty that:

> "…more rapid growth associated with a global reduction in protection could reduce the number of people living in poverty by as much as 13 percent in 2015."

It cites estimates of global gains from eliminating barriers to merchandize trade that range from U.S. $250 to $620 billion annually, with one-third to one-half of this total accruing to developing countries.

In recent years, the econometric technique known as Computable General Equilibrium (CGE) models have been used to analyze and compute the effects of future agriculture trade policy reforms under the WTO, usually as part of broader projections that cover other trading sectors. These models differ in important areas, such as: (1) the extent of projected liberalization; (2) model specification; (3) trade-related effects (e.g. savings, investment, productivity changes); (4) database; (5) number of sectors/regions; (6) elasticities values; (7) exogenous versus endogenous variables; and (8) factor market competition and supply rigidities. The results for agricultural models, which generally share the common assumption of constant returns to scale and limited trade-related dynamic gains, show a broad similarity (UNCTAD). Most of the gains are derived from domestic liberalization, and the gains obtained are roughly equally shared between developed and developing regions. A summary of these results presented in the UNCTAD report is adapted and presented in Table 1 (See also Francois 2000a). Caution is advised, however, as it would be extremely adventurous, to say the least, to place great reliability on the precision of these results, given the practical complexity of the many issues these simple models sought to address.

UNCTAD also presented the results of its own simulations of agricultural liberalization: These results are:

Simulation 1: A worldwide reduction of 50 percent in all agricultural tariffs

General Results: Aggregate welfare gain of U.S. $21.5 billion with all regions gaining, but unevenly.

Simulation 2: A worldwide elimination of export subsidies in agriculture without parallel changes in tariffs.

General Results: Modest worldwide welfare losses due to worsened allocation of resources.

Simulation 3: Tariffs are reduced by 50 percent on processed agriculture only.

General Results: Aggregate welfare gain roughly one-half that of Simulation 1. The gains are unevenly distributed.

Simulation 4: Non-reciprocal 50 percent cut in tariffs by developed economies only.

General Results: Aggregate gains are limited compared to Simulation 1.

From the perspective of food security these results suggest that the evolution of the global trade architecture embodied in the WTO is critical for the determination of the impact of globalization on food security and the rural poor. What can therefore be reasonably anticipated under this institutional regime? The reality is that the WTO experience has been too short for definitive conclusions about its eventual outcome for poor developing countries. Certain trends however, appear to be gaining strength, and we briefly draw attention to these. First, opportunities have no doubt expanded and some developing regions (e.g. East Asia) have been able to take advantage of them, and this is reflected in their generally robust performances over the past three decades. Second, as

the WTO trade regime is being implemented it is becoming more apparent with time that the scope for national trade policy options is being curtailed. This reduction however, has been uneven across countries and regions, and appears to adversely affect poor countries disproportionately. The reason for this is that within the WTO framework development-related issues have not been adequately addressed although the political momentum in this direction is growing and this will continue if global uncertainty and war do not overtake events (a significant probability).[6] At the same time, the realization is also growing that the developing countries face unrelenting pressures against such traditional trade practices as non-reciprocity and preferential access, even as they face reduced access to official development assistance (ODA) as an offset (Madeley; Safadi and Laird; Walters, Lowe and Davis).

Third, agricultural markets remain the most distorted of all global markets because, in practice, the present rules of the WTO provide legal space for the developed countries to use their abundant financial and other resources to continue practising market support, subsidies, and protection for their food supplies. Thus we find that in terms of ***domestic support***, the OECD countries, which are a major market for developing countries agricultural exports, gave average support to domestic producers for the period 1998-2000 to the tune of U.S. $331 billion or 2.2 percent of the group's GDP, compared to U.S. $271 billion or 1.3 percent in the base period 1976-1988 (Ford). Over two-thirds of agricultural production in the OECD countries receives market price support. Astonishingly, the value of that assistance is twice what is required to meet the global food security target by 2015. It also represents twice the value of all the agricultural exports of the developing countries and five times current ODA flows to them. The

amount of support also exceeded 40 percent of farmers' income in the OECD countries. This level of domestic support however, falls within the AOA's Aggregate Measurement of Support thereby making obvious among other things, that the base period chosen by the WTO was inflated, resulting in the commitments given by the developed countries not being very meaningful. Note should also be taken of the fact that there is a changing composition of domestic support as well, with the Green Box exempted items now in excess of the Amber and Blue Box items.

In terms of ***market access,*** average agricultural tariff levels in OECD countries are estimated at 60 percent, about six times the level of their industrial tariffs. Generally, tariff peaks are concentrated in agriculture, food products, and footwear in the European Union (EU) and Japan, and textiles and clothing in the USA and Canada (World Bank 2002). OECD farm prices are estimated at 37 percent above those on world markets (Ford; IMF/World Bank).

Subsidies in the OECD are estimated at over U.S. $100 billion annually. The recent (2002) US Farm Bill and the associated raising of subsidies have attracted strong adverse global attention. The situation is that one-third of US cultivated acreage is assigned to food and fibers for export. With domestic markets being described as "saturated", agricultural exports are key to the survival of US agriculture and this links it directly to domestic subsidies. A recent comment by Robert Zoellick (Becker, p. A5), the US Trade Representative is instructive:

> "The US would be in a better negotiating position at the world trade talks precisely because American farmers are receiving record amounts of subsidies without breaking limits imposed by the WTO."

The EU however, is an even larger user of export subsidies, accounting for as much as 90 percent of the total by some estimates (Ford). The EU system of protection has been in place since its inception four decades ago and expenditure on this accounts for 45 percent of the EU budget although only 5 percent of its work force is in agriculture. It has also been reported that TBTs, especially in areas like health, safety, and product standards have been rising rapidly and the inability of the developing countries to cope with this within the WTO structure is limited because of its complexity and cost (Henson et. al.;World Bank 2002).

Transfers from consumers and taxpayers have maintained high producer prices in OECD countries. The Diaz-Bonilla, Thomas and Robinson study indicates that as a whole, equivalent domestic prices exceed world prices by 60 percent for the OECD countries with rates as high as 229 percent for Norway and 90 percent for Japan. The net effect is domestic over-production with domestic producers displacing agricultural production from poor countries in their home markets and in third countries as well, when these products are exported at lower prices. Indeed in some cases (e.g. sugar and the European Union) OECD countries are simultaneously among the world's largest exporters and importers of the agricultural product. As UNCTAD (p. 1) observes:

> "Another aspect of the linkage between trade and development relates to the effects of policies and practices of other countries and private economic agents. Studies of patterns in the use of trade measures show a systematic bias against the imports of developing countries."

As presently configured, the developing countries have less space and capacity to practise what the developed countries have been doing. In areas of agriculture where they may find opportunities, for example, food security, multi-functionality, and environment,

this difference is very notable (Diaz-Bonilla and Tin). As a rule, developing countries have historically favored low agricultural prices in order to keep living costs down, raw materials cheap, and exports competitive, however this approach has been somewhat modified over the past two decades. Except for countries that are preference dependent or net food importers, the evidence is that on the whole, these countries have been undergoing a structural shift away from domestic agricultural production to exports.

Conclusions

There is an irreversible dynamic in favor of trade liberalization under the WTO framework. To ensure that in this institutional setting global markets bring gains for the rural poor, requires ***a greater coherence between trade policies and development policies.*** As we have argued, neo-classical economic theory along with the ***modus operandi*** of the existing trade architecture assume a robust relation between open trade policies and development, which has not been satisfactorily established either at the theoretical, empirical or policy level. Yet on this basis poor countries have had, mainly as a result of structural adjustment programs (SAPs), to introduce unilateral liberalization measures, despite the prevalence of distortions in world agricultural markets due to subsidies and other protection by the rich countries that could afford them. It is obvious that for the future the relationship between the two policy spheres need to be continuously re-evaluated. In particular there is a need for greater flexibility and national control of the ***timing and sequencing*** of trade policy measures, even though with the WTO so well entrenched, much of the national discretion in this area has effectively disappeared within its global agenda and the work program emanating from the 2001 Doha Ministerial Round. To support this effort, appropriate flanking and support policies

to cope with related problems of supply side constraints, capacity building, adjustment costs for poor countries, and so on, have to be put in place if global markets are to bring gains to the rural poor.

This observation is consistent with calls for a greater focus on ***development issues in the post-Doha work program*** *of the WTO,* which have emanated from the developing countries**.** Although the Uruguay Round has had the dramatic effect of bringing agriculture, however loosely, under the commercial/market-oriented disciplines of the WTO, it has had limited impact so far on the effective levels of trade liberalization in agriculture for those products of specific concern to the developing countries. To deal with this impasse, the only credible "good-faith" signal the OECD countries can make at this stage would be a binding commitment to delink their own agricultural production from government financing and other measures in order to reduce their levels of market support, protection, and other trade barriers in the WTO Agreement ***first***, without an immediate ***quid pro quo*** from the developing countries.

Unless this undertaking is given, other important related issues will not be adequately addressed. These include calls for: (1) a phase-out of all tariff peaks and tariff escalation on agriculture products; (2) restraint on the abuse of TBTs and other trade remedies permitted under the WTO; (3) a more liberalized environment for the treatment of "rules of origin" in developing countries; (4) support by the developed countries for support measures to deal with the distributional and other consequences of the agricultural adjustment challenges in developing countries; (5) a fairer treatment of the phase-out of preferences and special market access; and (6) commodity risk management to cater for the vulnerability of poor countries to commodity price volatility (ComSec).

With the high levels of scepticism and distrust over these issues, none of this agenda will advance without an expression of "good faith" on the part of the developed countries. The contrast between the "gainers" and "losers" from globalization and deepening inequality over the past two decades have contributed to this outlook.

A major complication, which has also developed is that the poor countries have themselves become a heterogeneous grouping with different preferences in regard to the adjustment of national and global agricultural production. Some poor countries are grouped as major exporters of agricultural products with little reliance on imported food, except in times of crisis; others are major exporters and importers of agricultural products; and, yet others produce little agricultural output and are highly dependent net-food importers (NFIDCs). Furthermore, they vary considerably in terms of the extent of their economic differentiation, technological capacity, standard of living, and capacities to deal with shocks and transitional issues. These circumstances preclude a monolithic one-size-fits-all approach to the problematic identified in this paper (Walters, Lowe and Davis; WTO).

The question is now frequently asked in relation to the global food security target, where does the responsibility for achieving this lie? Is it at the international or national jurisdiction? And, if the latter, is it at the governmental, private business, or non-governmental level. There is no ***a priori*** answer to this question, but we share the view expressed by Thomas (2002) that, at this stage of global development, the responsibility falls primarily on national governments. This perspective starts from citizens "rights to food security", and governments' responsibility to ensure their enjoyment of these "rights". The international community, private business, and non-profit agencies are

obviously important contributors to this outcome, but as an entitlement of citizenship, the ultimate responsibility for its provision lies with national governments. This perspective, precisely because it is unequivocal, does not easily permit the MDG for food security, as it were, to fall through the cracks.

Finally, we reiterate the assessment we offered in an earlier study that at present the best approach to food security for a developing country or region is to pursue it as a combined commercial ***and*** strategic/developmental objective (Thomas and Davis). National interests will always conflict with de-regulated trade and strategically therefore, a definite degree of national autonomy and flexibility in basic food supplies should be pursued. Food security is too important to be left entirely to the uncertain outcomes of international trade. This objective requires that domestic measures to overcome supply constraints and those designed to ensure that the rural economy plays the desired role in social development are seen as complementary goals. The aim of this objective is not autarky or excessive protection. It is a call for a nationally self-reliant approach that combines realistic sustained domestic efforts to improve agricultural productivity and judicious trade in food in order to meet the goal of food security. This preference function is underlined by three basic considerations that have informed this presentation. These are: (1) the persistent structural uncertainties in the present global economy; (2) the historical trend for value added in food production to be added off farm, so that the long run significance of land in relation to other inputs will continue to decline as the agriculture of poor countries becomes radically transformed; and (3) the persistence of asymmetric outcomes and the polarization of winners and losers in the age of globalization and liberalization. Our call for strategic government intervention in global

food trade market in pursuit of accelerated poverty reduction and food security is consistent with performance-based economic principles. If there is convincing evidence that market and/or policy failures are the norm rather than the exception as they relate to food trade, poverty reduction, and food security; then appropriate public sector intervention is justified. After all the elements are considered, we stand firm on our point that market failure is nothing but a policy failure one step removed.

Table 1:Estimates of Global Welfare Effects From Multilateral Trade Liberalization

Studies	Policy experiments	Welfare change estimates (US$b.p.a)
Nagarajan, 1999	50 percent cut in agricultural protection and implementation of additional trade facilitation measures.	385
Hertel, Anderson, Francois, and Martin, 1999	40 percent in agricultural tariff, export and production subsidies	70
Anderson, Francois, Hertel, Hoekman, and Martin, 2000	Full liberalization in agriculture	164
Abare, 2000	50 percent cut in agricultural support	53 (GDP in 2010)
Francois, 2000b.	50 percent cut in agricultural protection	27 (monopolistic competition) 21 (oligopoly)
Diao, Somwaru, and Roe, 2001	Full removal of agricultural tariffs and in domestic agricultural support.	31 (static version) 56 (dynamic version)
Scollay, and Gilbert, 2001	100 percent cut in agricultural tariffs	69.43
Brown, Deardoff, and Stern, 2001	100 percent cut in agricultural tariffs	33
Van Meijl, and Van Tongeren, 2001	100 percent cut in agricultural tariffs and in domestic agricultural support	44.4

Source: Adapted from UNCTAD.

FOOTNOTES

1. The rent seeking literature deals in large part with the waste of resources to society at large to capture (or create) the private benefits and/or to avoid private costs resulting from actual/potential government policy or institutional settings.
2. Market failure exists in neo-classical economics when social costs or benefits diverge from private costs or benefits.
3. This section draws heavily on recent and on-going works by the authors. Some of these works are cited in the references.
4. PPP is the Purchasing Power Parity, which is that rate of exchange between the currencies of countries in which the units of national currency expressed in the exchange rate, command equivalent or comparable purchasing power, in terms of specified commodities, in either domestic or international markets.
5. The WTO held its Fourth Ministerial Conference in Doha, Quatar, November 9-14, 2001. Over 140 countries were represented at the conference. The other three conferences were: (1) Singapore (1996); (2) Geneva (1998); and Seattle (1999).
6. The Fourth Ministerial Conference of the WTO held in Doha, Quatar in 2001 has been referred to as the "Development Round" because of the pressures exerted by developing countries members of the WTO to place development-relate issues upfront on the negotiating agenda.

REFERENCES

ABARE (Australian Bureau of Agricultural and Resource Economics). 2000. *The Impact of Agricultural Trade Liberalization on Developing Countries*. Canberra, Australia: ABARE.

Abbott, J. 1967. "The Development of Marketing Institutions", in H. Southworth, and B. Johnston, eds., *Agricultural Development and Economic Growth*. Ithaca, NY: Cornell University Press.

Anderson, K., J. Francois, T. Hertel, B. Hoekman, and W. Martin. 2000. "Potential Gains from Trade Reform in the New Millennium." Paper presented at the Third Annual Conference on Global Economic Analysis, Monash University, Australia, June 27-30.

Becker, E. 2002. "U.S. Defends Its Farm Subsidies Against Rising Foreign Criticism". *New York Times*, Thursday, June 27, p. A5.

Bonnen, J., C. Eicher, and A. Schmid. 1964. "Marketing in Economic Development", in V. Sorenson, ed., *Agricultural Market Analysis: Development, Performance, Process*. East Lansing, MI: Michigan State University Press.

Brown, D., A. Deardorff, and R. Stern. 2001. "CGE Modeling and Analysis of Multilateral and Regional Negotiation Options." Paper presented at Research Seminar in International Economics, University of Michigan, Ann Arbor. Discussion Paper No. 468, January 23.

Coarse, R. 1960. "The Problem of Social Cost." *Journal of Law and Economics*" 3:1-44.

COMSEC (Commonwealth Secretariat). 2002. "Commodity Risk Management in Developing Countries: A Proposed Market Based Approach and Its Relevance for Small States." Paper presented at the Global Conference on Development Agenda for Small States. London.

Davis, C., C. Thomas, and W. Amponsah. 2001. "Globalization and Poverty: Lessons from the Theory and Practice of Food Security." *American Journal of Agricultural Economics* 83 (3): 714-721.

de Gorter, H., G. Rausser, and A. Schmitz. 2001. "Rent Seeking and International Trade in Agriculture", in C. Moss, G. Rausser, A. Schmitz, T. Taylor, and D. Zilberman, eds., *Agricultural Globalization, Trade, and the Environment*. Norwell, MA: Kluwer Academic Publishers.

Diao, X., A. Somwaru, and T. Roe. 2001. "A Global Analysis of Agricultural Reform in WTO Member Countries", in M. Burfisher, ed., *Agricultural Policy Reform: The Road Ahead*. Washington, DC: Economic Research Service, Report No. 802.

Diaz-Bonilla, E., M. Thomas, and S. Robinson. 2002. "On Boxes, Contents, and Users: Food Security and the WTO Negotiations." International Food Policy Research Institute, Trade and Macroeconomics Discussion Paper No. 82, Washington, DC.

Diaz-Bonilla, E., and J. Tin. 2002. "That Was Then But This Is Now: Multifunctionality In Industry and Agriculture." International Food Policy Research Institute, Trade and Macroeconomics Discussion Paper No. 94, Washington, DC.

Dollar, D. 1992. "Outward-Oriented Developing Economies Really Do Grow More Rapidly: Evidence From 95 LDCs, 1976-85." *Economic Development and Cultural Change* April: 523-544.

Dollar, D., and P. Collier. 2001. *Globalization, Growth and Poverty: Building an Inclusive World Economy*. New York, NY: Oxford University Press.

Dollar, D., and A. Kraay. 2001a. "Growth is Good for the Poor." World Bank Research Department Working Paper No. 2587, Washington, DC.

Dollar, D., and A. Kraay. 2001b. "Trade, Growth, and Poverty." World Bank Research Department Working Paper No. 2615, Washington, DC.

Drabek, Z., and S. Laird. 2001. "Can Trade Policy Help Mobilize Financial Resources for Economic Development." World Trade Organization Economic Research and Analysis Division, Staff Working Paper No. ERAD 2001-2, Geneva.

Eastwood, R., and M. Lipton. 2001. "Pro-poor Growth and Pro-Growth Poverty Reduction: What Do They Mean? What Does the Evidence Mean? What Can Policymakers Do?" Paper presented at the Asia and Pacific Forum on Poverty-Reforming Policies and Institutions for Poverty Reduction, Asian Development Bank, Manila, 5-9 February.

Edwards, S. 1998. "Openness, Productivity and Growth: What Do We Really Know?" *Economic Journal* 108: 383-398.

FAO (Food and Agriculture Organization of the United Nations). 1996. *Rome Declaration on World Food Security and World Food Summit Plan of Action*." Rome, Italy: Food and Agriculture Organization.

Ford, J. 2002. "Uruguay Round on Agriculture: Retrospect and Prospect for Caribbean Agricultural Development." Paper presented at the Twenty-Fourth West Indies Agricultural Economics Conference, Grenada, West Indies, July 9-12.

Francois, J. 2000a. "Assessing the Results of General Equilibrium Studies of Multilateral Trade Negotiations." UNCTAD Policy Issues Study Series No. 3 in International Trade, New York and Geneva, United Nations.

_____. 2000b. "The Economic Impact of New Multilateral Negotiations: Final Report." Report prepared for the European Commission Directorate-General II, Brussels.

Henson, S., R. Loader, A. Swinbank, M. Bredahl, and N. Lux. 1999. *Impact of Sanitary and Phytosanitary Measures on Developing Countries*. London, UK: H.M. Government, Department for International Development (DFID).

Hertel, T., K. Anderson, J. Francois, and W. Martin. 1999. "Agriculture and Non-agricultural Liberalization in the Millennium Round." Paper presented at the 1999 Global Conference on Agriculture and the New Trade Agenda from a Development Perspective: Interest and Option in the WTO 2000 Negotiations, Geneva, October 1-2.

IFAD (International Fund for Agricultural Development). 2001. *The Challenge of Ending Rural Poverty: Rural Poverty Report 2001*. New York, NY: Oxford University Press.

IMF (International Monetary Fund) and World Bank. 2002. "Market Access for Developing Country Exports: Selected Issues." IMF/World Bank paper. Washington, DC.

Just, R., D. Hueth, and A. Schmitz. 1982. *Applied Welfare Economics and Public Policy*. Englewood Cliffs, NJ: Prentice Hall.

Kruger, A. 1974. "The Political Economy of the Rent Seeking Society." *The American Economic Review* 64(3): 291-303.

Lipton, M., and M. Ravallion. 1995. "Poverty and Policy", in J. Behrman, and T. Srinivasan, eds., *Handbook of Development Economics*. Amsterdam, Netherlands: North Holland.

Lustig, N. 2000. "Crises and the Poor: Socially Responsible Macroeconomics." Inter-American Development Bank, Sustainable Development Department Technical Paper Series No. POV-108, Washington, DC.

Madeley, J. 2000. "Trade and Hunger – An Overview of Case Studies on the Impact of Trade Liberalization on Food Security." *Global Studier*. Stockholm, Sweden.

McCalla, A., and L. Revoredo. 2000. "Prospects for Global Food Security: A Critical Appraisal of Past Projections and Predictions." International Food Policy Research Institute, 2020 Vision Brief No. 71, Washington, DC.

Miranda, K., and T. Muzondo. 1991. "Public Policy and the Environment." *Finance and Development* 28(2): 25-27.

Mosley, P. 2000. "Globalization, Economic Policy and Convergence." *The World Economy* 23(5): 613-634.

Nagarajan, N. 1999. "The Millennium Round: An Economic Appraisal." Commission of the European Communities, Economic Papers No. ECFIN/659/99-Rev.EN.

Panayotou, T. 1992. "Is Economic Growth Sustainable". *Proceedings of the World Bank Annual Conference on Development Economics 1991*. Washington, DC: World Bank.

Pinstrup-Andersen, P., R. Pandya-Lorch, and W. Rosegrant. 1999. *World Food Prospects: Critical Issues for the Early 21st Century*. Washington, DC: International Food Policy Research Institute.

Rodrik, D., and F. Rodriguez. 1999. "Trade Policy and Economic Growth: A Skeptic's Guide to Cross-national Evidence", in B. Bernanke, and K. Rogoff, eds., *Macroeconomics Annual*. Cambridge, MA: MIT Press for National Bureau of Economic Research (NBER).

Rodrik, D., and F. Rodriguez. 2001. "The Global Governance of Trade as if Development Really Mattered." Paper prepared for the UNDP (Mimeograph).

Romer, P. 1990. "Endogenous Technological Growth." *Journal of Political Economy* 98: S72-S102.

Safadi, R., and S. Laird. 1996. "The Uruguay Round Agreements: Impact on Developing Countries." *World Development* 24(7): 1223-1242.

Scollary, R., and J. Gilbert. 2001. "An Integrated Approach to Agricultural Trade and Development Issues: Exploring the Welfare and Distribution Issues." UNCTAD Policy Issues Study Series No. 11 in International Trade, New York and Geneva, United Nations.

Thomas C., 2002. "Food Security: A Neglected Dimension of Caribbean Agricultural Policies." Institute for Development Studies (IDS) Working Paper, University of Guyana (forthcoming).

Thomas, C. 2001. "Global Food Security: Advance and Retreat." *Caricom Perspective*. Georgetown, Guyana: Caricom Secretariat.

Thomas, C., 2000. "Global Food Security: The Evolution of Recent Thinking and Practice." Paper presented at the Symposium on Poverty and Global Food Security, American Agricultural Economics Association Annual Meeting, Tampa, FL, July 30-August 2, 2000.

Thomas, C., and C. Davis. 2000. "Food Security in the Age of Liberalization and Globalization", in R. Zabawa, N. Baharanyi, and W. Hill, eds., *Global Food Security: Exploring the Nexus Between Domestic and International Strategies*. Proceedings of the 57th Professional Agricultural Workers Conference. Tuskegee, AL: Tuskegee University.

UNCTAD (United Nations Conference on Trade and Development). 2002. *Back to Basics: Market Access Issues in the Doha Agenda* (UNCTAD/DITC/MISC. 73/Rev.1). Geneva, Switzerland.

UNDP (United Nations Development Program). 1997. *Human Development Report 1997*. New York, NY: Oxford University Press.

USDA (United States Department of Agriculture). 2002. *Food Security Assessment*. Washington, DC: Economic Research Service (ERS) Outlook Report No. GFA13.

Van Meijl, H., and F. Van Tongeren. 2001. "Multilateral Trade Liberalization and Developing Countries: A North-South Perspective on Agriculture and Processing Sectors." Paper presented at the Fourth Annual Conference on Global Economic Analysis, Purdue University, West Lafayette, IN, June 27-29.

Walters, L., G, Lowe, and C. Davis. 2002. "Economic Asymmetries, Trade Liberalization, and Regional Integrations: Issues and Policy Implications for CARICOM Countries." Paper presented at the Twenty-Fourth West Indies Agricultural Economics Conference, Grenada, West Indies, July 9-12.

Weller, C., and A. Hersh. 2002. "The Long and Short of It: Global Liberalization, Poverty and Inequality." Economic Policy Institute Research Paper, Washington, DC.

World Bank. 1999. *World Commodity Markets, 1999*. Washington, DC: World Bank.

_____. 2002. *World Development Report 2002*. Washington, DC: World Bank.

WTO (World Trade Organization). 2000. "Agreement on Agriculture: Special and Differential Treatment and a Development Box: Proposal to the June 2000 Special Session of the Committee on Agriculture by Cuba, The Dominican Republic, Honduras, Pakistan, Haiti, Nicaragua, Kenya, Uganda, Zimbabwe, Sri Lanka and El Salvador." (G/AG/NG/W/13). Geneva, Switzerland: WTO.