STATE TRADING IN AGRICULTURE:
AN ANALYTICAL FRAMEWORK
by
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Abstract

This paper highlights some of the recent concerns regarding agricultural state trading enterprises (STEs) and proposes an analytical framework to examine the trade impacts of such entities. Issues associated with discriminatory pricing, exclusive rights to sell and purchase commodities, and unfair competitive advantage vis-a-vis private traders are expected to be major concerns on the export side, while on the import side, the relevance of tariffication in the presence of STEs is being questioned. Our paper proposes that, in most instances, tariff equivalents are the most relevant methodology to quantify the trade impacts of agricultural STEs. But, obtaining empirical information that would enable the calculation of such measures is not an easy task. To that end, a classification scheme that highlights the different types of STEs in terms of their ability to distort trade is proposed. Quantification can then focus on those most likely to impact trade.

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The Uruguay Round of GATT (General Agreement on Tariffs and Trade) negotiations made substantial progress in reducing barriers to agricultural trade in the areas of market access, export subsidies, domestic support, and phytosanitary measures. Even as the implementation of the Uruguay Round agreement advances, several issues have come to the forefront as “unfinished business.” One of the key focal points likely to emerge for future negotiations is that of state trading enterprises (STE).

The issue of state trading is as old as the GATT. The topic was intensively debated at the time of the Preparatory Committee meetings for the Havana Conference. Some countries at that time wanted to clip the wings of state trading enterprises, but the opportunity was lost. Too many countries relied on parastatals for their control on trade. The GATT rules that emerged merely tried to impose criteria for the performance of state trading enterprises.

This document represents our effort to stimulate discussions on the economics of state trading. The paper defines and raises concerns about terminology, discusses the importance of the topic, identifies major areas of policy concern, and discusses the suitability of existing analytical tools to study the issue. A number of country examples are used to advance the arguments. These examples highlight the practical difficulties that policymakers and negotiators are likely to face in designing policies and developing disciplines that are acceptable from a multilateral perspective.

II. What is state trading?

The literature includes several definitions of state trading (Lloyd, 1982). Much of the early focus was on state conduct of foreign trade (Hazard, 1959), on the practice of governments monopolizing foreign trade (Baldwin, 1970), and on the role of institutions wholly or partly owned by the government (Ghai, 1973). These concepts gradually gave way to a functional definition, with Kostecki (1982) arguing that state trading occurs when a government or a government-backed agency determines the essential terms (including prices or quantities) on which exports and imports have to take place. Kostecki’s characterization emphasized the role of government control rather than the creation of specialized institutions, since it is primarily the direct control that makes state traders behave differently from private entrepreneurs. Sorenson (1991), picking up on this theme, asserted that both market control and the impact that governments exercise over individual transactions are relevant. He argued that state trading exists when a government, an agency of the government, or an institution granted exclusive rights by the government, controls trade or materially

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1This publication is an out-growth of a brainstorming session on state trading that was held at the Economic Research Service, USDA on November 4, 1996. The authors would like to thank those individuals who participated in the workshop and reviewed the papers, especially Karen Ackerman who assisted in various phases of the project.
affects the conditions of trade on a *transaction-by-transaction basis*. Sorenson’s definition suggests that use of tariffs, quotas, and other traditional trade instruments does not constitute state trading, though trade by government-chartered marketing boards with monopolies would.

Departing from the functionalist approach, the recently concluded Uruguay Round of GATT negotiations adopted largely an institutional approach to state trading, defining STEs as “governmental and nongovernmental enterprises, including marketing boards, which have been granted exclusive or special rights or privileges, including statutory or constitutional powers, in the exercise of which they influence through purchases or sales the level or direction of imports or exports.” (WTO, 1994). Under this revised definition, WTO country notifications on STEs include government agencies, statutory marketing boards, export marketing boards, regulatory marketing boards, fiscal monopolies, canalizing agencies, foreign trade enterprises, and boards or corporations resulting from nationalized industries.3 The United States initially acknowledged that the Commodity Credit Corporation was a state-trading organization, and other traders, including Canada, Australia, New Zealand, and Japan, have recognized the existence of STEs in their countries.4 But controversy surrounds the characterization of the European Union intervention agencies, which manipulate markets but do not directly engage in trade, as well as U.S. marketing orders, which may not be STEs in the traditional (institutional) sense but may impact international trade. To date, neither the European Union nor the United States have included such agencies/arrangements in their notifications.

There are three key questions raised by the Uruguay Round definition of STEs. First, what is meant by a governmental institution or an enterprise? Is this an industrial organization usage of the term or is there a legal interpretation to it? Large differences exist in the organizational structures and managerial characteristics of trading units established or maintained by the state. At one end of the

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2 Information about STEs and their activities are provided to the WTO on the basis of a questionnaire adopted in 1960. Responses to the questions are called “notifications.”

3 Descriptions of activities that portray these parastatal characteristics can be found in WTO (1995).

4 The United States first included the CCC as a state trader in its notification under Article XVII in 1979. The second notification was made in 1995 following the Uruguay Round Agreement.
spectrum might be units fully integrated into government administration (departments, ministries, etc.) and whose day-to-day management is guided by the government; at the other end might be units that are managerially autonomous even though the government may subscribe to their capital stock wholly or partially. In between lie many combinations, including STEs that are subsidiaries of parastatal organizations or institutions, where the government may hold minority shares but exert influence through other means. Second, how does one define exclusive or special rights or privileges? The vagueness of the expression leaves the door open for members to interpret according to their own canons as to when an enterprise has exclusive or special privileges. Third, must an entity make purchases or sales itself to qualify as an STE? How does one classify institutions that are not physically involved with sales but contract with exporters/importers or require applicants for permits or licenses to demonstrate that exports meet standards set by them. Several organizations, like the New Zealand Apple and Pear Board, fall into this latter grouping.

Several provisions in Article XVII of GATT 1947 regulate the behavior of STEs. These criteria were (and are still):

- STEs should be subject to the GATT principle of non-discrimination, and therefore should not discriminate among sources of imports or exports (Article XVII (1a));

- STEs should act on the basis of “commercial consideration” (Article XVII (1b)) with respect to “price, quantity, availability, marketability, transportation, and other conditions of purchase and sale,” and should “afford the enterprises of other contracting parties adequate opportunity in accordance with customary business practice, to compete in such purchases or sales”; and

- importing state traders should not grant protection above that given by the bound tariff schedules (Article II (4)), a provision which is strengthened by the general admonition to countries to uphold the provisions of the Havana Charter (GATT Article XXIX). The Havana Charter mandates full disclosure of import costs and profit margins of state import firms (Article 31:4), and states that the agencies themselves must import supplies adequate to meet “full domestic demand” for the product (Article 31:5). The applicability of the Havana Charter in this case has been confirmed by GATT panel findings.

All these requirements can be subject to several interpretations. For instance, does nondiscriminatory treatment entail most-favored nation obligation or national treatment obligation or both (Bernier, 1982)? Similarly, what constitutes commercial considerations, and is the ultimate objective to ensure that STEs act in ways similar to private traders? And, what does prejudice “legitimate” commercial interests imply? Can quantitative benchmarks be established to define these guidelines? Is there a time limit on how long any information can be held as proprietary? The definition of STEs and the interpretation of associated provisions are still matters of discussion among member countries.
III. Why is there so much interest in state trading enterprises?

There are three fundamental reasons why there is so much interest in the activities of state trading enterprises. The first relates to their influence on competition in agricultural markets; the second to the possibility that countries might use STEs as a vehicle to circumvent the disciplines achieved in the Uruguay Round; and, the third to the impending accession to the WTO of China and Russia, two countries that use state trading enterprises extensively to regulate international trade. Let us now elaborate on each.

Role of STEs in agricultural trade

That state trading plays a significant role in international agricultural trade is well accepted. Take the world wheat market as an example. More than a decade ago, McCalla and Schmitz (1982) pointed out that the proportion of wheat trade involving only private traders was small and declining. They argued that 95 percent of world trade in wheat in 1973-77 involved a state trader on at least one side of the transaction and that transactions from state trader to state trader accounted for one-third of the trade. Since then, despite changes in the world wheat market brought on by the wave of privatization and structural reform programs that would suggest a diminished role for state traders, other developments indicate that the activities of state traders may not have abated all that much.5 For instance, though state trading as it existed in the former Soviet Union (foreign trade enterprises) no longer endures, *prima facie* evidence suggests that most of the republics of the FSU still use organizations that are directly or indirectly controlled by the government and are akin to state traders. Similarly, with the CCC now considered a state trader, U.S. exports that were supported by EEP (Export Enhancement Program) bonuses during the last decade could be classified as state trading.

Moving beyond the wheat market to agriculture in general, consider the following statistics: in 1995 and 1996, 30 countries notified the WTO that a total of more than 100 STEs in their countries were involved in trade in agricultural products. Sixteen of these countries listed STEs for grains, and 10 reported STEs in dairy product trade. STEs were also reported for cotton, fish, forest products, horticultural products, livestock, meats, oilseeds, distilled liquor, and some tropical products. These statistics are most likely underestimated because the new WTO definition is still subject to interpretation and many member countries have yet to meet their reporting requirements.

Potential for STEs to circumvent WTO disciplines

One of the major breakthroughs in the Uruguay Round negotiations was that, for the first time in almost 50 years, member countries were successful in bringing agricultural trade under the general discipline of the GATT. This meant that many of the provisions and loopholes that had previously made agricultural support possible are now more constrained. Little was done to bring more discipline

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5The diminished role of state traders is most apparent in Latin American countries like Argentina and Brazil, which have dismantled many parastatal institutions during the last decade.
to state trading organizations through which many governments provide support to the agricultural sector. The combination of these two developments has generated growing concern that some countries may use STEs--also referred to as single-desk buying or selling agents--to circumvent Uruguay Round commitments.6

Among the principal concerns is the behavior of STE exporters who may use their exclusive monopoly and/or monopsony power to engage in unfair trading competition. U.S. producers, for instance, have complained that the Canadian Wheat Board (CWB) subsidizes grain through its pricing policies to their competitive disadvantage. Similarly, the use of subsidiaries by the New Zealand Dairy Board to acquire U.S. dairy quotas and pocket rents has come to the attention of dairy interests in the United States. Thus, political pressures to bring state trading to the forefront of policy debates have been growing in the United States, and both the Administration and the Congress have initiated actions to address these concerns.7

Accession of China and Russia

The impending accession to the WTO of China, Russia, and Taiwan has generated considerable nervousness in the international trading community. All three countries use parastatal organizations to conduct the basic tenets of domestic policy. The lack of transparency in their behavior makes other countries suspicious about the fairness of their trading practices. While it seems unrealistic to assume that these countries would completely subjugate themselves to international norms, it is more likely that they would accede to norms of international discipline as a condition of accession rather than agree to do so afterward. The global community, it seems, is pushing for more transparency in the practices of existing organizations as well as assurance that new state trading parastatals are not brought to the forefront of the international trade arena.8 Both China (vegetable oil) and Taiwan (rice), for instance, are attempting to create new state trading institutions to administer the trade regime (quota) that will emerge from accession to the WTO.

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6Although STEs may have the ability to circumvent the Uruguay Round Agreement commitments, there is little evidence to suggest that they are in fact doing so.

7On September 12, 1996, the House Committee on Agriculture held a public hearing on the effects of state trading on world agricultural trade. The Deputy Secretary of Agriculture and two panels of industry witnesses participated. Much of the focus was on the lack of transparency in the operations of STEs.

8The fact that some of these countries still engage in barter trade heightens even more the concerns about transparency.
IV. Why do countries pursue state trading activities?

The notifications made to the WTO indicate several reasons why countries pursue state trading (WTO, 1995). Among most developed countries, the primary motivation for pursuing state trading appears to be to attain domestic policy objectives of income support and price stabilization for producers. Fulfillment of these objectives, in turn, requires regulations on quantities and prices of traded goods. Hence, prices of commodities in question, are most often “fixed” directly by the STE or by the government through parastatal organizations. Typically, monopoly/monopsony rights are considered essential if the aim is to insulate the domestic market from foreign markets. In the case of exporting agencies, the focus has been on granting parastatal organizations monopsony power in the domestic market and “single selling desk” authority in international markets. For importers, the policy is reversed, with parastatals having sole purchasing authority in the international market and monopoly selling rights in the domestic market. Because price stability is an integral part of the domestic policy agenda of most developed nations, many parastatal organizations also participate in intervention activities. Hence, management and disposal of stocks is a common feature of these enterprises and government-set targets for reserve stocks are maintained and managed by state trading enterprises. The Canadian Wheat Board (CWB) among exporters, and the Japan Food Agency (JFA), among importers, are illustrations of developed country state trading enterprises being used to attain domestic policy objectives.

Among developing countries, state trading is frequently rationalized as a means to operationalize the cheap food policy (food security obligations), under which retail prices are lower than producer and/or world levels. This policy generally involves taxing producers (agricultural sector) to subsidize consumers (industrial sector) and, as earlier, requires regulations on quantities and prices of traded goods. State trading enterprises are viewed as effective administrative vehicles to execute this domestic policy objective, especially if the goal includes transportation and distribution of subsidized food or agricultural inputs. The Food Corporation of India and BULOG in Indonesia, both of which have sole authority for domestic purchases of grains and exclusive rights on imports, are illustrations of STEs that have pursued the cheap-food type of policy objectives.

The notifications submitted to the WTO cite several other reasons why countries pursue state trading. Some of these, such as achievement of economies of scale in trading operations (foreign market development and quality control), improvements in terms of trade, fulfillment of international commitments on quantity/price, and credit requirements, can be considered as subsets of the overall objective of income support and/or cheap food policy. Others, such as maintaining public health, providing capital funds to initiate entrepreneurship, rationing of foreign currency reserves, and generating revenue for the treasury, may not be directly related to agriculture but are nonetheless given as reasons for which STEs are initiated.

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9 Implicit in all these justifications is the assumption that markets, when left to themselves, will not reach a solution that meets society’s goal.
The notifications do not include information from countries that are not members of the WTO. But, the form of economic organization in some of these excluded countries--China and, until recently, Russia--may be such that state trading is the only compatible form of international interface (McCalla and Schmitz, 1982). Hence, a centrally planned economy with public ownership and/or distribution systems may find private international trade incompatible with those domestic organizations. These countries, therefore, may have little choice but to pursue state trading.

Though not stated explicitly in any of the country notifications, many countries prefer parastatal organizations because these allow governments flexibility to enact political mandates expeditiously. Hence, it is not uncommon to see governments use STEs to implement policies that would otherwise receive parliamentary scrutiny (treasury-financed subsidies). Similarly, state trading is often preferred to taxes/subsidies for redistributing incomes among different groups because it is more convenient and less likely to give rise to political protests. Indeed, it is the covert nature of STE activities that makes them attractive relative to other policy instruments. For these reasons, any attempt to eliminate STEs in future negotiations is likely to meet with resistance from many member countries.

Policies implemented through STEs involve a wide spectrum of activities. It is possible that some of these policies are in conflict with one another. For instance, if the objective of the STE is domestic price stabilization, then its international bargaining power may be weak because its excess demand and excess supply curves will be perfectly inelastic and it will buy the necessary imports, or sell any surplus, at any world price (WTO, 1995). While state trading is one means of attaining domestic and trade policy objectives, it is not the only instrument. Income support for producers, for instance, could be done through decoupled payments, without ever resorting to parastatal organizations. This suggests that it is important to rank policies and practices in terms of their capacity to distort trade. Moreover, much of the rationale that has been offered as justifications for parastatal organizations, including risk management, economies of scale associated with marketing, development of niche markets, and new customers through market development, could be executed just as efficiently by private traders (Carter and Loyns, 1996).

V. What are special concerns about STE exporters?

The fundamental concern with activities of exporting state trading enterprises is that such entities might enable member countries attempt to circumvent the Uruguay Round commitments made in the Agreement on Agriculture. Why might state trading enterprises be in a position to circumvent Uruguay Round disciplines and engage in unfair trading practice? Because, it is argued, statutory regulations provide STEs with opportunities unavailable to commercial firms that compete against them.

To begin with, many STEs have exclusive rights to purchase and sell particular commodities destined for the domestic and/or export markets. Depending on the objectives of the STE, they might use this
Subsidization of export sales of agricultural products is permissible as long as countries remain within their WTO commitments. Private exporters are also more restricted in their pricing operations relative to STE exporters because the cost of storage limits their ability to hold commodities for long.

Examples of exceptions include the New Zealand Dairy Board and Australian Wheat Board, both of which can source from other countries.

Price discrimination per se is not prohibited by the GATT; rather, it is permitted for commercial reasons to meet conditions of supply and demand in export markets.

Some STE’s also engage in price pooling, where the final price paid to producers is a blended price based on net revenue of all sales in foreign and domestic markets. Price pooling, designed essentially to stabilize price and income risks to producers, allows STEs to pay producers the same return regardless of the time of delivery during the marketing year. Consequently, STEs have greater flexibility in discretionary pricing in the international market (through delayed payments to domestic producers), an arrangement not available to private exporters who have to compete with other domestic sellers in acquiring exportable products.

STE’s that control domestic supplies or exports, it is argued, have less uncertainty in sourcing supplies. This allows them greater freedom than private firms in making export sales commitments and permits STEs to make long-term agreements with importing governments. However, commercial exporters like Cargill can source from various countries to fulfill their sales commitments, a benefit that is normally unavailable to STEs.

In addition, most STEs have exclusive rights to export sales of particular products. Exclusive export rights can enhance the monopoly powers and rents available to STEs and encourage price discrimination across export markets. One extreme type of price discrimination is predatory pricing in which STEs--armed with government underwriting of losses--may attempt to drive commercial competitors out of the market. But the ability of STEs to discriminate across export markets depends as much on the responses of competitors in the international marketplace as on exclusive domestic rights to exports.

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12 Examples of exceptions include the New Zealand Dairy Board and Australian Wheat Board, both of which can source from other countries.

13 Price discrimination per se is not prohibited by the GATT; rather, it is permitted for commercial reasons to meet conditions of supply and demand in export markets.
Governments can provide facilities to STEs that are not available to private firms. The most obvious of these are subsidies paid out to cover deficits on payment guarantees to producers. The Canadian Government, for example, provided financial assistance to barley producers in 3 of the last 10 crop years when average market returns were lower than initial payments. While underwriting of producer payments by the government is permissible under WTO rules, such guarantees may provide two additional indirect benefits: they allow state traders to undertake pricing risks beyond what a commercial enterprise might do, especially if STEs have goals other than profit maximization; and, an interest rate advantage may accrue to STEs because of their association with the government. Typically, the perceived risk of lending to the government is lower than to private entities, and STEs--working with government-secured loans--may face lower borrowing costs than commercial exporters. The CWB estimates that these benefits are worth around $60 million annually, though Carter and Loyns (1996) hypothesize that the subsidy is greatly underestimated. With cost advantages such as these, STEs may be in a better position than commercial exporters to undercut competitors’ prices.

Finally, STEs are also known to enjoy facilities unavailable to commercial exporters. These include tax benefits, transport subsidies, preferential foreign exchange and public utility rates, and capital expansion funds. These benefits may, over the long run, provide STEs with a competitive edge vis-a-vis commercial exporters.

VI. What are special concerns about STE importers?

The existence of state trading importing agencies may make irrelevant some of the disciplines agreed to in the Uruguay Round. The conversion of non-tariff barriers and the binding of those tariffs was clearly the most significant outcome of the Agreement on Agriculture. But tariffs can be of very little meaning when a parastatal organization regulates total demand. Because most state trading importers have exclusive rights to purchase and sell particular commodities, it is difficult to determine whether purchases--both domestic and imports--are being restricted because of lack of demand or because of specific governmental policy such as domestic protection, control of foreign exchange regime, or revenue generation. Under these circumstances, if the parastatal agency decides to keep strict control on sales and purchases, then the existence of tariffs in place of quotas may not enhance demand and improve market access. Product availability and consumer choice will remain distorted.

In cases where new tariffs were erected, the Uruguay Round also introduced the concept of tariff rate
A tariff rate quota refers to a trade regime with three characteristics: a quota that is set at current and/or minimum access, low tariffs on imports within the quota, and high tariffs on above-quota imports. These provisions in themselves do not guarantee improved market access. If the over-quota tariffs are prohibitively high—as is the case for many countries—then, in practice, the only imports entering the country might be the minimum access commitments. Or, if countries included existing preferential arrangements in current access commitments, then the possibilities for expansion in imports remain limited. Compounding this problem is the suggestion by some that countries should be permitted to include future preferential arrangements to fulfill minimum access commitments.

WTO rules allow monopoly importers to administer imports into a country provided decisions are based on “commercial considerations.” But, what is meant by “commercial considerations”? The lack of transparency in the decision-making procedures makes it difficult to determine whether purchases are in the spirit of the WTO. These decisions, in turn, could determine who gets the monopoly rent associated with quotas or licenses. Could it be that STEs discriminate among exporters for noncommercial reasons? The “legalization” of tariff rate quotas following the Uruguay Round Agreement makes import administration by STEs a pressing concern, especially in view of the vagueness that exists in the Agreement on Import Licensing Procedures with regard to the allocation of import quotas.

The tendency of several countries—following the Uruguay Round—to establish new state trading import agencies to administer minimum purchase requirements is another major concern. The Philippines, for example, announced a new state trading agency to implement its meat tariff rate quotas. Similarly, Taiwan is planning to set up new STEs to import rice and sugar as per WTO minimum access requirements. And, China recently re-introduced state trading in vegetable oil as a prelude to WTO accession. The objective, in all three cases, appears to be to grant exclusive purchase rights to parastatal organizations so that the government can continue to control trade. These practices impede entry of private entrepreneurs, stifle competition, and distort consumer preferences.

Several other issues regarding importing agencies can also cause trade frictions. Many STEs control the grades and standards of imported products. Such control can lead to discriminatory treatment against goods of certain national origin, impeding the free flow of goods. Similarly, some countries maintain multi-tiered exchange rate systems, where STEs are given preferential rates for purchases. This discourages competition and puts private importers at a distinct disadvantage. And, STEs are occasionally allowed to keep over-quota tariff revenues or resale price differentials. STEs can use revenue from such sources to subsidize other aspects of their operations to the disadvantage of private entrepreneurs. Special privileges accorded to STEs and their impact on competition policy are at the heart of all these issues.

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14 A tariff rate quota refers to a trade regime with three characteristics: a quota that is set at current and/or minimum access, low tariffs on imports within the quota, and high tariffs on above-quota imports.
VII. How does one measure the trade impacts of STEs?

The principal analytical task in monitoring the impact of STEs is to measure the effects on quantities traded, consumed, and produced of activities of state trading enterprises. Distortions that arise from STE activities are quantifiable in principle. The international trade literature has dealt with this issue in terms of “equivalence” of state trading and tariffs. Lloyd (1982) shows that a state trader that restricts imports will have an equivalent effect on domestic price to a tariff of a certain amount. Similarly, it could be argued that an STE that restricts/expands exports can be shown to have an effect on domestic price equivalent to an export tax/subsidy. The implications of this are that one can build state trading into an analytical framework as a set of equivalent tariffs or subsidies. Such an approach views state trading as one of several instruments that might be used to pursue objectives of governmental policy and dispenses with a need for a special theory of state trading. It treats the theory of state trading activity as an application of existing theory of (private) trading.

How valid is this equivalence approach in analyzing the trade impacts of agricultural STEs? Two separate issues should be kept in mind. One is the approach’s relevance in the context of current international trade rules and the other is its ability to capture distortions in trade flows relative to a free-trade (or a welfare-maximizing) norm. These issues are clearly separable both in practical and theoretical terms. One deals with rules that exist, the other suggests possible changes in the rules. One is easily definable and subject to straightforward quantitative estimation, the other is dependent upon a range of assumptions about the behavioral functions of imperfectly competitive enterprises. The analytical issue with respect to current rules is dealt with first, and that of imperfect competition is treated subsequently.

Framework for analysis of distortion under current rules

The provisions of the GATT have generally proved inadequate to curb the activities of state trading enterprises and have been weakly enforced. The contracting parties of the GATT were expected to inform the Secretariat of the existence of state trading enterprises, but relatively few countries made the effort, and the questionnaire developed in 1960 to be used for notification was somewhat undemanding. This led to several attempts over the years to strengthen and make more specific the constraints, but the efforts have so far proved fruitless.

Most STEs trade in agricultural goods. This undoubtedly contributed to the lax enforcement of existing regulations. Because agricultural policies were generally not controlled by trade rules, it would have been futile to have tight restrictions on the agencies that carried out policies. This gave room for the possible defense of STEs as administrators of non-tariff barriers allowed under Article XI (2) and, perhaps more than any other factor, prevented the strict application of Article II (4) to agricultural trade. When dispute settlement panels considered the activities of state importers, such as the case of the Australian complaint against the Korean Livestock Product Marketing Organization (LPMO) in 1989, they found Article II (4) did not apply to quantitative restrictions legally applied.
under Article XI. The comparison of the mark-up and the bound tariff was not deemed appropriate when quantitative restrictions were present. Now that quantitative restrictions have been largely removed as a result of the Uruguay Round Agreement on Agriculture, the rules are easier to enforce.

State trading importers have one overriding obligation, to satisfy local demand for the imported product, and one rigid constraint, to avoid giving more protection than the bound tariff. In addition, there is the more general injunction that they should behave like commercial concerns, and they are supposed to respect \textit{mfn} principles.\footnote{\textit{MFN}, or the most favored nation clause, requires members to grant to the products of other members treatment no less favorable than accorded to the products of any other country. Thus, no country is to give special trading advantages to another country or to discriminate against it.} Thus, the analytical issue is whether local demand is satisfied and whether the operation of the STE grants more protection than the bound tariff. The question as to whether they act commercially is best thought of as a combination of the two more precise conditions: if they import to satisfy the level of domestic demand that would face a private importer paying the bound tariff, they could be deemed to be behaving “commercially”\footnote{To place further restrictions on importing STEs as to their behavior in dimensions other than import quantities and prices would seem to be outside the spirit of the WTO.}.

The analytical framework for measuring protection is quite well developed in the literature. If we can conceptualize an import demand function for a product then the gap between the world price level and the wholesale price of the same (or equivalent) good is the tariff equivalent of the set of policies (including market structure conditions) that operate to determine the import quantity. This is illustrated in Figure 1 where the STE is a trading agency operating under competitive norms. ED is the excess demand curve faced by the STE and ES is the excess supply schedule, which is perfectly elastic at the world price $P_{w}$. The appropriate analytical device in this case is the \textit{tariff equivalent} which combines both the demand satisfying and tariff binding constraints. If the STE imports and sells at the same price (account being taken of handling costs) then there will be a zero tariff equivalent. If the STE merely sells in competition with private importers then the tariff equivalent will be the actual tariff applied to private transactions.\footnote{We would not wish to belittle the practical problems of collecting data on import demand when no imported goods have been allowed onto the domestic market, or when there are other constraints such as foreign exchange restrictions or health and safety standards which make the comparison tricky.} The trade impact of the STE is the reduction in import volume ($M_{1}M_{0}$) that

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure1.png}
\caption{Tariff Equivalent for STE Importer Under Current Rules}
\end{figure}

\begin{align*}
\text{Price} & \quad \text{ED} \quad \text{ES} \\
\text{Imports} & \quad M_{1} \quad M_{0}
\end{align*}
would be caused by a tariff (t) of this amount.

State trading exporters are subject to only one firm WTO/GATT constraint, that they should not grant export subsidies that would exceed the allowable subsidies in the Schedules. The same general injunction to behave commercially applies to STEs, but this again can be taken to be a shorthand for a prohibition on the granting of subsidies. The analytical issue is, therefore, whether the STE in question grants an export subsidy and if so whether that subsidy is within the Schedule.\textsuperscript{18}

The traditional analysis of export subsidies is also adequate for dealing with the problem of state traders (figure 2). An STE will exhibit to the world an export supply schedule (ES), which will be observable at the price \((P_w)\) and quantity of sale \((X_0)\). In addition, there will be a domestic price paid to the producer \((P_m)\) by the STE. The degree of subsidy can, therefore, be measured as an \textit{export subsidy equivalent} \((s)\), analogous to the tariff equivalent of the importing STE. The trade effect is the amount by which an export subsidy of that amount would expand trade \((X_0X_1)\). The level of export subsidy equivalent multiplied by the quantity of exports will give the equivalent expenditure on export subsidies.

**Framework for analysis of distortion under imperfect competition**

The second issue, the analysis of distortions arising from imperfectly competitive behavior of STEs, is somewhat more complex. Monopoly power can be exercised by both private and public enterprises in several ways that will affect trade flows. Analysis of the trade impacts of state trading from a welfare perspective thus takes one immediately into a deeper area of enquiry than that of whether state trading violates current trade rules. This requires a more complex framework.

If one takes the view that the WTO should move the world toward perfect competition in all domestic and international markets, then all public and private abuses of power are potential targets for regulation. The activities of state traders would be just one aspect of this approach. The analytic framework which one would use would be conceptually simple if operationally complex. One would have to measure market power in all markets and devise rules that would address this range of issues.

\textsuperscript{18}Under current WTO rules, there is really a double test in that the STE would have to comply with both the quantity and expenditure provisions of the Schedules. But, it is quite possible that a STE could grant a subsidy that in value terms did not violate the Schedule limits, but the quantity that benefitted from that subsidy could be above the quantity allowed to be subsidized.
The rules would presumably apply to both private and public actors and to factor markets as well as goods and services. It is unlikely that the world is willing to go this far in the foreseeable future.

In that case, the question becomes which set of noncompetitive activities should be targeted? The playing field may be level but the players can be of very different sizes. Presumably the issue comes down to one of the external impacts of market distortions: which departures from the competitive norm are likely to be causing the greatest problems for other countries? This helps to narrow the range of topics to be explored in that it suggests that purely domestic monopolies that do not trade may be of little interest.

If we omit domestic monopoly in non-tradables as a trade issue, we can focus on two aspects: (a) the impact of domestic market power on the trade outcome, and (b) the exploitation of international market power through the manipulation of trade quantities (or prices). The first can be thought of as the “small country” case and the second as a “large country” problem, though even the smallest of countries can be important in the sale of any particular product.19

Small country case

The analytical issue in the small country case is how to derive the trade impacts of the exercise of monopoly power in domestic markets. Monopoly power can come in three guises: the control over domestic production, the control over domestic use or consumption, and the control over trade quantities (imports or exports). Assume to start with that these functions are separate (i.e., the same agency does not control production and trade). Also assume initially that the country in question is complying with all the WTO regulations discussed above. Thus the trading enterprise is not granting protection above the bound level, and not imposing quantitative restrictions on trade flows.20 Further, if the country is active in export markets, assume that there are no illegal export subsidies being paid, directly or indirectly to producers. The focus is therefore on the nature of the trade distortion other than those related to hidden protection through non-tariff means and camouflaged export subsidies.

Assume a domestic monopolist (public or private) trying to use market power to maximize profits. Consider first the import case. The monopolist would like to restrict production below the competitive level in order to drive up the price. However, consumers can buy from abroad at the

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19 An example is the tiny island of Grenada, which markets about one-third of the world’s nutmeg.

20 The question of what constitutes a quantitative restriction is important here. If an STE “decides” to import only a specific quantity of a product in a year, is that a quantitative restriction on trade? Yes, if it is not possible for another entity to purchase more on world markets and import that additional quantity. No, if the STE does not have such monopsony rights but merely chooses that as an appropriate import level given market needs and local market conditions. The key question is thus whether the state trading enterprise imposes quantitative restrictions on other actors in the market. In what follows, we assume that the STE does not have the right to prevent other firms from importing over the bound tariff.
world price. The monopolist acts so as to bring marginal cost of domestic production into line with marginal revenue as given by the price of imports (i.e., world price plus tariff if any). If a domestic monopolist has no help from any quantitative controls over imports, then buyers can always satisfy their needs from imports. The quantity of imports would not be markedly different from that of a competitive industry. The trade effect of a domestic monopolist is therefore very limited in the absence of (quantitative) trade restrictions. The exporter case is similar. The producer will try to gain some monopoly rents by restricting production until marginal cost is equal to world price plus tariff. But again, if the monopolist is also selling abroad and has no control over imports, then the impact is minimal. In neither case are there major distortions in trade flows relative to a competitive system.

Consider now the possibility of a monopsonist (public or private) who acts as the sole purchaser of domestic output and tries to minimize cost. The monopsonist might wish to purchase less from the domestic supplier than would a competitive purchase sector. The rent would come from purchasing less of the domestic product (at a lower price than the cost of imports) in order to equate the marginal cost of buying from the domestic market with the world price (plus tariff). But this would require export controls (or the compulsory purchase of all domestic product, which implies a ban on exports). However, if domestic firms can export, the monopsonist loses its market power. Export restrictions are, therefore, the key issue with respect to the use of monopsony power on the domestic market. Such restrictions are the vital link between the use of monopsony power and impact on trade flows.

In short, the only noncompetitive action that remains unconstrained by existing trade rules is the decision as to how much to produce. The trade impact of monopoly (or monopsony) power at the national level arises not from the production decision per se but from the support of domestic monopolies (and monopsonies) with non-tariff trade restrictions. Tarification and the removal of quantitative import and export restraints should render largely irrelevant the domestic market structure.

Monopoly control over trade, however, cannot be dismissed lightly as with control over production or use. Consider three cases. In the first, a trade monopoly is a “pure” profit-maximizer, or rent-seeker using control over trade to exploit either domestic buyers or domestic sellers or both. If the objective of the STE is to maximize profits by exploiting consumers, then even in the small country case with no power to change world prices, the trader would impose trade restrictions equivalent to a tariff or an export subsidy. Figure 3 provides an illustration of this for the

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\[21\] It is arguable that the use of export restrictions itself is not allowed under the current trading rules. It is also rare for such restrictions to be challenged by trading partners (or at least the exporters).
The situation would be similar for an STE exporter, with the difference that the policy instruments would be an export subsidy if consumers were to be exploited, and an export tax if producers were to be exploited. In cases where both are exploited, the PSE/CSE concept again becomes relevant. If only part of the rent is passed on to producer in the form of higher prices, this would be equivalent to market segmentation, and the PSE/CSE would be the relevant measure.

The framework for measuring the impact for such a consumer-exploiting STE importer is similar to that discussed above. The measurement of the trade effect is simply the tariff equivalent of the policy set. In the case of a producer-exploiting STE, the measurement of trade effect is the import subsidy equivalent. With market differentiation, the trade impacts would no longer simply be represented by the tariff equivalent: it would have to be calculated from the producer and consumer subsidy equivalents (OECD, 1987; USDA, 1987).

The second case is where the trade monopoly is in place to support the producer monopoly, so that together they exploit domestic consumers. If the entire rent is handed over to producers as decoupled payments, this scenario differs from the consumer-exploiting trade monopoly only in the distribution of rents. But if the rent is distributed to producers in the form of higher prices (Pm in figure 3), the trade impacts would be as if the STE were exploiting consumers. In either case, the tariff equivalent would still represent the trade effects of STE activities.

The third case is that of a producer-exploiting monopsony linked to a trade monopoly, which would keep domestic prices low with import subsidies or export taxes. This would be tantamount to the cheap food policy pursued by several developing countries The trade impact (SsSs) would be measured, as before, by the subsidy/tax equivalent (e).

In summary, in the small country case, the operation of domestic monopolies and monopsonies unsupported by trade monopolies (or quantitative restrictions) pose no problem for trade. If they are linked to a body that controls trade flows, they can exploit either domestic consumers with tariff-like policies or domestic producers with tax-like policies. The only case where measurement of the trade effect is likely to be problematic is where the state trader runs a complex policy of splitting the domestic market and thus using a combination of producer and consumer taxes in conjunction with

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22The situation would be similar for an STE exporter, with the difference that the policy instruments would be an export subsidy if consumers were to be exploited, and an export tax if producers were to be exploited. In cases where both are exploited, the PSE/CSE concept again becomes relevant.

23If only part of the rent is passed on to producer in the form of higher prices, this would be equivalent to market segmentation, and the PSE/CSE would be the relevant measure.
trade measures.

Large country case

If we drop the assumption that the country cannot alter its terms of trade, the trade impact is marginally more difficult to compute. However, the analysis does not change markedly. Take figure 4 as an illustration. The demand faced by the monopolist is the sum of domestic and foreign demand curves, and is less than infinitely elastic. The monopolist equates total marginal costs ($MC_0$) to total marginal revenue ($MR_0$), and not just to domestic marginal revenue ($MR_1$). There will, therefore, be some profits to be had by reducing production and pushing up world price. The impact on trade flows can be depicted by a producer tax equivalent ($t$) on domestic production, where the height represents the degree of market power in the total market. But, in practice, restraining domestic production in the absence of trade controls is unlikely to cause trade problems. The domestic monopsonist, likewise, has some market power if world prices are impacted by the restriction of purchases on the domestic market. With less purchased from the domestic market, imports would increase and world prices would rise. But the trade impact is due to the reduction in production and can be calculated from the producer tax equivalent as before.

The situation becomes a little more interesting when one considers a profit-maximizing “pure” trade monopolist/monopsonist, who could discriminate among markets and impose optimal trade taxes. Essentially, a monopolist trader would equate its excess supply schedule with the marginal export revenue function and impose an optimal export tax. This is in addition to the trade taxes that might be used to exploit the domestic market. A monopsonist trader, on the other hand, would equate its excess demand schedule with the marginal import cost function and impose an optimal import tariff. The trade effects, in both cases, can be represented with a tariff equivalent.

Traders that function in support of producers and/or consumers would face similar situations. The coalition between the domestic monopolist and the state trader would set a somewhat higher tariff against imports so as to exploit the world market as well as the domestic one. The monopsonist with supporting trade controls would impose a lower domestic producer price so as to gain a little from weaker world market prices. In general, the terms of trade impact is a refinement on the calculation of the measure of the trade effect. It will not often shift either the direction nor dominate the magnitude of the impact on trade.
Analytical approach and complexity of state trading practices

The tariff/subsidy-equivalent approach that has been proposed to analyze the distortionary impacts of STEs is relatively simple. It transforms the entire set of policies and activities associated with state trading into one easily understood summary measure that can be compared over time, and across commodities, policies, and countries. But is the analytical framework completely adequate for addressing some of the thorny issues associated with state trading?

One of the primary concerns raised about state trading enterprises is their ability to cross-subsidize across markets as a result of the economic rent stemming from statutory powers given to them. Analytically, this concern is not a real problem: it would just mean that the tariff/subsidy equivalents would have to be measured in two or more markets rather than in a single market. Hence, cross-subsidization between the internal and external markets would be measured as higher protection (tariff equivalents) in the domestic market and greater subsidization (export subsidy equivalents) in foreign markets. The same would be true for cross-subsidization across commodities. Tariff/subsidy equivalents could be measured in the different markets and compared with their WTO obligations.

Price pooling schemes are often cited as another source of concern. But, to a large extent, the analytical issue is no different than cross-subsidization across markets or products. The tariff equivalents would still represent the trade impacts of policy. Where the analysis becomes more complex is in cases of price-pooling across time (between years). In this situation, the tariff equivalent should be calculated over the length of time in which the policy is applicable. Pooling across time may have an impact on stocks and hence trade. But even here, it is difficult to argue that pooling has an unequivocal effect on the volume of trade.

Does the price gap capture the “unfair competitive advantage” that STEs are able to secure from governmental association? Tax benefits, transport subsidies, and preferential exchange rates were cited as some of these provisions. If we assume that the objective of the STE is to maximize profits with price as the decision rule, then conceptually, these facilities do not pose any problems for the analytical framework. Clearly, if the STE sets prices to maximize its profits taking into account the effects of these provisions, then the price gap would capture provisions that facilitate STE activities. However, if there are cases where the tariff equivalent did not capture this effect, then it will be necessary to calculate the tariff or subsidy equivalents of the policy and come up with alternative measures such as PSEs/CSEs. Input subsidies, or policies that are defined as part of WTO internal support disciplines, may fall in this category.

The issue is often raised of so-called “hidden” or implicit subsidies associated with certain STE activities. To the extent that these are not reflected in either domestic or trade prices, it could suggest that the tariff equivalent does not adequately represent the trade impacts of STEs. Preferred interest rates that allow STEs to undertake pricing risks beyond what a commercial enterprise might do could
be one such example. But such cases are likely to be few and far between, and the concern relates not necessarily to the appropriateness of the analytical framework but rather to the availability of data to capture these activities.

The proposed analytical framework captures most but not all the trade effects associated with STEs. For instance, it is difficult to quantify the benefits for STEs of making long-term agreements with other public enterprises or the advantages that STEs derive from governmental market promotion programs channeled exclusively through them. Clearly, if such instances are important, then the analysis of the trade impacts of STEs will have to go well beyond the simple concepts of tariff and subsidy equivalents presented in this paper.

**VIII. Developing a classification scheme for state trading enterprises**

Our discussions so far have focused on issues and concerns about state trading enterprises (STEs) and the measurement of the extent of market distortions such entities generate. We have suggested that the link between domestic market structure and trade controls is a key issue that can be expected to impact an STE’s **capacity to distort international trade**. For instance, a statutory marketing board that has exclusive authority to purchase and sell domestic output may influence international trade very differently than an STE that merely administers automatic licenses. Similarly, an STE importer that is a player in the domestic market can be expected to influence trade much more than a trading agency that is an issuer of licences. Clearly, our understanding of the economics of STEs can be greatly enhanced by developing a framework that would facilitate classification of such entities in terms of their ability to impact trade.

A classification scheme--or taxonomy--that provides the conceptual foundation for understanding and analyzing the market effects of STEs can be useful in several respects. First, it can provide a snapshot of the similarities and differences among STEs in terms of several broad economic traits. Policymakers might find it useful to know, for instance, whether the Canadian Wheat Board and the Australian Wheat Board are comparable with respect to ownership structure, trade structure, or other relevant characteristics. Second, a classification scheme provides a starting point for building an inventory of STEs. An inventory listing, especially if it includes information on market shares, can provide policymakers with a perspective on the changing importance of STEs in agricultural trade. Third, even though the trade impacts of STEs can be measured through tariff equivalents, there have been very few attempts to empirically assess the quantitative impacts of such entities on international agriculture trade. This paucity of empirical analyses is likely to continue because of the difficulties of obtaining information considered proprietary. To the extent that one of the goals of the WTO is to move toward freer trade taking into account the existence of STEs, a classification scheme that provides qualitative indications (or ordinal ranking) of the trade impacts of such enterprises could help policymakers and negotiators make informed decisions. Last, a classification scheme might be the basis for organizing thoughts around the issue and focusing on a subset of policy concerns,
especially as they relate to the need for detailed case studies.

For any classification scheme to be useful, it must have several characteristics. At a minimum, it has to be geared toward achieving some specific goal. In the case of STEs, the goal should be the grouping of entities based on the firm’s capacity to distort international trade. Moreover, a classification scheme should be easily understood and interpretable. Thus, the practice of classifying STEs as statutory marketing board or export marketing board or regulatory marketing board may not be very useful if it does not provide insights into the economics of market distortion. A classification scheme should also be robust and comparable over time, across sectors, policies and countries. Where possible, it should be noncontroversial and acceptable to all. Finally, a classification scheme should be precisely defined, though precision itself should not lead to excessive disaggregation such that the economic categorization becomes meaningless.

What might be an appropriate classification scheme to understand the economics of state trading enterprises? Our discussions on the conceptual framework presented earlier suggests that there are several elements associated with the market regime under which an STE operates, as well as its institutional structure, that determine the parastatal’s capacity to distort international trade. We will now describe these in greater detail, focusing on how each might help us understand the capacity of an STE to distort international trade.

**Trade balance**

Trade balance for a commodity at a point in time establishes whether an STE is an exporter or an importer. Why is it important to classify STEs as exporters or importers? Because, as indicated earlier, the behavior of exporting STEs can be expected to be very different from STE importers. Whereas an STE exporter usually attempts to expand trade in the international market, an STE importer is more interested in restricting trade and augmenting protection in the domestic market. The concern with exporting STEs is relatively simple: do they violate the Agreement on Agriculture export subsidy disciplines? The issue with importing STEs is more complex: do they use tariffs and other nontariff barriers to trade (NTBs) to protect domestic industries? Ceteris paribus, if the objective of multilateral negotiations is to move toward freer trade taking into account the possibilities of rules violation, an exporter that directly expands international trade might be considered “less objectionable” to one that restricts competition. Indeed, identifying the trade balance associated with an STE is the first step toward understanding the economics of such enterprises.

**Market control**

Market control refers to four specific activities that an STE might be engaged in: importing, exporting, domestic procurement (purchases), and domestic marketing (sales). The ability of an STE to distort international trade depends, among other things, on the control it exercises over these activities. If an STE regulates all of these activities, then its capacity to distort markets is likely to be much greater than if it controlled none of the activities.
What are the various possibilities that exist with respect to control of imports, exports, domestic procurement, and domestic marketing, and can we establish a qualitative index of trade distortion based on the type of regime in operation? At one end of the spectrum would be a market regime where the STE maintains complete control over each of these activities. In practical terms, this would most likely represent a situation where the STE has single-desk authority on imports, is the sole seller of exports, has monopoly power on domestic marketing (sales), and is a monopsonist buyer with respect to domestic procurement. All transactions, whether in the domestic or international markets, would have to be channeled through the STE. The other extreme would be a market regime where the STE has no control over imports, exports, domestic marketing, or domestic procurement. Presumably, the STE in this situation would behave no differently than a competitive private firm, and the possibilities for an STE to distort internal and international markets are, thus, very limited.

Straddling these two extremes are several possibilities. An STE might still be the single-desk authority for imports but face competition in domestic marketing. Domestic consumers, therefore, would have the choice of purchasing either from the parastatal organization or from other domestic suppliers. Similarly, the STE might be the sole seller in the export market but face competition in domestic procurement. Domestic producers can sell either to the parastatal or to other domestic consumers. From a free trade perspective where more competition is preferred to less, an STE that has exclusive authority for both domestic procurement/marketing and international sales/purchases would be considered less desirable than one which controls only one of the markets.

Policy regime

Two separate issues emerge regarding the policy regime: the first concerns the type of policy instruments in use, while the second relates to the competitive edge that an STE might be able to gain because of exclusive access to certain policy instruments. An STE that relies on quantitative restrictions on imports (or exports) is likely to distort international trade much more than an STE that obtains its protection from tariffs. From a free trade perspective, therefore, an STE that is supported by tariffs is preferred to one that resorts to non-tariff trade barriers. Comparable arguments can also be made (and conclusions drawn) with respect to various domestic policy instruments. As has been established in the literature, income payments that directly affect only producers are preferred to market price support payments that distort both consumer and producer preferences. The second issue on policy regimes relates to the use of instruments that allow STEs to obtain a competitive edge over other firms operating in the same market. For instance, does preferential allocation of quotas (monopoly rents) or exclusive access to tariff revenues benefit parastatal organizations to the detriment of commercial firms. If so, an STE that does not have access to preferential governmental assistance can be considered more desirable to one that receives such benefits.

Product range

Product range might be another indicator of the capacity of a firm to distort trade. Presumably, if an STE trades in several products, it has more leverage in manipulating markets and more discretionary authority in moving away from free trade for any specific commodity. The ability of any firm to move
away from a competitive solution depends on the market power that it exercises within a country or internationally. Market power depends, among other things, on a firm’s capacity to differentiate its product and regulate use of substitutes. If a firm has complete control over the commodity and its substitutes, then it has a greater capacity to distort trade. This capacity is likely to be even greater if the STE has control over upstream and downstream activities and can engage in transfer pricing as a consequence of vertical/horizontal integration. From the perspective of moving toward free trade, an STE that trades only in one commodity may be preferable to one that controls several products.

**Ownership and management structure**

The ownership and management structure of an STE can impact international trade in several ways. An STE that is owned by the government and has been established to provide income and price stability may behave differently than an STE owned by producers determined to maximize profits. Or, an STE that is owned by the government and is guaranteed against bankruptcy is likely to impact trade differently than a commercial firm operating without government assistance. If a continuum on trade distortion were to be established, an STE financed entirely by producers without the deep pockets of the government is more likely to move toward free trade than an STE owned by the government. Ownership, in this case, is being used as a proxy to represent the move toward a welfare maximizing norm.

**Creating STE archetypes**

Classification of STEs requires attention to market control mechanisms, policy regimes, and institutional characteristics such as ownership structure and product range. Table 1 provides a classification scheme for STEs based on the market control mechanism and the policy regime faced by parastatals. A **Type I** STE is defined as a parastatal that operates under a competitive market regime without any controls on either domestic or international trade. The institutional characteristics of the enterprise are not important under these conditions because the STE is competing with private firms on a level field. One exception might be where an STE gains a competitive edge over commercial firms as a result of exclusive government
programs, such as tax benefits and/or subsidies on utilities. But this is likely to be an exception rather than the rule. An example of a Type I STE is the Australian Meat and Livestock Corporation, which essentially engages in market promotion activities only. A Type II STE would be a parastatal that operates without any restrictions on external trade but maintains controls over the domestic market. Depending on whether the parastatal organization deals with multiple or single commodities and based on whether it is owned by the government or producers, Type II could be further disaggregated as necessary. Some U.S. marketing orders are examples of Type II STEs. A Type III STE would be a parastatal that operates in a competitive domestic environment but benefits from quantitative controls on external trade. As before, variants of type III would depend on ownership and product structures. The Australian Wheat Board or the New Zealand Dairy Board are examples of Type III STEs. A Type IV STE would be a parastatal that imposes quantitative restrictions on imports and maintains control over the domestic market as well. Variants would depend on product and ownership structure. BULOG among importers and the Canadian Wheat Board among exporters are examples of Type IV STEs. But, it is worth noting that the same STE might be classified differently, depending on the commodity under consideration. For instance, the China Cereal Oil and Food Corporation (COFCO) would be designated as Type IV for cereals (exclusive control over external trade and domestic marketing) but Type III for vegetable oils (monopoly in external trade only). A similar argument could be made for the Canadian Wheat Board with respect to feed barley, where it is not a monopsonist in the domestic market.

What might be the policy goals to pursue vis-a-vis STEs if the objective is to minimize global trade distortions arising from their activities? Clearly, Type I STEs, have little, if any, capacity to distort
external trade and hence might not require scrutiny vis-a-vis current rules violation. Type II STEs also operate without the support of trade controls. Domestic consumers (producers) can resort to international markets for purchases or sales, suggesting that domestic controls without trade restrictions do not significantly violate competitive norms. Scrutiny vis-a-vis current rules violations, especially as they relate to international trade, is not necessary, though an examination of domestic competition policy might be desirable. Type III STEs are defined as those that allow competition in the domestic market but not in external trade. These STEs have the potential to moderately distort trade but are not as distortionary as Type IV STEs. The policy goals for Type III STEs might be to examine the extent of market control they exercise and examine how their institutional characteristics might contribute to additional trade distortion. Type IV STEs, which maintain control over both the domestic and external markets, have the capacity to distort trade the most because of exclusive marketing authority in both markets. The policy goal here might be to address entry restrictions into the markets. Institutional characteristics, while important for Type IV STEs, do not necessarily constitute the overriding impediment to a move toward free trade.

The classification scheme we propose is one means of deriving a qualitative measure of the distortionary impact of STEs. But it is not an end in itself. This qualitative information should be used in conjunction with two others measures: empirical estimates of the tariff equivalents, and means testing that would indicate how large a player in the global market the STE might be. Then, and only then, will we have a realistic picture of the capacity of an STE to distort international trade.

IX. Conclusion

State trading in agriculture is not a new phenomenon. It has, though, been getting additional attention recently because of the Uruguay Round Agreement on Agriculture, which disciplines many of the traditional methods of providing support. The basic objective of this paper was to examine trade policy issues concerning agricultural state trading enterprises. On the export side, practices such as selective price cutting and price pooling schemes are often cited as major irritants. Issues on the import side include the relevance of tariffication in the presence of state trading, the adequacy of price markups in disciplining STEs, and procedures for administration of tariff-rate quotas. The primary concern with agricultural STEs is the prospect of circumvention of Uruguay Round commitments. The ambiguities associated with the Uruguay Round definition of STEs do not make matters any easier.

The focus of the analysis was on the trade distortions arising from activities of STEs. The analytical framework that is proposed to examine distortions under current WTO rules is rather straightforward: traditional tariff equivalents and corresponding export subsidy equivalents could be used to represent the trade effects.

More complex is the question as to whether noncompetitive conditions in domestic markets distort trade and how one measures the impacts. We concluded that, for a small country, the disruption in trade is minimal when the production and purchasing monopolies are not supported by trade controls.
But, even in cases where trade controls are used, the impact of trade policies themselves can be expressed in terms of tariff equivalents, and come under the purview of current rules. Links between domestic and trade monopolies are common ways of providing producer protection, but again, this can be measured using tariff-equivalent methods.

Though the calculation of tariff equivalents gives a quantitative indication of the trade impacts of STEs, for many purposes a qualitative categorization of the types of STEs is useful. We suggest such a taxonomy based on the variables of market structure, policy instruments, and ownership.

Our paper suggests that the concepts and analytical framework to look at the trade impacts of STEs are relatively well-developed. The real challenge is to devise a system that would make available the necessary empirical information to calculate the tariff and subsidy equivalents and to undertake the desirable classification.
REFERENCES

Baldwin, R.E.  Non-tariff Distortions of International Trade, Brookings Institute, Washington, DC, 1970;


World Trade Organization (WTO). “Operations of State Trading Enterprises as They Relate to International Trade,” Background paper, WTO Secretariat, October 1995;