Federal Reserve Bank of Cleveland

Economic Review

Winter 1981–82

Winter 1981-82
Federal Reserve Bank of Cleveland
Economic Review

Contents

A Basic Analysis of the New Protectionism

by Gerald H. Anderson and Owen F. Humpage

Since the early 1950s international trade has become an increasingly important component of the U.S. and world economies. In the 1970s the adjustment problems caused by increased world-wide competition seemed particularly severe and heightened pressures both in the United States and abroad for protection against imports. The U.S. automobile and steel industries, for example, have advocated trade policies to reduce foreign competition in their industries. While the United States and other countries generally have balked at imposing tariffs and quotas, they have instituted an array of seemingly less blatant trade policies often referred to as the *new protectionism*. These measures include both restraints on imports and incentives for exports, and in some cases the costs of these programs are greater than those of tariffs or quotas.

This article describes the costs that nations incur by disrupting the free flow of international trade, focusing on the new-protectionist policies that are being substituted for the more conventional interferences with trade, i.e., tariffs and domestically administered quotas. Such devices as gentlemen's agreements, buy-American poli-

cies, quality standards, subsidies, anti-dumping and countervailing duties, and restrictions on direct investment are described in detail. All of the techniques surveyed are currently used or have considerable support in the United States. It is not our intent to emphasize the differences among the trade restraints and incentives considered here, but rather to show the similarities among these trade policies. Both trade restraints and incentives transfer income among groups of individuals and impose net costs on the countries involved. Neither is preferable to free international trade.

I. Free Trade and the Effects of Trade Barriers

Since publication of Adam Smith's *Wealth of Nations* in 1776, economists have recognized the benefits of free international trade. When one nation specializes in goods that it can produce relatively inexpensively and exchanges these goods for items that another nation produces relatively inexpensively, both nations benefit. The benefits are manifested in lower prices and a wider set of items available for consumption. Consequently, real income is higher *with* trade than *without* trade. The benefits of free international trade derive initially from differences in comparative costs of production. Specializa-

Gerald H. Anderson is an economic advisor and Owen F. Humpage is an economist, both with the Federal Reserve Bank of Cleveland.

tion and trade augment these benefits by increasing the degree of worldwide competition, encouraging international diffusion of new technology, and promoting economies of scale in production. The greater the difference between trading partners' pre-trade price patterns, the greater the gains from free trade.

If an economy is to reap the benefits of free international trade, it also must incur the resource-adjustment costs and income-redistribution problems associated with specialization and trade. Trade changes relative prices and forces a reallocation of resources. Over time, a nation engaged in trade experiences further changes in relative costs, technology, and tastes that alter the composition of its exports, imports, and domestic production. The adjustment does not occur instantaneously, and during the transition some resources—including people—may be unemployed. After the transition, the benefits of specialization and trade are not distributed evenly throughout the economy. Trade theory suggests that the factor used intensively in the production of a nation's import commodity may experience a decrease in its relative wage as international trade expands. Consequently, while total real income rises for a nation expanding its trade, some groups within a nation may suffer a reduction in real income.

Nations often impose trade barriers in an attempt to reap the benefits of trade without incurring the associated transition costs and income-redistribution problems. Trade barriers are costly non-solutions, often involving effects not anticipated by their proponents. They arbitrarily transfer income from consumers to domestic producers, governments, and sometimes foreign exporters and introduce net losses to society resulting from production and consumption inefficiencies.

The income-redistribution effects and net costs of tariffs and quotas, classical protectionist devices, are shown in figure 1. With the imposition of a per-unit tariff (t), the price of the imported good rises by the amount of the tariff ($t = P_1 - P_0$). Consumers, who purchase less at the higher price, suffer a loss in purchasing power shown in panel B by the lightly shaded area $P_0\,P_1\,f\,h$.

Not all of this income loss, however, is a net loss to the home country. Part (area $P_0\,P_1\,e\,b$) is transferred to producers of the protected commodity through the higher prices they charge, and part (area $e\,f\,g\,h$) accrues to the domestic government as tariff revenues. In addition to these income transfers, the home country suffers tariff-induced net losses stemming from greater inefficiency in production and foregone consumption opportunities. These net losses are shown by the darkly shaded areas $b\,e\,g$ and $d\,f\,h$, respectively, in figure 1.

Quotas have effects similar to tariffs, with one important difference involving area $e\,f\,g\,h$. In the case of a tariff, the domestic government captures this income in the form of tariff revenues. In the case of a quota, the amount captured by the home country depends on how import licenses are sold. If import-license fees are set at P_1 minus P_0 dollars per unit, the home country captures the entire area $e\,f\,g\,h$. On the other hand, if import-license fees are set at less than P_1 minus P_0 per unit, part of the income lost by consumers will accrue to foreign producers and exporters rather than to the home country's government. Throughout this article it is assumed that governments always capture these revenues through the sale of import licenses when imposing a quota.

Sometimes the consumer of a protected good also is a producer, using the protected item as an input to his own manufacturing process. A tariff or quota on an input raises the cost of producing with that input. A tariff on imported steel, for example, increases the cost of producing domestic cars and consequently may force domestic car producers to seek protection against foreign car imports. In this way protectionist measures become catalysts of further trade restraint, especially along lines of production.

II. The New Protectionism

Realizing that the world is better off when trade flourishes, developed countries have made great advances toward lowering tariffs and limiting quotas since World War II. Most of the gains were made under the auspices of the Gen-

Fig. 1   Free Trade, Tariffs, and Quotas

Panel A   Effects of Free Trade

Price

D_d S_d

P_2 ---------- a'

P_0 b' c' d' S_w

0 1 2 3 4 5 6 7 8 9 10

Imports   Quantity
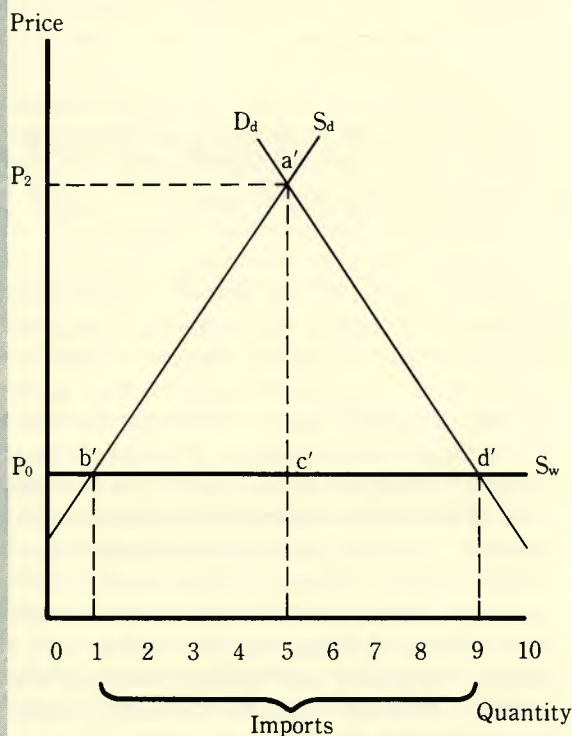
Panel B   Effects of Tariff or Quota

Price

D_d S_d

P_2 a

P_1 --------- e f

P_0 b g h d S_w

0 1 2 3 4 5 6 7 8 9 10

Imports   Quantity
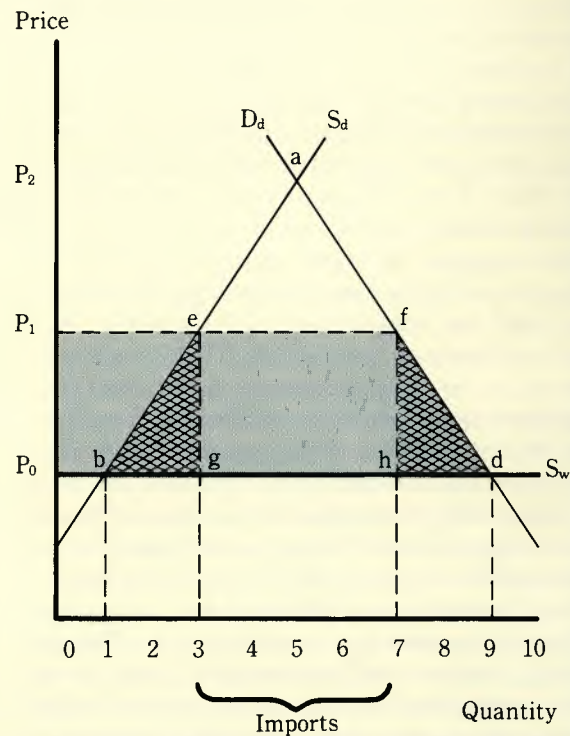
Free Trade. A simple model of the market for a single traded good is shown in panel A, where line D_d represents the domestic (or home country's) demand schedule for a traded good, and line S_d represents its supply curve. In the absence of international trade, the home country would produce and consume 5 units of the good in question at a price of P_2. The horizontal line S_w represents the world-supply schedule. A horizontal world-supply curve results from the assumption that the home country's demand for, and the supply of, the traded good is too small relative to world supply to influence the world price (P_0). Under free international trade the home country would consume 9 units of the traded good at the world price of P_0. Domestic

producers would supply 1 unit of the good at price P_0, and imports would equal 8 units.

The benefits of trade accruing to the home country relate to greater efficiency in production and improved opportunity for consumption. Consumers, for example, are willing to pay the prices given along their demand curve (D_d) for various quantities of the good; with free trade, however, they pay only P_0 per unit. The price difference for each additional unit purchased represents a net gain to consumers. The triangular area under the demand curve, bounded by $a' c' d'$, equals the total trade-induced net gain to the home country resulting from the improved opportunity for consumption. Similarly, domestic producers are willing

to supply quantities of the good at prices given by the supply curve (S_d), but a foreign producer can supply the good at a lower price (P_0). The price difference for each unit represents a net gain to the home country from improved efficiency. The triangular area under the supply curve bounded by $a'\,b'\,c'$ equals the total trade-induced net gain to the home country associated with increased efficiency in production. The total area $a'\,b'\,d'$, therefore, represents the net gains accruing to the home country from free international trade.

In contrast, the area $P_0\,P_2\,a'\,b'$ does not represent a trade-induced net gain or loss to the home country. This area represents a reallocation of revenues from domestic producers of the traded good to consumers, resulting from the lower price of the traded good. Consumers use this revenue to finance additional purchases of the traded good, as well as purchases of other items. The amount spent on additional imports eventually finds its way back to the home country through exports or foreign direct investments. Consequently, resources left unemployed as a result of trade in time find employment in other industries, although probably only at lower relative wages (see, for example, Luttrell 1981).

Tariffs and Quotas. If the home-country imposes a per-unit tariff of P_1 minus P_0 on the traded-good imports, the domestic price would rise to P_1 and domestic consumption would fall to 7 units, as shown in panel B. The quantity supplied domestically would rise to 3 units, and imports would fall to 4 units. Consumers now buy less and pay more, but part of their real-income loss is transferred to other sectors of the domestic economy and does not represent a net loss to the home country. The lightly shaded area $P_0\,P_1\,f\,h$ represents the total decline in consumers' purchasing power. Part of this real-income loss, given by the area $P_0\,P_1\,b\,e$, accrues to domestic producers, who now charge P_1. This price exceeds the marginal cost of production, given by the domestic-supply schedule, for each unit up to the third unit of the traded good produced. Another por-

tion of the consumer-income loss, given by area $e\,f\,g\,h$, goes to the domestic government as tariff revenues. Like other tax receipts, tariff revenues may be used to benefit consumers.

Tariffs, nevertheless, impose net losses on the home country (and the world) from increased inefficiencies in production and foregone consumption opportunities. The part of the net loss attributable to resources wasted by shifting production to the less efficient domestic producers is given by the darkly shaded triangular area $b\,e\,g$. Foreign producers can produce the second and third units of the traded good for less than domestic producers. The part of the net loss attributable to foregone consumption opportunities is given by the darkly shaded triangular area $d\,f\,h$. Under the free-trade price of P_0 per unit, consumers would have purchased an eighth and ninth unit of the traded good. Notice, too, that the more price-elastic the home country's demand and supply, the greater the net losses associated with the tariff.

Imposing a quota instead of a tariff alters the conclusions in one important respect. Assume that the government imposes a quota, limiting imports to only 4 units. Again, the free-trade situation depicted in panel A is altered to that shown in panel B, as the domestic market bids up the price of the traded good to P_1. The decline in consumers' purchasing power again is given by area $P_0\,P_1\,f\,h$, and triangles $b\,e\,g$ and $d\,f\,h$ indicate the net losses to the world. The major difference between the tariff and quota involve the area $e\,f\,g\,h$. In the case of a tariff, this amount accrues to the domestic government as tariff revenues. In the case of a quota, the share of area $e\,f\,g\,h$ obtained by the home country depends on how import licenses are issued. If, for example, the home country sells import licenses at a price of P_1 minus P_0 dollars per unit, it would capture the entire area $e\,f\,g\,h$. Alternatively, if import licenses are sold at a lower price or are given to foreign governments, producers, or exporters, those groups would receive part or all of the income lost by consumers.

eral Agreement on Tariffs and Trade (GATT), initially negotiated in 1947 (see box). This period of increasing trade liberalization lasted until the early 1970s, when the Organization of Petroleum Exporting Countries' price increases and the harsh worldwide recession of 1974–75 created balance-of-payments and employment problems more severe than the typical cyclical patterns. The ensuing climate of slow real growth, high unemployment, and reduced productivity gains created a more difficult environment in which trade-induced resource adjustments could be made. Since the early 1970s, there has been a noticeable increase in pressures for trade protection, as Balassa (1978) and Tumlir (1979) have observed.[1]

Recent protectionist measures, however, have distinguished themselves from those of previous periods, consequently earning the label *new protectionism*. The most obvious distinguishing characteristic of the new protectionism is its rejection of the tariff and, to a lesser extent, the quota. A GATT inventory completed in 1981 lists more than 600 separate non-tariff barriers that affect industrial-products trade.[2] In part, the growing importance of non-tariff trade barriers can be attributed to the success of GATT. The first six GATT negotiations dealt almost exclusively with tariff reductions; it was not until the Tokyo Round, concluded in 1979, that GATT began considering non-tariff barriers. The growth of the new protectionism may reflect an attempt by countries to institute trade restraints without destroying GATT as a multinational forum for discussing trade problems. Even with the Tokyo Round, there is ample room for countries to impose trade barriers. Nevertheless, the proliferation of non-tariff barriers is attributable to more than just the relative demise of tariffs and the desire to maintain GATT.

---

1. Krauss (1978) argues that increased protectionism is a natural extension of the growing role of government in the economy.

2. *GATT Focus*, February 1982, p. 2. GATT is preparing a corresponding inventory for agricultural products. See also *Inventory of Industrial NTBs*, U.S. Department of Commerce, Washington, D.C., 1973.

Under floating-exchange rates, non-tariff trade barriers have the added advantage of providing a more constant degree of restraint than *ad valorem* tariffs, which are imposed at a fixed percentage of the value of the goods. An exchange-rate change that lowers the home currency price of imports, for example, proportionately reduces tariff duties and the degree of protection the tariff affords. Quantity restraints are insensitive to such exchange-rate movements and consequently have become relatively more attractive than tariffs.

Another major reason for the relative growth of the "nontraditional" forms of protectionism is that they are, in some cases, more palatable to foreign producers and their governments than tariffs or quotas administered by the home country. Trade-policy negotiations often involve a *quid pro quo*; many new-protectionist measures enable foreigners to capture part or all of the economic rents created by trade restraints. As explained in the discussion of gentlemen's agreements, the *quid pro quo* often can be directed more closely to affected parties.

Another reason for the proliferation of the new protectionism is that the techniques often are not blatantly anti-trade. Krauss (1978) argues that almost anything governments do to intervene in the private sector has consequences for international trade. Loan guarantees, such as those extended to Chrysler Corporation, are designed as domestic employment policies; nevertheless, they increase a firm's ability to compete against foreign producers. New-protectionist techniques, such as quality standards, often do not appear as overtly anti-trade as tariffs or quotas, but their effects often are similar.

In fact, many of the new-protectionist devices inflict greater net losses on the home country than tariffs or quotas, because they allow foreigners to acquire the economic rents that the home country would capture as tariff revenue or import-license fees. Moreover, many of the new-protectionist measures function as quotas, restricting the market mechanism more severely than a tariff. Although tariffs distort market outcomes, they nevertheless allow shifts in demand (e.g., through changing tastes) and supply (e.g., through efficiency gains) to influence the quan-

General Agreement on Tariffs and Trade

The General Agreement on Tariffs and Trade (GATT) is a multilateral treaty for reducing existing trade barriers and defining rules for conducting international trade. The agreement also provides a forum for discussing international trade disputes. The principles underlying GATT are widely accepted; roughly four-fifths of world trade currently is conducted by nations supporting the agreement.

GATT grew out of efforts by the United States during World War II to seek multinational tariff reductions. Concluded in 1947, the first negotiating session, or round, led to the GATT framework as well as significant tariff reductions. Twenty-seven nations participated at that time. In the sixth or Kennedy Round, which was concluded in 1967, 53 participants reduced industrial tariffs by two-fifths on average. The seventh or Tokyo Round was concluded in 1979 and marked an important advance in GATT negotiations. For the first time participants specifically addressed nontariff trade barriers.

The most important principle underlying GATT is that nations should be nondiscriminatory in conducting trade. Embodied in the "most-favored-nation" clause (Art. I), this principle holds that trade privileges offered to one country should be extended immediately and unconditionally to all nations. The nondiscrimination principle is primarily respon-

sible for the success of GATT in reducing trade barriers and encouraging international trade. A second important principle holds that trade barriers that are necessary should be in the form of tariffs. Quotas are largely prohibited. Tariffs discourage competition and efficiency somewhat less than quantitative restrictions. A third principle deals with consultation and negotiation: countries should meet under GATT auspices to discuss trade problems, and restraints should be negotiated.

Despite GATT, trade restraints do exist. Some restrictive trade practices in existence before GATT were continued under a grandfather clause, thought necessary for the agreement's successful negotiation. Customs unions and free-trade areas can discriminate against nonmembers. Participants apparently believe that the trade-creating effects of these organizations exceed the trade-distorting effects. Quantitative restrictions are permissible in cases of balance-of-payments difficulties, and "safeguard" provisions allow nations to institute import restrictions on goods that threaten serious injury to domestic producers. Moreover, "voluntary" restraints generally are viewed as consistent with GATT. Import restraints also reflect, to a limited extent, the fact that GATT is not international law. It is a contract ultimately enforced only by national honor, international prestige, and the threat of retaliation.

tity of imports. In this sense a tariff does not totally eliminate the market mechanism. Quotas, as Balassa (1978) observes, do not allow shifts in supply and demand to increase the amount imported.

Gentlemen's Agreements

An increasingly common form of new protectionism that is particularly favored in the United States is the *gentlemen's agreement*, whereby an exporting country "voluntarily" restricts shipments of specific commodities to an importing country. A gentlemen's agreement essentially is

a quota, but one that allows the foreign exporting country to capture much of the economic rents associated with trade restraint. Consequently, the costs associated with gentlemen's agreements typically exceed the costs of an equally restrictive tariff or quota.

The rising use of gentlemen's agreements partially reflects the relative ease with which they can be enacted and the flexibility with which they can be administered. Whereas quotas result from specific legislation and are subject to congressional review, gentlemen's agreements usually are established by a specific administration under its ability to conduct for-

eign policy.[3] Bergsten (1975) suggests that being administrative in origin leaves gentlemen's agreements open to abuse; others argue that many secret gentlemen's agreements have resulted from their not being subject to legislative review (see Morkre and Tarr 1980, p. 36). Gentlemen's agreements usually are negotiated bilaterally for specific commodities, whereas quotas are determined unilaterally for protected commodities from all nations. In 1981, for example, the Reagan administration negotiated a gentlemen's agreement with Japan to restrict automobile imports, but did not seek similar restraints against German, British, French, or Italian car imports. Because of the bilateral aspect of a gentlemen's agreement, the foreign exporting country has more influence on the agreement terms than under a quota. Often, for example, gentlemen's agreements allow exporters to borrow in any given year against future limitations or against past, unused limitations.

Because gentlemen's agreements are discriminatory, they violate the spirit of GATT's most-favored-nation clause. Nevertheless, negotiations currently are under way to sanction the use of gentlemen's agreements under GATT's "safeguard" provisions. Proponents of this protectionist device argue that, because gentlemen's agreements are voluntary, they conform with the GATT philosophy. Exporting countries, however, frequently must negotiate gentlemen's agreements under threat of tariffs or quotas that is less desirable from their perspective. Exporting countries usually do not view gentlemen's agreements as voluntary.

Bergsten (1975) suggests that gentlemen's agreements may be less restrictive than tariffs or quotas, in part because the exporting country organizes the market and because the incentives to ensure strict compliance are smaller for the exporting country than for the importing country. The enforcement efforts of a foreign government strain its ties with its own business community and often require the development of a costly bureaucracy to administer the program. More importantly, however, gentlemen's agreements may be less restrictive than tariffs or quotas, as they do not affect all foreign exporters. Actually, gentlemen's agreements may stimulate exports from non-restrained foreign producers. In 1977, the Carter administration entered into a gentlemen's agreement with Japan to restrict U.S. imports of Japanese color televisions. Morkre and Tarr (1980) argue that the restrictions on Japanese televisions contributed to such a large increase in color-television imports from South Korea, Taiwan, Mexico, Singapore, and Canada that the total volume of such imports into the United States in 1978 exceeded that of 1977. Restrained exporters sometimes invest in other foreign countries to circumvent protectionist measures; or they sometimes ship goods produced in restrained countries through non-restrained nations to disguise their origin.

The substitution phenomenon often results in pressures to negotiate additional gentlemen's agreements with other producing countries. Bergsten (1975) argues that these non-restrained countries, fearing future gentlemen's agreements, may encourage exportation of commodities to build a larger export base against which to negotiate. Similarly, restrained countries continuously may strive to meet their quotas to prevent future cuts if existing gentlemen's agreements are renegotiated.

Nations bent on trade restraint theoretically can negotiate and police a network of gentlemen's agreements as restrictive as any quota. In such cases the importing country might incur costs greater than those of an equally restrictive quota. In the case of a quota administered so that the importing country's government captures all of the export-license fees, the net cost to society associated with restraint is shown in figure 1, panel B, to equal the darkly shaded areas $b\,e\,g$ and $d\,f\,h$. In the case of a gentlemen's agreement, however, the home country incurs an additional net cost equal to the foregone

3.   Strictly speaking, there are two types of gentlemen's agreements: orderly marketing agreements (OMAs) and voluntary export restraints (VERs). OMAs are formalized VERs, authorized under the 1974 Trade Act, subject to specific procedural stages (petition, hearing, review) and sometimes to congressional reversal. VERs are established under administrative powers and are not subject to congressional or public scrutiny. See Morkre and Tarr (1980), pp. 35-7.

import-license fees shown by the lightly shaded area $efgh$. These foregone revenues accrue to foreign exporters in the form of economic rents associated with the price increase or to the foreign governments that enter into a gentlemen's agreement as export-license fees.

Although the economic costs of gentlemen's agreements exceed those of equally restrictive quotas, they offer certain advantages for international diplomacy not found in the more traditional protectionist measures. A nation instituting protectionist measures often provides some form of *quid pro quo* to reduce the likelihood of foreign retaliation. This may take the form of eliminating tariffs or quotas on one commodity while imposing them on another. In the case of gentlemen's agreements, however, the *quid pro quo* is automatic, taking the form of the economic rents transferred to foreigners. Through its issuing of export licenses, the exporting government often can direct these rents to the firms most severely affected by the gentlemen's agreement and simultaneously may gain greater political influence over the industries affected by the gentlemen's agreement. Small foreign firms unaffected by the restraints naturally find gentlemen's agreements attractive, but large firms also may find them attractive if the issuance of export licenses stabilizes competition. The middle-sized foreign firms, growing rapidly in the export market, would be the most severely harmed by gentlemen's agreements.

Buy-American Policies

The United States, like many other countries, has a history of procurement policies that discriminate against foreign suppliers. Governments usually adopt such policies to promote self-sufficiency, particularly in the production of military goods or high-technology items, or to offer implicit subsidies to specific producers. The U.S. government, in sharp contrast to most of its foreign counterparts whose discrimination is less open, has stated explicitly its preference for domestic producers and has followed a policy of *price favoritism*. A domestic price must exceed a foreign price by a specific margin before pro-

curement officers may buy the foreign item. Until recently, domestic producers were allowed a margin of 6 percent over foreign prices in most circumstances, 12 percent in the case of small businesses, and 50 percent for defense procurement.[4]

Many governments follow a more subtle form of discriminatory procurement, called *general favoritism*. As the name implies, general favoritism takes forms that often are not blatantly discriminatory. A frequent device is the use of selective-tender, or single-tender, bids rather than public-tender bids for government contracts. Bidding often is announced with little notice or information so that foreigners, unfamiliar with government-procurement policies, are unable to compete. When high-technology items are involved, governments may develop the procurement specifications in consultation with local firms, limiting the ability of foreigners to compete. There are a myriad of similar examples of general favoritism.

Buy-American policies, like all protectionist measures, result in transfers from consumers via taxes to producers and net losses to society as a whole. Figure 2 illustrates this for the case when r represents the margin established under price favoritism, P_0 is the foreign-supply price, and P_2 equals the domestic, pre-trade supply price. Because P_2 is less than $P_0 (1 + r)$, no foreign goods are purchased by the home government. The shaded area $P_0 P_2 a c$ represents the total cost of the home country's policy. Of this amount, the lightly shaded area $P_0 P_2 a b$ is an income transfer to domestic producers, and the darkly shaded area $a b c$ represents a net cost to society associated with inefficiencies in production.[5]

4. Discriminatory government-procurement policies were discussed at the Toyko Round of GATT. The participants established a detailed set of rules governing procurement policies, which the United States adopted beginning in 1979. As with most GATT rules, however, many exemptions exist, particularly in the high-technology and defense sectors.

5. The results would be similar under general favoritism, but r would then represent the per-unit dollar value of the restraint. Also, figure 2 assumes government demand is perfectly price inelastic; consequently, favoritism results in no losses associated with consumption changes.

Fig. 2   Effects of Buy-American Policies
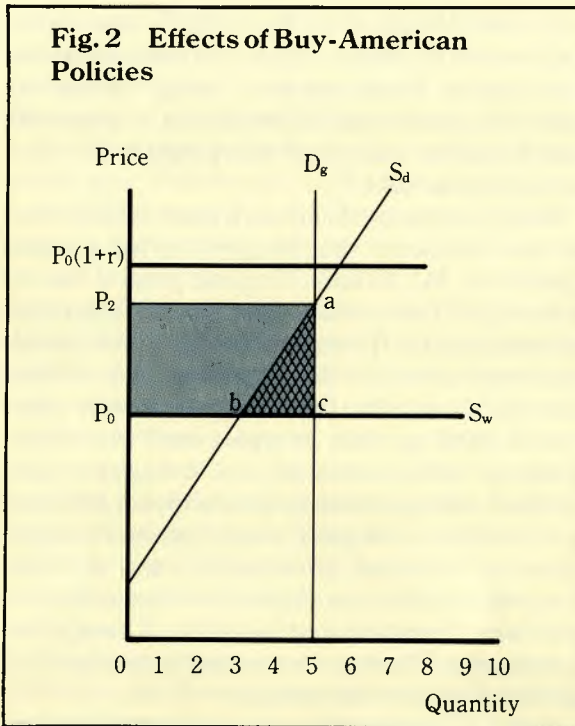
Richardson (1972), however, argues that the effectiveness of buy-American policies in providing subsidies to domestic producers and in curbing imports depends on the overall ability to substitute foreign and domestic goods and the degree of competition in the domestic market. If, for example, domestic and foreign goods are produced in perfectly competitive markets and are perfect substitutes in consumption, no subsidy or import restraint would result from a buy-American policy. The shift in government demand away from foreign-produced goods toward domestically produced goods places upward pressure on the domestic price and downward pressure on the foreign price, causing an equal, but opposite, shift in private-sector demand. The government would purchase more of the domestically produced good, while the private sector would purchase more of the foreign-produced good. The total levels of domestic production and imports, however, remain unaltered, and the domestic price would not rise above the world-market price; no subsidy to domestic producers would result.

Quality Standards

Governments often impose quality standards on goods and services within their jurisdictions. These include health and safety standards, consumer-protection requirements, and environmental regulations. Governments usually establish such standards to improve the efficient functioning of markets. Ideally, quality standards compensate for consumers' lack of perfect information about products and their effects. Often, however, quality standards create market inefficiency, particularly when they discriminate against imported goods by intent or design.

There are several ways in which quality standards can discriminate against imports. The most obvious case, of course, is when quality standards apply only to imported goods or are more rigorous for imported goods than for domestic goods. Less obvious, but more important, is when quality standards specify design instead of performance criteria. For example, electrical devices usually require insulation, but there are many different insulating materials that can be used successfully. A design criterion that specifies a particular material to be used in insulation may discriminate against a comparable foreign product that uses a different material but achieves the same degree of insulation. As a general rule, quality standards, written in terms of performance rather than design criteria, have a more neutral impact on imports. Even when written in terms of performance criteria, quality standards can discriminate against imports if their interpretation and enforcement procedures are not clearly explained to foreign producers. This lack of information raises the risks and perceived costs of trade. Just a delay for inspection of goods can be very costly, particularly when it is not anticipated. Goods may set in warehouses awaiting inspection, accumulating storage charges and interest costs, while seasonal goods may miss their peak selling season.

Discriminatory quality standards that reduce imports and raise the prices of traded goods have effects similar to tariffs and quotas. If, for example, a quality standard raises the cost and price of imported goods, the standard results in a

transfer of income from consumers to domestic producers and a net cost associated with consumption and production inefficiency as shown in figure 1, panel B. In this case the quality standard has the same effect as a specific tariff. If, however, the discriminatory quality standard is so stringent that it precludes foreign competition in domestic markets, it serves as a prohibitive tariff or zero quota.

Subsidies

Although not viewed as trade restraints, subsidies affect income distribution and economic efficiency in ways strikingly similar to tariffs and quotas. Subsidies that affect international trade are utilized for production of import substitutes, exportation of goods, and production of export goods. Subsidies for the production of import substitutes benefit local producers in direct competition with importers. An export subsidy applies only to units exported; a production subsidy on an export good applies to units sold in the domestic market as well.

Subsidies can take many forms. A cash bounty paid to a producer is the most direct and obvious subsidy, but many indirect subsidies are possible. Governments might provide services or production facilities at less than market values to producers and might excuse producers from certain taxes. Governments also might subsidize the production or the import of raw materials used by an industry. The Export-Import Bank and Domestic International Sales Corporations are the primary means in the United States to subsidize exports, but the federal government also influences the international competitiveness of U.S. firms indirectly through programs such as loan guarantees.

Some subsidies, such as direct lump-sum payments, are easy to identify and measure, while other subsidies may be harder to detect. If, for example, a foreign government grants a low-interest loan, the subsidy depends on the difference between the actual interest rate and the market rate, but it may not be clear how much the firm would pay for a comparable loan in the

free market. Similarly, if there is a subsidy to an industry that supplies raw materials, such as coal, to an exporting industry, such as steel, it may be difficult to measure the benefit passed through to the export industry. Foreign governments sometimes provide payments to firms to offset burdens placed on them, such as excise taxes or requirements that they continue operation of an inefficient plant to avoid unemployment.

The income distribution and efficiency implications of subsidies are illustrated by the models developed throughout this article. Figure 3 illustrates the comparative statics of subsidizing the production of an import substitute. The subsidy effectively shifts the domestic-supply schedule, (S_d), downward to S'_d, and its per-unit cost is equal to the vertical distance between the two schedules (δ). The subsidy results in an income transfer from all taxpayers to the owners and employees of the subsidized firm. The demand curve remains unaltered under the assumption that all three groups are consumers of the good

Fig. 3   Effects of a Production Subsidy for an Import Substitute
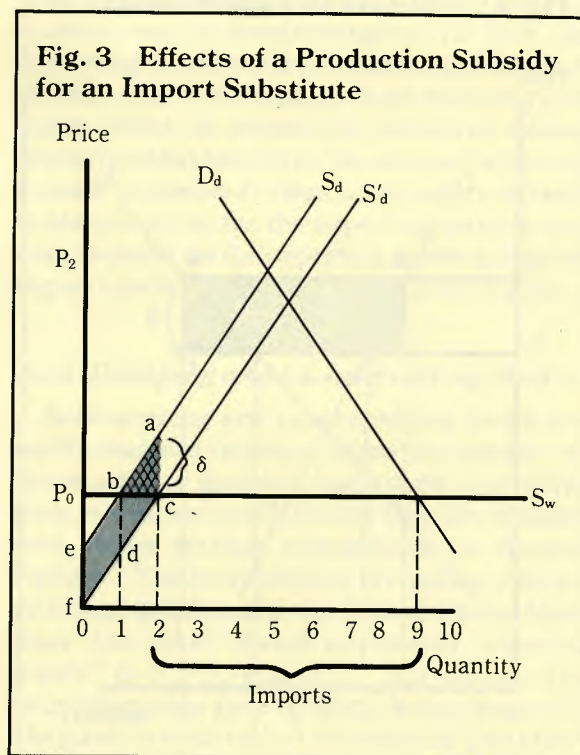
with like preferences. Domestic production expands by 1 unit, imports fall by 1 unit, and total consumption is unchanged. The total amount of the subsidy, which is borne by taxpayers, is represented by area $a\ c\ f\ e$. Of this total, the amount indicated by area $b\ c\ f\ e$ is not a net cost to the home nation but an income transfer to domestic producers. Area $a\ b\ c$, however, represents a net cost associated with shifting to the less efficient domestic producer, showing the additional resources required for domestic production compared with foreign production. These resources are bid away from production of some other good.

Because export subsidies increase trade, proponents view them as opposites of tariffs; however, export subsidies are similar to tariffs in that both cause inefficiencies and income transfers. Figure 4 illustrates the domestic market for an export good. Without a subsidy, world and domestic prices are both P_1. Domestic produc-

tion is 7 units, of which 4 are consumed at home and 3 are exported. When the government offers a subsidy for exports equal to δ per unit, producers raise the domestic price to equal the sum of the unchanged world price plus the subsidy. The increase in revenue per unit sold induces additional domestic production, which rises to 9 units. Domestic consumption falls to 3 units because of the price increase, and exports rise to 6 units. This analysis assumes that (1) the exporting nation is a relatively small supplier so that its increase in exports does not change world price, and (2) some barrier to imports enables the new domestic price P_2 to remain above world price P_1.

The producers' profits rise by $P_1 P_2\ b\ e$. Taxpayers bear the cost of the subsidy $a\ b\ c\ f$, assuming a subsidy is paid for all units exported, and domestic consumers pay $P_1 P_2\ a\ c$ more for the 3 units that they purchase. Producer profits rise by less than the sum of the subsidy and the additional payments from consumers because of the efficiency cost $b\ e\ f$ associated with producing goods that foreign consumers value, at the margin, less than the marginal cost of producing them. In addition, there is a loss of consumer surplus $a\ c\ d$ caused by the reduction of domestic consumption.

Implicit in the foregoing discussion is the assumption that trade barriers or strong consumer preferences prevent home-country consumers from importing the traded good. In the absence of such impediments to trade, the domestic price would remain at the world price P_1, and 4 units of the traded good would be imported. Domestic producers would continue to produce 9 units; under the incentive of an export subsidy, they would sell their entire stock abroad. The total subsidy would equal $P_1 P_2\ b\ f$. Consequently, an export subsidy may raise imports and exports, as producers transfer products to the export market and consumers switch to imported substitutes.

The case of a production subsidy for an export good is illustrated in figure 5. Again, the analysis assumes that the exporting nation is a relatively small supplier so that it cannot influence the world price, which also equals the domestic
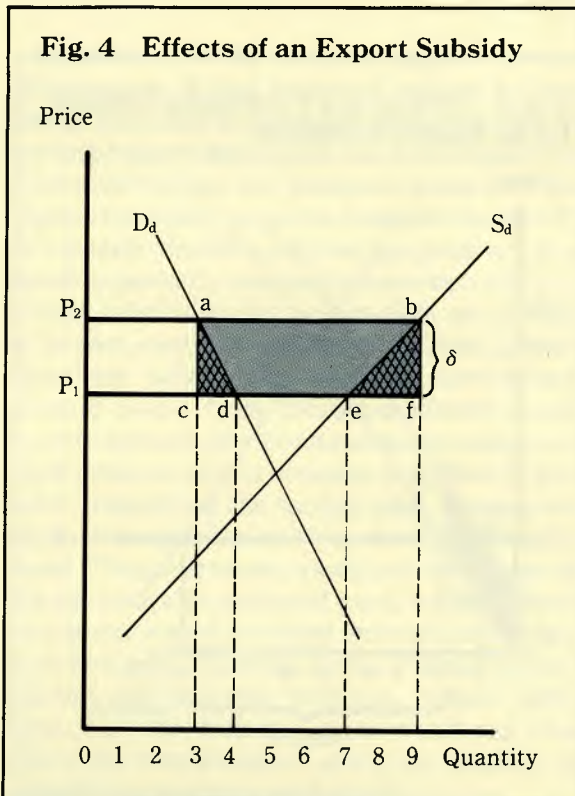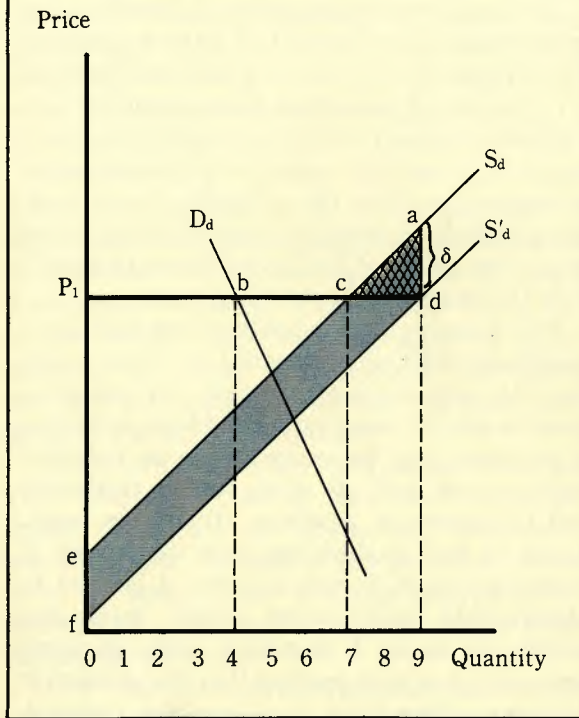

Fig. 4   Effects of an Export Subsidy

Fig. 5 Effects of a Production Subsidy for an Export Good

Although both an export subsidy and a production subsidy increase production and exports, the export subsidy diverts resources more directly to the export market than the production subsidy. Export subsidies, therefore, are more threatening to producers outside the subsidizing country, which partially may explain why GATT opposes export subsidies more strongly than production subsidies.

The foregoing analysis assumes that increases in exports caused by export and production subsidies are too small to affect the world price of the product. If such is not the case, then the subsidies would lead to a decline in world price, less benefit to domestic producers, and greater loss to foreign producers. Foreign nations would experience a net benefit, as foreign consumers gain more than foreign producers lose. This can be understood by observing that the reduction in price of the export good transfers wealth from the subsidizing, exporting country to the importing country.

If the subsidy is permanent, the importing country must be a beneficiary of the exporting country's generosity. A subsidy that is not permanent may be disadvantageous for both the importing country and the exporting country. A subsidy that is not known to be temporary induces shifts of productive resources among industries that later must be reversed when the subsidy is removed. Thus, a temporary subsidy is always costly for the exporting country and may be costly for the importing country, depending on how long the subsidy remains in effect.

Anti-Dumping and Countervailing Duties

Anti-dumping and countervailing duties are tariffs designed to protect domestic industry at the expense of domestic consumers; they differ from traditional tariffs in that they are imposed only when foreign competition is deemed "unfair." The anti-dumping law imposes duties on foreign goods sold in the United States at less than "fair value" if such sale causes "material injury" to a U.S. industry. *Fair value* is the price charged in the exporter's home country. If the goods are not sold in the exporter's country,

price at P_1. Because the subsidy applies to all units, whether sold at home or abroad, domestic producers view it as a reduction in costs rather than an increase in the world price. It can be represented by shifting the supply curve S_d down by δ, the per-unit subsidy, to S'_d. Without the subsidy, production is 7 units, of which 4 are consumed at home and 3 are exported. With the subsidy, production rises to 9 units, domestic consumption is unchanged at 4 units, and exports rise to 5 units.

Again, taxpayers bear the cost of subsidy *a d e f*. Producers' profits rise by *c d e f*, less than the subsidy. The difference reflects the net cost (*a c d*) associated with transferring production of the eighth and ninth units from more efficient foreign producers to less efficient domestic producers. There is no loss of consumer surplus, however, because domestic price and consumption are unchanged.

or are sold there at an unreasonably low price, then a fair value is constructed as the sum of materials and labor costs, general expenses, and profit. General expenses are calculated arbitrarily as 10 percent of materials and labor costs, and profit is 8 percent of materials, labor, and general expenses. Shipping, insurance, and U.S. tariffs also are added to the fair value.

Occasionally, it is argued that anti-dumping duties are necessary to prevent predatory pricing, i.e., situations in which foreign suppliers initially charge low prices until all competition is eliminated and then charge monopoly prices. To eliminate all competition (home-country and worldwide), a foreign firm would require prodigious financial strength.

Anti-dumping duties result in the income distribution effects and efficiency costs described in figure 1. These duties involve administrative costs greater than those associated with tariffs because of the costs of determining fair value and material injury.[6] Anti-dumping duties are discriminatory in many ways. They permit low foreign prices that reflect, for example, low foreign wages, but do not allow low foreign prices that result from profit margins under 8 percent. A price may fall below the fair-value definition for a product from one country, but not for the same product from another country if it is produced there at lower cost. Anti-dumping duties can deny U.S. consumers access to low-priced goods merely because consumers in the export country pay more for the same goods. The anti-dumping law also fails to allow for exchange-rate fluctuations. A rise in the value of the exporter nation's currency would increase the fair-value dollar price of their exports, even if the exchange-rate change is temporary. This would imply that foreign exporters, following a temporary exchange-rate change, would have to raise prices for their goods sold in this country and risk the loss of markets that had been cultivated over time.

The countervailing-duty law is based on the premise that it is unfair to U.S. firms to compete with foreign firms that are subsidized by their governments. If subsidized goods are deemed by the International Trade Commission to be injurious to a U.S. industry, countervailing duties can be imposed to offset the subsidies. By discouraging subsidized imports, countervailing duties reduce the ability of the United States to benefit from the largess of our trade partners.

Anti-dumping and countervailing-duty complaints are difficult paths for U.S. firms to follow. An anti-dumping petition, for example, must be specific to a product and firm, so dozens of petitions may be necessary in an industry such as steel, with its many foreign producers and categories of products. To obtain relief, injury as well as dumping must be proved. If dumping occurs during a boom, it is hard to demonstrate injury when output, sales, and profits are rising. If dumping occurs during a recession, it is hard to show that the problem is dumping rather than slack domestic demand. And if the recession ends before the case is completely adjudicated, there may be political pressure to drop the complaint. Improved business conditions would have reduced the injury, and recent administrations generally have disliked anti-dumping cases because of adverse reactions of our trading partners.

The trigger price mechanism (TPM) is a recent innovation for enforcing U.S. anti-dumping and countervailing-duty laws. Implemented in 1978 and suspended in January 1982, the TPM established reference prices for steel. Imports below the reference price would "trigger" an anti-dumping or countervailing-duty investigation. Thus, the TPM was not a new device for protection but an administrative mechanism for providing better enforcement of existing laws.[7]

6. *Material injury* is an imprecise term. All imports, whether sold at fair value or not, are injurious, to some degree, to the domestic firms against which they compete. U.S. law does not define material injury, except by saying it means "harm which is not inconsequential, immaterial, or unimportant." Instead, the law directs the International Trade Commission to determine whether there is material injury in each case.

7. The TPM is described fully in Gerald H. Anderson, "The Steel Trigger Price Mechanism," *Economic Commentary*, Federal Reserve Bank of Cleveland, forthcoming.

Barriers to Trade in Services

Services, an important component of international trade, also are subject to protectionist barriers. Shipping, banking, insurance, data processing, construction, and consulting are examples of services sold internationally. Services, excluding investment income, accounted for 14 percent of U.S. exports in 1980 and 1981.

Restrictions on service imports are widespread. For example, some nations prevent foreign banks from establishing branches or subsidiaries, while others discourage the use of foreign insurance companies. The United States excludes foreign ships from transporting goods between U.S. ports. A catalogue of over 2,000 barriers to free trade in services has been compiled by the U.S. government.[8]

Barriers to trade in services impose the same costs and distortions as barriers to trade in goods. Often they are rationalized by concern about national defense or independence. However, in many cases the true motivation is defense of a domestic industry rather than defense of the nation.

GATT does not address the issue of barriers to trade in services. The Office of the United States Trade Representative is working to obtain a commitment from other nations to discuss the matter, but it may be years before the start of any negotiations to reduce these barriers.

Protectionism and Foreign Investment

The term *protectionism* usually refers to trade in goods and services, but it also pertains to international movements of capital, especially direct foreign investment.[9] Advocates of protectionist measures directed at stemming capital outflows and encouraging capital inflows often base their arguments on the impacts that such capital flows have on labor. It is alleged that capital outflows (1) reduce labor's share of real

earnings relative to capital's share by lowering the domestic capital-to-labor ratio, (2) increase domestic unemployment, and (3) reduce union-bargaining powers. Capital inflows have an opposite effect.

Empirical results on these issues are mixed, depending crucially on what is assumed to happen in the absence of direct foreign investment.[10] Labor organizations, for example, have argued that U.S. direct foreign investments reduce domestic investment, employment, and income, and they have sought to limit such investment by raising taxes on foreign profits (see Humpage 1980–81). Implicit in this argument is the view that U.S. firms can compete in foreign markets equally as well through domestic production and export as through direct foreign investment. This view of international competition, however, is not always valid, particularly in the long run.

Exporting often proves to be the most profitable way for U.S. firms to conduct international business, but in many cases direct foreign investment may be a more profitable, or the *only* profitable, means to enter and grow in foreign markets. Often trade barriers or high-transportation costs preclude exporting. Other times, the nature of the product may dictate foreign production rather than exporting. Consumer-goods sales, for example, may be highly sensitive to design and style and require a degree of tailoring to local markets or brand identification not afforded through exporting. Similarly, sophisticated producers' goods may require servicing, frequent repair, or adjustments. Direct foreign investment also may enable firms to predict market changes more accurately and to secure access to scarce or low-cost resources that cannot be imported.

Exporting may be very profitable if a high degree of product differentiation exists. Over time, however, foreign firms may develop competing products and grow rapidly because of their proximity to the market. In such circum-

---

8. *Wall Street Journal*, October 5, 1981, p. 1.

9. Direct foreign investment generally refers to capital flows through which investors attain a significant degree of control over a foreign firm.

10. See Bergsten, Horst, and Moran (1978) and McCulloch (1979) for brief surveys of the empirical work.

stances, local production may be the only method through which a U.S. company can maintain a share of the foreign market. In the absence of foreign investment, U.S. firms may become less profitable and the growing foreign firm may seek a share of the U.S. market through exporting. Stobaugh (1976) suggests that such circumstances eventually may reduce domestic investment.

It is similarly unapparent that direct foreign investment increases U.S. imports or decreases U.S. exports (see Bergsten, Horst, and Moran 1978). Direct foreign investment, particularly initial investments, often occurs in marketing and warehouse facilities to promote the firm's exports; often investment occurs in assembly operations and encourages trade in parts. But, even when investment occurs in vertically integrated foreign plants, it may encourage the export of capital goods for expansion and the export of a multitude of complementary goods and services. Furthermore, multinational firms usually are more adept than their domestic counterparts at finding new export markets. Most important, however, even in cases where U.S. firms invest abroad to import goods back into the United States, the possibility exists that if a U.S. firm did not exploit this opportunity, a foreign firm would. Then restraint on investment would not reduce imports.

For the same reasons that domestic labor organizations have sought to restrict U.S. investment abroad, they have sought to encourage foreign investment in the United States. Foreign firms might be induced to produce in the United States by establishing trade barriers and offering tax incentives. Many countries impose local-content requirements that mandate some percentage of the value of a product that must be added within the country where the goods are sold. For example, automobiles assembled in Mexico must have at least 50 percent of their value added locally. U.S. labor organizations have argued that firms selling in the United States *should* have some production facilities located here. While a shift from imports to domestic production may increase employment and labor bargaining power, the home country is not necessarily better off.

A foreign firm whose exports capture a share of a U.S. market, characterized by imperfect competition but fairly homogeneous products, must have a cost advantage over the domestic firms'. A cost advantage would be necessary to offset the high risks associated with foreign trade. Such a situation is depicted in figure 6, panel A, where S_f is the foreign firms' supply curve and S_d is the domestic firm's aggregate supply curve. The vertical distance between the foreign and domestic supply curves represents the per-unit cost advantage enjoyed by the foreign firm. The market supply and demand curves are shown in panel B. At the initial market price of P_1, 10 units of the commodity in question are sold; 3 units are produced domestically, and 7 are imported.

Assume that because of threatened trade barriers the foreign firm decides to produce in the United States and consequently loses part of its competitive advantage. This is shown in panel A by an upward shift of curve S_f to S'_f. The aggregate supply curve in panel B similarly shifts upward from S to S', and the price rises from P_1 to P_2. At the new price, 9 units of the good are sold. Consumers now pay a higher amount, indicated by the shaded area $P_1 P_2\ a\ c$ in panel B, for these 9 units than before the trade restraints. Of this amount, $P_1 P_2\ a\ b$ merely represents an income transfer from consumers to the firms and does not represent a net loss to the home country, since the foreign firm is now part of the home country. There are, however, two economic costs associated with the shift from importing to domestic production. As with the tariff and quota examples, there is a loss associated with foregone consumption opportunities, equal to the darkly shaded area $a\ c\ d$ in panel B. There also is a cost associated with a loss of efficiency in production equal to the darkly shaded area $a\ e\ f\ g\ h\ i$. Of this amount, consumers pay $a\ b\ c$, and $b\ c\ e\ f\ g\ h\ i$ comes out of the producers' profits.[11]

---

11. Corresponding areas in panel A are $b'f'g'h'$ for the total efficiency loss, $b'c'd'$ for the consumers' share, and $c'd'f'g'h'$ for the share out of profits.

Fig. 6   Effects of Forced Local Production

Panel A   The Firms

Panel B   The Market
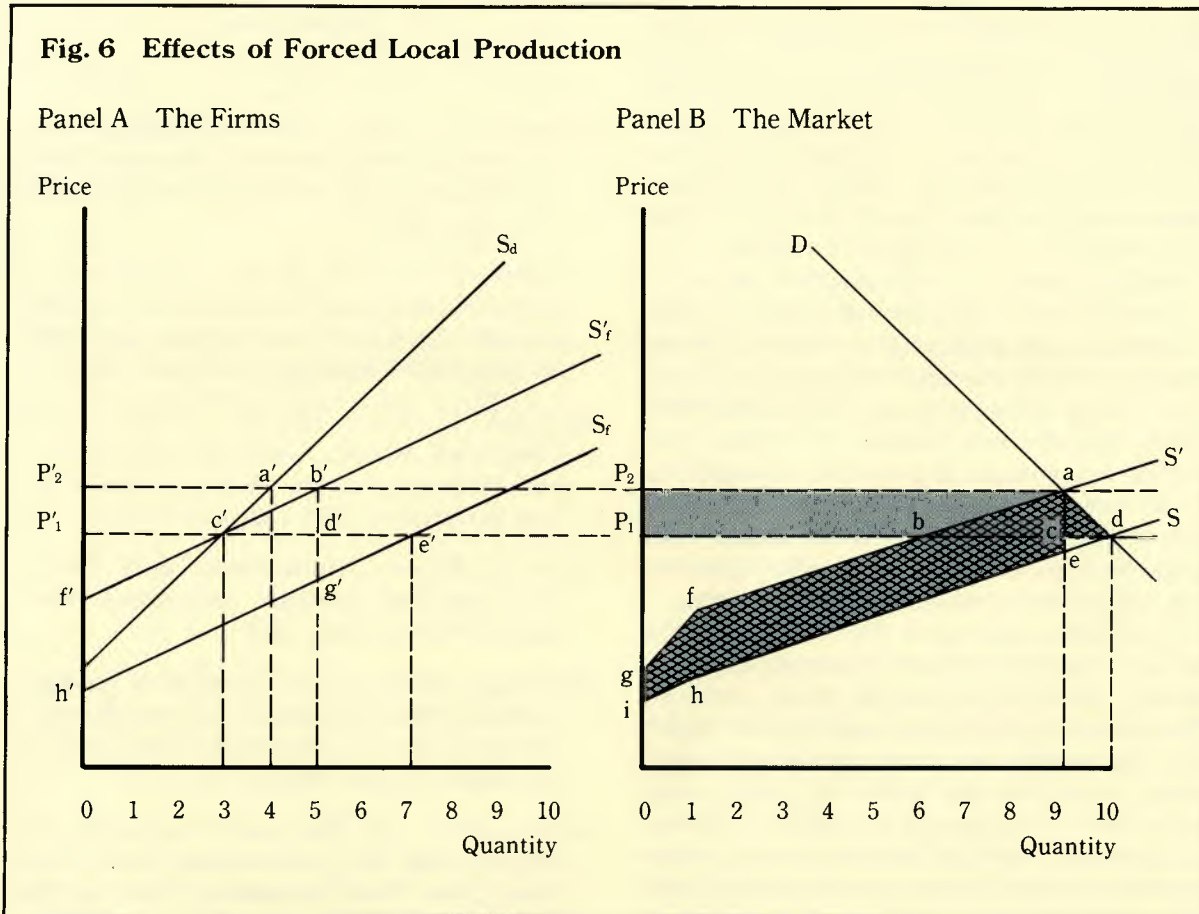
It is also possible that the lack of foreign competition through imports would increase the bargaining power of organized labor. Some or all of the higher profits associated with the price increase (P_1 to P_2) may transfer to workers through higher wage settlements. The increased labor power could result in further reductions in supply, higher transfers from consumers, and larger net losses to the home country.

It would appear, however, that forced domestic production often does not entail costs as great as those associated with tariffs or quotas. This seems especially true in cases such as local-content requirements where firms transfer only part of the production process abroad. As the section on free trade indicated, the larger the

pre-trade price differentials among nations, the greater the benefits of international trade. A firm, forced to transfer part of its operations abroad, would shift those that least reduce its pre-trade competitive edge. In attempting to maximize its competitive advantage, the multinational firm would minimize the efficiency losses associated with forced-domestic-production policies.

III.   Conclusion

There are many justifications offered for imposing trade restraints or allowing trade incentives. Many are not based on purely economic criteria, and most, particularly as applied to spe-

cific U.S. industries, are exercises in sophistry. The distribution among political interests of the benefits and costs of trade policies probably explains a great deal about the imposition and continuation of various trade policies. This article has not attempted to analyze the justifications offered for trade restraints; it accepts that governments would continue to restrain trade when it is politically advantageous to do so.

The primary concern here has been the substitution of trade policies favored under the new protectionism for the more traditional trade policies. The new-protectionist trade policies arbitrarily transfer real income away from consumers to producers of protected commodities. While some groups benefit at the expense of others, the country, nevertheless, incurs a net loss associated with lost consumption opportunities and increased production inefficiencies.

A complete ranking of the relative costs of trade policies has not been attempted, but some general observations can be made. Trade restraints such as gentlemen's agreements, which allow foreigners to capture a portion of the economic rents that the restraints create, seem more costly than equally restrictive tariffs or quotas administered by the home country, whose government would capture those economic rents through tariff revenue or import-licensing fees. Anti-dumping and countervailing duties are merely special-case tariffs, offered special labels so that they seem less onerous to the public. Similarly, excessive quality restrictions are special-case tariffs or quotas, but no revenue accrues to the home country. Buy-American policies also function as tariffs of limited scope, but may be completely ineffective in a competitive market. Production subsidies do not appear as costly as tariffs or quotas, but export subsidies may raise domestic prices, creating pressure for additional import barriers. Forced domestic production generally may be less costly than tariffs or quotas, because multinational firms would shift those operations that least reduce their competitive advantage. In short, the new protectionism is not "new" in terms of efficiency costs and income transfers. A lemon by any other name would taste as sour.

References

Balassa, Bela. "The 'New Protectionism' and the International Economy," *Journal of World Trade Law*, vol. 12, no. 5 (September:October 1978), pp. 409–36.

Bergsten, C. Fred. *On the Non-Equivalence of Import Quotas and "Voluntary" Export Restraints*. Technical Series Reprint T-009. Washington: Brookings Institution, 1975.

Bergsten, C. Fred, Thomas O. Horst, and Theodore H. Moran. *American Multinationals and American Interests*. Washington: Brookings Institution, 1978, chapters 3 and 4.

Heller, H. Robert. *International Trade: Theory and Empirical Evidence*. 2nd edition. New Jersey: Prentice-Hall, 1973.

Humpage, Owen F. "U.S. Taxation of Foreign-Source Corporate Income: A Survey of Issues," *Economic Review*, Federal Reserve Bank of Cleveland, Winter 1980–81, pp. 1–18.

Krauss, Melvyn B. *The New Protectionism, the Welfare State and International Trade*. New York: New York University Press for the International Center for Economic Policy Studies, 1978.

Lowinger, Thomas C. "Discrimination in Government Procurement of Foreign Goods in the U.S. and Western Europe," *Southern Economic Journal*, vol. 42, no. 3 (January 1976), pp. 451–60.

Luttrell, Clifton B. "The Voluntary Automobile Import Agreement with Japan—More Protectionism," *Review*, Federal Reserve Bank of St. Louis, vol. 63, no. 9 (November 1981), pp. 25–30.

McCulloch, Rachel. "Trade and Direct Investment: Recent Policy Trends," in Rudiger Dornbusch and Jacob A. Frenkel, Eds., *International Economic Policy, Theory and Evidence*. Baltimore: Johns Hopkins University Press, 1979.

Morkre, Morris E., and David G. Tarr. *The Effects of Restrictions on United States Imports: Five Case Studies and Theory.* Staff Report of the Bureau of Economics to the Federal Trade Commission. Washington: U.S. Government Printing Office, June 1980.

Richardson, J. David. "The Subsidy Aspects of a 'Buy American' Policy in Government Purchasing," in *Economics of Federal Subsidy Programs,* Part II, U.S. Congress, Joint Economic Committee. Washington: U.S. Government Printing Office, June 11, 1972, pp. 220–43.

Stobaugh, Robert B. *U.S. Taxation of United States Manufacturing Abroad: Likely Effects of Taxing Unremitted Profits.* New York: Financial Executives Research Foundation, 1976, especially chapter 5.

Tumlir, Jan. "The New Protectionism, Cartels, and the International Order," in Ryan C. Amacher, Gottfried Haberler, and Thomas D. Willett, Eds., *Challenges to a Liberal International Economic Order.* Washington: American Enterprise Institute for Public Policy Research, 1979.

Operational Policies
of Multibank Holding Companies

by Gary Whalen

Multibank holding company growth has been rapid since the 1970 amendments to the Bank Holding Company Act of 1956.[1] Many states have permitted multibank holding companies (MBHCs) for several years, and recent MBHC authorization in Pennsylvania, Illinois, and West Virginia suggests that this growth will continue. Legislators and banking regulators alike are concerned with the impact of holding company growth on subsidiary banks, unaffiliated bank competitors, and the convenience and needs of the public.

Multibank holding company affiliation generally has been expected to alter subsidiary bank behavior relative to independent banks, producing a variety of impacts. For example, the affiliation of an independent bank with a larger holding company should allow the subsidiary to realize various types of economies (technical and/or pecuniary economies and/or economies

of organization), thereby improving its efficiency relative to comparable non-affiliate banks. Reduced costs could benefit consumers through lower prices and/or higher deposit rates. Access to the greater resources and expertise of the holding company may permit subsidiaries to offer more services than would be possible for independent banks, another public benefit. Since a holding company's sources and uses of funds are typically more diversified than those of independent banks, and because MBHCs can raise capital more easily and more cheaply than independent banks, an affiliate's performance may improve after acquisition because its management may be able to reduce liquid asset holdings, increase earning assets, and decrease capital relative to total assets. Again, the public may benefit from a greater credit flow into the local area. However, since holding company external expansion results in increased statewide concentration and multi-market linkages, and possibly a decline in competition, the performance changes described above may result in private rather than social benefits.[2]

---

1. These amendments subjected single-bank holding companies to the same set of regulations applied to multibank holding companies, encouraging holding companies to acquire additional banks. In 1965 there were 48 multibank holding companies controlling 8 percent of deposits in all commercial banks. By the end of 1970, 111 multibank holding companies controlled 16.2 percent of the commercial bank deposits. At the end of 1979, 330 multibank holding companies existed, controlling approximately 15 percent of all banks, 27 percent of all bank offices, and 33 percent of all domestic bank deposits.

2. For a discussion of expected performance impacts and a summary of empirical research on these issues, see Drum (1976) and Board of Governors of the Federal Reserve System (1978).

Gary Whalen is an economist with the Federal Reserve Bank of Cleveland.

Many empirical investigations of the impact of MBHC affiliation on bank performance have been undertaken over the past decade. Although numerous hypothetical performance benefits have been identified, a very few modest affiliation impacts have been discovered. Affiliate asset structures have been found to reflect less liquidity and more risk, as expected. However, while affiliation appears to enhance revenues, subsidiary costs generally are higher than those of independents; hence, the profitability of subsidiaries is not significantly different from that of independent banks.

However, there is evidence suggesting that the methodological approach employed in most of these studies has been responsible for the inability of researchers to discover appreciable affiliation-related performance impacts. Typically, researchers have assumed that holding company affiliation *per se* would alter subsidiary bank performance relative to independent banks. That is, in most empirical studies, all holding companies and holding company affiliate banks are assumed to be homogeneous elements of a single group. Several researchers have suggested that this approach is incorrect and seriously biases the results of these empirical studies. These researchers maintain that the operational policies or organizational structure of a particular multibank holding company influences the extent to which hypothetical affiliation impacts are actually manifest (see Weiss 1969 and Lawrence 1971). More specifically, these researchers hypothesize that the affiliation impact of any MBHC on its bank subsidiaries is contingent on the extent to which subsidiary bank decisions, policies, and operations are *centralized* in the hands of the parent corporation or lead bank. The contention that a linkage exists between MBHC structure and performance is important, because several studies of MBHC operational policies have revealed that structural centralization varies widely among companies.[3] Further, several researchers have provided a limited

amount of empirical evidence suggesting that affiliation impacts differ significantly across MBHCs, implying that MBHC structure and performance might be related.[4] One researcher concludes that offsetting performance variations attributable to structural differences may be largely responsible for blurring the impact of MBHC affiliation on bank performance (see Fraas 1974).

Only one empirical study of the impact of MBHC organizational structure on subsidiary bank performance has been done to date (see Mayne 1976). Although the study is open to criticism on several grounds, differences in holding company structural centralization were found to be systematically related to differences in several measures of subsidiary bank performance.[5] Thus, existing evidence suggests that further research in this area is warranted. Current data on holding company operational policies are required, so that additional, perhaps more reliable, empirical evidence concerning the impact of MBHC affiliation on bank perfor-

---

3. See Weiss (1969), Lawrence (1971), Jesser (1973), Stodden (1975), and the Association of Bank Holding Companies (1978).

4. See Fraas (1974), Hoffman (1976), and Mayne (1976). Mayne alone explicitly tested for the impact of MBHC structure on performance, for which she found some supporting evidence.

5. For example, Mayne tested for structural impacts on subsidiary bank performance in each year over the 1969–72 interval. She assumed that holding companies maximize subsidiary rather than corporate-level profitability and so do not attempt to "capture" affiliation-related benefits through the use of excessive management fees. She assumed MBHC structural invariance over this period. Evidence contained in the Association of Bank Holding Companies'(ABHC) study suggests that this assumption may not have been correct. Further, she assumed that the structural benefits generated by the structure in place at the outset of the four-year period were completely realized in this time interval. MBHC senior-management responses in the ABHC study indicate that structure benefits accrue over time with a considerable lag. In addition, the average asset size of her sample holding company banks was quite small (less than $50 million in average assets). There is evidence that affiliation produces net benefits only after subsidiary size exceeds $40 million in total deposits (see Board of Governors, p. 128). Despite all of these problems, Mayne found some evidence supporting the hypothesized relationship. Current empirical evidence confirming the existence of an organizational structure-performance relationship for MBHCs appears in Whalen (1982).

mance can be obtained. Such evidence continues to be an essential public policy input. Holding company structural data are of interest for other reasons. Although there have been several previous studies of MBHC operational policies, most were completed in the early 1970s, at the outset of the period of rapid holding company expansion. The samples generally were small and unrepresentative.[6] A current study utilizing a broad sample should indicate the validity of the findings contained in previous studies and allow structural trends to be detected. Further, the factors responsible for observed structural variations have not been adequately explored.

Recently collected information on MBHC structural centralization is presented in this paper. In Part I centralization-performance relationships are discussed, along with the potential causes of structural variation. Following a brief discussion of the 1970 structural benchmark findings of Lawrence, data on current MBHC operational policies are presented. The method used to derive quantitative indexes of policy-area centralization from the survey responses is discussed in Part III. In Part IV structural variations are analyzed using a summary index of MBHC centralization, constructed from the individual policy-area centralization measures. The summary and conclusions follow.

I.   The Structure-Performance Relationship

Previous studies of MBHC operational policies were based on the premise that centralization of certain decisions and operations in holding companies would enhance subsidiary revenues and/or reduce costs either directly or indirectly.[7] Centralization may allow expensive, indivisible pieces of capital equipment to be fully utilized. For example, average computation costs tend to

fall as the size and power of the computer employed are increased. Thus, centralization of data processing ensures that a large computer system would be optimally utilized and so should permit some economies to be realized by the holding company. Centralization of functions such as asset and/or liability management also should generate economies by allowing specialization and division of labor to be fully exploited. Efficient use can be made of parent company staff experts if operations such as securities portfolio management are centralized rather than decentralized. Subsidiary capital and materials costs can be reduced if the larger, more diversified holding company raises the bulk of external funds required by subsidiaries and centralizes purchasing. Centralization of budgeting, accounting, and auditing, in conjunction with the operation of a centralized incentive system, provides the parent company with the capabilities to monitor, evaluate, and stimulate the performance of subsidiary personnel. Suboptimization with respect to corporate goals can be detected and prevented. Conversely, in decentralized MBHCs, subsidiary banks essentially operate autonomously; hence, there is no reason to expect their performance to differ appreciably from comparable independent banks.

Generally, previous researchers have assumed that the greater the extent of parent company centralization, the greater the MBHC affiliation impacts (see Mayne 1976). That is, the net performance benefits generated by any MBHC are expected to be positively, although not necessarily linearly, related to its degree of organizational centralization. This view reflects the implicit assumption that gross structural benefits exceed structurally related "coordination costs" as centralization is increased.[8] However,

---

6.   While Lawrence's sample consisted of 52 MBHCs nationwide, the largest sample size in the other four studies was 16 companies.

7.   A detailed discussion of the potential impacts of centralization in MBHCs appears in the Association of Bank Holding Companies' study. See also Williamson (1980).

8.   Centralization of any activity in a multi-plant firm necessitates "coordination costs." For example, centralized portfolio management requires that information be transmitted at some cost between the parent company and its affiliates. The quantity of information required by centralized decision-makers and costs incurred are likely to depend positively (not necessarily monotonically) on the extent to which a given operation is centralized and the number and complexity of decisions that must be made.

Lawrence and others exploring the question of structural variation among MBHCs have emphasized that the net performance benefits generated by a particular structural alternative, and so observed structure itself, may vary with certain firm-specific characteristics and/or the nature of the particular holding company's operating environment.[9] These writers have suggested that realizable structural benefits and structurally related coordination costs are affected by factors such as the total holding company size, the relative size of the lead bank and other bank subsidiaries, the company's information processing capability, the degree of the company's geographic dispersion, competitive pressures, and other factors that influence the feasibility and/or necessity of adopting a particular organizational arrangement. These factors therefore may be related to observed MBHC structural centralization. However, since only a limited amount of theoretical and empirical research on this subject has been done to date, the exact nature of these relationships cannot be reliably specified *a priori*.

II. The Lawrence Study

The 1971 study by Robert Lawrence is of interest for two reasons. First, it was done at the outset of the period of rapid MBHC growth and thus serves as a valuable reference point, particularly in light of his representative sample of companies. Second, Lawrence converted his survey data into quantitative indexes of organizational structure and attempted to explain observed variation in MBHC centralization.

Based on survey responses, Lawrence subjectively determined the extent of parent-company control over, or centralization of, subsidiary bank decisions in certain operational areas expected to impact affiliate performance. He classified each sample company as *centralized,*

9. These factors influence the decisional and information requirements and hence coordination costs necessitated by a given degree of centralization. See the discussion in Lawrence (1971), pp. 7-11; Longbrake (1974), pp. 2-7; the Association of Bank Holding Companies (1978), pp.7-10 and 33-34; and Jessup (1980), pp. 492-94.

moderately centralized, or *decentralized* in each policy area, assigning a score of 1 for a rating of *centralized,* 2 for *moderately centralized,* and 3 for *decentralized.* He constructed an aggregate centralization index simply by averaging the policy-area scores.

Lawrence concluded that MBHC centralization varied greatly by policy area both within and among companies. He found that holding companies typically centralized capital management, and the management of subsidiary-bank investment portfolios (including federal funds transactions). He concluded that correspondent relationships (including loan participations) also were closely controlled. Lawrence reported that relatively less parent control was exercised over subsidiary loan-portfolio management and pricing decisions. Policies in other areas were not characterized because of structural variation. Based on his aggregate structural index, he categorized 23 percent of his sample companies as *centralized,* 50 percent as *moderately centralized,* and 27 percent as *decentralized.*

In an attempt to obtain insight as to the reason for observed structural variation, Lawrence correlated his policy area and aggregate centralization measures with MBHC characteristic variables presumed to affect the net performance benefits generated by a particular structural alternative. The variables employed were MBHC deposit size, number of subsidiary banks, geographic extent of MBHC operations, relative size of the lead bank, and age of the holding company. He failed to find any significant relationships between these variables and his structural indexes.

III. The Current Study

In November 1979 information on the operational policies of a sample of MBHCs was collected through the use of a management survey, based on the one used by Lawrence. Originally, 102 MBHCs were surveyed. The representative sample consisted of 65 responding companies, located in 12 states. Although the identities of the particular respondents are confidential, summary data concerning the sample companies are

presented in table 1.[10]

As in the Lawrence study, questions were asked concerning the extent of parent-company involvement in, and control over, subsidiary bank decisions in operational areas in which MBHC affiliation generally was expected to impact subsidiary bank performance. The questions were designed to allow the researcher to determine the degree of MBHC organizational centralization in each policy area and, ultimately, to construct quantitative indexes of structural centralization amenable to statistical analysis. Unlike the Lawrence survey, however, the respondents were constrained to answer each question with either a "yes" or "no." This was done to enhance the response rate and to eliminate the need for the researcher to interpret subjectively the heterogeneous responses inevitably generated by open-ended questions.

Questions were asked about holding company involvement in subsidiary bank management, budget policies, capital management, correspondent relationships, loan participations, federal funds transactions, securities portfolio management, loan portfolio management, liability management, pricing, and "miscellaneous areas." Several questions related to holding company policies in each of these areas, with the number asked varying over policy areas. Essentially, the greater the expected performance impact of centralization of decisions in an area, the greater the number of questions asked. For example, numerous questions concerned MBHC involvement in loan portfolio and capital management. Fewer questions were asked about the parent company's role in subsidiary correspondent relationships.

In general, quantitative policy-area centralization scores were generated by awarding one "centralization point" in a particular area for each response suggesting parent-company involvement in that area. Thus, the greater the revealed degree of holding company involvement in any area, the higher the centralization score

| Table 1 | Characteristics of the Sample | | | | |

State	Number surveyed	Responses	Response rate	Total state banks	Total state deposits
Alabama	5	5	100.0%	19.8%	52.9%
Colorado	4	4	100.0	19.8	47.7
Florida	15	7	46.7	20.6	30.3
Massachusetts	5	3	60.0	8.5	29.7
Michigan	5	2	40.0	2.1	18.9
Missouri	8	4	50.8	10.4	23.3
New Jersey	7	6	85.7	11.9	24.1
Ohio	7	4	57.1	15.6	24.2
Tennessee	5	3	60.0	8.0	24.8
Texas	18	10	55.5	6.4	17.8
Virginia	9	8	88.8	30.5	60.5
Wisconsin	14	9	64.2	11.5	17.9

assigned. Using this procedure, structural scores were generated for each respondent in each of the 11 policy areas. Since more questions were asked, more centralization points could potentially be gained in the key policy areas.

Responses to selected survey questions in each of the 11 policy areas are detailed in tables 2 through 12.[11] Beneath each table are the potential maximum, mean, standard deviation, and range of the constructed policy-area centralization index. The pattern of responses and the structural index data indicate structural tendencies and variations.

The responses shown in table 2 and the low mean policy-area score relative to the potential maximum indicate that MBHCs generally do not attempt to control subsidiary bank operations through board member and/or officer overlap. The standard deviation of the index is large relative to the mean, indicating a great deal of structural variation between companies.

10.   The average deposit size of the responding companies in 1979 was approximately $1.5 billion, while the average number of subsidiary banks and bank offices was 11.3 and 57.4, respectively.

11.   Not all questions asked are reported. This partially accounts for the divergence between the number of questions in the tables and the maximum potential centralization score in any policy area. Additionally, some survey responses indicating relatively less centralization resulted in a centralization score of 0.5.

Table 2   MBHC General Management

Questions	Total affirmative responses[a]	
MBHC places its board members on subsidiary bank boards	43	(66.2)
MBHC places its officers in subsidiary banks	26	(40.0)
MBHC publishes organizational manual detailing subsidiary management responsibilities	20	(30.8)
Policy-area centralization scores		
Potential maximum	5.5	
Mean	2.1	
Standard deviation	1.0	
Range	0.0 to 5.5	

a. Numbers in parentheses represent percent of responding companies.

Table 3   Capital Management

Questions	Total affirmative responses[a]	
MBHC sets subsidiary dividends	64	(98.5)
MBHC monitors subsidiary capital requirements and structures	65	(100.0)
MBHC solely responsible for ensuring capital adequacy	42	(64.6)
MBHC raises all external capital	61	(93.8)
MBHC decides form in which capital injected into subsidiaries	54	(83.1)
MBHC makes final decision on subsidiary major capital expenditures	62	(95.4)
Policy-area centralization scores		
Potential maximum	10.0	
Mean	8.9	
Standard deviation	0.9	
Range	7.0 to 10.0	

a. Numbers in parentheses represent percent of responding companies.

Table 4   Correspondent Relationships

Questions	Total affirmative responses[a]	
MBHC supplies correspondent services to subsidiaries	57	(87.7)
Use of correspondent services required	38	(58.5)
Use of correspondent services encouraged	18	(27.7)
Correspondent relations with non-affiliates prohibited	7	(10.8)
Correspondent relations with non-affiliates subject to MBHC approval	30	(46.2)
Policy-area centralization scores		
Potential maximum	3.0	
Mean	1.9	
Standard deviation	0.8	
Range	0.0 to 3.0	

a. Numbers in parentheses represent percent of responding companies.

Table 5   Liability Management

Questions	Total affirmative responses[a]	
MBHC periodically reviews liability composition of subsidiaries	62	(98.4)
MBHC advises subsidiary with respect to desired time deposit to total deposit ratio	39	(60.0)
MBHC advises subsidiaries on negotiable CDs	56	(86.2)
MBHC approval required before subsidiaries issue CDs	5	(7.7)
MBHC informed when subsidiaries issue CDs	13	(20.0)
Policy-area centralization scores		
Potential maximum	6.0	
Mean	4.1	
Standard deviation	1.5	
Range	0.0 to 6.0	

a. Numbers in parentheses represent percent of responding companies.

Table 6 Loan Participations	
Questions	Total affirmative responses[a]
Subsidiary originating loan requiring participation is required to offer it to coaffiliate	43 (66.2)
Subsidiary originating loan requiring participation customarily offers it to coaffiliate	20 (30.8)
Subsidiary participation in loans originated by non-affiliates prohibited	20 (30.5)
Subsidiary participation in loan originated by non-affiliates subject to MBHC approval	14 (21.5)
Subsidiaries must inform MBHC when participating in loans originated by non-affiliates	18 (27.7)
Policy-area centralization scores	
Potential maximum	3.5
Mean	2.5
Standard deviation	0.9
Range	0.5 to 3.5

a. Numbers in parentheses represent percent of responding companies.

Table 7 Federal Funds and Discount Window	
Questions	Total affirmative responses[a]
Subsidiaries use MBHC or lead bank for federal funds transactions	41 (63.1)
MBHC approval required before subsidiaries engage in federal funds transactions	14 (21.5)
MBHC or lead bank centrally affects federal funds transactions for all subsidiaries	32 (49.2)
Prior consultation with MBHC required before subsidiary borrows at discount window	26 (40.0)
MBHC approval necessary before subsidiary borrows at discount window	9 (13.8)
Policy-area centralization scores	
Potential maximum	6.0
Mean	3.0
Standard deviation	2.9
Range	0.0 to 6.0

a. Numbers in parentheses represent percent of responding companies.

The high proportion of affirmative responses to questions about capital management policies suggests that MBHCs typically exert centralized control over subsidiary bank operations in this area (see table 3). Comparison of the mean policy-area score with the potential maximum confirms this finding. Further, the small size of the standard deviation of the structural index relative to the mean suggests little structural variation in this area.

MBHCs appear to exercise somewhat less, but still considerable, control over subsidiary bank correspondent relationships, liability management, and loan participation policies (see tables 4, 5, and 6). Centralization appears to be both greater and less variable in the latter two areas.

Centralization policies in the area of federal funds transactions follow a similar pattern (see table 7). MBHCs appear to exercise at least a moderate amount of control over subsidiary bank operations in this area. However, the centralization index standard deviation is large relative to the mean, indicating structural variation. Further, responses in this area constitute evidence that MBHC centralization generally has increased since Lawrence's study. None of Lawrence's sample companies reported that advance approval was required before a subsidiary bank could engage in federal funds transactions; 14 MBHCs indicated that such approval was required (see Lawrence 1971).

Security portfolio management appears to be relatively centralized (see table 8). Virtually all companies report substantial involvement in this area. This is reflected by the proximity between the index mean and potential maximum. Structural variation does not appear to be considerable.

Table 8   Securities Portfolio Management

Questions	Total affirmative responses[a]	
MBHC offers advice on securities investments to affiliates	62	(95.4)
MBHC suggests proportion of funds allocated to investments vs. loans	55	(84.6)
MBHC specifies maximum or minimum amount of state and local issues to be held	48	(73.8)
MBHC handles buy and sell orders for all subsidiaries' securities transactions	45	(69.2)
MBHC handles securities portfolio management entirely for subsidiaries	38	(58.5)
MBHC manages security holdings of subsidiaries collectively, as single portfolio	24	(36.9)
MBHC prohibits subsidiaries from obtaining portfolio advice from non-affiliates	49	(75.4)
Policy-area centralization scores		
Potential maximum	11.0	
Mean	8.2	
Standard deviation	2.9	
Range	0.0 to 11.0	

a. Numbers in parentheses represent percent of responding companies.

Table 9   Pricing Policies

Questions	Total affirmative responses[a]	
MBHC periodically reviews schedule of subsidiary bank-loan interest rates	50	(76.9)
MBHC suggests pricing loans at floating vs. fixed rates of interest or vice versa	53	(81.5)
MBHC offers advice on service changes, deposit interest rates, fees, etc.	55	(84.6)
MBHC makes final decision on prices charged at subsidiary banks	10	(27.8)
Prices set uniformly throughout MBHC system	6	(9.2)
Policy-area centralization scores		
Potential maximum	7.5	
Mean	3.7	
Standard deviation	1.7	
Range	0.0 to 7.5	

a. Numbers in parentheses represent percent of responding companies.

MBHCs appear to exert a moderate amount of control over subsidiary bank pricing decisions (see table 9). In particular, holding company policies in this area appear to be much more centralized in 1979 than they were in 1970. Lawrence rated companies as *centralized* in this area (16 of 52 companies) if they only reviewed subsidiary bank interest rates. In contrast, 50 of 65 companies in 1979 reviewed subsidiary interest rates, and 10 reported that the holding company made the final decision on the prices to be charged.

MBHC control over subsidiary budget policies appears to be highly centralized (see table 10).

Little structural variation in this area is evident. The responses in table 11 suggest that MBHCs exert at least a moderate amount of centralized control over subsidiary bank loan portfolio management. The evidence indicates that MBHC policies in this area can no longer be categorized as relatively *decentralized* as they were by Lawrence.

Finally, centralization of other operations and services appears to vary (see table 12). Data processing, auditing, and purchasing seem to be centralized. Most companies also appear to operate a centralized incentive system. Trust activities, purchasing, and accounting seem to be centralized less often. Centralization seems to have increased in some of these areas over the decade as well. For example, only 38 percent of Lawrence's sample indicated that trust operations were centralized in 1970; 58 percent of the

sample reported centralization in this area in 1979 (see Lawrence 1971).

IV.   Structural Variation

Structural variation was explored by regressing an aggregate measure of MBHC centralization on variables expected to influence the net benefits attributable to a particular organizational alternative. The final form of the estimated regression appears in table 13.[12] The summary centralization index, CT, was formed by simply summing the 11 policy-area centralization scores.[13] The mean and standard deviation of this measure, as well as those of the independent variables employed, appear in the table. Comparison of the standard deviation of this structural measure relative to its mean suggests that aggregate centralization, as well as policy-area centralization, varies widely among holding companies.

The t-statistics in table 13 indicate that the coefficients of all of the independent variables used in the regression are significant. Similarly, the significant F-statistic suggests that the explanatory power of the estimated equation is considerable.

The regression results reveal a quadratic size-centralization relationship, centralization rising with MBHC size until holding company total deposits reach approximately $2.2 billion. Beyond that point, size and centralization are inversely related. Evidently, structurally related "coordination costs" rise relative to realizable

Table 10 Budget Policies		
Questions	**Total affirmative responses**[a]	
MBHC subsidiaries must submit budgets	63	(96.9)
MBHC approval of subsidiary budgets *required*	56	(86.2)
MBHC monitors budget variances	63	(96.9)
MBHC evaluates subsidiary CEOs relative to budgeted figures	59	(90.8)
Policy-area centralization scores		
Potential maximum	5.0	
Mean	4.5	
Standard deviation	1.0	
Range	0.0 to 5.0	

a. Numbers in parentheses represent percent of responding companies.

structural benefits as MBHC size increases, *ceteris paribus.*

A negative relationship was discovered between the subsidiary size configuration variable, H, and MBHC centralization. The more equal the sizes of its subsidiary banks, the lower the value of H. Thus, subsidiary size equality and the degree of holding company centralization are positively related. Centralization thus may be less costly and/or more necessary when all bank subsidiaries are relatively homogeneous in terms of size.

The positive coefficient of the LBSIZE variable suggests that the larger the lead bank relative to the other holding company banks, the greater the degree of MBHC centralization. Presumably, the large lead banks have extensive managerial and financial resources and can provide strong support to smaller affiliates, all of which could lead to some form of centralization.

The coefficient on the information-processing dummy MISDUM was also positive, indicating that holding company centralization and information-processing sophistication are directly related. Operation of a management-information system evidently lowers structurally related "coordination costs," *ceteris paribus.*

12.   Additional explanatory variables (e.g., a geographic dispersion variable, a growth rate variable, and holding company age) were employed in preliminary runs. All were insignificant and so were dropped from the estimated equation.

13.   An equally weighted summary index also was constructed by summing the 11 policy indexes after each had been divided by the policy area potential maximum. Thus, all policy area indexes were scaled to vary between 0 and 1. The equally weighted summary index was highly correlated with CT (the correlation coefficient was approximately 0.9), and regression results were virtually identical when this measure was employed as the dependent variable. Thus, these results were not reported.

Table 11   Loan Portfolio Management

Questions	Total affirmative responses[a]	
MBHC publishes loan policies binding on all affiliates	30	(46.2)
Subsidiary banks must publish loan guidelines subject to holding company approval	20	(30.8)
MBHC suggests a loan-to-deposit ratio for each bank	55	(84.6)
MBHC advises affiliates on maturity structure of loan portfolios	42	(64.6)
MBHC advises affiliates on "mix" of loan portfolios	59	(90.8)
MBHC monitors amount of loans made at floating vs. fixed rates of interest	45	(69.2)
MBHC advises subsidiaries on non-price loan terms	51	(78.5)
Subsidiaries inform MBHCs when lines of credit extended	24	(36.9)
MBHC requires approval of subsidiary credit-line extensions	9	(13.8)
Policy-area centralization scores		
Potential maximum	11.5	
Mean	7.4	
Standard deviation	2.4	
Range	0.5 to 11.5	

a. Numbers in parentheses represent percent of responding companies.

Table 12   Miscellaneous Centralized Services

Questions	Total affirmative responses[a]	
MBHC has centralized incentive program	52	(80.0)
MBHC has centralized systems and procedures group	41	(63.1)
MBHC has central purchasing department	40	(61.5)
MBHC has central printing department	27	(41.5)
MBHC centralized data processing available	61	(93.8)
Use of MBHC data-processing facilities required	52	(80.2)
MBHC has central audit department	62	(95.4)
MBHC has centralized trust operations	38	(59.5)
Demand deposit/time deposit accounting centralized	35	(53.8)
General ledger accounting centralized	50	(76.9)
MBHC has management information system	35	(53.8)
Policy-area centralization scores		
Potential maximum	34.5	
Mean	22.1	
Standard deviation	6.7	
Range	4.0 to 33.0	

a. Numbers in parentheses represent percent of responding companies.

Finally, the limited-area and statewide branching dummy variables exhibit positive coefficients, indicating that branching freedom and MBHC centralization are directly related. This finding can be interpreted as evidence of a positive association between competitive pressures and holding company centralization, assuming the intensity of competition and branching freedom are directly related.

V.   Summary and Conclusion

The survey findings indicate that MBHC organizational structures remain diverse. Operational policies appear to vary within and among companies by policy area. In general, MBHCs typically exercise relatively centralized control over subsidiary bank budgets, capital management, and securities and loan portfolio management policies. Somewhat less, but still considerable control is exercised in the areas of correspondent relationships, loan participations, federal funds transactions, liability management,

Table 13 Regression of Summary Centralization Index on Potential Determinants[a]

Variable	SIZE	SIZESQ	H	LBSIZE	MISDUM	BRDUM1	BRDUM2	Constant	F	$\bar{R}^2$
Coefficient	0.0049	-1.1×10^{-6}	-34.5655	1.6309	8.0987	6.0864	10.3847	65.01	7.29	0.42
t-Statistic	1.87*	2.66**	3.36**	3.42**	2.89**	1.88*	2.68**			
Mean	1.49×10^3	4.39×10^6	0.411	3.11	0.539	0.565	0.226			
Standard deviation	1.48×10^3	10.61×10^6	0.212	5.83	0.502	0.500	0.422			

a. The mean and the standard deviation of the summary centralization index, CT, are 68.7 and 13.05, respectively.

* Significant at 10 percent level—two-tail test.

** Significant at 5 percent level—two-tail test.

Variables Used in Estimated Equations:

CT: Sum of 11 policy-area centralization indexes.

SIZE: Holding company total deposit size, year-end, 1978 (in millions).

SIZESQ: The square of SIZE.

H: Subsidiary size variation measure. The sum of the squared shares of holding company total deposits held by each subsidiary bank.

LBSIZE: Total deposits held by the lead holding company bank relative to total deposits in all other subsidiary banks.

MISDUM: Equal to 1 if holding company reported it had a management-information system; equal to 0 otherwise.

BRDUM1: Equal to 1 if holding company operated in limited branching state; equal to 0 otherwise.

BRDUM2: Equal to 1 if holding company operated in a statewide branching state; equal to 0 otherwise.

and pricing. It should be noted that in the empirical studies in which structural differentials have been ignored, MBHC affiliation is consistently found to impact subsidiary bank asset allocation and leverage. This is suggestive evidence that centralization in the areas of capital management and securities and loan portfolio management is responsible for these differences in performance. Further, the data reveal that MBHC centralization, on average, has increased over the last decade. This trend also suggests that centralization and performance may be positively related. The evidenced levels of centralization indicate that MBHCs may be effective substitutes for branch systems.

The regression results provide some insight on the possible causes of observed structural variations between different holding companies. Counter to the earlier findings of Lawrence, it seems that MBHC structural policies can be estimated or predicted from available data.

The evidence indicates that MBHC total size

and centralization become inversely related after a critical size threshold is reached. Assuming that parent company centralization has a systematic effect on subsidiary bank performance, the implication of this finding is that increases in statewide concentration and multi-market linkages resulting from external expansion of the largest holding companies may not be a cause for concern, since these companies typically exercise less centralized control over the operations of their bank affiliates.

The structural information presented in this study clearly implies that it is incorrect to view all holding companies and their bank subsidiaries as homogeneous elements of a single group, the standard practice in previous affiliation impact studies of holding companies. If MBHC structure does influence performance, reliable empirical evidence on the affiliation impacts of holding companies can only be obtained from studies in which differences in holding company centralization are explicitly taken into account.

References

Association of Bank Holding Companies. *Bank Holding Company Centralization Policies.* Washington, D.C.: Golembe Associates, Inc., February 1978.

Board of Governors of the Federal Reserve System. "The Bank Holding Company Movement to 1978: A Compendium." Staff Study. Washington, D.C.: Board of Governors, September 1978.

Drum, Dale S. "MBHCs: Evidence after Two Decades of Regulation," *Business Conditions*, Federal Reserve Bank of Chicago, December 1976, pp. 3-15.

Fraas, Arthur G. "The Performance of Individual Bank Holding Companies." Staff Study No. 84. Washington, D.C.: Board of Governors of the Federal Reserve System, 1974.

Hoffman, Stuart G. "The Impact of Holding Company Affiliation on Bank Performance: A Case Study of Two Florida Multibank Holding Companies." Working Paper Series. Federal Reserve Bank of Atlanta, January 1976.

Jesser, Edward A., Jr., and Kenneth H. Fisher. "Guidelines for Bank Holding Company Management," *Bankers Magazine*, vol. 156, no. 3 (Summer 1973), pp. 13-20.

Lawrence, Robert J. "Operating Policies of Bank Holding Companies: Part I." Staff Study No. 59. Washington, D.C.: Board of Governors of the Federal Reserve System, April 1971.

Longbrake, William A. "The Differential Effects of Single-Plant, Multi-Plant, and Multi-Firm Organizational Forms on Cost Efficiency in Commercial Banking." Working Paper No. 74-7. Washington, D.C.: Federal Deposit Insurance Corporation, 1974.

Mayne, Lucille S. "Management Policies of Bank Holding Companies and Bank Performance," *Journal of Bank Research*, vol. 7, no. 1 (Spring 1976), pp. 37-48.

Stodden, John R. "Survey of the Operating Policies and Performance of Texas Multibank Holding Companies: Preliminary Findings," in *Conference on Bank Structure and Competition*, Federal Reserve Bank of Chicago, 1975.

Weiss, Steven J. "Bank Holding Companies and Public Policy," *New England Economic Review*, Federal Reserve Bank of Boston, January/February 1969, pp. 3-29.

Whalen, Gary. "Multibank Holding Company Organizational Structure and Performance." Working Paper 8201. Federal Reserve Bank of Cleveland, March 1982.

Williamson, Dan. "Dozens of Portfolios—One Investment Policy," *ABA Banking Journal*, vol. 72, no. 2 (February 1980), pp. 56-66.

Multibank holding company growth has been rapid since 1970. Recent passage of legislation authorizing multibank holding companies (MBHCs) in Pennsylvania, Illinois, and West Virginia and similar proposals in other states suggest that this growth will continue. MBHC affiliation generally has been expected to alter the performance of subsidiary banks relative to independent banks, thereby impacting consumer welfare and bank competition and soundness. The net social benefits produced by holding company expansion are debatable. Many empirical investigations of the impact of MBHC affiliation on bank performance have been undertaken over the past decade. Contrary to *a priori* expectations, very few modest affiliation impacts have been discovered. Affiliate asset structures have been found to reflect less liquidity and more risk. While affiliation appears to enhance revenues, subsidiary costs generally are higher than those of independents; hence, their profitability is not significantly different from that of independent banks.

There is evidence suggesting that the methodological approach employed in most of these studies has been responsible for the failure of researchers to discover appreciable affiliation-related performance impacts. Generally, researchers have assumed that holding company affiliation *per se* would alter subsidiary performance relative to independent banks. Several writers have countered that MBHC operational policies—and more specifically, the extent to which subsidiary bank decisions and operations are *centralized* in the hands of the parent corporation or lead bank—influence the degree to which hypothetical affiliation impacts are actually manifest. These researchers have supplied a considerable amount of empirical evidence

suggesting that MBHC structural centralization varies widely among companies. The implication is that offsetting performance variations attributable to structural differences may be responsible for blurring the impact of MBHC affiliation on bank performance.

Researchers have suggested that MBHCs may attempt to maximize corporate rather than subsidiary-level performance; hence, the parent may attempt to "capture," either totally or partially, affiliation benefits realized by bank subsidiaries through the use of intra-company revenue transfers. If this were the case, beneficial affiliation impacts, particularly lower costs resulting from scale economies, would not be detectable at the subsidiary bank level.

This study represents an attempt to determine empirically whether differences in MBHC organizational centralization are systematically related to differences in bank affiliate performance and, through this channel, consolidated holding company performance. The sample is cross-sectional, consisting of 62 MBHCs whose management responded to a survey of operational policies in November 1979. Quantitative indexes of the organizational centralization of the sample companies, derived from the survey data, were related to summary measures of holding company profitability, and a positive, significant relationship was found. Given that MBHC organizational structure varies considerably, the analysis implies that it is inappropriate to treat all holding companies and their subsidiaries as members of a single, homogeneous group. Public policy governing future intra- and interstate expansion by MBHCs should be guided by empirical evidence obtained from studies in which differences in MBHC organizational structure are explicitly taken into account.

Federal Reserve Bank of Cleveland
Research Department
P.O. Box 6387
Cleveland, OH 44101

Address correction requested
☐ Correct as shown
☐ Remove from mailing list
Please send mailing label to the Federal Reserve Bank of Cleveland,
Research Department, P.O. Box 6387, Cleveland, OH 44101.