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The World Tobacco Market—Government Intervention and Multilateral Policy Reform

Verner N. Grise

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The World Tobacco Market--Government Intervention and Multilateral Policy Reform. By Verner N. Grise. Commodity Economics Division, Economic Research Service, U.S. Department of Agriculture. Staff Report No. AGES 9014.

Abstract

Tobacco and tobacco products are produced and traded throughout the world. About 30 percent of the world's tobacco is traded and even more would move between countries but for restrictions on imports. Numerous tariff and nontariff trade barriers discourage trade in tobacco. If freer trade existed, the U.S. quality and cost advantages would likely lead to larger exports of leaf and products to a number of countries. This report describes world tobacco production and trade, catalogs the trade policies of the major producing and consuming countries, and examines the potential effects of more liberalized trade on the world tobacco market.

Keywords: Tobacco, trade, production, trade liberalization

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Foreword

This report is a product of the trade liberalization project conducted in the Commodity Economics Division (CED) of the Economic Research Service (ERS). Eleven commodity monographs in the series "World Commodity Markets--Government Intervention and Multilateral Policy Reform" are anticipated from this study. The objectives of this series are to describe the role of individual commodities in domestic and world agricultural markets, to provide an overview of current policies for specific commodities throughout the world, and to evaluate the effects of a reduction in government supports and artificial barriers that hinder free competition among countries in the production and trade of commodities.

The monographs draw on earlier and ongoing analyses of government intervention and trade liberalization conducted by ERS in support of the Uruguay Round of multilateral trade negotiations, particularly calculations of producer and consumer subsidy equivalents and analyses of multilateral liberalization based on ERS's Static World Policy Simulation Model (SWOPSIM). The commodity reports build on these efforts and others in the agricultural economics profession to bring a commodity focus to ERS's work on global policy reform.

CED's study has been coordinated by Nicole Ballenger and Kate Buckley. Pat O'Brien, Tony Grano, and Fred Hoff provided vision, direction, and support. Alden Manchester coordinated the outside reviews. Other anticipated commodity reports include:

Beef--Bill Hahn
Coarse grains--Bengt Hyberg, Stephanie Mercier, and Lin Hoffman
Dairy--Don Blayney, Dick Fallert and Bill Paddock
Fruits, vegetables, wine, and tropical beverages--Kate Buckley
Oilseeds--Tom Bickerton and Joe Glauber
Poultry--Bob Bishop, Stephanie Mercier, Lee Christensen, and Larry Witucki
Pork--Shayle Shagam
Rice--Nathan Childs
Sugar--Ron Lord and Bob Barry
Wheat--Joy Harwood and Ken Bailey

The coordinators and author are grateful to the numerous analysts in CED, the Foreign Agricultural Service (FAS), and North Carolina State University who provided input into and review of this report, and to Marilyn Curtis, Laverne Creek, Linda Hatcher, Bonnie Moore, and others who participated in the publication process. Information from FAS was used extensively in this report. Daniel J. Stevens (FAS) and William George (FAS) were especially helpful.

For a current listing of ERS work in support of the Uruguay Round, see Bibliography of Research Supporting the Uruguay Round of the GATT, AGES 89-64, Agriculture and Trade Analysis Division, Econ. Res. Serv., U.S. Dept. of Agr., Dec. 1989.

Contents

Summary

Tobacco and tobacco products are produced and traded throughout the world. About 30 percent of the world's tobacco is produced and consumed in different countries. Tobacco trade occurs for various reasons: (1) some countries do not produce tobacco, produce too little, or do not produce particular kinds of tobacco, (2) some countries do not produce high enough quality tobacco or enough of it to meet domestic demand, and (3) prices vary for given kinds and qualities between countries with different product demand mixes.

Even more trade would occur except that tobacco production and manufacturing is heavily protected and imports restricted throughout much of the world. Leaf production is supported in a wide range of countries and much of the tobacco industry is controlled largely by monopolies in many countries. Tobacco is relatively high priced and demand inelastic at the retail level; hence, it is often used as a major source of government revenue and foreign exchange earnings by many countries. Since it is a labor-intensive crop, it also is a major source of employment for surplus rural labor in many areas of the world.

Tobacco trade impediments include both tariff and nontariff barriers. Historically, many countries have levied high tariffs on imported tobacco and tobacco products. In addition, a number of nontariff barriers are used to limit imports. These include licensing requirements, restricted product lists, exchange controls, mixing regulations, and quota restrictions together with the often restrictive purchasing practices of monopolies and state trading companies. Multinational trade negotiations (MTN) have eliminated or reduced some barriers, but many remain.

Trade liberalization (defined here as the elimination of border measures and domestic programs including supply controls, price support programs, and the programs that distort production decisions) would work both to discourage excess production and expand demand in a number of countries in response to lower producer prices and increased consumer access to a wider range of products. This in turn should lead to more trade and increased U.S. shipments of tobacco leaf and products to the European Community, Japan, Canada, Korea, Thailand, and Taiwan in particular. The magnitude of increase, of course, depends on which impediments are removed and where. Shipments from competing exporters such as Zimbabwe and Brazil and other developing countries would also increase, making it difficult to estimate the magnitude of any U.S. increase with precision.

Trade liberalization would also likely result in lower world tobacco prices as supply controls that keep prices artificially high are removed to permit the marketplace to determine price. However, there would continue to be wide variations in prices, reflecting different demand for various kinds and qualities of tobacco.

Even with trade impediments eliminated, trade changes are likely to occur gradually because of the sensitivity of product blends, purchasing arrangements that have developed over time, and other institutional factors. Over a longer period of time, factors such as consumption trends, changing product mixes, exchange rates, and costs will also have a major impact on tobacco production and trade.

Even though the United States would likely increase production and exports with trade liberalization, there would be negative effects. Prices to growers would be lower with U.S. output restrictions eliminated and quota owners would lose this major source of income. There would also be shifts in the location of production with resultant declines in tobacco farm asset values, and erosion in tax bases in traditional producing areas. Still, the United States would be a net gainer in terms of increasing its total output, total revenue, producer surplus, and its share of total trade with freer world tobacco trade. Moreover, the structural changes likely with liberalization would ultimately make the sector more viable domestically and competitive internationally.

The World Tobacco Market—Government Intervention and Multilateral Policy Reform

Verner N. Grise

Introduction

Tobacco is produced in much of the world, and tobacco products are consumed throughout the world. The dominant product manufactured from tobacco leaf is cigarettes, but other products include cigars, snuff, chewing tobacco, and smoking tobacco. The kinds of products consumed and tobacco grown varies from country to country, but several general changes are occurring, such as the shift from darker to lighter and blended cigarettes.

Even though tobacco is widely produced, trade in tobacco products (mainly cigarettes) and tobacco leaf is considerable. About 30 percent of the leaf produced is consumed in a different country (shipped in leaf or manufactured product form). Trade occurs because some countries do not produce tobacco or enough to supply all their needs. But, trade exists for a number of other reasons as well. For example, cigarette blends require different kinds of tobacco and many countries do not produce some kinds or sufficient quantities of those kinds. For example, the United States grows a number of different kinds of tobacco, but it does not produce "Oriental" or "Turkish" tobacco which has been an essential ingredient in U.S. blended cigarettes since early in this century. Other countries that both export and import substantial quantities of tobacco include Italy, Japan, Poland, and Hungary.

Tobacco Quality and Trade

Tobacco is also traded on the basis of quality differences, with manufacturers trading to acquire the lowest cost quality mix needed to meet local consumer demand. The United States purportedly grows the highest quality tobacco in the world. Its leaf is among the most expensive.

Even within the United States, the demand and supply of tobacco comprises a large number of closely interrelated demands and supplies for different varieties and grades within varieties. A particular tobacco plant, for example, will produce different qualities of tobacco at various stalk positions at different

harvesting times. Also, different geographical locations produce tobaccos of slightly different characteristics. Clearly, the effect of greater trade liberalization would vary among the submarkets by variety and grade.

Key elements in evaluating U.S. trade prospects revolve around how much of a premium the United States can command for its tobacco, how much of this tobacco is needed for mixing in product manufacture, and how much production from other countries or technological advances raising quality elsewhere or changing mixing patterns can erode the potential U.S. market.

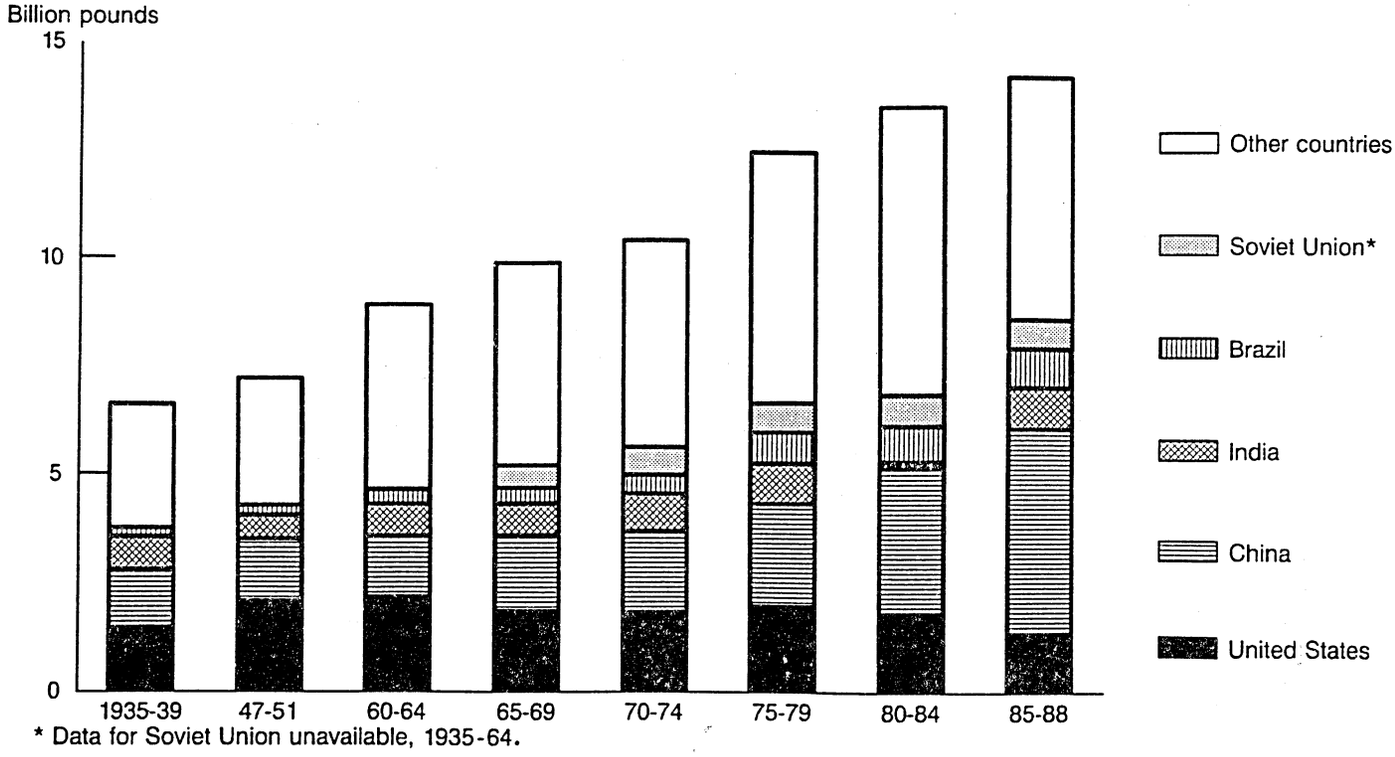
World Overview and U.S. Position

World tobacco production doubled from the late 1940's to the mid-1980's (fig. 1). Production in Brazil rose almost fourfold, China's production more than tripled, and Zimbabwean production almost tripled. Large production increases also occurred in Greece, Italy, India, and Turkey. During this period, the only major tobacco-producing country that had a decline in production was the United States. U.S. production fell 36 percent.

World tobacco trade followed the same growth pattern as production, with world shipments up about threefold. However, the U.S. share of world exports has declined, falling from 35 percent of the world total in 1955-59 to about 17 percent in the mid-1980's. During this period, U.S. imports also rose sharply. These trends have occurred for several reasons, including internal U.S. tobacco programs, external restrictions on U.S.

Figure 1

Tobacco production changes since 1935



* Data for Soviet Union unavailable, 1935-64.

trade, and other factors such as technological developments in manufacturing cigarettes and changes in policies in several other countries to provide greater support for and reliance on tobacco trade as a source of foreign exchange.

U.S. price support levels rose about 150 percent from 1970 to 1984 and prices of U.S.-produced flue-cured and burley averaged more than double those of many competitors. This growing disparity between U.S. and other countries' prices, together with improving quality in other countries, made U.S. tobacco increasingly less competitive in world markets. Furthermore, the shift to filter-tipped cigarettes and various technological developments such as puffing and freeze-drying lowered the quality of tobacco needed for cigarettes and reduced the quantity of tobacco needed per cigarette. In this environment, the production quotas used in the United States to control the cost of support programs also became increasingly export restrictive.

Legislation enacted in 1986 (The Consolidated Omnibus Budget Reconciliation Act of 1985, PL 99-272) was designed to make U.S. tobacco more competitive in world markets. It significantly lowered U.S. price support levels and changed the procedure for setting production quotas to better reflect market conditions. This, together with major concessions from Japan, Taiwan, and South Korea opening their markets to U.S. cigarettes, are having positive effects on U.S. tobacco production and trade. Furthermore, a number of tariff reductions working to the U.S. advantage have been made over the years under negotiations sponsored by the General Agreement on Tariffs and Trade (GATT).

But, major trade impediments remain. Tobacco is a high-value, labor-intensive crop that for many countries is both a major source of government revenue and user of surplus labor. Consequently, many new tariff and nontariff barriers have been implemented over this same period to protect domestic industries in many countries.

Some of the commonly used nontariff barriers include licensing requirements, restricted product lists, exchange controls, prior deposits, mixing regulations, monopolies and State trading companies, and quota restrictions. Some countries using nontariff barriers are members of GATT and some are not.

Purpose and Objectives

This report:

(1) Summarizes GATT principles and current negotiations, as they affect tobacco.
(2) Describes world production and trade of tobacco leaf and products.
(3) Catalogs restrictive trade practices in major tobacco producing countries.
(4) Analyzes the effects of trade liberalization on the tobacco market.

Agriculture and the GATT

The GATT is a multilateral agreement between countries that governs the conduct of international trade. GATT was first established in 1947 between 23 countries. Current membership has grown to 97 countries, with an additional 28 countries also abiding by the principles and rules GATT sets forth. The GATT consists of a General Agreement and a GATT Secretariat that is responsible for administering the General Agreement.

Principles

GATT was negotiated at the end of World War II to provide an international forum to promote reduced government interference in all international trade. However, the seven rounds of liberalization talks completed to date have focused heavily on manufactured goods, with little attention afforded agriculture. For the first time in history, agricultural policies are being seriously discussed within the GATT framework. Moreover, many governments have come to recognize that many agricultural trade problems, such as low world prices, are deepened by domestic food and farm policies, in addition to export subsidies or import restrictions.

According to classical economic theory, a nation will sell goods it can produce more cheaply than other nations and buy other goods which can be purchased for less than it costs to produce at home. Under these circumstances, a nation is said to have an absolute advantage in that good which it can produce for less.

Even if a country has an absolute advantage in the production of several goods, it could still be to a country's benefit to trade. The theory of comparative advantage, first postulated by David Ricardo in the early 1800's, states that, in a simple two-good world, a country can improve welfare by shifting resources to the production of the good it can produce at the lowest cost relative to other countries. The increased production of this good can then be exported in exchange for a larger quantity of the other good than has been lost by the shift of resources. Comparative advantage is based on the concept of "opportunity cost" within nations, defined as the value of a reduction in the output of one product releasing inputs necessary to increase the production of another good. Resource allocation is at the core of this theory. Since individual nations are endowed with different resource bases, labor forces, climates, and technological inputs, opportunity costs for production vary among nations. Mutually advantageous trade can arise among nations as long as differences in opportunity costs exist.

Policies to support agriculture tend to change the input and output prices that would normally prevail in a free-market economy, and distort the set of opportunity costs the farmer faces. Under such conditions, trade that would normally lead to benefits to both parties in the transaction may not occur.

The Current Policy Environment and the Uruguay Round

The world agricultural trade environment may see substantial policy reforms. In the communique issued from Punta del Este in September 1986 at the start of the Uruguay Round of Multilateral Trade Negotiations, participating nations publicly stated for the first time that domestic farm programs have an important distorting effect on world agricultural trade. In deciding to form an agricultural negotiating group so early in the round, GATT members sent a sharp signal to the world about their serious intention to deal with problems caused by agricultural support and protection.

The large budget cost of commodity programs is the factor that may now override domestic considerations that in the past have led to the adoption of extensive commodity programs. In the face of mounting public debt and budget deficits in many developed countries, the billions of dollars previously devoted to supporting farm income or encouraging farm exports are now vulnerable. Most countries contemplating such cuts wish to cushion the impact on producers in some way. The anticipated increase in trade volume and potential increase in some major world commodity prices resulting from multilateral trade liberalization would alleviate adverse farm income effects, as would so-called "decoupled payments" (that is, direct payments not linked to production or marketing) that may be permitted in a free-trade environment.

The midterm ministerial review in Montreal in early December 1988 ended in a deadlock between the United States and the European Community (EC) on agriculture. In the December meetings, the EC refused to accept any language in agreements implying a total elimination of trade-distorting farm programs and the United States balked at settling for anything less.

In the followup meetings in Geneva in early April 1989, the United States and the EC exhibited increased flexibility and the parties eventually reached an agreement calling for "substantial, progressive reductions in agricultural protection" in the long term. The agreement also froze protection at current levels for 1989. A framework has thus been established for further negotiations, and dialogue will continue, with high hopes for achieving substantial progress in agriculture.

Major Negotiating Proposals

Nine countries or country groups have submitted comprehensive proposals to be considered by the GATT agricultural negotiating group in the Uruguay Round. Table 1 summarizes six of these submissions. Most of the proposals are quite lengthy and complicated, and they represent a wide variety of approaches. At one end of the continuum are the proposals of the United States and the Cairns Group (Argentina, Australia, Brazil, Canada, Chile, Colombia, Fiji, Hungary, Indonesia, Malaysia, New Zealand, the Philippines, Thailand, and Uruguay) which favor largely eliminating policies that distort trade. At the other end is the EC plan, which offers only minor changes in existing programs.

Table 1--Main elements of major negotiating proposals

United States (submitted October 25, 1989)
- o Replace nontariff barriers with tariff-rate quota system, to be phased down to zero or low levels over 10-year period (tariffication).
- o Phase out export subsidies over 5-year period.
- o Assign domestic policies to three groups: to be phased out (payments tied to output), to be disciplined (input, investment subsidies), and permitted (decoupled income support, environmental, disaster assistance, research, education).
- o Treatment of less-developed countries based on development level in each.

European Community (submitted December 20, 1989)
- o Reduce support and protection. Commitments would be expressed in terms of an aggregate measure.
- o A form of tariffication could be accepted.
- o Variable levies would be converted to fixed and variable components, fixed component reduced in line with other commitments and variable component to fluctuate according to market conditions. Deficiency payments to be included in tariffication.
- o Flexibility in application of GATT rules to less-developed countries according to their actual level of development.

Cairns Group (submitted November 20, 1989)
- o Prohibit measures not explicitly provided for in GATT rules (includes variable levies and quantity restraints--amounts to tariffication).
- o All tariffs bound at low levels or zero.
- o Prohibit new and phase out existing export subsidies.
- o Reduce internal support through use of an aggregate measure of support where calculable, otherwise through commitments to reductions in support prices and budget expenditures.
- o Similar internal policy categories to U.S. proposal.
- o Measures in less-developed countries which encourage development to be exempt.

Japan (submitted November 27, 1989)
- o Emphasizes special nature of agriculture and food security.
- o Insists on countries' right to support certain level of self-sufficiency in "basic foodstuffs."
- o Export subsidies should be reduced and eliminated.
- o Domestic support with no (or negligible) trade-distorting effects should be permitted; other policies reduced through commitments based on an aggregate measure of support.
- o Allow less-developed countries longer time frame to achieve Uruguay Round goals.

Nordic Group (submitted December 19, 1989)
- o Support gradual change in level and form of border protection.
- o Tariffication is among feasible alternatives.
- o Most export subsidies should be eliminated. Trade-distorting domestic subsidies should be displaced.
- o Objective needs of individual less-developed countries must be considered.

Net Food Importing Developing Countries
- o Negotiators should consider interests and problems of importers.
- o Should continue special treatment of less-developed countries and food aid.
- o Increased financial assistance should be given to food importing developing countries to compensate for post-liberalization price increases.
- o Stricter discipline applied to export subsidies.

Proposals by Japan, the Nordic countries (Finland, Iceland, Norway, and Sweden), the group of net food importing countries (Egypt, Mexico, Jamaica, and Peru), Austria, Switzerland, and South Korea advocate varying degrees of reform.

The United States submitted a proposal in October 1989 with a detailed breakdown of policies that are present in the current policy environment. Certain types of programs, including export subsidies, import quotas, variable levies, and any price support mechanisms that distort world prices, are listed as policies to be eliminated over varying lengths of time. Certain programs which are aimed at correcting market failures, such as bona fide food aid and disaster assistance and environmental goals, as well as decoupled direct payments, are designated as permissable. Policies which fall between these categories, such as input and investment subsidies that are equally available to all producers, are to be closely scrutinized and policed by GATT rules.

The EC opposes radical changes in world agricultural trade. Its proposal focuses on short-term efforts and maintenance of market shares. While the EC promotes the aim of progressively reducing support to re-establish balanced markets, it remains opposed to distinguishing between border and domestic policies that distort trade. EC officials are concerned about the cost to European agriculture under a free-trade regime at low world prices and are reluctant to expose their agricultural sector to such pressures by complete elimination of their support policies. One urgent concern of the EC is the relative free entry of nongrain feed substitutes and protein meals into their market, which have been displacing higher priced domestic grains. The EC insists on the importance of being able to "re-balance" support and protection between commodities.

The Nordic Group proposal also implies resistance to wholesale changes in agricultural policies. Its suggestions on trade reform are couched in terms of improving market access through reduction of tariffs, import levies, and quantitative restrictions, rather than elimination of those instruments. Priority should be placed on replacing the most trade-distorting policies with more decoupled forms of support with clearly defined objectives. The Nordic countries are prepared to work toward elimination of most of their export subsidies.

Of the major groups submitting proposals prior to the midterm review, only the net food importing developing countries did not clarify or amplify their original position. The food importing group proposal focuses on resisting any overall price increases which would affect consumers in developing countries, though it supports "improving discipline" in the use of subsidies and elimination of policies such as quotas, voluntary export restraints (VER's), and other trade restrictions.

Japan is the largest single major agricultural importer to introduce a proposal to GATT. The main focus of the Japanese proposal is on nontrade issues, such as food security. The Japanese prefer self-sufficiency programs for their basic

foodstuffs, rather than relying on stockpiling or stable importation arrangements. They want to maintain the ability to use quantitative restrictions under Article XI of GATT rules for food security reasons. Restrictions on variable levies and minimum support prices recognized for nonagricultural goods should be enforced in agricultural trade, and export subsidies should be progressively reduced and eventually eliminated. Certain subsidies or expenditures which are devoted to improving infrastructure and social welfare, such as those named in both the U.S. and Cairns Group proposals, are also suggested for exemption by Japan.

All major proposals call for harmonization of sanitary and phytosanitary standards and ultimate elimination of scientifically unjustified elements of sanitary and phytosanitary regulations of traded agricultural products. Differential treatment of developing countries is permitted in all major proposals, generally to be geared toward the level of general and agricultural development currently existing in each country. The role of an aggregate measure of support (AMS), envisioned as substantial after the first round of proposals, has been downplayed in the most recent proposals. Since the midterm review ended in April 1989, several other countries that are participants in the GATT Negotiating Group on Agriculture have also submitted proposals. These countries include a combined proposal by Brazil and Colombia, an Austrian proposal, a Korean proposal, and a Swiss proposal.

Any changes in agricultural support programs that might result from GATT negotiations will have a substantial impact on world tobacco trade, since tobacco is both heavily traded and heavily dependent on government support at this time. By the end of 1990, participants are scheduled to agree on the long-term reform program and the period of time for its implementation. However, because of the large number and complexity of issues and country proposals subject to discussion, negotiations may continue beyond 1990.

Tobacco and GATT

High import duties have historically been imposed on tobacco leaf and products. The relatively inelastic domestic demand for all tobacco translates these duties into a ready source of government revenues. Successive rounds of multinational trade negotiations have resulted in the elimination or reduction of some tobacco trade barriers, but many remain. For example, some tariffs in the EC, Australia, and New Zealand have been lowered and Australia and New Zealand have agreed to limit mixing requirements (that is, the prescribed amount of domestic tobacco required in manufacturing cigarettes and other tobacco products that work to discourage imports).

But the EC's Common Agricultural Policy (CAP) continues to be particularly troublesome for the United States. EC member countries have historically been major purchasers of U.S. tobacco. The CAP encourages local leaf production with a system

of producer support prices, buyer premiums, and export restitution payments. The previous GATT negotiations have been unsuccessful in limiting EC export subsidies because the EC has contended they are internal support programs. Restrictive trade policies persist throughout the world though. For example, mixing requirements in Australia and prohibition of sales of U.S.-made cigarettes in Thailand hinder trade. These restrictions and others will be examined more fully later in this report.

The World Tobacco Economy

World tobacco production and trade continue to grow despite reduced cigarette consumption in some countries. Although production would likely increase a little, more trade in leaf and products would occur if various barriers were removed.

World Production

World tobacco production has gradually increased since the 1930's, with the biggest hike coming in the 1970's (table 2). The world produced about 6.6 billion pounds of tobacco in the

Table 2--Tobacco production in selected countries, 1935-88 averages

Country	Average production							
	1935-39	1947-51	1960-64	1965-69	1970-74	1975-79	1980-84	1985-88
				Million pounds 1/				
Brazil	202.7	233.1	336.2	359.4	434.8	721.2	813.9	895.6
Bulgaria	NA	NA	211.4	257.9	302.9	327.2	318.3	274.2
Canada	76.6	129.4	196.3	216.5	229.6	214.4	217.1	158.5
China	1,338.6	2/1,425.0	1,399.8	1,734.7	1,872.9	2,376.1	3,396.0	4,734.2
Greece	132.8	113.3	218.7	224.4	190.5	279.8	276.8	317.1
India	761.0	547.2	736.4	736.7	860.8	916.7	1,114.2	953.6
Italy	95.5	167.9	125.6	169.5	187.3	254.8	317.0	364.4
Japan	148.7	208.1	333.4	425.8	331.8	277.9	181.9	228.5
Turkey	128.5	194.1	278.8	350.7	377.5	564.8	453.8	401.1
United States	1,460.1	2,082.7	2,178.4	1,854.7	1,824.3	1,960.2	1,800.8	1,309.4
Soviet Union	NA	NA	NA	523.4	631.0	669.3	716.1	680.7
Zimbabwe	26.2	84.7	226.2	185.2	148.2	213.6	225.5	265.0
Subtotal	4,370.7	5,185.5	6,241.2	7,065.8	7,391.4	8,776.1	9,831.2	10,582.3
Other countries 3/	2,248.6	2,029.2	2,661.7	2,814.7	3,004.2	3,659.8	3,660.7	3,594.0
World total	6,619.3	7,214.7	8,902.9	9,880.5	10,395.8	12,435.9	13,491.9	14,176.3
				Percent				
U.S. share of world tobacco	22	29	24	19	18	16	14	9

NA = Not available.
1/ Farm sales-weight. 2/ Less than a 5-year average. 3/ Total includes data for countries not listed.

Source: U.S. Department of Agriculture, Foreign Agricultural Service.

late 1930's and production more than doubled to 14 billion pounds in 1985-88 (fig. 1). But U.S. production fell 10 percent over this period. After growing in the 1940's, U.S. production has declined, while total world production rose more than 90 percent. High U.S. price supports relative to those in major competing countries, combined with production quotas used to keep prices high and minimize accumulation of unsold stocks, have contributed heavily to the U.S. decline. However, tariff and nontariff trade barriers abroad limiting U.S. sales have also been responsible for the U.S. production decline. The United States is still the second largest tobacco-producing country in the world; only China produces more (table 2). But the United States contributed 9 percent of total world production in 1985-88 compared with 25 percent in 1960-64.

World tobacco production is also relatively heavily concentrated. The six leading producers accounted for about 63 percent of total world production in 1985-88. China accounted for about 33 percent of world production in 1985-88, with its share going up steadily over the last 20 years (table 2). India, the third largest tobacco producer, had 7 percent of world tobacco production in 1985-88. Brazil, the fastest growing major producer, more than doubled its production between 1970-74 and 1985-88 to become the world's fourth largest tobacco producer, with 6 percent of the world's total. The Soviet Union and Turkey are the world's fifth and sixth largest tobacco producers.

The major kinds of tobacco produced in the world are flue-cured, burley, and Oriental (tables 3-6). These kinds are used primarily in manufacturing cigarettes. Dark air- and sun-cured, dark fire-cured, and dark air-cured cigar tobaccos are used mainly for manufacturing chewing tobacco, cigars, and snuff, although a substantial amount of dark air- and sun-cured is used for cigarettes. Each of these kinds is also broken down into a number of grades that reflect quality.

Cigarettes are generally classified into four broad categories: Virginia or flue-cured (also known as the British style), dark tobacco cigarettes (French style), Oriental or aromatic types of cigarettes, and blended cigarettes (termed American blend and includes flue-cured, burley, Oriental, and Maryland tobaccos). There are many variations of the four basic types of cigarettes, but most cigarettes produced in the world can be described by one of these four categories.

Smokers of both dark tobacco and Oriental cigarettes are shifting to American blended type cigarettes while the flue-cured cigarette is holding its own. Consequently, demand for dark tobaccos is declining while demand for flue-cured, burley, and Oriental tobacco is rising.

The United States is the world's second leading flue-cured tobacco producer after China (table 4). The U.S. share of world flue-cured production declined from 40 percent in 1960-64 to 10 percent in 1985-88, while China's share rose from 23 to 53

Table 3--Major producers of various kinds of tobacco

Flue-cured:	Dark air-cured, cigar:
China	China
United States	Cuba
Brazil	Philippines
Zimbabwe	Indonesia
Canada	United States
India	
Burley:	Dark fire-cured:
United States	United States
Brazil	Malawi
Italy	Poland
China	Italy
Malawi	Kenya
Spain	
Oriental:	Dark air- and sun-cured:
Soviet Union	India
Turkey	China
Greece	Burma
Bulgaria	Indonesia
Yugoslavia	Poland
Italy	Brazil

percent. In Brazil, the world's third largest flue-cured producer, production has also risen sharply over the last 40 years. Since the early 1960's, Argentina, Italy, and South Korea have had large increases in production.

The United States is the world's largest burley tobacco producer (table 5). Still, U.S. burley production declined 18 percent from 1965-69 to 1985-88, and the U.S. share of world burley production fell from 50 to 34 percent. Italy, the second largest producer, increased production 107 percent from 1965-69 to 1985-88. Big hikes also occurred in Brazil, Mexico, Greece, Spain, Korea, Japan, Malawi, and Argentina.

Oriental was the first type of tobacco used in cigarettes. About half the world production of Oriental enters international trade. This kind of leaf substitutes for other cigarette tobaccos. Oriental tobacco accounted for about 12 percent of total world production in 1988. Production has stabilized during the 1980's and could rise in the near future because of a shift to blended cigarettes. Oriental constitutes approximately half the tobacco grown in the Soviet Union and in Eastern Europe. Turkey, Greece, and Bulgaria mostly produce this type (table 6).

Production of dark air- and sun-cured, dark fire-cured, and dark air-cured cigar tobacco has declined in recent years due to the change in kinds of cigarettes smoked. Major producing countries include China, Burma, Brazil, and Italy.

Table 4--Flue-cured tobacco production in selected countries, 1935-88 averages

Country	1935-39	1947-51	1960-64	1970-74	1980-84	1985-88
			Million pounds (average) 1/			
Canada	54.6	111.6	183.7	223.3	212.5	156.0
United States	863.6	1,246.2	1,335.2	1,139.1	988.1	737.2
Argentina	.6	8.0	21.8	62.0	86.1	87.4
Brazil	12.5	45.5	119.2	190.5	510.1	586.4
Italy	3.8	16.1	20.3	19.3	57.0	89.5
Zimbabwe	26.1	88.4	243.8	140.9	213.3	257.8
South Africa	2.7	21.8	28.4	40.4	51.0	57.1
China	235.0	250.0	2/ 750.0	1,155.2	2,786.2	4,088.4
India	26.9	64.5	183.9	255.7	288.4	209.4
Indonesia	4.8	1.7	41.5	31.5	63.5	127.2
Japan	74.3	86.9	203.8	198.7	183.0	138.0
Korea	21.8	19.0	56.1	141.7	149.6	118.8
Thailand	.9	8.2	22.5	52.4	109.5	70.3
Australia	5.3	3.6	26.8	34.7	31.8	28.4
World total 3/	1,350.0	2,024.7	3,329.5	4,194.9	6,501.7	7,668.7

1/ Farm sales weight. 2/ Less than a 5-year average. 3/ Total includes data for countries not listed.

Source: U.S. Department of Agriculture, Foreign Agricultural Service.

Table 5--Burley tobacco production in selected countries, 1965-88 averages

Country	1965-69	1970-74	1975-79	1980-84	1985-88
		Million pounds (average) 1/			
United States	573.7	539.4	585.5	664.7	469.4
Mexico	16.4	37.9	53.3	46.4	59.1
Argentina	2/ 8.1	14.6	21.5	27.0	31.2
Brazil	11.5	29.7	68.9	67.9	104.2
Venezuela	6.9	11.0	10.3	11.5	11.5
Greece	17.7	28.4	39.6	54.7	38.0
Italy	45.5	73.3	102.3	121.4	94.0
Spain	34.1	36.3	52.0	81.5	56.9
Japan	25.0	33.1	50.5	40.7	47.3
Korea	28.1	52.0	85.2	67.5	51.9
Malawi	6.3	12.4	22.7	58.3	80.6
Zimbabwe	4.9	11.5	6.4	8.1	7.1
World total 3/	823.2	985.8	1,272.2	1,477.3	1,398.1

1/ Farm sales weight. 2/ Less than a 5-year average. 3/ Total includes data for countries not listed.

Source: U.S. Department of Agriculture, Foreign Agricultural Service.

Table 6--Oriental tobacco production in selected countries, 1977-88

Country	1977-1980 average	1981	1982	1983	1984	1985	1986	1987	1988
					Million pounds 1/				
Bulgaria	260.1	264.6	235.9	271.2	229.3	226.9	242.5	239.1	189.6
Greece	231.5	238.5	187.9	243.0	223.7	259.6	282.4	291.4	266.1
Italy	59.0	53.8	59.5	59.0	59.5	66.8	52.7	43.1	36.6
Turkey	498.0	454.9	513.0	418.5	429.5	375.9	356.0	404.2	463.0
Soviet Union	618.4	665.8	835.5	804.7	793.7	820.1	698.9	643.7	524.7
Other countries	344.1	108.6	145.2	327.2	363.3	308.4	309.1	267.7	240.9
Total 2/	2,011.1	1,786.2	1,977.0	2,123.6	2,099.0	2,057.7	1,941.6	1,889.2	1,720.9

1/ Farm sales weight. 2/ Total includes data for countries not listed.

Source: U.S. Department of Agriculture, Foreign Agricultural Service.

The Leaf Trade Environment

The current world tobacco trade environment is a product of a number of public policy forces common to other agricultural products and unique characteristics of the tobacco industry. Between 20 and 25 percent of the world's unmanufactured tobacco moves into international trade each year. For many countries including the United States, tobacco is an important item in the trade balance. It is a particularly significant foreign-exchange earner for a number of low-income countries such as India, Brazil, the Philippines, Malawi, Zimbabwe, and South Korea.

Because of tobacco's importance, there is considerable government intervention in leaf production as well as in trading, manufacturing, and distributing tobacco products. In many countries, including the United States, tobacco production is regulated. Exports are encouraged through bilateral trading agreements, trade on concessional terms, export premiums, or export subsidies. Imports are subject to various government measures such as tariffs, licenses, foreign exchange requirements, import quotas, mixing regulations, restricted product lists, prior deposits, and other restrictions. Tobacco and tobacco products are used throughout the world as a major source of fiscal revenue. In many countries, tariffs and taxes represent more than one-half the retail selling price of tobacco products.

Tobacco is not a homogeneous product. Natural soil and climatic conditions together with cultivating, curing, redrying, fermenting, and aging practices combine to produce a variety of kinds and qualities of leaf. The differences in type and quality and the suitability of leaf for manufacturing various products are reflected in a complex system of price differentials. The wide variation in leaf qualities has precluded calculation of a single world tobacco price. Within the United States alone, flue-cured grade price averages ranged from $1.25 to $1.83 per pound and burley grade price averages ranged from 80 cents to $1.63 per pound in 1988.

Although there is a shift toward the American blend cigarette that often requires high-quality flue-cured and burley tobacco, other changes are having an opposite effect. New technologies are not only lowering leaf requirements per cigarette but also the proportion of high-quality leaf needed. Leaf-conserving technologies have increased filling capacity (the quantity of leaf needed per cigarette) and other technologies permit the use of the entire leaf. These developments tend to weaken quality premiums in world trade and affect how much of a price premium suppliers such as the United States can command in world tobacco markets.

Major Tobacco Exporters

The United States is the world's major tobacco exporter because of its climate and tobacco growing expertise (fig. 2). U.S. exports of unmanufactured tobacco and tobacco products were valued at $4.15 billion in 1988. Imports were valued at $643 million, leaving a record trade balance of $3.5 billion. However, U.S. performance has varied over time.

Exports of U.S. leaf rose 18 percent from 1950-54 to 1982-86, but fell during much of the last decade while those of Brazil, Zimbabwe, Italy, and Malawi all rose (table 7). Relative prices heavily influenced the U.S. export decline. U.S. tobacco grower prices during the early 1980's were somewhat higher than those of the major competing countries of India, Canada, Thailand,

Figure 2

World tobacco exports from selected countries

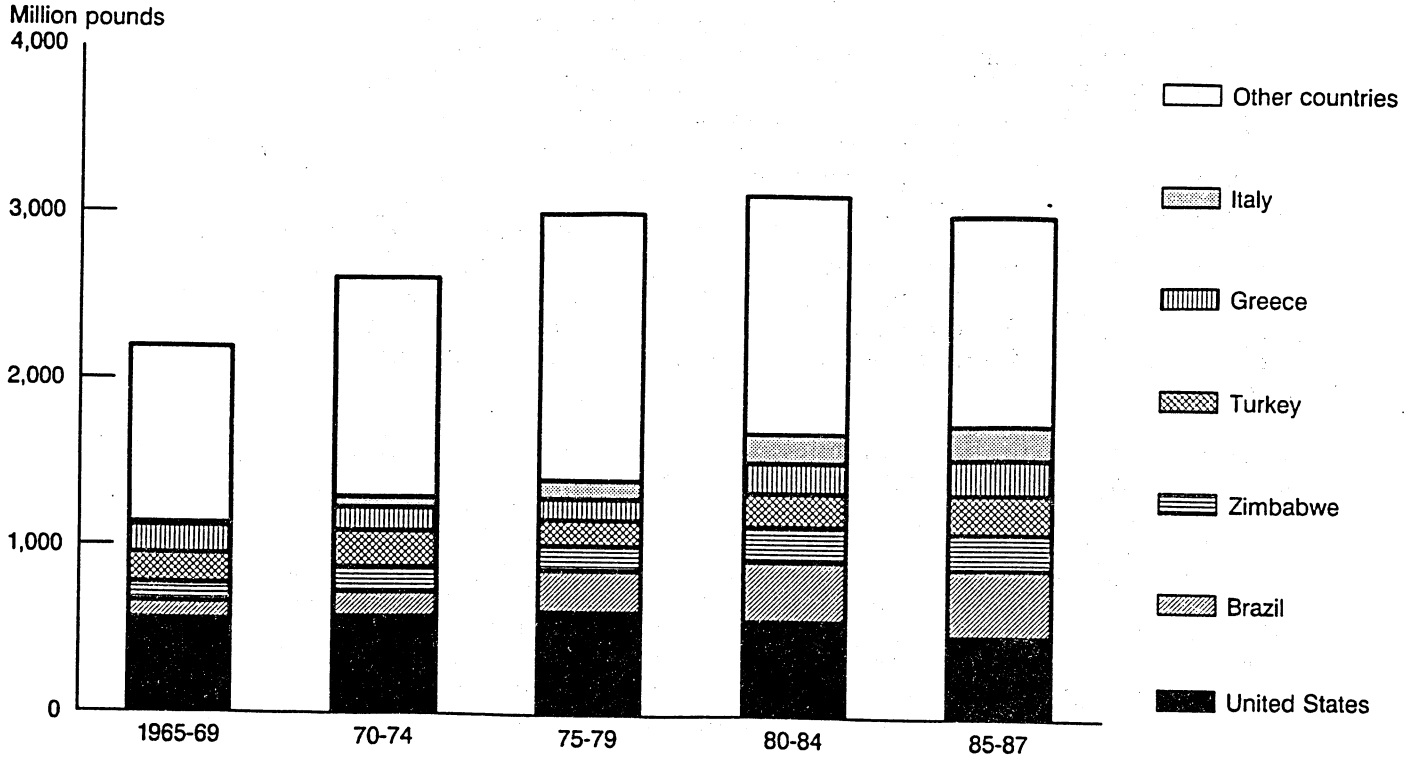


Table 7--World tobacco exports from selected countries, 1965-87

Country	1965-69 average	1970-74 average	1975-79 average	1980	1981	1982	1983	1984	1985	1986	1987 1/
						Million pounds					
United States	557.9	579.2	615.4	602.9	586.7	574.7	527.8	542.7	549.0	477.5	430.0
Brazil	103.2	149.0	249.4	315.9	327.1	366.0	389.8	412.3	440.9	388.0	382.1
Greece	165.8	137.6	125.7	155.8	191.8	160.9	180.5	217.9	190.6	195.3	247.9
Italy	14.5	63.4	112.1	102.4	167.1	213.6	176.5	213.4	184.2	199.6	226.1
Bulgaria	160.1	141.7	151.9	154.8	142.7	132.3	134.0	135.6	136.7	135.7	122.6
Malawi	40.9	58.4	85.8	140.6	90.2	100.4	94.2	126.9	135.2	126.9	139.3
Zimbabwe	113.6	148.1	147.7	218.2	257.0	178.0	205.4	191.1	217.4	198.5	218.9
India	114.6	152.8	162.4	161.3	231.2	215.8	184.1	177.9	142.1	136.2	117.1
Turkey	175.4	219.7	154.1	184.6	288.7	231.3	153.3	153.6	226.5	180.7	234.2
Thailand	18.3	32.6	60.1	86.1	80.6	83.4	78.4	78.3	72.5	66.8	59.4
China	38.0	54.8	52.2	22.0	22.0	110.2	60.4	54.4	42.4	38.1	41.9
Philippines	72.1	83.9	62.8	44.9	61.8	58.8	45.4	46.9	39.7	42.0	33.5
Subtotal	1,574.5	1,821.2	1,979.6	2,189.5	2,447.0	2,425.5	2,229.8	2,351.0	2,377.2	2,185.3	2,253.0
Other countries 2/	616.0	787.6	1,019.4	805.6	818.0	787.8	788.6	752.3	705.7	738.6	746.3
World total	2,190.5	2,608.8	2,999.0	2,995.1	3,265.0	3,213.3	3,018.4	3,103.3	3,082.9	2,923.9	2,999.3
						Percent					
U.S. share of world exports	25	22	21	20	18	18	17	18	18	16	14

1/ Preliminary. 2/ Data includes estimates for countries not listed.

Source: U.S. Department of Agriculture, Foreign Agricultural Service.

Malawi, Brazil, Zimbabwe, and Korea (tables 8 and 9). U.S. prices during the early 1960's were about 60 percent higher than grower prices in these foreign countries. Currency devaluations by major competitors and a strong U.S. dollar during the early 1980's also contributed to greater differences in prices for U.S. and foreign-grown tobacco. However, U.S. prices have been lower and the dollar weaker in recent years which is helping the U.S. competitive position. Still, U.S. prices are higher than those of major competitors and previous agreements and/or preferences for tobacco from particular countries are slow to change.

These fluctuations notwithstanding, exports have accounted for 45-55 percent of total U.S. flue-cured use and 15-25 percent of U.S. burley use during the last 10 years (table 10). Although these shares rose from the 1960's, total disappearance of both flue-cured and burley declined for several years before rebounding in 1987/88.

Brazil and Zimbabwe have expanded production of flue-cured tobacco and are boosting exports. Product quality is improving, and prices are lower than in the United States. Malawi and Italy have also boosted production and exports of burley tobacco, which are also priced lower than U.S. burley.

Table 8--Flue-cured tobacco: Estimated average grower prices, 1982-87

Country	1982	1983	1984	1985	1986	1987
			Dollars per pound 1/			
Canada	1.32	1.33	1.17	1.25	1.32	1.32
Mexico	.47	.34	.40	.41	.24	.28
United States	1.79	1.78	1.81	1.72	1.53	1.59
Argentina 2/	1.39	.90	.95	1.02	1.00	.84
Brazil	.49	.30	.24	.14	.15	.44
West Germany	1.60	1.46	1.32	1.41	1.86	2.27
Italy 3/	1.32	1.19	1.34	1.03	1.38	1.61
Yugoslavia	1.43	.97	.78	.54	.31	NA
Malawi	1.08	.97	.73	.64	.74	.69
South Africa	2.00	2.13	1.76	1.24	1.31	1.78
Rep. of Tanzania	.61	.73	.74	1.02	.54	.28
Zimbabwe	.98	.87	.77	.76	.85	.59
Taiwan	1.22	1.29	1.38	1.41	1.41	1.86
India	.63	.40	.41	.37	.45	.29
Indonesia	1.08	.60	.70	.87	.80	.28
Japan	3.11	3.30	3.35	3.35	4.74	5.24
Korea, Republic of	1.66	1.57	1.26	1.22	1.27	1.54
Pakistan	.46	.36	.39	.34	.32	.31
Philippines	.60	.49	.35	.38	.34	.39
Thailand	.79	.66	.64	.63	.75	.74
Australia	2.05	1.91	1.95	1.61	1.59	1.69
New Zealand	1.79	1.59	1.43	1.31	NA	NA

NA = Not available.

1/ Converted to U.S. dollars at the average annual conversion rates published by the International Monetary Fund in the monthly International Financial Statistics.
2/ Includes grower subsidy. 3/ Excludes grower subsidy.

Source: U.S. Department of Agriculture, Foreign Agricultural Service.

Table 9--Burley tobacco: Estimated average grower prices, 1982-87

Country	1982	1983	1984	1985	1986	1987
			Dollars per pound 1/			
Canada	1.16	1.19	0.96	NA	NA	1.02
Mexico	.61	.48	.43	.43	.30	.26
United States	1.81	1.77	1.88	1.59	1.57	1.56
Argentina 2/	1.27	.88	.93	.98	.95	.79
Brazil	.44	.27	.22	.13	NA	.43
Italy 3/	.99	.92	.78	.68	.94	1.19
Greece 3/	1.49	.93	.87	.69	.70	.79
Spain 4/	.48	.39	.61	.99	1.27	1.52
Yugoslavia	.88	.61	.49	.34	.20	NA
Malawi	1.09	.65	.55	.48	.72	.90
South Africa	1.85	1.82	1.42	1.14	1.04	.94
Japan	2.58	2.61	2.73	2.79	3.54	3.91
Korea, Republic of 5/	1.16	1.09	1.08	1.05	1.08	1.32
Pakistan	.49	.38	.36	.33	.32	.31
Syria	.96	1.27	1.27	1.27	1.73	2.19
Thailand	.55	.48	.40	.41	.43	.42

NA = Not available.

1/ Converted to U.S. dollars at the average annual conversion rates published by the International Monetary Fund in the monthly International Financial Statistics. 2/ Price includes subsidy where applicable. 3/ Excludes grower subsidy. 4/ 1982-83 fermented burley, 1984 nonfermented burley, 1985 and 1986 nonfermented burley (first grade). 5/ Price of grade 2 burley.

Source: U.S. Department of Agriculture, Foreign Agricultural Service.

All of these exporters face the same market expansion challenges ahead. Most tobacco trade analysts expect only modest growth in exports because of stagnant or declining cigarette consumption in major importing countries, reduced leaf use per cigarette, quotas and tariffs that discriminate against imported tobacco, and expanding importer production.

Major Tobacco Importers

From 1965-69 to 1983-87, the volume of world leaf imports increased by 38 percent, from an average of 2.2 billion pounds to over 3 billion pounds (table 7). Several factors contributed to this growth. Population and income grew rapidly in importing countries, particularly in developing countries. This fostered increased total demand for cigarettes and boosted demand for higher quality cigarettes even more during the 1960's and 1970's. However, total world consumption outside China has been steady in the 1980's, and trade has slowed the last few years.

During the last 10 years, the EC reduced total imports, while the United States, second only to the EC in size among importers, increased its import share. EC price policies have encouraged local production, while increased taxes on cigarettes have caused EC consumption to decline, thus lowering total tobacco use. Imports in Eastern Europe also declined during the last decade, with demand weak and production and stocks rising.

Table 10--U.S. tobacco acreage, yield, production, stocks, supply, disappearance, and price, 1950-88

Crop year 1/	Area planted	Yield per acre	Production	Stocks 1/	Supply	Disappearance 1/			Average price to growers
						Total	Domestic	Exports	
	1,000 acres	Pounds	Million pounds						Cents per pound
1950	1,599	1,269	2,030	3,089	5,119	1,975	1,452	523	51.7
1951	1,780	1,310	2,332	3,144	5,476	2,072	1,488	584	51.1
1952	1,772	1,273	2,256	3,404	5,660	2,055	1,557	498	49.9
1953	1,633	1,261	2,059	3,605	5,664	1,955	1,480	515	52.3
1954	1,668	1,346	2,244	3,669	5,912	1,935	1,419	516	51.1
1955	1,495	1,466	2,193	3,977	6,170	2,058	1,410	648	53.2
1956	1,364	1,596	2,176	4,112	6,288	1,929	1,373	556	53.7
1957	1,122	1,486	1,668	4,359	6,027	1,921	1,393	528	56.1
1958	1,078	1,611	1,738	4,106	5,843	1,923	1,388	535	59.9
1959	1,153	1,558	1,796	3,920	5,716	1,928	1,425	503	58.3
1960	1,142	1,703	1,944	3,789	5,733	2,029	1,462	567	60.9
1961	1,174	1,755	2,061	3,704	5,765	2,051	1,461	590	63.8
1962	1,224	1,891	2,315	3,714	6,029	2,004	1,474	530	58.9
1963	1,176	1,994	2,344	4,025	6,369	2,046	1,437	609	57.7
1964	1,078	2,067	2,228	4,323	6,551	2,055	1,506	549	59.2
1965	997	1,898	1,855	4,496	6,351	2,000	1,462	538	65.1
1966	972	1,939	1,885	4,351	6,236	2,098	1,392	704	66.5
1967	960	2,050	1,968	4,140	6,108	2,020	1,372	648	66.8
1968	879	1,945	1,710	2/ 4,088	5,798	1,975	1,352	623	69.5
1969	918	1,964	1,803	3,823	5,626	1,949	1,308	640	71.8
1970	898	2,122	1,906	3,678	5,584	1,919	1,278	639	72.9
1971	839	2,034	1,705	2/ 3,667	5,372	1,883	1,312	571	78.6
1972	842	2,076	1,749	2/ 3,488	5,237	1,951	1,312	639	83.0
1973	889	1,963	1,746	2/ 3,289	5,035	2,081	1,348	732	90.0
1974	963	2,067	1,994	2/ 2,948	4,942	1,937	1,284	653	108.6
1975	1,083	2,015	2,182	2/ 3,003	5,185	1,941	1,286	655	102.6
1976	1,045	2,045	2,136	3,297	5,433	1,907	1,229	678	112.5
1977	958	1,997	1,913	2/ 3,540	5,452	1,895	1,202	693	118.6
1978	948	2,135	2,054	2/ 3,560	5,584	1,955	1,190	765	132.4
1979	827	1,845	1,527	2/ 3,601	5,128	1,869	1,175	694	141.1
1980	921	1,940	1,786	3,259	5,045	1,759	1,109	649	152.3
1981	976	2,114	2,064	2/ 3,286	5,350	1,762	1,065	697	170.6
1982	913	2,185	1,994	2/ 3,588	5,582	1,662	1,034	628	176.4
1983	789	1,811	1,429	3,920	5,349	1,532	936	596	174.6
1984	792	2,183	1,728	3,817	5,545	1,621	955	666	180.6
1985	688	2,197	1,512	2/ 3,924	5,436	1,620	1,000	620	164.5
1986	582	2,001	1,164	2/ 3,815	4,978	1,572	981	591	152.2
1987	587	2,028	1,191	2/ 3,406	4,597	1,689	1,117	572	157.1
1988 3/	634	2,160	1,370	2/ 2,908	4,278	4/ 1,606	4/ 1,049	4/ 557	164.6

1/ Year beginning July 1 for flue-cured and cigar wrapper, and October 1 for all other types. 2/ Includes tobacco carried over on farms. 3/ Preliminary. 4/ Estimated.

Japan reduced its tobacco imports until recently. Much of the leaf that Japan imports is high-quality leaf blended with less flavorful domestic leaf. Denmark, Italy, and the Philippines consistently import more than a third of their tobacco supply from the United States. Japan consistently obtains more than one-half its imports from the United States.

The United States has imported Turkish or Oriental tobaccos for many decades. However, imports of flue-cured and burley tobacco have risen rapidly since the late 1960's (table 11). Flue-cured imports rose steadily during 1970-79 (July-June import years), fluctuated in the early 1980's, and rose each year from 1984-85 to 1987-88 before falling in 1988-89. Prices of U.S. flue-cured tobacco that exceeded those of foreign-grown largely caused the growth in flue-cured imports.

On a farm-sales weight basis, U.S. imports of burley tobacco grew steadily during 1970-80, rising from about 3 million pounds (around 1 percent of U.S. domestic use) to 137 million pounds by 1980-81. Imports fluctuated in the early 1980's but then reached a new high of 164 million pounds (29 percent of total burley use) in 1984-85, before falling to 120 million pounds in 1986-87 but rising to 162 million pounds in 1987-88, before again falling to 118 million pounds in 1988-89. The growth in burley imports was related in part to the decline in U.S. stocks held under loan in the 1980's and in part to the rise in the level of U.S. support prices.

Table 11--Estimated U.S. domestic use and imports of flue-cured and burley tobacco, 1969-88

Year beginning July 1	Flue-cured				Burley			
	Imports 1/	Domestic disappearance	Total Use	Import's share of total use	Imports 1/	Domestic disappearance 2/	Total Use	Import's share of total use
	--Million pounds 3/--			Percent	--Million pounds 3/--			Percent
1969	5.7	645.9	651.6	0.9	3.3	507.1	510.4	0.6
1970	10.6	640.1	650.7	1.6	3.2	503.0	506.2	.6
1971	11.2	662.5	673.7	1.7	4.6	515.2	519.8	.9
1972	12.7	664.2	676.9	1.9	8.9	534.5	543.4	1.6
1973	20.4	703.4	723.8	2.8	30.7	533.1	563.8	5.4
1974	23.1	652.3	675.4	3.4	47.7	518.8	566.5	8.4
1975	24.4	670.6	695.0	3.5	46.7	510.1	556.8	8.4
1976	30.8	634.0	644.8	4.6	37.9	489.6	527.5	7.2
1977	55.0	608.2	663.2	8.3	85.4	594.8	580.2	14.7
1978	60.1	584.1	644.2	9.3	89.1	502.8	591.9	15.1
1979	84.8	563.1	647.9	13.1	113.6	498.5	612.1	18.6
1980	72.7	529.4	602.1	11.7	136.9	477.6	614.5	22.3
1981	63.3	488.8	552.1	11.5	109.7	463.9	573.6	19.1
1982	103.1	478.5	581.6	17.7	141.3	444.1	585.4	24.1
1983	4/ 94.4	441.6	536.0	17.6	4/ 135.0	388.7	523.7	25.8
1984	4/ 120.1	454.2	574.3	20.9	4/ 163.8	402.6	566.4	28.9
1985	5/ 151.0	476.5	627.5	24.1	5/ 137.8	425.0	562.8	24.5
1986	5/ 176.6	479.6	656.2	26.9	5/ 120.4	401.8	522.2	23.1
1987	5/ 209.7	537.3	747.0	28.1	5/ 162.4	478.2	640.6	25.4
1988	5/ 146.5	522.1	668.6	21.9	5/ 117.9	6/ 435.0	522.9	21.3

1/ Imports for consumption (duty paid) of leaf, scrap, and manufactured or unmanufactured prorated according to reported stocks of imported flue-cured and burley (beginning 1980). 2/ Marketing year beginning October 1. 3/ Farm sales weight. 4/ General imports adjusted for change in stocks. 5/ Volume inspected by USDA's Agricultural Marketing Service, adjusted for change in stocks. 6/ Estimated.

Increased imports of burley and flue-cured tobacco create a dilemma for the U.S. tobacco industry. Import quotas under Section 22 of the Agricultural Adjustment Act of 1933 do not apply to tobacco and tariff rates vary, depending on the form of tobacco entering the United States, but are generally low. The buyout of existing loan stocks and reduced support levels under the Reconciliation Act of 1985 worked to lower U.S. leaf prices and increase supply available for manufacture. As a result, more U.S. tobacco is expected to be used but imports of flue-cured and burley are likely to continue even with lower U.S. prices because some countries offer even lower priced flue-cured and burley.

Import controls can be implemented under Section 22, as amended, if ".... any article or articles are being or are practically certain to be imported into the United States under such conditions and in such quantities as to render ineffective, or materially interfere with, any loan, purchase, or other program or operation undertaken by the Department of Agriculture ...." USDA requested that the International Trade Commission (ITC) conduct a Section 22 review of tobacco in 1981 and again in 1984. Imports of flue-cured tobacco increased substantially in the late 1970's, and USDA initiated Section 22 action for flue-cured quotas in January 1981. But imports of flue-cured and several other types continued to rise, so an investigation was initiated in September 1984 on whether flue-, fire-, and dark air-cured and burley tobaccos are imported under such conditions that render ineffective or materially interfere with USDA programs. In both instances, the ITC found that tobacco imports did not materially interfere with the tobacco price support program and that a basis did not exist for imposing import restrictions under Section 22.

World Cigarette Production and Trade

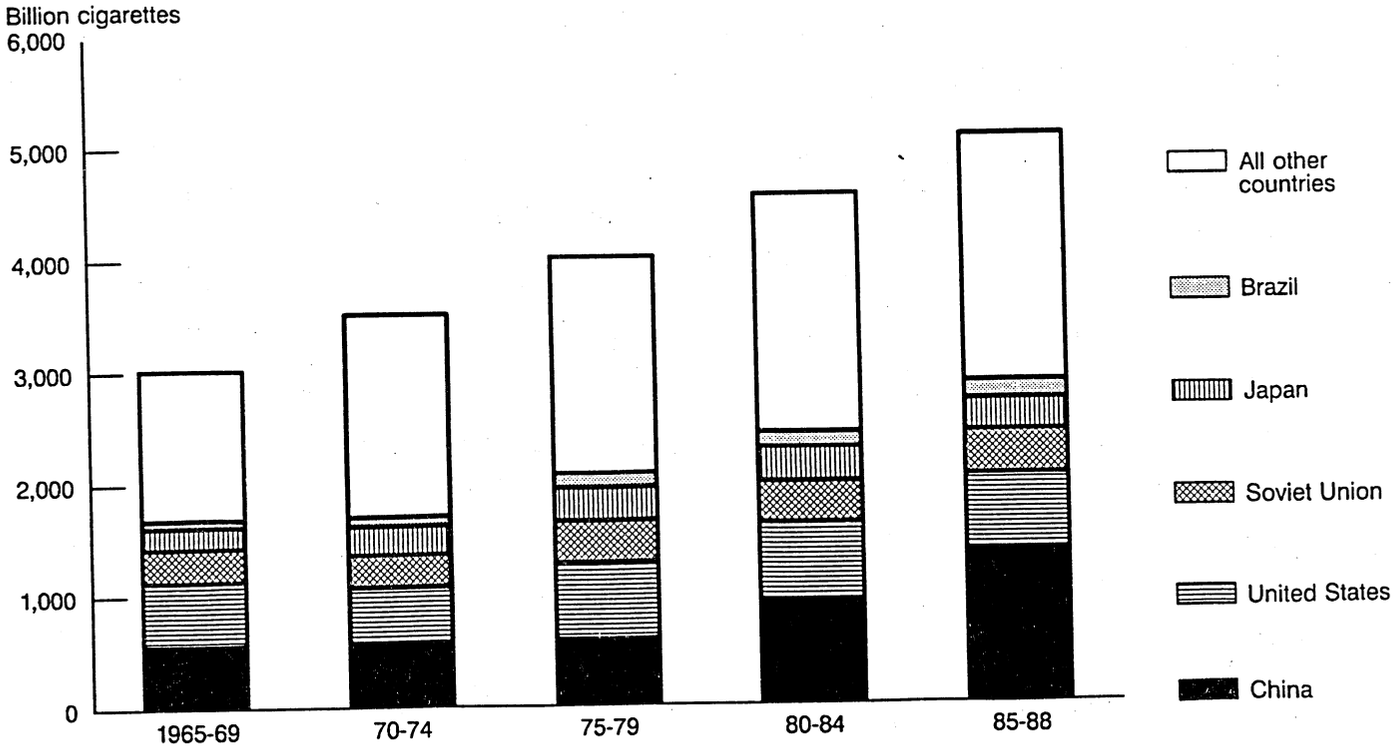
World cigarette production has exceeded 4 trillion pieces in the last 10 years and exceeded 5 trillion for the first time in 1987 (fig. 3). An annual growth rate of about 2.5 percent has prevailed since the 1960's (table 12). China, the United States, and the Soviet Union are the leading cigarette producers, with the United States producing about 13 percent of the total.

Production and consumption of cigarettes is increasing in China, the Soviet Union, and West Germany. However, cigarette consumption is declining in several countries, including the United States, Canada, and the United Kingdom. Reductions in consumption stem from health concerns, antismoking activity, restrictions on where people can smoke, and increased prices due in part to increased excise taxes.

The growth in world cigarette production and consumption is at least partially the result of a shift away from other tobacco uses such as chewing, cigars, pipes, and snuff. Parallel with the growth in overall demand for cigarettes is growth in demand for the American blend type of cigarette at the expense of stronger unblended cigarettes. Furthermore, there has also been a shift to low-tar, low-nicotine cigarettes as health concerns have grown, particularly in developed countries.

Figure 3

Cigarette production in selected countries



Despite the growing consumption of cigarettes, tobacco use has not grown a like amount. Leaf use is declining, principally because of (1) the rising proportion of filter-tipped cigarettes and (2) the introduction of leaf-saving techniques in the manufacture of tobacco products. Most filter-tip brands have a shorter column than nonfilter brands and there has been a tendency to lengthen the filter and reduce the circumference of the cigarette columns, thus leading to reduced leaf requirements. Technological developments, particularly use of tobacco sheet (homogenized tobacco) in cigarette blends, has also had significant effects on leaf requirements.

In manufacturing tobacco sheet, the entire leaf is ground into a fine powder, mixed with a cohesive agent, and rolled into a flat sheet of uniform thickness and quality. The moisture is controlled throughout the various stages of production. The finished material has the taste and aroma of natural leaf and a consistent burning quality.

An illustration of growth in filter-tipped production can be shown by comparing 1970 and 1987 data. In 1970, fewer than 20 countries produced more than 80 percent of the world's filter-tipped cigarettes. By 1987, 50 countries were producing about 80 percent of all filter-tipped cigarettes. In 1987, 95 percent or more of total production in West Germany, Japan, and the United States was filter-tipped.

Table 12--Cigarette production in selected countries, 1965-88

Country	1965-69 average	1970-74 average	1975-79 average	1980-84 average	1985	1986	1987	1988
				Billion cigarettes				
United States	567.5	497.0	682.2	696.1	665.3	658.0	689.4	694.5
China	554.6	575.0	593.6	920.9	1,178.0	1,296.5	1,440.6	1,525.0
West Germany	110.0	131.4	146.2	158.4	165.6	169.0	162.9	162.1
United Kingdom	133.9	150.2	155.9	144.4	124.0	112.0	114.5	114.0
Soviet Union	298.0	290.0	372.4	366.0	380.0	385.0	390.0	392.5
Japan	189.6	253.0	298.3	306.2	303.0	295.5	273.7	267.6
Brazil	65.5	83.8	127.1	133.4	146.3	168.9	161.4	157.9
Italy	62.3	67.6	71.2	78.0	78.7	75.6	70.3	66.5
Bulgaria	39.8	65.2	76.3	78.2	92.2	90.0	90.3	88.3
Subtotal	2,021.3	2,113.2	2,523.2	2,880.7	3,133.1	3,250.5	3,393.1	3,468.1
Other countries	991.9	1,395.3	1,481.7	1,667.6	1,728.2	1,740.4	1,746.3	1,802.4
World total 2/	3,013.2	3,508.5	4,005.0	4,548.3	4,861.3	4,990.9	5,139.4	5,270.5
				Percent				
U.S. share of world production	19	14	17	15	14	13	13	13

1/ Preliminary. 2/ Total includes data for countries not listed.

Source: U.S. Department of Agriculture, Foreign Agricultural Service.

Concerns about the potential harmful effects of smoking are growing. In the United States, Canada, and a number of European countries, taxes have been raised, antismoking campaigns implemented and/or strengthened, and a greater number of increasingly stringent restrictions imposed on smoking. These efforts are likely to continue to hold down consumption and may become more prevalent throughout the world.

About 8 percent of world cigarette production is exported (table 13). In 1987, the United States became the world's leading cigarette exporter because of a 56-percent jump in exports to 100 billion pieces. The United States produces high-quality cigarettes that are becoming increasingly popular in countries where incomes are rising. Other leading cigarette exporters are Bulgaria, West Germany, the Netherlands, and the United Kingdom (fig. 4). The Netherlands, Bulgaria, and Hong Kong are increasing cigarette exports, while the United Kingdom has reduced its exports the last 2 years. U.S. cigarette exports rose further to 118 billion units or 26 percent of the total of all cigarette exports in 1988.

The big jump in U.S. cigarette exports the last 2 years is primarily the result of the reduction of barriers to cigarette imports in Turkey and several Far Eastern markets. This should further boost exports of U.S. cigarettes to Turkey, Japan,

Table 13--Cigarette exports from selected countries, 1965-88

Country	1965-69 average	1970-74 average	1975-79 average	1980-84 average	1985	1986	1987	1988 1/
				Billion cigarettes				
United States	24.3	36.8	66.4	71.1	58.9	64.3	100.2	118.5
Hong Kong	2.8	2.8	2.2	6.7	17.1	17.2	24.9	38.9
Belgium	3.6	4.8	10.1	12.6	15.0	15.3	16.4	14.1
West Germany	6.0	7.7	23.9	39.0	47.8	53.6	45.5	47.1
Netherlands	2.7	9.7	16.8	34.8	46.0	47.7	50.8	59.0
United Kingdom	13.3	19.2	28.1	42.2	39.4	29.9	31.6	34.4
Switzerland	6.0	11.5	12.9	11.1	7.0	7.9	8.5	8.5
Bulgaria	28.9	52.2	62.0	64.4	75.2	72.3	74.8	73.3
Yugoslavia	.5	.7	.9	6.5	2.2	1.3	.6	.6
Subtotal	88.1	145.4	223.3	288.4	308.6	309.5	353.3	394.4
Other countries	22.3	29.4	35.9	47.0	47.2	53.9	52.8	62.3
World total 2/	110.4	174.8	259.2	335.4	355.8	363.4	406.1	456.7
				Percent				
U.S. share of world exports	22	21	26	21	17	18	25	26

1/ Preliminary. 2/ Total includes data for countries not listed.

Source: U.S. Department of Agriculture, Foreign Agricultural Service.

Taiwan, and South Korea. Other countries are also shipping more cigarettes to these countries, but the United States is gaining most because of the popularity of the American blend cigarette.

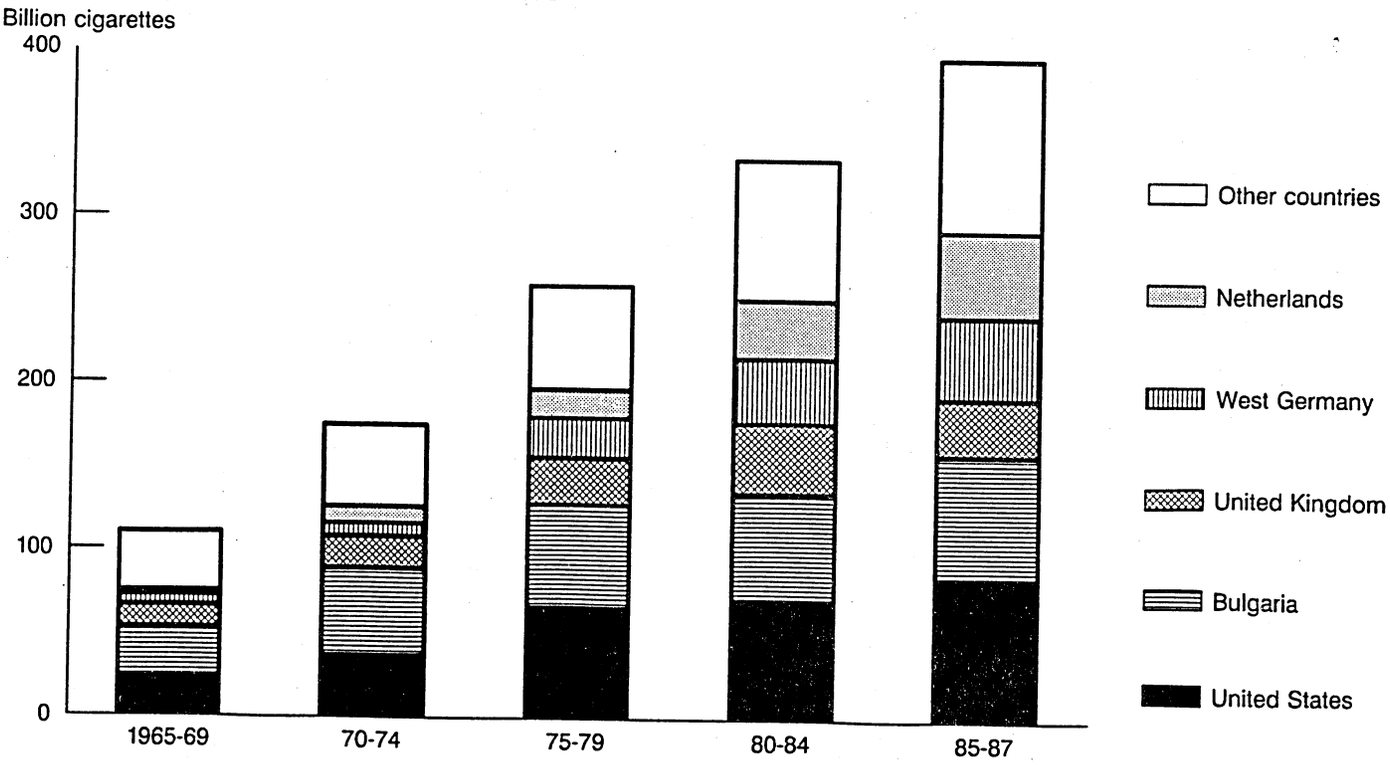
Japanese cigarette imports rose 158 percent in 1987 and now constitute 10 percent of the domestic market. Domestic production of cigarettes fell a corresponding 10 percent. The United States shipped 94 percent of the foreign cigarettes to Japan in 1987. These increased cigarette imports have resulted from a Section 301 tobacco settlement case with Japan. 1/ Resulting new domestic legislation has liberalized fixed pricing restrictions, distribution impediments, and import tariffs. U.S. manufacturers reduced prices to competitive levels with domestically produced cigarettes. Japan Tobacco Incorporated (JTI) has decided against competing directly with foreign manufacturers on a price basis and has chosen instead to improve its cigarette quality and rely on consumer brand loyalty. This could result in greater utilization of U.S. leaf.

Imported cigarettes rose sharply in Taiwan in 1987. Imports in 1987 constituted 17 percent of the market compared with 2 percent a year earlier. Increased consumption of imported cigarettes (75

1/ Under Section 301 of the Trade Act of 1974, the President can authorize retaliatory measures against countries engaged in trade practices detrimental to U.S. interests.

Figure 4

Cigarette exports from selected countries



percent from the United States) is attributed to successful marketing strategies together with a higher quality cigarette than the domestic brands. In response to increased competition, the domestic tobacco monopoly has countered by improving the quality of its own product through use of more imported U.S. tobacco.

Sales of cigarettes to South Korea were liberalized in mid-1988. South Korea reduced taxes on imports by 58 percent. In addition, U.S. manufacturers are now permitted to advertise and market their brands at all retail outlets where Korean cigarettes are sold. In the past, sales of U.S. cigarettes in South Korea were severely restricted because of an outright sales ban (abolished in 1986), discriminatory taxes, high tariffs, quotas, and advertising and distribution impediments. Sales of U.S. cigarettes are expected to increase sharply and further buoy U.S. cigarette exports.

Policies and Programs of Major Tobacco Countries

Underpinning the world market for leaf tobacco and products is a myriad of different, often conflicting, country programs. Moreover, conflicting goals within countries as policymakers pursue different agricultural support, trade, budget, revenue, and health goals can add to the complexity of the market. Key country programs are summarized here (table 14).

Table 14--Types of domestic support and trade programs and key countries where they apply 1/

Support programs	Trade programs	
Price supports:	Tariff barriers:	Mixing regulations or import quotas:
United States	United States	Australia
European Community	European Community	Brazil
Japan	Brazil	China
Taiwan	South Korea	Czechoslavkia
South Korea	Zimbabwe	Finland
Brazil	Canada	Honduras
India	Australia	India
Zimbabwe	Argentina	Kenya
Argentina	Bulgaria	Malawi
Mexico	China	Philippines
	Czechoslovakia	Poland
Marketing restrictions:	Dominican Republic	Romania
United States	Egypt	Senegal
European Community	Guatemala	South Africa
Japan	Honduras	Syria
Canada	Hungary	Tanzania
Australia	India	Zimbabwe
	Indonesia	
Input subsidies:	Jordan	Licensing:
Brazil	Malaysia	Argentina
India	Mexico	Equador
South Korea	New Zealand	Ethiopia
Canada	Pakistan	European Community
Indonesia	Philippines	Guatemala
	South Africa	Honduras
Export Subsidies:	Taiwan	India
European Community	Thailand	Indonesia
Canada	Turkey	Kenya
Turkey	Uruguay	Mexico
South Korea	USSR	Pakistan
	Venezuela	Paraguay
	Yugoslavia	South Africa
		Sudan
	Pesticide residue restrictions:	Thailand
	European Community	
	United States	

1/ List is not exhaustive.

Source: U.S. Department of Agriculture, Foreign Agricultural Service.

United States

The United States has a rather complex domestic producer support program but relatively simple trade programs for tobacco. Domestic supports center on a combination of price supports and marketing quotas and/or acreage allotments in effect for about 97 percent of the tobacco grown in the United States. Legislation provides that price support can be made available only if grower referendums have approved marketing quotas. Growers usually approve quotas by overwhelming majorities in elections held every 3 years.

Flue-cured tobacco, which accounts for about 58 percent of U.S. production has acreage-poundage marketing quotas. Under this program, farm quotas are established in both acres and pounds. Compliance with the acreage allotment determines eligibility for price support, but price support stops after marketings reach 103 percent of the farm's poundage quota.

Tobacco quota rights are transferable. They are transferable through rental, leasing, and sales generally within county boundaries. Leasing is generally permitted for burley within counties but not for flue-cured except under disaster conditions. Sales of quota are permitted for flue-cured and several minor kinds but not for burley. Prices for obtaining the right to grow and market tobacco vary from county to county depending on the supply and demand for quota.

If marketings of flue-cured from a farm in any year are less than the farm's poundage quota, the difference (up to 100 percent) is added to the farm's quota (both acres and pounds) for the following year. Any marketings in excess of a farm's poundage quota are deducted from that farm's quota for the following year, and any marketings in excess of 103 percent of the farm's poundage quota are subject to a penalty equal to 75 percent of the average market price in the preceding year.

Burley tobacco, accounting for about 35 percent of U.S. production, operates solely with farm poundage quotas. This program operates the same as the flue-cured program except that there are no acreage allotments and all marketings up to 103 percent of a farm's poundage quota are eligible for price support.

Marketing quotas for other kinds of tobacco under quota operate on an acreage basis. Farmers who comply with their acreage allotment can market all they produce without penalty and are eligible for price support (table 15).

Table 15--Tobacco price support and production control parameters, by types, United States, 1988 and 1989

Type of tobacco	Quota or allotment 1/		Price support		Loan stocks	
	1988	1989	1988	1989	1988 2/	1989 2/
	--Acres--		--Cents per pound--		--Million pounds--	
Flue-cured, 11-14	1/ 811.8	1/ 900.4	144.2	146.8	487.6	353.6
Burley, 31	1/ 559.0	1/ 671.0	150.0	153.2	292.6	233.5
Maryland, 32	NA	NA	NA	NA	NA	NA
Virginia, 21	5,588	4,838	117.1	119.1	3/ 1.8	3/ 1.9
Kentucky-Tennessee, 22-23	11,890	14,319	121.3	122.6	30.6	14.7
Kentucky-Tennessee, 35-36	4,006	4,392	103.2	104.4	21.9	12.3
Virginia, 37	595	401	103.4	105.2	NA	NA
Puerto Rico, 46	NA	NA	73.1	4/ 74.0	4.2	3.1
Connecticut Valley, 51-52	NA	NA	NA	NA	3.2	3.1
Ohio 42-44 and Wisconsin 54-55	8,296	11,095	89.5	90.9	18.6	2.9
Connecticut, 61	NA	NA	NA	NA	NA	NA

NA = Not applicable.
1/ Effective quota in pounds. Acreage allotments also apply for flue-cured. Flue-cured allotments totaled 379,588 acres in 1988 and 426,485 in 1989. 2/ As of the end of May 1989.
3/ Includes some Virgina sun-cured, type 37. 4/ Preliminary estimate.

Source: U.S. Department of Agriculture, Agricultural Stabilization and Conservation Service.

The price support program for tobacco is operated through 11 producer associations under contracts with the Commodity Credit Corporation (CCC). Under these contracts, producers who are unable to sell their tobacco for at least as much as the price support rate may deliver it to their association. The association pledges the tobacco as collateral and borrows funds from the CCC to pay the producers the support price and to cover the costs of processing, storing, and selling the tobacco. The entire amount loaned to an association on all the tobacco produced in a single crop year becomes a single CCC loan. The loans are nonrecourse (farmers can forfeit without penalty the loan collateral--the tobacco--to the Government as settlement on the loan); however, beginning in 1982 with passage of the No-Net-Cost Act (except for the 1983 burley crop) all principal, interest, and other costs must be covered by proceeds from CCC sales of tobacco, with any outstanding cost made up by assessments from growers and purchasers. Several years are usually required to completely dispose of a year's tobacco crop. The loan remains outstanding as long as any of the crop remains unsold but is reduced as each sale is made.

Each year the average loan rate for each kind of tobacco is set by USDA's Agricultural Stabilization and Conservation Service. For flue-cured and burley, the price support is the level for the previous year adjusted by changes in a 5-year moving average of market prices (two-thirds weight) and changes in the tobacco cost of production index (one-third weight). For other kinds, price supports are set by adjusting the 1959 price support by the ratio of the average prices paid by farmers during the most recent 3 calendar years to the 1959 average of prices paid. The loan rate for each grade, necessary to provide the required support for all grades collectively, is specified by the CCC in its contracts with the 11 producer associations. Most tobacco is marketed by auction, and the loan rate on each of many grades becomes a preestablished bid by the association on each pile of tobacco offered. If commercial bids on any lot of tobacco are not higher, the association becomes the buyer at the loan rate. When the tobacco received from any year's crop is sold for more than enough to repay the CCC loan with interest, net gains are applied to losses from other years.

For crops of tobacco grown since 1984, taxpayers absorb none of the losses incurred in operating the program. However, losses in operating the tobacco program have grown to over $800 million (about $500 million on principal and over $300 million in interest) since the inception of the program in the 1930's. A total of $373 million in losses was incurred for the 1983 burley crop alone. Further Treasury losses will be incurred for 1976-81 flue-cured crops but no costs except administrative costs of operating the program can be borne by taxpayers for crops grown after 1983.

The tobacco received under loan in any year has ranged from virtually none to nearly half the burley crop in 1983, with a wide but smaller range of loan-takings for flue-cured. Loans outstanding now amount to about $1.3 billion. Any losses on

outstanding loans of $1 billion must be absorbed by producers and purchasers, but any losses on outstanding loans of about $300 million of 1976-81 crops must be covered by the Treasury.

U.S. tobacco trade programs consist largely of import duties. However, the United States has relatively low import duties on tobacco. For example, the duty on Oriental tobacco is 11.5 cents per pound and 20 cents a pound for stemmed cigarette leaf. The duties have been lowered in concessions in previous GATT negotiations and represent around 10 percent of the sales price.

Furthermore, "drawback" provisions lower the net import duty even more. Drawback refers to a system under which tobacco manufacturers can apply for a refund of 99 percent of the import duty paid on foreign leaf if they export a similar quantity and kind of tobacco in either the leaf form or as manufactured tobacco products. The drawback provision has the potential to substantially reduce the "net" U.S. tobacco import duty. A precise figure is not available on the import duties that are refunded.

The United States requires that imported flue-cured and burley tobacco meet the same chemical residue requirements as that grown within the United States. There are no other licensing, health, or sanitary regulations for imported tobacco. The United States suspended its 5-cent-per-pound export payment (subsidy) in 1973. Since then, there has been no export subsidy for tobacco. However, tobacco is included in an export credit program that provides for a U.S. Government guarantee on commercial loans made to foreign buyers to purchase U.S. agricultural products.

The United States has no quota and few preferential trading arrangements (exceptions include Generalized Systems of Preference (GSP) treatment of some kinds of leaf and products and arrangements under the Caribbean Basin Initiative) with other countries. The only nontariff border restrictions are embargoes on tobacco originating in Cuba, North Korea, and Vietnam enforced as part of the general restrictions on trading with these countries.

European Economic Community

The EC has extensive production and trade programs in place (table 16). Tobacco is produced primarily in the southernmost countries of the EC: Italy, Greece, and Spain.

In the early 1970's, the EC Council issued a regulation establishing a common market organization for raw leaf tobacco. The principal features of the Common Agricultural Policy (CAP) for leaf tobacco are guaranteed prices to growers, buyers' premiums, export subsidies, and safeguards to protect the European market. Production controls are also implemented when needed.

Table 16--Summary of EC agricultural policies and their application to tobacco

Price and income support (covers 26 tobacco varieties):

Norm price--A price fixed each year for each variety of tobacco that would provide a "reasonable" profit to growers.

Intervention price--The lowest price growers can receive; set at 90 percent (85 percent prior to 1983) of the relevant norm price.

Derived intervention price (baled tobacco)--The intervention price for raw tobacco plus processing costs.

Premium--Payment to purchasers of leaf tobacco from EC growers. Provides an incentive for purchase of EC tobacco and aids growers.

Trade policy:

Imports--A Common Customs Tariff is applied to tobacco. A licensing system exists for most commodities in which the parties of the transaction must obtain a license. A deposit may also be required to ensure the transaction occurs during the license period. The tariff is imposed at the EC border and consists of an ad valorem rate and a minimum and maximum European Currency Unit (ECU) rate per 100 kilograms. In addition, preferential import arrangements exist for certain non-EC countries.

Exports--Export subsidies in the form of variable refunds are used. Producers receive the difference between the internal price and the selling price obtained on the world market.

Marketing policy, boards, and export promotion:

Investments--The EC meets 25 percent of the cost involving investments in improving processing facilities for a wide range of agricultural products including tobacco.

Producer groups--The EC encourages and supports formation of producer groups and associations.

Structural policy:

Structural policy programs include research, extension, and education. Expenditures to improve various aspects of agriculture include those for operating producer groups, agricultural development, and disease eradication.

Source: Unpublished materials from "A Brief Review of Agricultural Policies Affecting Tobacco in the Major Trading Nations" by Sean Cody, University of Tennessee.

Each year before spring planting, the EC Commission and the ministers of agriculture of member states decide on target prices for tobacco. Target prices take account of supply and demand for different varieties of tobacco. Under the CAP, EC officials study domestic EC prices, costs, inflation, and other factors to determine price levels to recommend to the ministers of agriculture. The ministers then decide on a standard or norm price. The norm price is the price needed for growers to obtain a reasonable profit. Norm prices are established for a reference grade for each variety and other grades are set at certain percentages of the norm price.

In addition to the norm price, a lower intervention price is also set. Growers usually contract with purchasers for sale of their tobacco at near norm prices. If an EC grower's tobacco meets a specified quality level and does not receive a bid that exceeds the intervention price, designated intervention agencies purchase the tobacco.

Buyers' premiums are also used to provide an advantage for EC tobacco. Buyers' premiums are a subsidy given to buyers of leaf tobacco to encourage the purchase of EC tobacco by keeping the price of local tobacco below the price of leaf from non-EC sources. The premium is designed to encourage EC buyers to pay the norm price. By providing a large discount to purchasers of EC tobacco, buyers' premiums make it virtually impossible for competitors to undersell EC growers.

Production controls can be imposed when certain conditions prevail, but are difficult to impose. Consequently, production in Italy and Greece has grown steadily despite efforts to control output. Large stocks of undesirable tobacco have accumulated and only recently have serious efforts been made to reduce stocks and improve quality.

In addition to providing price advantages to domestic tobacco, the EC CAP also provides for export subsidies to encourage exports of leaf. These are used to cover the difference between EC prices and world market prices and the quality discounts necessary to move EC leaf into world markets. The subsidies may vary by destination. The EC also imposes import duties on unmanufactured tobacco from countries without trading arrangements with the Community (those with arrangements include Turkey and the EC's African and Caribbean associates). The United States has obtained some concessions, particularly on the cigar wrapper leaf duty, but tariff and nontariff restrictions put the United States at a clear disadvantage in EC tobacco markets.

The EC grants duty-free treatment to tobacco imported from a number of countries. Imports from most developing countries enter duty free or at a substantially reduced duty. Most tobacco imported from developed countries also receives a reduced duty because of a concession granted the United States during the Tokyo round of GATT MTN's. The ad valorem equivalent of the duty on U.S. leaf entering the EC during 1986 was approximately 4

percent. Tobacco imports from Brazil, another major supplier, were about 7 percent.

In order to encourage the development of an EC-wide market for manufactured tobacco products, the EC intends to eventually move to a uniform internal tax system for cigarettes. Also, the EC Commission has proposed limiting tar content of cigarettes to less than 15 milligrams by 1992, and no more than 12 milligrams by 1995. The Commission has proposed standardized warning labels for all cigarettes sold in the EC.

Other constraints that affect entry of U.S. tobacco into the EC are health and sanitary regulations. West Germany has strict tolerance levels on tobacco containing certain pesticides and chemicals and Italy plans to adopt tolerance level's similar to those of West Germany. Eventually, the lower tolerance levels could become more widespread in the EC and further limit U.S. export prospects.

Brazil

Flue-cured and burley tobacco along with other kinds are grown in Brazil. The tobacco is grown on small farms under annual contracts with cigarette manufacturers or leaf tobacco export dealers. The manufacturers and dealers provide guidance and assistance on producing, curing, and grading during the entire production cycle. Consequently, purchasers have considerable control over the production and marketing processes and have emphasized improved quality. Quality gains in the 1980's in particular, together with competitive prices, have sharply increased Brazilian exports.

Brazil has no export subsidy for tobacco, but imports are essentially prohibited because tobacco leaf and products are on the Brazilian Government's prohibition list. Products on the list are not granted import licenses because they are produced in sufficient quantity in Brazil to meet domestic needs. Tobacco growers in Brazil receive no direct government subsidies. However, farmers can borrow money for agricultural purposes at reduced interest rates. Also, farmers are entitled to reduced energy charges.

Tobacco is the major cash crop among farmers in the main tobacco-producing areas of southern Brazil. There are no alternative crops that offer the income potential of tobacco to the small-scale farmers in the area. Although information available indicates that costs of producing tobacco in Brazil are among the lowest of tobacco exporting countries in the world, accurate cost figures are difficult to obtain because costs are shared by the grower and the company that contracts for the tobacco. Cash costs are also held down because much of the labor is family or swap labor. Moreover, input price discounts are received because of volume purchases by the companies that contract for leaf or grower cooperatives.

Argentina

Argentina is the second largest tobacco producer in South America. Flue-cured and burley production are increasing while production of dark kinds is declining.

Argentina's tobacco industry is heavily subsidized. About one-half the grower price is covered under the government price support program (i.e., the price is double the level it would be in a competitive market). Revenues for the program are generated from levies on cigarette sales.

Growth has been limited because leaf quality has been poor. Even the poorest quality tobacco has received profitable prices. However, in recent years greater efforts are being made to improve quality.

A 12-percent tax is levied on Argentine tobacco exports. Together with inferior quality, this tax has deterred shipments abroad.

With current high prices, tobacco is a very profitable crop for farmers in Argentina and potential cost reductions have not been achieved. The cost of producing tobacco in Argentina is about one-fourth below U.S. costs. Furthermore, costs can probably be reduced considerably.

Zimbabwe

Zimbabwe is the largest producer of tobacco in Africa. Tobacco is a major source of the country's foreign exchange since most of it is exported. It also provides employment to a large number of people. It is a high-value crop and no other crop can equal it as a source of farm income per acre.

The Zimbabwean Government provides no direct subsidies to tobacco producers. However, it is supportive of the industry in that income, tax, and other policies favor, or are at least not detrimental to, tobacco producers and the tobacco industry.

Production costs have traditionally been substantially below those of the United States, primarily because of lower labor costs. The cost of production advantage has narrowed in recent years. U.S. growers have adopted more labor-efficient harvesting systems and Zimbabwean costs are rising sharply. The landlocked nation is facing soaring costs for imported inputs, and the cost of transporting tobacco to ports is increasing. In 1989, production costs may have risen one-fifth from 1988 levels. Production inputs are in short supply and are causing prices of inputs such as tractors, fuel, and chemicals to escalate.

Rising production costs could slow the growth of the Zimbabwean industry. Despite trade sanctions imposed by the United Nations from 1966 to 1979 after Zimbabwe unilaterally declared independence (UDI) from the United Kingdom, production rose during the 1970's. However, stocks built as exports fell sharply. Foreign manufacturers obtained tobacco from other

sources during the sanction years and a full return to Zimbabwean tobacco has not occurred. The industry has struggled but is growing in the 1980's. Although its leaf quality is generally considered inferior to U.S. tobacco, Zimbabwe is a major competitor with the United States in world tobacco markets.

Malawi

Malawi is the second largest tobacco producer in Africa. Production has grown rapidly since sanctions were imposed against Zimbabwe in 1966 because Malawi offered low-cost substitutes. Malawi grows flue-cured, burley, fire-cured, sun air-cured, and Oriental tobacco. More than 50 percent of Malawi's foreign exchange is earned from tobacco exports.

Like Zimbabwe, Malawi is confronted with rising production costs that weaken its competitive position. Inputs such as chemicals, equipment, fuel, and fertilizer are largely imported. Restrictions on foreign exchange, the declining value of the Kwacha, and import levies have caused prices of some inputs to soar. However, the tremendous importance of tobacco as a source of foreign exchange makes availability of inputs for its production a top government priority. But the Government does not directly subsidize production.

Even though accurate production cost estimates are not available, costs are rising. Furthermore, there is a critical shortage of firewood for curing flue- and fire-cured tobacco. The profitability of growing tobacco in Malawi is declining, but it continues to be a major competitor with the United States in world markets.

Two-thirds of tobacco produced in Africa is grown in Malawi and Zimbabwe. The other one-third is grown in about 20 countries, none of which exports or imports any significant volume.

China

China produces over 30 percent of the world's tobacco. Chinese production is 3-1/2 times that of the United States, the next largest producer. China mostly produces flue-cured tobacco, but has begun to produce some burley tobacco. Production of dark air-cured and sun-cured tobacco is declining.

Nearly all of the tobacco produced in China is used domestically. China engages in very little leaf trade. Little tobacco is imported and little is exported. The United States continues to explore opportunities for tobacco trade with China and expanded trade could develop.

Production and marketing in China are controlled by a government monopoly, the China National Tobacco Corporation (CNTC). CNTC controls the industry from leaf production through cigarette manufacturing and sales. The CNTC is the sole buyer and sets marketing quotas, allocates inputs, and sets grading standards.

Production of tobacco continues to rise in China. Cigarette consumption is growing at a rate of 8-10 percent per year. Incomes have increased and the demand for higher quality cigarettes is growing. Even with growing cigarette consumption, however, China is not expected to become a major force in world tobacco trade. Chinese policy is likely to continue to focus on expanding domestic production and improving its quality to meet domestic needs with little near-term involvement in world trade. However, over a longer period, China with its lower costs of production could expand exports, especially if efforts to improve quality are successful.

India

India is the third largest producer of tobacco in the world. However, India produces a relatively low-quality tobacco for which demand has declined both at home and on the world market. The Indian government does not provide direct supports to tobacco growers. Indian tobacco is sold at auctions controlled by a Tobacco Board and the State Trading Corporation purchases higher grades of tobacco at minimum prices, but not lower grades.

Most exports of Indian tobacco go to the U.S.S.R. under bilateral trading agreements. There is no export subsidy but imports are generally prohibited.

Production costs are low but quality is poor. Consequently, India is not likely to compete much with the United States in world tobacco markets.

Japan

Japan imports more leaf tobacco and cigarettes from the United States than any other country in the world. Japanese imports from the United States rose steadily from the early 1960's to the late 1970's, but have declined in recent years. Much of the leaf that Japan imports is high-quality leaf blended with less flavorful domestic leaf. There are no restrictions on leaf imports. However, although not required, there is a tacit agreement that Japanese cigarette blends include 70 percent domestic leaf.

Japan grows flue-cured, burley, and native air-cured tobaccos. Japanese flue-cured is heavier bodied and somewhat less fragrant than U.S.-grown flue-cured. From 1904 to 1985, the manufacture and sale of tobacco in Japan was monopolized by the government as a state enterprise that generated considerable revenue. The cultivating, curing, importing, and exporting of tobacco was handled by private individuals or businesses under the direction of the Japanese Tobacco Corporation (JTC). Leaf redrying and storage plus the manufacture and wholesale distribution of tobacco products were direct functions of the monopoly.

In 1985, the industry was privatized and the JTC became Japanese Tobacco Incorporated (JTI). The Government still holds all the

stock but the organization is now managed more like a private industry. Over the years, Japanese producers have been guaranteed high prices for low-quality tobacco. Stocks have built because JTC/JTI was committed to purchase the entire crop. This was more low-quality domestic tobacco than was needed for the higher quality cigarette blends demanded. Consequently, production is now being held down to balance supply and demand.

As discussed earlier, barriers to importation of cigarettes into Japan were relaxed in 1987. U.S. cigarette imports have jumped and demand for better quality leaf for domestic cigarettes is rising. These developments are having negative effects on Japan's domestic production. Furthermore, cigarette consumption is declining in Japan because of hiked excise taxes, health concerns, and antismoking activities.

Taiwan

The tobacco industry in Taiwan is largely controlled by a state monopoly, the Taiwan Tobacco and Wine Monopoly Bureau (TTWMB). TTWMB's responsibilities include oversight of the industry from production to end use of tobacco products.

Most Taiwanese tobacco (exclusively flue-cured) is grown in the southern part of the country. Taiwanese tobacco growers and TTWMB have a longstanding interdependent relationship. In exchange for a stable tobacco supply, TTWMB is committed to buy all domestic production at agreed upon prices. The monopoly also provides expertise on planting and harvesting. Even though leaf production has declined in Taiwan, stocks have risen. Cigarette production has declined as imports have increased. Consequently, tobacco acreage is being reduced.

Taiwan is an increasingly important market for both U.S. cigarettes and leaf tobacco. Prior to 1987, high duties, quotas on cigarette imports, and a cumbersome and discriminatory retail distribution network restricted imported cigarettes to about 1 percent of domestic consumption. Under provisions of Section 301 of the Trade Act of 1974, negotiations with Taiwan resulted in substantially greater access to the Taiwanese cigarette market. In 1987 alone, U.S. cigarette shipments to Taiwan jumped 24-fold.

In addition to shipping more cigarettes to Taiwan, U.S. leaf shipments are also increasing. Taiwanese leaf is considered "filler" quality tobacco. Domestic tobacco is blended with higher quality imports to achieve desired flavor characteristics. To better compete with imported cigarettes, the TTWMB recently increased to 55 percent from 35 percent the portion of U.S. leaf in domestic cigarettes.

Shipments of both leaf and cigarettes to Taiwan are expected to rise further. U.S. cigarette imports may stabilize at around 20 percent of the market in 1990. Leaf shipments from the United States depend on the success of blends that use a high proportion of U.S.-grown tobacco.

Republic of Korea

The Republic of Korea grows flue-cured, burley, and sun-cured tobacco. Korea has suitable soils, climate, and rainfall for tobacco production together with ample supplies of hand labor required to grow the crop.

Historically, the Office of Monopoly controlled all aspects of Korea's tobacco business, including supervising domestic production, buying leaf from farmers, tobacco imports and exports, cigarette manufacture, distribution, and marketing. The Office of Monopoly was changed from a government agency to a quasi-government corporation and renamed the Korean Monopoly Corporation (KOMOCO) in 1987 but the business of the corporation remained virtually the same. Then in April 1989, KOMOCO was renamed the Korea Tobacco and Ginseng Corporation (KTG). The Korean Government reduced its holdings to 5 percent of the outstanding stock with the balance being held by the Industrial Bank of Korea.

Export leaf prices are set by KTG after consultations with leaf processing and exporting firms. Export prices are set below domestic purchase prices. Funds required to operate the tobacco program are obtained from profits on KTG's cigarette business.

KTG provides seed to farmers free of charge and subsidizes fertilizer costs. Cost estimates are not available, but tobacco is a profitable crop in the Republic of Korea. The Republic of Korea offers competition to U.S. growers in export markets, especially U.S. burley growers.

As reported earlier, barriers to importation of cigarettes into the Republic of Korea were relaxed in mid-1988. U.S. cigarettes had previously faced stringent restrictions in the South Korean market. Prior to 1986, it was illegal for a Korean citizen to possess foreign cigarettes. Imports of U.S. cigarettes are expected to rise substantially and imports of leaf are expected to increase. This is a major turnaround because, through the early to mid-1980's, U.S. leaf exports sagged as South Korea pursued a policy of self-sufficiency in tobacco production and use.

Thailand

Thailand produces several kinds of tobacco including flue-cured and burley. Licensed tobacco growers are assured a minimum price. Tobacco is grown mostly by small farmers who have contracts with tobacco curers. Curers sell either to the Thailand Tobacco Monopoly (TTM) for domestic use or to exporters if prices are more favorable.

The tobacco industry in Thailand has historically been under the control of TTM, a state monopoly. TTM oversees most aspects of leaf production, tobacco product manufacturing, and imports of unmanufactured leaf. However, leaf exportation is done by private firms with virtually no involvement by the monopoly.

The United States is the only exporter of unmanufactured leaf to Thailand. The United States ships about 15 million pounds of leaf per year to Thailand to enhance the flavor of Thai cigarettes. However, the Government has a goal for greater self-sufficiency and wishes to use at least 80 percent domestic leaf in its cigarettes. U.S. leaf constitutes more than 20 percent of leaf content.

The antismoking campaign is relatively weak and cigarette consumption is growing. But, cigarette imports are virtually banned. However, as the demand for higher quality cigarettes increases, the black market for foreign-made cigarettes expands.

The U.S. cigarette industry is pursuing market access to Thailand with the bolstered confidence gained from recent Section 301 successes in Japan, Taiwan, and South Korea. Section 301 of the 1974 Trade Act authorizes the President to apply retaliatory measures when a trading partner is shown to have engaged in unfair trade practices. A Section 301 investigation into opening the Thai cigarette market to foreign markets was initiated in mid-1989.

Indonesia

Indonesia is the third largest tobacco producer in Asia after China and India. Production has steadily increased the last 15 years. Flue-cured production has grown but dark air- and sun-cured production has changed little. Indonesian farmers receive subsidies for pesticides, fertilizer, and irrigation facilities in some areas. Production costs are relatively low. Leaf quality is also relatively low. Much of Indonesia's tobacco is used domestically. There are few restrictions on exports and imports of tobacco. Indonesia could become an even larger world supplier of filler tobacco.

Other Asian Countries

A number of developing Asian countries produce tobacco. Tobacco provides a much needed source of foreign exchange. Major producers not cited above include Pakistan, the Philippines, Burma, and Bangladesh. Tobacco production is usually subsidized to some degree. For example, Philippine growers receive subsidized seed, fertilizer, and technical assistance. Trade barriers are generally used to protect the domestic industry. With ample labor supplies and shortages of foreign exchange, tobacco production could increase in several Asian countries. These countries may well become even larger world suppliers of low-quality leaf, but it is doubtful they will become major competitors in the average or high-quality leaf trade.

Canada

Canada produces mostly flue-cured tobacco primarily because of the Canadian preference for unblended flue-cured cigarettes. Production has declined during the last decade because domestic use and exports have both fallen. Production is likely to fall even more even though it was up in 1989 because of increased

exports. The costs of producing tobacco are high in Canada. Wage rates are high, frost risks are great, and the crop must be started in greenhouses which further boosts costs. Canadian leaf is relatively neutral and does not command a premium price. Moreover, because of rising costs and reduced demand, the Canadian Government has instituted programs to help growers switch to alternative crops. However, profitable alternatives are limited.

The Canadian Government provides limited producer support. Target production levels are set in negotiations between the Canadian Tobacco Manufacturers Council (CTMC) and the Ontario Flue-Cured Tobacco Growers Marketing Board. The CTMC, an organization of privately owned tobacco manufacturers, provides minimum price guarantees to flue-cured growers and subsidizes exports. Over one-half of Canada's tobacco is exported, with the United States surpassing the United Kingdom in recent years as the major destination. There are no constraints on imports of leaf or products. So far, little is imported but under freer world trade conditions, imports might rise.

Mexico

Mexico produces a variety of tobacco ranging from dark cigar types to Oriental, flue-cured, and burley. Tobacco production has grown the last two decades, especially burley production in response to increased demand for lighter cigarettes.

Mexico's leaf production for domestic use is protected by import controls. Production and marketing is controlled by a state-owned stock company. The export market is now relatively unrestricted. Mexico has increased its exports of tobacco with little support. With an ample low-cost labor supply and a need for foreign exchange, Mexico may increase exports of tobacco. Mexico has shipped increasing quantities of lower quality burley to the United States at low prices.

Australia

Australia was the third major market for U.S. tobacco in the late 1950's. However, Australia had subsidized its domestic industry, until recently, and now depends less on imports. Imports have been limited by high import duties, mixing regulations requiring domestic tobacco for 57 percent of the tobacco used in products, and other restrictive measures designed to increase self-sufficiency.

After years of protection and regulation, the Government has embarked on a more market-oriented strategy that will provide "tariff-only" assistance to the industry by 1995. The following changes are expected:

- o Local content requirement: There is presently a requirement that 57 percent of the leaf used in Australian manufactured cigarettes be grown in Australia. This requirement is enforced by stiff tariffs of approximately 23 percent on imported leaf for those who do not adhere to this

regulation. Those that adhere to the local content requirement pay only a "concessional tariff" of $0.47 per kilogram or about 7-1/2 percent on imported leaf. Current legislation extends the LCR until October 1, 1995, when the program is scheduled for termination.

- o Tariff rate: General tariffs on tobacco leaf and tobacco refuse will be phased down from 23 to 15 percent by July 1, 1992. "Concessional" rates will still be well below this level at 7.5 percent. This arrangement of discriminatory rates will continue until the LCR is terminated in 1995. Manufactured tobacco product tariffs (snuff) will be phased down from 15 to 10 percent by 1992 in five steps. Tariffs on cigarettes and cut tobacco of about 8 percent will remain unchanged.

- o Stabilization plan: A 5-year program running until 1993 will terminate, leaving behind a history of price fixing, mandatory stockholding, and production quotas.

Australia exports very little tobacco because prices are held so high. But, prices are gradually being brought down to more competitive levels. Accurate cost of production data are not available but costs appear to be quite high. Removal of constraints would likely result in higher imports but the increase might come from countries other than the United States. The United States has been the major supplier of tobacco to Australia but imports of lower cost filler tobacco has increased in recent years.

USSR

The USSR is a major producer of tobacco, primarily Oriental. However, most of its production is used domestically. Imports come from East European and Asian countries.

Turkey

Turkey is the world's second largest producer of Oriental tobacco, after the USSR, and in front of Greece and Yugoslavia. In 1987, over 60 percent of U.S. imports of Oriental tobacco, an important component of U.S. cigarette blends, came from Turkey.

The cultivation, processing, and marketing of tobacco and tobacco products in Turkey are regulated by TEKEL (the state monopoly organization). TEKEL is authorized to control tobacco production at all stages including its transportation and movement from one warehouse to another. TEKEL controls tobacco production primarily through government pricing policy. Currently, this involves export subsidies and domestic price supports.

In addition to TEKEL about 40 private companies purchase tobacco from growers. The tobacco law also permits multinational cigarette manufacturers to become involved with TEKEL in joint venture partnerships for producing internationally recognized cigarette brands or comparable local brands.

Oriental tobacco is not grown in the United States; hence, Turkish production does not compete with U.S. production. However, burley, a less labor-intensive tobacco, can be substituted to some extent for Oriental in the production of cigarettes. Consequently, over time burley could replace some Oriental tobacco in cigarettes. However, with the shift to blended types of cigarettes, both burley and Oriental will likely gain at the expense of flue-cured.

Economics of Trade Liberalization

The world market for tobacco and tobacco products is shaped by a number of different policies and programs. Furthermore, there is a diversity of products manufactured and variations in qualities and kinds of tobacco grown throughout the world. This complicates any evaluation of changes in country policies and programs concerning tobacco and how the world tobacco market would operate if all supports and trade restrictions were removed. However, it is possible to trace the economics of liberalization in a broad or aggregate sense.

The domestic tobacco support programs in effect in a number of importing countries encourage high-cost local production of what is often a limited range of quality and kinds of tobacco. The import restrictions used in several of these countries--often to minimize the government costs of supporting local production--also keep supplies tighter and producer and consumer prices higher than they would be otherwise. Many of the other programs catalogued in previous sections--such as internal monopolies, mixing regulations, and use of duties and excise taxes to raise revenues--reinforce and accentuate the effects of domestic support programs and trade restrictions on supply and prices.

Price, Production, Consumption, and Trade Impacts

How much higher tobacco prices are because of trade restrictions and domestic support programs is difficult to quantify with any precision. U.S. price support and production control programs combined with the United States' dominant position in the world market act as a world price umbrella, keeping prices for comparable qualities and kinds above free-market clearing levels. Prices in competing exporters for similar and different qualities and kinds indicate this umbrella effect is significant. U.S. export prices for flue-cured were three times higher than those in Brazil and four times higher than those in Zimbabwe, our two major competitors in 1987 (table 17 and fig. 5). Similarly, U.S. burley export prices are two to four times higher than those of major competitors (table 17 and fig. 6). Still, even though U.S. grower prices are generally higher, the grower price difference among countries is narrower than for the more competitively determined export prices.

As indicated earlier, many countries go beyond the pricing possible under the U.S. support umbrella. Support prices in Japan for flue-cured are more than three times higher than U.S.

Figure 5

Average export and re-export values of flue-cured tobacco for selected countries, 1981, 1984, and 1987

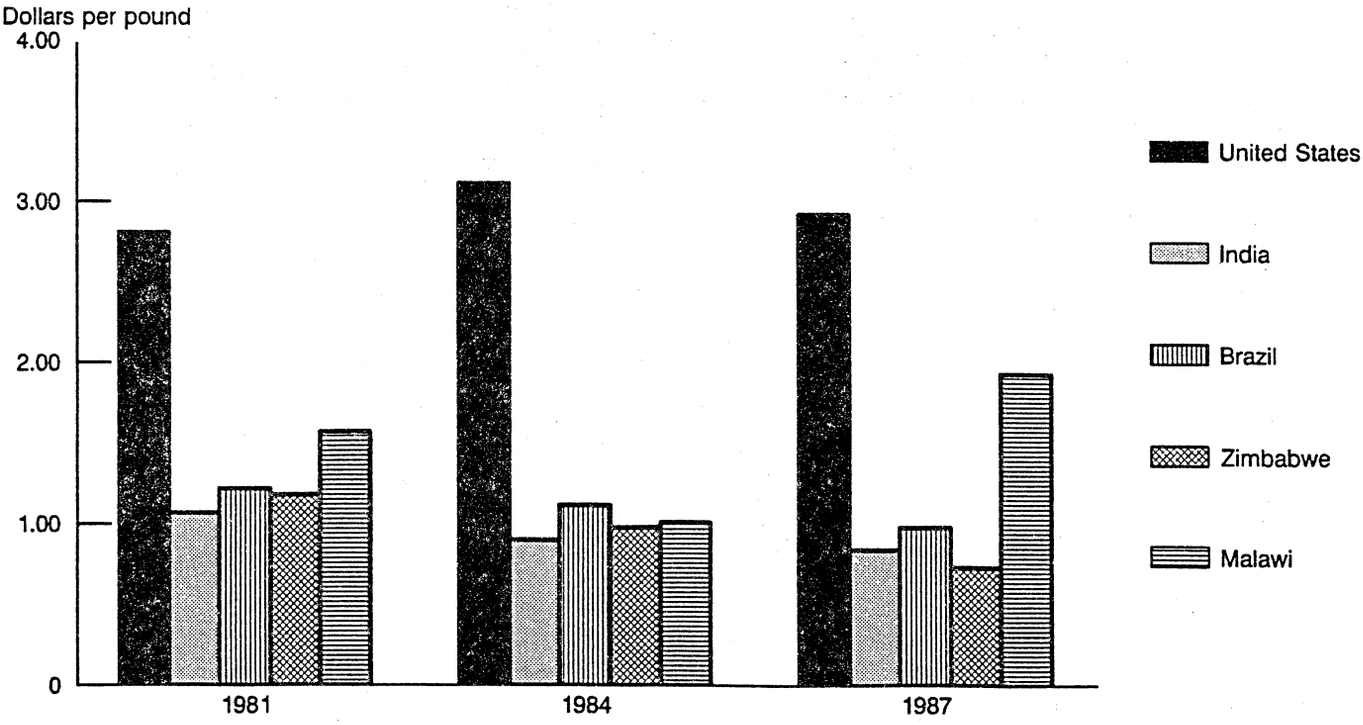


Figure 6

Average export and re-export values of burley tobacco for selected countries, 1981, 1984, and 1987

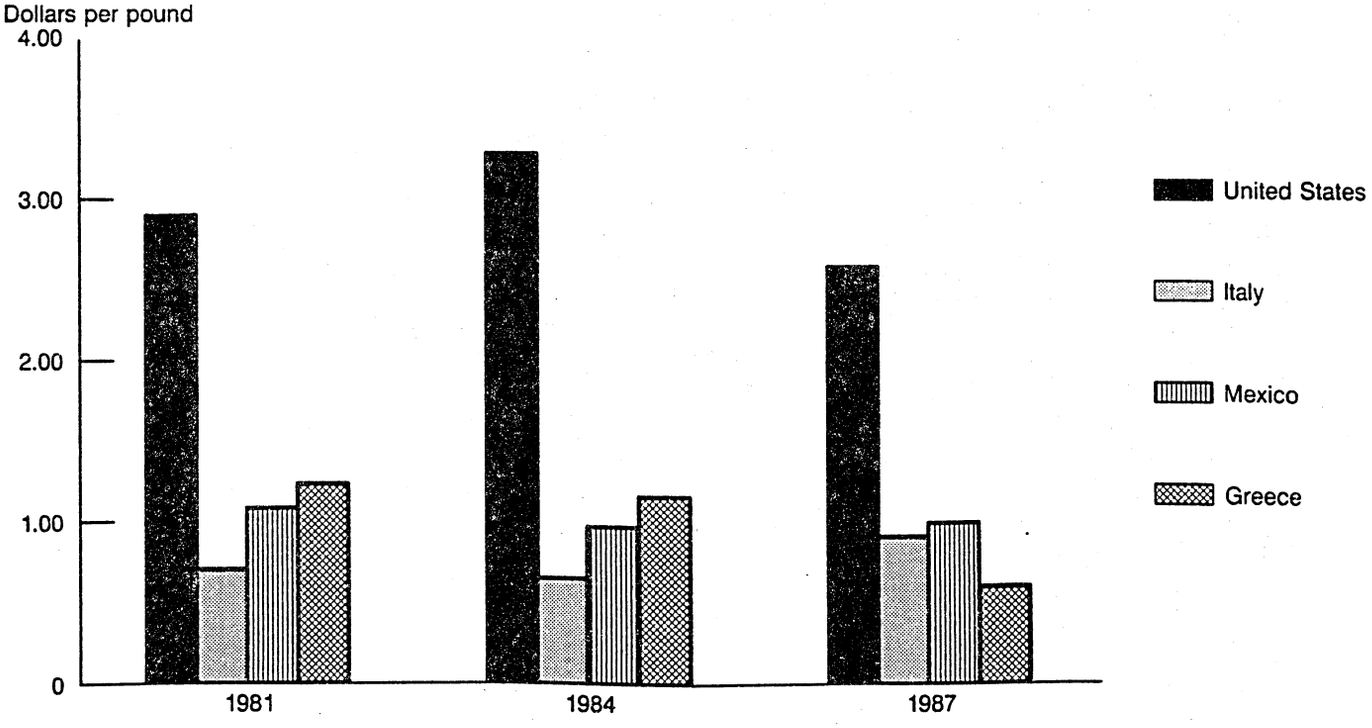


Table 17--Average export and re-export values of tobacco for selected countries, 1981-87

Type of tobacco and country	1981	1982	1983	1984	1985	1986	1987
				U.S. dollars per pound			
Flue-cured:							
United States	2.81	3.03	3.13	3.11	2.93	2.79	2.92
India	1.07	1.09	1.02	.90	.88	.86	.84
Brazil	1.22	1.59	1.05	1.12	.95	.91	.98
Zimbabwe	1.18	1.52	1.27	.98	.79	1.04	.73
Malawi	1.57	1.70	.96	1.01	.93	1.31	1.93
Burley:							
United States	2.90	3.14	3.30	3.28	3.28	2.85	2.58
Italy	.70	.71	.73	.65	.95	.83	.91
Mexico	1.08	1.13	.96	.97	1.03	.98	1.17
Greece	1.23	1.29	1.27	1.16	1.00	1.03	.60
Oriental:							
Turkey	1.37	1.51	1.55	1.41	1.46	1.50	1.34
Greece	1.50	1.34	1.08	.93	.78	.99	1.21
Italy	.26	.26	.18	.21	.23	.59	.60

Source: U.S. Department of Agriculture, Foreign Agricultural Service.

prices. EC prices are also above U.S. prices and well above some other competitor prices.

Price comparisons among countries clearly overstate price aberrations attributable to domestic support and trade programs. Important differences in quality and transportation costs have to be taken into account. But, comparative price data do suggest that prices have been distorted significantly in major producing and consuming countries (table 17).

How much has consumption been affected? How much higher or lower would consumption be in a liberalized policy environment? Higher prices, combined with the working of support programs and import restrictions, limit the kinds and quality of tobacco available and discourage consumption. But how much is difficult to estimate. Numerous studies have shown that the demand for cigarettes (the major tobacco product) is price inelastic. Estimates range from around -0.1 to -0.7. Using a 5- to 10-percent price effect suggests a 1- to 7-percent loss in consumption attributable to higher prices.

While this simplistic procedure points in the right direction, it overstates consumption impacts, particularly at the high end of the range. For example, several factors have been at work minimizing the effect price-distorting practices and supply controls have had on consumption. Technological advances have allowed manufacturers to use more lower quality leaf in cigarettes and other tobacco products without reducing the quality of the product. Furthermore, technologies are continually reducing the quantity of tobacco used per cigarette. With these new technologies at work on the one hand and enhanced

profitability encouraging other exporters to expand supply, ample supplies of tobacco have been available and higher leaf price effects on consumption have been dampened.

This tendency has been reinforced by the small part of the total cost of a package of cigarettes--generally less than 10 percent--attributable to leaf costs. Consequently, even sizable leaf price changes, combined with the highly inelastic nature of cigarette demand, result in a much smaller effect on consumption than would be the case for many other agricultural products. Estimating price effects is further complicated by the fact that medical studies show high correlations between various diseases and the use of tobacco products. Many countries have highly visible antismoking activities together with more and more restrictions on where people can smoke. Separating the effects of health concerns and price is extremely difficult.

Hence, even with the somewhat lower leaf prices likely in a free-market environment, total consumption of tobacco would probably rise little, perhaps only 5 to 10 percent.

However, if taxes on tobacco products were considered a trade-distorting practice, and all taxes were removed throughout the world, consumption might well increase considerably more than with free-market changes in leaf prices.

Trade Levels and Patterns

Even though domestic programs and trade policies have likely had a minimum effect on world consumption of tobacco products, they probably have had a substantial effect on trade, particularly trade prices and patterns. Many exporters operate both domestic price support programs and export subsidy programs. This tends to depress trade prices. However, programs have also tended to stabilize prices. Many domestic support programs center on public holdings in excess of market carryover needs. This program tendency, combined with the highly storable nature of tobacco and the relatively low cost of storage, readily permits supply adjustments to respond to price changes. Export subsidies and import restrictions have been critical in shifting the locus of production to many high-cost producers such as the EC which in some cases have become exporters at the expense of low-cost producers such as Brazil and Zimbabwe.

Changes in a Liberalized Environment

What happens to the world tobacco market, notwithstanding questions about qualities and kinds, if public support and trade programs were removed? Internal producer prices in most importing countries and exporting countries with supports would fall when supports were removed. Importer production would drop, while their demand would rise in response to lower prices. Trade flows would increase, with added production in the most cost-effective countries substituting for displaced production in other countries. Given these offsets, there would be little

increase in total production and world prices would change little but fall somewhere below current levels. The removal of the U.S. umbrella would reinforce this drop in prices worldwide. But this freer production and trade environment with only a small increase in production would keep prices below current levels.

The order and magnitude of change in world trade would likely be substantial even though world production and consumption would change little. Shifts among importers and exporters would be significant. The United States, Brazil, and Zimbabwe would likely increase exports substantially while the EC countries, Australia, and Canada would likely import much more tobacco. And countries already liberalizing their trade programs, in East Asia, for example, would see further large increases in imports. Even with complete trade liberalization, some barriers would still hold trade below what it might be. Primary among these is a lack of foreign exchange in several countries. These countries would purchase higher priced qualities of tobacco such as U.S. tobacco if they had the money, but instead must opt for cheaper tobaccos, barter arrangements, or scaled back purchases.

About 30 percent of the tobacco produced in the world is consumed in a country other than the one where the leaf is produced. With near total trade liberalization and the wide cost differences across countries currently in effect, the proportion produced and consumed in different countries could well surpass 50 percent. Both leaf and product trade would rise.

How would the United States fare in a liberalized environment? With complete elimination of the price support-production control program, U.S. prices would likely fall 20 to 30 percent to a point where all costs of production, excluding quota rental or lease costs, were covered. The value of quotas which are capitalized into farm asset values would fall to zero. This could result in a loss of up to $400-$500 million per year to quota owners based on studies by Alston and Sumner that analyze the effects of removal of the U.S. tobacco price support program. Furthermore, land values would decline $2-2-1/2 billion because tobacco production rights are capitalized into land values.

Tobacco production would shift to more efficient production areas. Flue-cured production would generally shift away from the piedmont of North Carolina and Virginia to the coastal plain of North Carolina, border belts of North Carolina and South Carolina, and Georgia-Florida. 2/ Burley production would tend

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2/ For estimates of regional flue-cured tobacco production costs see (Grise, 1981). Costs of producing flue-cured tobacco (excluding land and quota) were 10 to 17 cents per pound lower in the coastal plain of North Carolina, the Pee Dee-Lumber River area of South Carolina and North Carolina, and in the Georgia area than in the piedmont of Virginia and North Carolina. Also, an earlier study (Hoover and Todoulos, 1973) indicated tobacco production would move away from the piedmont of Virginia and North Carolina if transfer of flue-cured quotas among counties were permitted.

to concentrate in the Bluegrass and south central areas of Kentucky and in eastern Tennessee and in the western Pennyroyal of Kentucky and Tennessee. 3/ These shifts would further lower costs of production and would lower U.S. competitive prices and further boost export prospects.

Domestic leaf use in the United States would change in response to lower prices. Total leaf use would not change much, but there would be substitution of U.S.-grown flue-cured and burley for imported flue-cured and burley.

Export demand for U.S. tobacco could change significantly. Based on studies summarized by Alston and Sumner, export demand for U.S. tobacco is highly elastic, perhaps on the order of 5.0 to 10.0. Given these elasticities, the United States could increase exports sharply, possibly by 60 percent. This would translate into a significant rise in the U.S. share of the world market from the current 14 percent to possibly 20-25 percent.

Although oversimplified and somewhat aggregate in nature, the above discussion suggests that the United States would be a gainer from liberalization, even though quota owners would lose and tax revenues generated from asset values would fall. Furthermore, it indicates that a wide range of programs put in place in a number of countries over a long period of time would have to be changed in order to free the world market.

Even if the United States retained production quotas and price supports but other artificial barriers affecting trade were removed, the United States would still gain. Quota values and tax bases would be retained and exports would rise from current levels. However, higher U.S. prices would hinder potential growth in exports.

Conclusions

Given the complex programs in place in a number of countries, trade liberalization in tobacco is likely to occur in steps over time. Full trade liberalization is not likely to occur in the current GATT negotiations. However, some concessions are likely to be gained. Some reduction in quotas and duties are likely to be negotiated and a reduction in global trade barriers and an increase in market accessibility might well be achieved. Still, trade barriers in tobacco could continue.

Even after barriers are removed, changes in tobacco trade would likely occur gradually because of the sensitivity of product blends, trade arrangements that have developed over time, and other factors. Over a longer period of time, factors such as

3/ For an analysis of comparative advantages in growing burley tobacco see (Grise and others, 1971). This study indicated that, if free to do so, burley production would tend to concentrate in the bluegrass of Kentucky, south central Kentucky, the western Pennyroyal of Kentucky and Tennessee, and in eastern Tennessee.

trends in consumption, changes in the kinds of products desired by consumers, exchange rates, and production costs are likely to affect tobacco production and trade as much or more than any move toward liberalization.

However, liberalizing domestic supports and trade programs would significantly affect the market. Trade liberalization would lower tobacco prices in world markets, but a broad range of price differentials would continue. The United States currently provides a price umbrella for tobacco throughout the world with its price support and quota program. In the United States, about 97 percent of production is under a government price support-production control program that keeps prices 20 to 30 percent higher than without a program. The ending of supports and reduction in U.S. prices would result in some foreign shift to U.S. tobacco because of its overall superior quality.

Furthermore, the United States is already cost competitive with countries such as Canada and Australia and would be even more so in a liberalized environment. In addition, costs appear to be rising more rapidly in landlocked Zimbabwe and Malawi than in the United States. But, the United States would still be at a disadvantage in supplying lower quality filler tobaccos because of the higher proportion of family labor with few alternatives used to grow tobacco in some countries. Even with this impediment, the United States might well increase leaf exports to levels one-fourth to one-half greater than current projections with the existing underlying structure of world markets. U.S. leaf imports of flue-cured and burley would also likely decline.

Even with trade liberalization, changes in the world market would take place gradually. Trade commitments, product blends, tastes, alternative crops, and a host of other factors influence how markets might shift. Tobacco product consumption in the world and within various countries would also affect trade flows.

The EC countries have historically been major purchasers of U.S. tobacco, but restrictive trade policies have limited sales of U.S. tobacco. The CAP encourages production with a system of support prices, buyers' premiums, and export restitution payments. So far, GATT negotiations have been unsuccessful in limiting EC export subsidies. In addition, duty-free treatment afforded tobacco imported from most developing nations, together with stringent pesticide regulations, further limit U.S. tobacco exports. In the past, the United States has obtained only limited concessions from the EC and further changes in EC policy in the offing--such as stricter pesticide tolerance levels, uniform cigarette taxes, and other EC-wide restrictions--could further hinder U.S. trade with EC countries. Removing these constraints would result in higher imports, both from the United States and other countries. But domestic production would decline, perhaps sharply.

Australia was once the third largest export market for U.S. tobacco. In recent years, however, Australia has subsidized its domestic tobacco industry and now depends less on imports. Imports have also been limited by high import duties, mixing

regulations that require domestic tobacco for 57 percent of the tobacco used in products, and other restrictive measures leading to self-sufficiency in the industry. Accurate cost of production data is not available but costs appear to be very high and quality is relatively low. Removal of constraints would likely result in somewhat higher imports, but the United States probably would not ship more to Australia because of the lack of substitutability of U.S. and Australian leaf.

Canada produces mostly flue-cured tobacco because of the Canadian preference for unblended flue-cured cigarettes. Production has declined during the last decade because domestic use and exports have both fallen. Production is likely to fall even more and greater trade liberalization would exacerbate the decline.

Costs of producing tobacco are high in Canada. Wage rates are high and frost risks great. Furthermore, Canadian tobacco is relatively neutral in flavor; thus, it does not command a premium price. Already, the Canadian Government has instituted programs to help growers switch to alternative crops. However, profitable alternatives are limited.

There are no constraints on imported leaf or products to Canada. So far, little is imported but under freer world trade conditions, imports might rise because of lower prices for foreign-grown leaf. The United States might ship more tobacco to Canada under free trade, but the major U.S. gain would be in the substitution of U.S. shipments for Canadian shipments abroad.

Japan is the major U.S. market for leaf and cigarettes. Japan, unlike the EC, has liberalized trade in cigarettes and internal conditions point to even greater demand for U.S. leaf. Japanese leaf imports from the United States rose steadily from the early 1960's to the late 1970's although they, like domestic leaf production, have declined in recent years. Much of the leaf that Japan imports is high-quality leaf that is blended with less flavorful domestic leaf. There are no restrictions on leaf imports.

U.S. cigarette imports to Japan rose more than threefold in 1987 with partial liberalization and continued to rise in 1988 and 1989. Furthermore, the demand for higher quality leaf for domestic cigarettes is rising so that the domestic product will be more competitive with imports. The combination of relaxed cigarette import restrictions, the greater privatization of the industry, higher incomes, and weakness of the dollar against the yen are strengthening the U.S. position in Japanese tobacco markets. These developments are having a negative impact on Japan's domestic production, but should continue to strengthen the U.S. position in supplying Japan's tobacco needs.

Non-EC countries in Western Europe produce little tobacco and the United States is a major supplier of tobacco to Finland, Norway, Sweden, and Switzerland. With trade liberalization, shipments to these countries might increase a little.

The United States would gain from trade liberalization. Shipments of U.S. tobacco to EC countries, Canada, and several Asian countries would likely increase. Shipments to these countries from Zimbabwe and Brazil and other developing countries would also increase, so the magnitude of the U.S. increase is difficult to estimate.

Even though the United States would likely increase production and exports under trade liberalization, there would be negative impacts. Prices to growers would be lower with high price supports removed and less efficient growers would leave farming unless the Government made income-support payments that did not distort trade. There would be shifts in the location of production and tax bases would be eroded. Flue-cured production would likely move southward and eastward from the piedmont of Virginia and North Carolina, and burley production would probably be more heavily concentrated in the bluegrass and south central areas of Kentucky, in eastern Tennessee, and the western Pennyroyal of Kentucky and Tennessee. Still, the United States would almost surely be a net gainer in terms of total leaf production.

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Appendix table 1--Tariff rates on selected tobacco items and tobacco products imported into the United States

Kind of tobacco	Rates of duty (General)
	Cents per pound
I. Unmanufactured tobacco (whether or not threshed or similarly processed); tobacco refuse:	
A. Tobacco, not stemmed/stripped:	
Containing over 35 percent wrapper	36.0
Containing less than 35 percent wrapper	
Cigarette leaf-Oriental or Turkish	11.5
Cigarette leaf-other including flue-cured, burley, Maryland	12.9
Other leaf, including cigar binder and filler, fire-cured, and blackfat	16.1+ 19.9 on wrapper tobacco content
B. Tobacco, partly or wholly stemmed/stripped, not threshed or similarly processed:	
Leaf tobacco, the product of two or more countries or dependencies, when mixed or packed together	292.5
Containing over 35 percent wrapper	62.1+99.7 on filler content
Containing less than 35 percent wrapper-flue-cured, burley, Maryland, cigar binder and filler, fire-cured, blackfat, and other	20.0+42.1 on cigar wrapper content
C. Threshed or similarly processed	
From cigar wrapper leaf	16.1
From other leaf including flue-cured, burley, Maryland, fire-cured, blackfat, and cigar filler and binder	20.0
D. Tobacco refuse	
Tobacco stems, not cut, ground, or pulverized	free
Tobacco stems, cut, ground, or pulverized	54.9
Other refuse	16.1
II. Manufactured products	
A. Cigars, cheroots, and cigarillos containing tobacco:	
Each valued at less than 15 cents	191.0+ 10.5 percent
Each valued at 15 cents or over but less than 23 cents	57.2+ 3 percent
B. Cigarettes	
Regular paper-wrapped (containing tobacco)	106.1+ 2 percent
Clove (containing tobacco)	42.0+ 2 percent
Other cigarettes (containing tobacco)	106.1+ 2 percent
Other cigarettes (not containing tobacco)	106.1+ 2 percent
Other manufactured tobacco and manufactured tobacco substitutes; "homogenized" or "reconstituted" tobacco; tobacco extracts and essences.	
Smoking tobacco, whether or not containing tobacco substitutes in any proportion	17.5
Other "homogenized" or "reconstituted" tobacco suitable for use as wrapper	62.1
All other "homogenized" or "reconstituted" tobacco	20.0
Other including chewing tobacco, snuff, snuff flour, bulk smoking tobacco, etc.	17.5

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