14
The impact of trade liberalization on tobacco consumption

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Over the past two decades, trade in tobacco and tobacco products has expanded dramatically as a result of a variety of bilateral, regional, and international trade agreements that have significantly reduced trade barriers. This chapter provides a brief discussion of arguments derived from economic theory suggesting that the reductions in trade barriers will lead to greater competition, lower prices, and increased advertising and promotion in tobacco-product markets. This is followed by a review of recent trade agreements, highlighting features particularly relevant to tobacco. The limited empirical evidence on the impact of liberalized trade in tobacco products on their consumption is then discussed, followed by a new empirical analysis using data on 42 countries over the period from 1970 through 1995. This new analysis clearly demonstrates that trade liberalization has led to increases in cigarette smoking, with the most significant impact in low-income and middle-income countries. Finally, the globalization of the tobacco industry and global tobacco-control responses are briefly described.

14.1 Introduction

The recent trend towards the increased liberalization of trade in most goods and services has significantly reduced high-tariff and non-tariff barriers to trade in tobacco and tobacco products and contributed to the sharp increase in tobacco use in many low-income and middle-income countries. Over the past two decades, the various bilateral, regional, and multilateral trade agreements that many nations have adopted have led to significantly greater competition in domestic tobacco markets. This increased competition has almost certainly been accompanied by reduced prices for tobacco products and dramatic increases in the advertising and promotion of these products.

This chapter reviews the theoretical and empirical evidence on the impact of trade liberalization on trade in tobacco and tobacco products, and on tobacco consumption. Section 14.2 contains a brief review of the relevant economic theory on the impact of trade barriers and trade liberalization. Section 14.3 describes how recent and proposed bilateral, regional, and multilateral agreements treat tobacco and tobacco products. Section 14.4 presents descriptive information on recent trends in tobacco-related trade and reviews the limited econometric evidence on the impact of trade liberalization on tobacco consumption. This is followed in Section 14.5 by a discussion of the findings from a new empirical analysis of trade and tobacco use. Finally, Section 14.6 discusses the implications of trade liberalization for tobacco control.

14.2 Theoretical foundations

There are several basic reasons why international trade in tobacco and tobacco products has arisen. Grise (1990) and Chaloupka and Corbett (1998), for example, suggest the following:

(1) a country's inability to domestically produce tobacco and tobacco products in sufficient quantity to satisfy domestic demand for these products;
(2) a country's inability to domestically produce tobacco and tobacco products of sufficiently high quality to satisfy domestic demand;
(3) differences in prices among countries for different types and qualities of tobacco and tobacco products; and
(4) the importing of unmanufactured tobacco for use in producing tobacco products for exports.

In addition, in some countries, tobacco and/or tobacco products are an important source of foreign currency. In recent years, for example, Zimbabwe exported nearly all of its tobacco crop, with these exports accounting for nearly one-quarter of its total export earnings (Maravanyika 1998).

Global trade in tobacco and tobacco products, while not insignificant, would have been much higher in the past had there not been a variety of restrictive trade policies and other policies protecting domestic tobacco growers and producers of tobacco products from foreign competition (Grise 1990). These barriers include high tariffs on imported tobacco and/or tobacco products, quotas or complete bans on imports, domestic price-support programs, marketing restrictions, licensing requirements, restricted product lists, exchange controls, domestic content requirements, and subsidies on cultivation or production (Grise 1990).

There are few rationales for trade barriers that are economically justifiable, including the temporary protection of an 'infant' industry and the use of protectionistic interventions as a temporary strategy for promoting economic development. As evidence on the health consequences of smoking has accumulated, some have argued for restricting tobacco-related trade as a way to reduce the death and disease resulting from tobacco use. (While the World Bank does not seek to restrict trade, it does restrict the use of Bank funds (see Box 14.1)). Similar arguments have been used to defend trade restrictions in the case of other goods with negative externalities. These arguments are most well developed in the area of environmental policies (see, for example, Anderson and Blackhurst 1992), with recent research adapting these arguments to consider the negative externalities associated with tobacco use (Shi and Hsieh 1998). In practice, however, trade restrictions have often been used to protect state-owned monopolies on tobacco production and distribution that generate a significant share of total government revenues in these countries. Moreover, the arguments that health concerns are a justification for limiting trade have typically not been accompanied by

Box 14.1 The World Bank's policy on tobacco

The World Bank's activities in the health sector—including sector work, policy dialogue, and lending—discourage the use of tobacco products.

The World Bank does not lend directly for, invest in, or guarantee investments or loans for, tobacco production, processing, or marketing. Exceptions, which must be approved, may be allowed for countries that are heavily dependent on tobacco as a source of income (especially for poor farmers and farm workers) and foreign exchange earnings (i.e. those where tobacco accounts for more than 10% of exports). The World Bank seeks to help these countries diversify away from tobacco.

To the extent practicable, the World Bank does not lend indirectly for tobacco production activities, although some indirect support of the tobacco economy may occur as an inseparable part of a project that has a broader set of objectives and outcomes (e.g. rural roads).

Unmanufactured and manufactured tobacco, tobacco processing machinery and equipment, and related services are included in the negative list of imports in World Bank Loan Agreements.

Tobacco and tobacco-related producer or consumer imports may be exempt from borrowers' agreements with the World Bank to liberalize trade and reduce tariff levels.

Source: the World Bank (1991).

strong efforts to reduce the consumption of domestically produced cigarettes and other tobacco products.

In general, economic theory predicts that barriers to trade in tobacco and tobacco products will reduce the total supply of these products while raising the quantity supplied by domestic growers and producers. Consequently, the prices for raw tobacco, cigarettes, and other tobacco products are likely to be higher under this scenario than they would in the absence of the trade barriers. Given the well-documented evidence on the effects of price on tobacco use (see Chapter 10), higher prices will lead to reduced cigarette smoking and lower use of other tobacco products. Given the clear links between tobacco use and adverse health outcomes (see Chapter 2), the reduced consumption will lead in the long-term to improved health. Domestic suppliers will generally benefit from their higher levels of growing and production and from the higher prices they receive. Foreign suppliers, however, will usually be worse off as a result of their reduced access to protected markets.

In contrast, increasing trade liberalization, as a result of bilateral, regional, and multilateral trade agreements, is likely to have the opposite effect. Reductions in the barriers to tobacco-related trade will likely lead to greater competition in the markets for tobacco and tobacco products, reductions in the prices for tobacco products, and increased advertising and promotion of these products. The increases in advertising and promotion will not only result from the efforts of entrants to gain a foothold in the newly opened markets, but are also likely to reflect increased activity by existing firms attempting to maintain their market shares in the more competitive environment. Given the inverse relationship between price and consumption, as well as the positive relationship between advertising/promotion and demand (see Chapter 9), cigarette smoking and other tobacco use will likely increase under this scenario as tobacco markets become more open. As a result, the death and disease resulting from tobacco use will also increase.

However, the liberalization of trade in other goods and services is expected to have substantial economic benefits, including increased incomes, greater employment, more stable prices, greater innovation, and more rapid economic growth (World Trade Organization 1998a; Yellen 1998), with perhaps the greatest impact in developing countries (Edwards 1992). Edwards, for example, in a sample of 30 developing countries, found strong evidence that growth was higher in countries with more liberal trade policies. There is strong evidence on the link between income and health, particularly at lower income levels, suggesting that overall trade liberalization can lead to improved health outcomes (Preston 1976; Chaloupka and Corbett 1998). However, the increased tobacco use in developing countries that results from increased incomes is likely to, at least partially, offset the health benefits of liberalized trade in other goods and services.

14.3 Review of recent history of trade liberalization

The recent explosion in global trade in tobacco and tobacco products has been due, in part, to a variety of multilateral, regional, and bilateral trade agreements that have significantly reduced trade barriers for numerous goods and services, including unmanufactured tobacco, cigarettes, and other tobacco products. This section reviews existing international, regional, and bilateral agreements that have appreciably reduced tariff and non-tariff barriers to trade in tobacco and tobacco products. In addition, it discusses the implications for national tobacco control efforts of the Multilateral Agreement on Investments, a draft agreement that has been side-lined for the time being but for which negotiations may eventually resume.

14.3.1 multilateral treaties

World Trade Organization multilateral agreements

The World Trade Organization (WTO), formed at the conclusion of the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) in 1994, is the primary international institution governing international trade; approximately 90% of world trade is conducted pursuant to its rules (Dunoff 1994). The initial round of the GATT in 1947 called for the formation of the International Trade Organization to administer the multilateral agreement, but that organization was never formally established. The organizational features of GATT (1947) were, therefore, rudimentary and it functioned primarily as a forum for negotiation. With the conclusion of the Uruguay Round in 1994, the GATT contracting parties took a major step toward strengthening the international trade regime by formalizing the institutional status of the WTO, strengthening the trade dispute mechanisms, and broadening the WTO's jurisdiction.

The Uruguay round brought about an overhaul of the international trade regime by the conclusion of a number of agreements addressing contemporary trade issues. The WTO Agreement has four annexes that contain the agreements reached in the Uruguay Round. GATT (1947) was amended and incorporated into the new WTO agreement, including the case law and interpretive decisions. As a condition of membership in the WTO, members must agree to 24 different agreements, located in Annexes 1–3 to the Marrakesh Agreement. Now known as GATT (1994), the amended agreement and other agreements addressing non-tariff barriers to trade and trade in services are contained in the first Annex. Other WTO agreements, covering trade in intellectual property, as well as dispute settlement rules, are contained in the second and third Annexes. These three sets of multilateral agreements were accepted by member states as a single package during the Uruguay round and, therefore, impose binding obligations on all member states. Only the fourth Annex, which contains the plurilateral agreements, is binding only on the WTO members who have accepted it.

Trade in all tobacco, raw or manufactured, is regulated primarily under the agreements in Annex 1A to the Marrakesh Agreement. For example, the Agreement on Agriculture concerns tariffs, subsidies and domestic supports for all agricultural products, including tobacco. Other key agreements for trade in tobacco, including GATT 1994 and the Agreement on Technical Barriers to Trade, are described below.

The principal aim of the WTO is the reduction of barriers to trade. The general principles of the WTO include: a commitment to achieving free trade and fair competition; limits on, and eventual elimination of, tariff and non-tariff barriers to trade; non-discriminatory treatment of all trading partners; the non-discriminatory treatment of domestically produced and foreign products; predictability by ensuring that trade barriers are not erected arbitrarily; negotiated elimination of trade barriers; the settlement of disputes; and opposition to retaliatory sanctions (WTO 1998a).

The WTO multilateral agreements significantly expanded global trade in tobacco products by mandating sizable reductions in tariff and non-tariff barriers to trade in tobacco products (Chaloupka and Corbett 1998). For example, GATT (1994) calls upon the European Union to reduce its tariff on cigars by 50%, on cigarettes and other manufactured tobacco products by 36%, and on unmanufactured tobacco by 20% (USDA 1997). Similarly, it calls upon the United States to eliminate its tariffs on cigar wrappers and reduce its tariffs on cigar filler and binder tobacco, cigars and most cigarettes by 55%, on tobacco stems and refuse by 20% and on other manufactured and smoking tobacco by 15% (USDA 1997). Furthermore, the new WTO regime has led to the elimination of legislation that required that all cigarettes produced in the United States contain at least 75% domestically grown tobacco (USDA 1997b). It has also led to the elimination of or reduction in tariff and non-tariff barriers to trade in tobacco and tobacco products in numerous other countries.

A number of the binding multilateral agreements may have important implications for global health efforts. The remainder of this section will briefly discuss the impact of some of the more significant WTO multilateral agreements on national and international tobacco control regulatory efforts.

GATT (1994)

The most significant of the WTO multilateral agreements, with respect to international tobacco trade, is GATT (1994). GATT (1994) provides detailed rules and standards for determining what measures are permitted. Article One of the Agreement establishes the principle of most favored nation that, with several exceptions, requires that products from one member country be given no less favorable treatment than 'like' products from any other member country. Article Three establishes the principle of national treatment that, subject to some exceptions, mandates that products imported into a country cannot be treated differently from 'like' domestic products with respect to laws and regulations. Collectively, these principles are designed to prevent members of GATT (1994) from using internal law to favor domestic products over imported goods. These rules thus enshrine the core principle that members are generally entitled to non-discriminatory treatment of their products in other states that are members of the organization.

Article XX of the text of the Agreement provides a critical and highly limited exception for national measures designed to protect public health that would otherwise violate GATT (1994) obligations. Article XX, in relevant part, states (emphasis added):

> Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary and unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, *nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures. . . . necessary to protect human. . . . health (or) necessary to secure compliance with the laws or regulations which are not inconsistent with the provisions of this agreement. . . .*

Article XX is a limited and conditional exception from obligations under other provisions of the Agreement. In other words, Article XX exceptions are only relevant if a trade violation is found. In addition, dispute resolution practice establishes that:

(1) GATT panels examine Article XX only if it has been expressly invoked by the party to a dispute;
(2) Article XX is narrowly interpreted; and
(3) the party invoking the Article XX exception has the burden of proof (WTO 1998).

GATT has elaborated on the implications of Article XX in the context of national tobacco control regulations in a 1990 case involving Thailand's ban on cigarette imports and advertising (GATT 1990; Roemer 1993; Chaloupka and Laixuthai 1996; Taylor and Roemer 1996; Chaloupka and Corbett 1998). In this case, American tobacco companies challenged Thailand's ban on advertising and imports, prompting an investigation by the United States Trade Representative who referred the matter to GATT. Article XI:1 of GATT (1947) provides that:

> No prohibitions or restrictions . . . made effective through . . . import licenses . . . shall be instituted or maintained by any contracting party on the importation of any product of the territory of any other contracting party. . . .

Although inconsistent with Article XX:1, Thailand contended that the prohibition on imports was justified by the objective of public health policy and was therefore covered under Article XX.

The GATT panel found that Thailand could 'give priority to human health over trade liberalization' as long as the proposed measures were 'necessary'. The panel concluded that Thailand's restrictions on imports could be considered 'necessary' in terms of Article XX, only if there were no alternative measure consistent with the General Agreement—or less inconsistent with it—that Thailand could reasonably be expected to employ to achieve its health policy objectives. Based on its analysis of the 'necessity' of the Thai measures, the panel concluded that Thailand's practice of permitting the sales of domestic cigarettes, while banning the importation of foreign cigarettes, was not 'necessary' and, therefore, not justifiable under Article XX(b), since alternatives to banning the importation of cigarettes were available to protect public health.

The panel further found, however, that requiring foreign tobacco companies to abide by tobacco-control regulations that applied equally to domestic and foreign tobacco products was appropriate and consistent with GATT obligations. GATT upheld the advertising ban and went on to state that various tobacco-control measures could be adopted and applied to both domestic and imported tobacco, in lieu of an import ban, and still be consistent with GATT obligations. Given this decision, Thailand could have banned the sale of all cigarettes, domestic and imported, and remained consistent with GATT. The panel also noted that a ban on advertising applying to both domestic and imported cigarettes would be justified under the Agreement, even if it created unequal competitive opportunities between domestic and foreign firms, because advertising may stimulate demand for cigarettes.

This was the first GATT-case decision on manufactured tobacco products. As such, it has set a critical precedent for other countries. The case sends a message that member nations can adopt strong tobacco-control legislation, as long as the measures are aimed at protecting health and do not discriminate between domestic and imported tobacco. The decision by the GATT Council thus indicates that it is possible to design stringent tobacco-control policies aimed at reducing the death and disease associated with tobacco use that may be adopted and implemented without violating international trade commitments.

As other scholars have noted, however, it cannot be assumed that GATT (1994) will be applied in a manner that supports the protection of public health in future decisions (Bettcher *et al.* in press). The WTO regime is primarily aimed at the limitation of health-based restrictions to those that are necessary and minimally burdensome to trade. In addition, the GATT panel's interpretation of the necessary requirement under Article XX unduly restricts the capacity of countries to adopt standards to protect public health (Schoenbaum 1997). The standard employed by the GATT panel when considering Thailand's import ban requires countries to adopt the least trade-restrictive policy possible. This standard inordinately favors the expansion of free trade over national authority to protect public health.

Notably, the Thai case was handled under the dispute resolution process applicable to GATT (1947). Resolutions of disputes concerning the substantive rights and obligations of WTO member states under the new multilateral agreements are now governed by the Understanding on Rules and Procedures Governing the Settlement of Disputes. These new dispute-resolution procedures are producing a new body of GATT jurisprudence, which differs in significant respects from the rules governing the

Thai case—although not, thus far, in ways that would appear to change the Thai result (Palmeter and Mavroidis 1998, WTO 1998d). In addition, the text of Article XX has been modified in GATT (1994) from the way it originally appeared in GATT (1947), although not in a way that appears relevant to the Thai decision.

The GATT decision in the Thai case has been mistakenly viewed by some as an important victory for public health forces. Although the GATT decision upheld strong, non-discriminatory public health measures as consistent with international trade commitments, the liberalization of the tobacco trade in Thailand, as well as other Asian nations, significantly altered the market structure, expanding imports of cigarettes considered qualitatively superior to those produced by national tobacco monopolies and leading to an overall increase in tobacco consumption in these nations. The global impact of the liberalization of tobacco trade has increased the need to adopt and implement broad tobacco control regulatory measures at the national and international level (Taylor 1996).

To the extent of any conflict between GATT (1994) obligations and the national implementation of the provisions of binding international tobacco control instruments, a tobacco treaty can override GATT (1994) via a rule of international law known as the 'later in time' rule between countries that are parties to both treaties (Taylor and Roemer 1996). Article 30 of the Vienna Convention of the Law of Treaties provides general rules governing the relationship of successive treaties. Under Paragraph 3 of Article 30:

> [w]hen all the parties to the earlier treaty are parties also to the later treaty . . . the earlier treaty applies only to the extent that its provisions are compatible with those of the later treaty.

Hence, when the provisions of two treaties are in conflict, the later in time prevails, as between the parties to both, unless one treaty specifies otherwise. If a state is a party to only one of the treaties, under Article 30(4)(b), only that treaty governs. Problems arise, however, if both states are parties to GATT (1994) and only one is a party to a subsequent international instrument on tobacco control.

Trade-related aspects of intellectual property rights (TRIPS)

The World Trade Organization's (1994) Agreement on Trade-Related Aspects of Intellectual Property Rights may have some impact on the capacity of countries to regulate tobacco through the introduction of labeling restrictions and plain or generic packaging. Article 15, the basic rule of the trademarks section in TRIPS, requires that any sign, or combination of signs, capable of distinguishing the goods and services of one undertaking from those of others, must be eligible for registration as a trademark, provided that such a trademark is visually perceptible. Article 20 of TRIPS provides:

> The use of a trademark in the course of trade shall not be unjustifiably encumbered by special requirements, such as use with another trademark, use in a special form or use in a manner detrimental to its capability to distinguish the goods or services of one undertaking from those of other undertakings.

The tobacco industry has argued that labeling restrictions are an unjustified encumbrance on the rights of the tobacco companies to use their trademarks and thereby violate Article 20 of TRIPS.

There are, however, strong counter-arguments to the claim of the tobacco industry. TRIPS, like GATT, contains an exception for measures necessary to protect public health. Notably, no TRIPS challenge has been initiated by a member state to date against either Australia or South Africa, both of which require health warnings that take up 25% of the tobacco packet (Allen, personal communication). Whether plain packaging, which would involve displacement of all tobacco company labeling and the removal of trademarks entirely, would violate TRIPS remains an open question. Importantly, tobacco industry lawyers have alleged that plain-packaging requirements would breach state party substantive trademark obligations under the Paris Convention for the Protection of Industrial Property and the North American Free Trade Agreement (NAFTA). Although no legal cases have addressed these issues, authorities suggest that plain-packaging requirements may not violate either agreement (Hertz 1997).

WTO agreements related to non-tariff barriers

With the conclusion of the Uruguay Round, trade ministers adopted a number of agreements that deal with various non-tariff barriers designed by countries to protect domestic industries from foreign competition. Although no case has addressed the issue thus far, such agreements may have some important implications for future tobacco control regulatory efforts.

Countries use non-tariff barriers to treat similar imported goods differently than domestic products. Collectively, the non-tariff barrier agreements are designed to promote free competition by controlling technical and bureaucratic measures that involve hindrances to trade (WTO 1998b). Although it is beyond the scope of this paper to analyze the impact of such agreements in depth, a brief review of some of the more significant agreements is in order. For example, the Agreement on Technical Barriers to Trade (TBT) is intended to ensure that national regulations, standards, testing, and certification procedures for imports do not create unnecessary obstacles to trade. Although the scope of the coverage of the TBT Agreement is not clear, it may have wide-ranging implications for tobacco control efforts, including the regulation of tobacco product constituents, labelling of tobacco product packages, and tobacco package design and marking. An array of regulatory provisions concerning tobacco have been notified to the WTO under the TBT Agreement (Plotkin 2000). The TBT agreement, like GATT (1994), provides an exception for public health. In addition, the Agreement on Import Licensing Procedures requires that import licensing systems should not be used as disguised protectionist measures.

As a further example, the Rules of Origin Agreement requires WTO members to ensure that their rules of origin—the criteria used to define where a good is made—are transparent; that they do not have a restricting, distorting, or disruptive effect on international trade; and that they are administered in a consistent, uniform, impartial, and reasonable manner. Rules of origin are a critical part of trade rules because a number of countries have used rules of origin to protect domestic industries. With the rise of preferential trading arrangements, rules of origin have become increasingly important because the benefit of being determined to be from a certain country or trading group has increased. The Rules of Origin Agreement has already had important implications for countries seeking to protect domestic tobacco production. As described above, it has led to the elimination of domestic content legislation that required that all cigarettes produced in the United States contain at least 75% domestically grown tobacco (USDA 1997b). In addition, the new WTO Agreement on Subsidies and Countervailing Measures (SCM Agreement) addresses two closely related topics: export subsidies and the use of countervailing measures to offset the injury caused by subsidized imports. The new SCM Agreement divides specific subsidies into one of three categories: prohibited, actionable, and non-actionable, and establishes the substantive and procedural requirements that must be fulfilled before a state may apply a countervailing measure (WTO 1998c).

At present, no trade-restrictive measures enacted by countries to protect public health from the international tobacco trade have been challenged as inconsistent with these new multilateral agreements, and the implications of these agreements for national and international efforts to address the adverse impacts of tobacco trade remain unclear. In fact, the relationship of many of the agreements and GATT (1994) is not always clear.

Multilateral agreement on investment (MAI)

Although the negotiations of the MAI came to a standstill in late 1998, it is useful to discuss the implications of the last draft of the treaty since negotiations on the MAI may eventually recommence in some form. The proposed MAI was a new international economic treaty designed and negotiated under the auspices of the OECD but open to signature by all nations. The draft agreement contained a set of rules designed to ease the flow of assets across international borders by restricting the legal authority of nations to regulate foreign investment (Vallianatos 1997; Sforza-Roderick *et al*. 1998). These rules, to some extent, also limited national regulatory authority over both domestic and foreign corporations that do business within its sovereign borders (Preamble Center for Public Policy 1998).

Some draft MAI rules, including national treatment and most favored nation, are familiar concepts well established by GATT and WTO. The draft treaty contained other provisions calculated to remove obstacles to economic integration. For example, the proposed agreement included a ban on restrictions on the repatriation of profits or the movement of capital; empowered private investors and corporations to sue governments and seek monetary compensation in the event that a law, practice, or policy violated investor rights under the treaty; and banned uncompensated expropriation of assets, including governmental actions that are 'tantamount to expropriation'. Other notable aspects of the draft treaty included rollback and standstill provisions that would require governments to eliminate laws that violate MAI rules and to refrain from passing any such laws in the future. The treaty would also place limits on governments' ability to employ performance requirements, which are laws that require investors to invest in the local economy or meet social or environmental goals in exchange for market access.

Proponents of the MAI argued that such an agreement was a necessary step to promote international investment and that the treaty would have limited impact on the capacity of countries to adopt and implement national and international regulatory policies to protect public health, including tobacco control (Dymond 1997). In particular, some argued that the MAI was designed to be consistent with GATT and WTO, and that nations could adopt a wide variety of non-discriminatory tobacco control measures without violating MAI obligations. Further, nations may adopt country-specific reservations and exceptions to the proposed treaty in order to protect public health.

Many public health professionals contend, to the contrary, that the draft MAI could have extremely negative implications for international tobacco control efforts (Clarke 1998). Indeed, the health policy impact of the draft MAI is subject to significant criticism from tobacco-control advocates (Sforza-Roderick *et al.* 1998). Most importantly, the draft MAI, unlike GATT (1994), did not contain exceptions for regulations imposed on public health grounds. Consequently, some have suggested that national regulations regarding tobacco imports, advertising, ingredient disclosure, and other measures could come under attack if the treaty is ever adopted. Furthermore, the draft treaty's provision that gave private investors the same legal standing as governments to enforce the terms of the agreement is a radical departure from the WTO regime, where the right to pursue legal action over perceived trade violations is the sole province of governments. Moreover, the investor–state dispute-settlement mechanism of the draft MAI empowered investors—corporations or individuals—to sue, not only national governments but also, provincial, territorial, and local governments, for monetary damages. Consequently, the tobacco industry could use the MAI, if it enters into force, to threaten important local and national laws that protect public health by arguing that such laws are discriminatory against foreign investors, that they constitute expropriation of investor assets, or that they are illegal performance requirements.

Commentators suggest that, even if tobacco companies lose in court, the mere threat of litigation could chill local and national tobacco-control efforts, particularly in developing nations that are just beginning efforts to pass tobacco-control laws. The draft MAI incorporated a broad definition of expropriation applying it to any action that results in a denial of an investor of some benefit of property ownership. Although the expropriation provisions under NAFTA are not as comprehensive as those under the draft MAI, the MAI's dispute-resolution provisions were explicitly modeled on those of NAFTA. The cases currently being litigated under NAFTA are the first where foreign investors have attacked public health and environmental laws as expropriatory. The outcome of these cases may set a critical example for the MAI. For example, the recently settled *Ethyl Corporation v. Government of Canada,* in which Ethyl claimed that Canada's ban of the gasoline additive MMT violated provisions of NAFTA and sought restitution of $251 million, demonstrates the potential impact of such an agreement (Bettcher, personal communication).

Although the OECD originally intended to complete negotiations on the MAI by May 1997, the timetable was twice extended in an effort to iron out differences (OECD 1998; Preamble Center for Public Policy 1998). With no scheduled deadline to adopt the agreement, negotiations fell through in 1998 and, at the time of this writing, there are no plans to resume negotiation. It is uncertain whether or not talks will resume and, if they do, whether or not the treaty will enter into force in its current form or at all.

14.3.2 Regional agreements

There are a number of regional trade agreements aimed at liberalizing trade among countries. The WTO reports that nearly all of its members have entered into regional trade agreements, with more than 80 of these agreements currently in force (WTO 1998a). Many of these agreements have significantly reduced barriers to trade in a wide variety of goods and services, including tobacco and tobacco products. Major agreements and/or regional trade associations include: NAFTA, the European Union (EU), the Association of SE Asian Nations (ASEAN), the Common Market of East and Southern Africa (COMESA), the Economic Community of Western African States (ECOWAS), and the Organization of American States (OAS) (Chaloupka and Corbett 1998).

The conclusion of NAFTA, for example, created the opportunity for significantly increased tobacco trade in North America. NAFTA is a comprehensive trade agreement that calls for dramatic market opening through the elimination of all tariff and non-tariff barriers to trade between Canada, Mexico, and the United States. The agreement has significant implications for the United States and its tobacco trade in the region (USDA 1998). With the implementation of NAFTA in 1994, nearly one-half of US farm exports, including tobacco, now enter Mexico duty-free. By the tenth year, approximately 95% of agricultural trade in the region will be duty-free. In addition, the largest barrier to US farm exports to Mexico was a restrictive licensing system for some US agricultural products, including tobacco. Upon NAFTA's entry into force, all non-tariff barriers, including Mexico's import licensing requirements, were eliminated (US Department of Commerce 1998). Furthermore, NAFTA obligations include rules of origin designed to prevent free riders from benefiting through minor processing or trans-shipment of non-NAFTA goods with only goods made in North America qualifying for preferential tariff treatment.

The EU has also addressed the production and use of tobacco within the European Community. The EU has heavily subsidized tobacco products pursuant to its Common Agricultural Policy, promoting the sale of tobacco at 'giveaway' prices in Northern Africa and Eastern Europe (Roemer 1993). However, the EU also regulates tobacco products in order to protect public health within the region. Article 129 of the Treaty of Rome provides that the European Commission may take any useful initiative to promote coordination of the member states' policies in order to ensure a high level of human health protection. One example of these initiatives is the recently adopted directive that requires all EU member states to ban almost all tobacco advertising by 2006 (EU 1998). Another is an earlier directive on tobacco-product labeling that specifies the nature of the warning labels, including their content, size, placement, and print, that must appear on tobacco packages in the official language of the country of final marketing, as well as the disclosure of tar and nicotine content and other toxic tobacco additives.

14.3.3 Bilateral treaties

In addition to the regional and international trade agreements, there are numerous bilateral agreements reducing tariff and non-tariff barriers to trade, some of which specifically address trade in tobacco products. As described in Section 14.4 below, among the most notable of the tobacco-related bilateral treaties are the agreements between the United States, Japan, South Korea, Taiwan, and Thailand, resulting from actions take by the United States Representative under Section 301 of the US Trade Act of 1974 (Roemer 1993; Bello and Holmer 1994; Chaloupka and Laixuthai 1996; Chaloupka and Corbett 1998).

Section 301 of the Trade Act of 1974, as amended, is the US legislative device designed to open foreign markets to American exports of goods and services, and to achieve improved protection of intellectual property rights and equitable rules for investment abroad. Section 301 authorized the US President to investigate cases where trade and other practices of foreign countries were considered unjustifiable, unreasonable, or discriminatory, in that they limited the ability of US firms to sell their goods and services in foreign markets. Further, it expanded presidential authority to include trade in all American goods and services, and allowed the investigation of practices that were unreasonable, but that did not necessarily violate GATT. If negotiations were unsuccessful in reducing the limits on trade, Section 301 authorized the president to impose retaliatory trade sanctions.

Section 301 was strengthened by the Omnibus Trade and Competitiveness Act of 1988. Known as 'Super 301', these amendments require the US Trade Representative to annually identify countries whose practices consistently limit market access to US firms. If negotiations fail to eliminate the unfair trading practices, the amendments make retaliatory action under Section 301 'mandatory', unless the President deems these measures harmful to US economic interests. Section 301 has been described as the most important 'crowbar' used by American trade negotiators to enhance their leverage and persuade an otherwise recalcitrant trading partner to agree to open up its markets (Bello and Holmer 1994). This crowbar has been exerted with dramatic effect to open up Asian markets to US tobacco companies.

Between 1986 and 1990, as extensively described by Chaloupka *et al.*, the Reagan and Bush administrations successfully used the threat of retaliatory trade sanctions under Section 301 to pressure Japan, Taiwan, South Korea, and Thailand to establish bilateral trade agreements to open up their closed markets to American cigarette exports (Chaloupka and Laixuthai 1996; Chaloupka and Corbett 1998). As described above, when Thailand resisted, the United States took the matter to GATT, which ruled that Thailand must open its markets to American cigarettes.

Unlike its predecessors, the Clinton administration has not utilized Section 301 to force open foreign markets to American tobacco products (Chaloupka and Corbett 1998). Further, the US government has begun to address public health concerns and tobacco trade policy. The US has agreed not to oppose 'non-discriminatory' tobacco control laws in other countries (Bloom 1998). This position also has been adopted by the US Congress though the Doggett Amendment to the FY98 Appropriations Act for the Departments of Commerce, State and Justice, the Judiciary, and related agencies. The Doggett Amendment mandates that:

> None of the funds provided by this Act shall be available to promote the sale or export of tobacco or tobacco products, or to seek the reduction or removal by any foreign country or restrictions on the marketing of tobacco or tobacco products, except for restrictions which are not applied equally to all tobacco or tobacco products of the same type.

The amendment is limited, however, in that it does not cover all federal agencies and is subject to renewal (Weissman and Hammond 1998). On February 17, 1998, the Clinton administration issued a directive to all diplomatic posts with guidelines largely similar to those articulated in the Doggett Amendment (Bloom 1998). As a further example, US health officials are now included in all trade policy deliberations involving tobacco products, and commentators report that public health concerns carry significant weight in tobacco trade policy deliberations (Wildavsky 1995).

Although there has been a notable shift in tobacco trade policy under the Clinton administration, the US government still supports the efforts of the American tobacco industry to export tobacco products in numerous ways (Nagy 1994; Taylor 1996). In general, tobacco products that are sold domestically or exported from the United States are specifically exempted from federal laws and regulations applicable to harmful products, including the Federal Hazardous Substances Act, the Toxic Substances Control Act, and the Controlled Substances Act. Furthermore, although federal regulations require that all cigarette packaging and advertising in the United States contain health warning labels and prohibit television and radio advertising, such regulations do not apply to tobacco exports.

14.4 Existing empirical evidence

As described in the previous section, a variety of agreements have significantly reduced tariff and non-tariff barriers to trade in tobacco and tobacco products. As described in Section 14.2, economic theory suggests that trade in tobacco and tobacco products should be rapidly increasing as tobacco-related trade becomes increasingly liberalized. Descriptive data on global trade in tobacco and tobacco products is consistent with this hypothesis. For example, the agreements reached in the most recently completed round of the GATT appear to have had a dramatic impact on global trade in tobacco and tobacco products. From 1994 through 1997, there was a 12.5% increase in unmanufactured tobacco exports globally, after a decade of virtually no growth (USDA 1994, 1997a). Similarly, cigarette exports, which had been relatively stable over the period from 1975 through 1985, began rising at an increasing rate in the mid-1980s, and have accelerated since GATT (1994), with global cigarette exports rising by 42% from 1993 to 1996 (see Fig. 14.1). The increased trade in tobacco products is likely to have contributed to the 5% growth in global cigarette consumption during this same period (Chaloupka and Corbett 1998).

Relatively few formal econometric analyses have been conducted to examine the impact of trade liberalization on tobacco use. Chaloupka and Laixuthai (1996) were the first to consider this issue by examining the impact of the Section 301 agreements described above on cigarette smoking in Asian countries. They used annual data for the period from 1970 through 1991 for 10 countries: the four affected by the Section 301 agreements (Japan, Taiwan, South Korea, and Thailand) and, as a control group, six others where foreign tobacco firms have historically had limited access to tobacco markets (China, India, Indonesia, Malaysia, Pakistan, and the Philippines). Their outcome variables were per capita cigarette consumption and the market share for US cigarettes. Key independent variables included an indicator for the years in which the Section 301 agreements applied and per capita GDP. Given the lack of consistent data

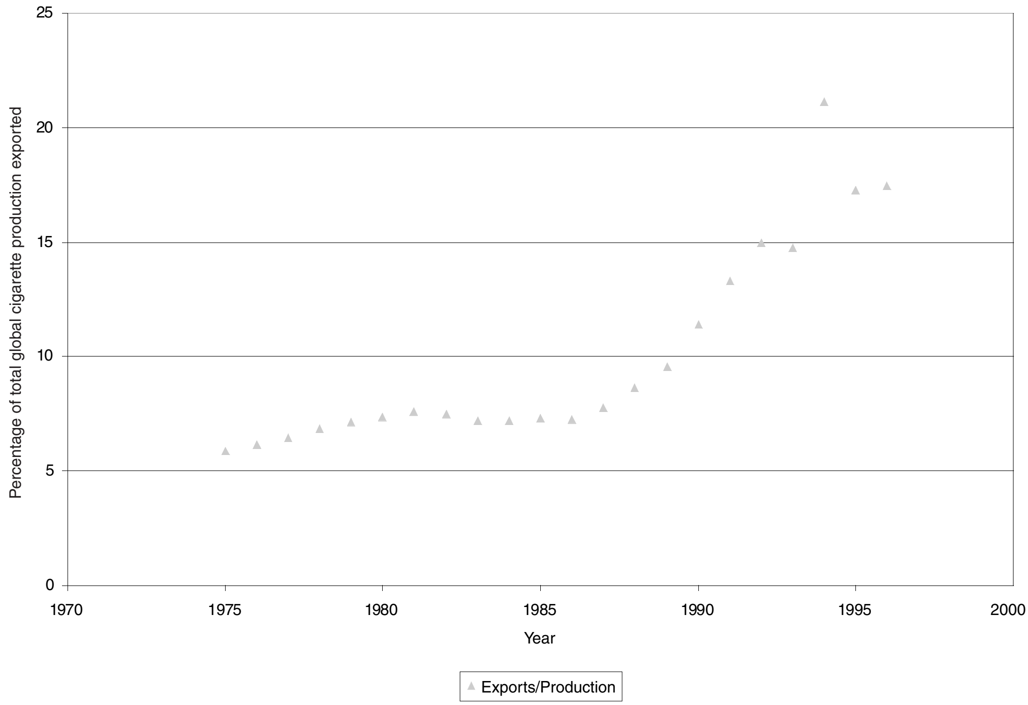

Fig. 14.1 Share of total cigarette production exported globally.

across countries and over time on other important determinants of cigarette demand, they estimated fixed-effects models to control for other unmeasured country- and time-specific influences on demand.

As expected, Chaloupka and Laixuthai found that the market share of US cigarettes in countries affected by the Section 301 agreements rose sharply after their tobacco markets were opened. Their estimates imply that US market shares were 600% higher, on average, in 1991 than they would have been had these markets remained closed. More importantly, Chaloupka and Laixuthai found that the opening of the Japanese, Taiwanese, South Korean, and Thai cigarette markets led to a significant increase in cigarette smoking in these countries. They estimated that per capita cigarette consumption, by 1991, was 10% higher, on average, in the four countries than it would have been in the absence of the bilateral agreements.

As described above, economic theory and extensive empirical research on the determinants of cigarette demand suggest at least two reasons for increased cigarette smoking in response to the liberalization of tobacco-related trade. Before the Section 301 agreements, the tobacco product markets in Japan, Taiwan, South Korea, and Thailand were effectively monopolized, with the state-run monopolist controlling well over 90% of the markets. The monopolies were protected by tariff and non-tariff barriers that would have made imported cigarettes prohibitively expensive for most current or potential smokers. The elimination of the trade barriers and the subsequent entry of US firms made these markets more competitive which, theory predicts, would lead to reduced cigarette prices. Recent evidence from Taiwan supports this hypothesis (Hsieh and Hu 1997). Before the Taiwanese cigarette markets were opened to US firms in 1987, the average price of imported cigarettes in Taiwan was NT$46 per pack, more than double the price of domestically produced cigarettes. Given the large price differences, imported cigarettes comprised less than 2% of total cigarette consumption. In the first year after the Section 301 agreement, inflation-adjusted prices for both domestic and imported cigarettes fell sharply.

Hsieh and Hu (1997) examined the impact of these reductions in cigarette prices on cigarette smoking in Taiwan, decomposing the impact of the opening of the cigarette markets into two effects: a 'switching' effect and a 'market expansion' effect. With respect to the first, Hsieh and Hu noted that the ratio of imported cigarette prices to domestic cigarette prices fell from 2.08 in 1986 to 1.64 in 1987. The decline in the relative price of imported cigarettes resulted in some current smokers switching from domestically produced brands to imported brands. Hsieh and Hu estimated that this switching accounted for a reduction of approximately 10 packs per capita in the consumption of domestic cigarettes. In addition, as a result of the overall decline in all cigarette prices, they estimated that overall cigarette demand rose by about 10 packs per capita—the 'market expansion' effect. As suggested by Hsieh and Lin (1998), this effect induced the Taiwanese government to adopt strong tobacco control policies that, over time, have reduced per capita cigarette consumption below its 1986 level.

A second factor that almost certainly contributed to the increase in smoking that followed the Section 301 agreements is the increased cigarette advertising and promotion that occurred. In Japan, for example, total cigarette advertising by US cigarette companies nearly doubled between 1987 and 1990, while the Japan Tobacco Company responded by increasing its advertising as well. As a result, cigarettes went from being the fortieth most-advertised product on Japanese television to being the second most advertised (Sesser 1993). Hagihara and Takeshita (1995) concluded that US cigarette advertising significantly increased the market share of US cigarettes in Osaka, and suggested that this advertising may explain the increased smoking prevalence observed among young Japanese women in the late 1980s. Similarly, prior to the opening of the Taiwanese cigarette markets, the Taiwan Tobacco and Wine Monopoly Bureau rarely advertised. Its advertisements were limited to new product announcements and a few billboards near the Bureau's branch offices and distribution centers. As part of the Section 301 agreement, however, advertising spread to magazines, with each cigarette producer allowed 120 annual magazine advertisements (Hsieh and Lin 1998).

14.5 New empirical evidence

14.5.1 Data and methods

In order to explore the impact of trade liberalization on tobacco consumption in a larger group of countries, a variant of the model used by Chaloupka and Laixuthai (1996) was estimated using annual data for 42 countries over the period from 1970 through 1995. In the Chaloupka and Laixuthai model, the opening of the cigarette markets was a discrete event that was relatively easy to capture empirically. It is more difficult to do this when trying to develop a measure of 'openness' for most countries. One option would be to construct an objective measure based on tariffs on tobacco and tobacco products. However, the relative importance on non-tariff barriers would render a measure based solely on tariffs suspect (Leamer 1988). Developing an objective measure of non-tariff barriers, however, is a daunting task. Many of these barriers are inherently difficult to quantify, they are not all equally restrictive, and it is not clear how they should be combined with data on tariffs (Leamer 1988). To add to these complications, the necessary data are not readily available for most countries.

An alternative approach is to employ tobacco-related import and export data as an indicator of barriers to trade in tobacco and tobacco products. However, this approach is problematic if the other determinants of trade, including relative prices, technology, and natural barriers to trade, are not constant over time (Leamer 1988). Similarly, the ratio of cigarette imports to domestic cigarette consumption (or production) could be used as a proxy for openness of tobacco-related trade. However, in addition to problems in obtaining the necessary data, the use of this variable as a determinant of cigarette demand would introduce a mechanical relationship between the explanatory variable of interest and the dependent variable. An alternative to this narrowly defined measure of openness would be to use a broader measure of trade intensity, such as total trade (exports plus imports) as a share of GDP. This type of measure, or some variant of it, is commonly used in macro-economic growth models (e.g. Sheehey 1995). This general measure of trade intensity will be a good proxy for tobacco-related trade barriers, if these barriers are highly correlated with barriers to trade in other goods and services. Similar approaches could be used for measuring a country's openness to tobacco-related investment.

Per capita cigarette consumption, based on data from the USDA's tobacco database and the United Nations (UN) Population Division, is the dependent variable in all estimated models. Key independent variables include real per capita GDP, obtained from the United Nations Statistics Division, 'trade openness', based on data from the UN Comtrade database, and lagged cigarette consumption. Lagged consumption is included to account for the addictive nature of cigarette smoking.[1] Following Chaloupka and Laixuthai (1996), fixed-effects models are estimated to account for unmeasured country- and time-specific influences on demand. Finally, because of the correlation between the lagged dependent variable and the error term in this type of dynamic model, the model is first differenced and estimated using instrumental variables methods (Anderson and Hsiao 1981; Greene 1997).

All models are estimated separately for low-income, middle-income, and high-income countries. Low-income countries are defined as those with real average per capita GDP of US$1000 over the 1970–95 period, and include: Bangladesh, China, Egypt, India, Indonesia, Morocco, Nigeria, and the Philippines. Middle-income countries are defined as those with average real per capita GDP in the range from US$1000 to US$3000, and include: Argentina, Brazil, Bulgaria, Colombia, Chile, (former) Czechoslovakia, Hungary, Malaysia, Mexico, Poland, Romania, the (former) Soviet Union, Thailand, and Venezuela. Finally, high-income countries are those with average

[1] Given the lack of data on other determinants of cigarette demand, estimating a 'rational addiction' model of cigarette demand was not possible.

real per capita GDP of over US$3000, and include: Australia, Austria, Belgium-Luxembourg, Canada, Denmark, Greece, Taiwan, Turkey, France, Italy, Japan, Netherlands, Portugal, South Korea, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

14.5.2 Results and discussion

The estimates are presented in Table 14. 1. As expected, the estimated coefficient on the 'openness' measure is positive, implying that trade liberalization leads to increased cigarette smoking. This variable is highly significant in models estimated for low-income and middle-income countries, but is insignificant in high-income countries, while the magnitude of the coefficient is largest in low-income countries. This implies that trade liberalization has a large and significant impact on smoking in low-income countries, and a smaller, but still important effect on smoking in middle-income countries, while having no effect on higher income countries. As expected, past cigarette consumption has a strong positive impact on current consumption, consistent with the hypothesis that smoking is an addictive behavior. Finally, smoking is found to be positively related to income in all three groups of countries, with the magnitude of the effect greatest in low-income countries.

There is a plausible explanation for the finding that trade liberalization has its greatest impact on cigarette consumption in low-income countries. In general, openness is higher in high-income countries, consistent with the evidence on the positive relationship between trade and economic growth. If there is a positive but diminishing marginal effect of openness as openness rises, then one would expect to find the greatest marginal effect in low-income countries, which have historically been less open, and the smallest effect in high-income countries, where there have been relatively fewer barriers to trade. Existing empirical evidence supports the hypothesis that the mar-

Table 14.1 Trade liberalization and cigarette consumption, 1970–75

Explanatory variables	Low-income countries	Middle-income countries	High-income countries
Lagged cigarette consumption	0.292[a] (0.072)	0.749[a] (0.161)	0.964[a] (0.146)
'Openness' measure	0.130[a] (0.054)	0.057[b] (0.034)	0.010 (0.042)
Per capita GDP	1.561[a] (0.172)	0.239[a] (0.056)	0.126[a] (0.043)
Intercept	0.134 (0.108)	0.346[a] (0.069)	0.184[a] (0.057)
F statistic	5.44	1.81	1.52

Standard errors are in parentheses.
[a] Indicates significance at the 99% level.
[b] Indicates significance at the 90% level.
All equations include year and country dummy variables, which are not reported here.

ginal impact of trade on development falls as a country's income rises: Baldwin (1984), for example, concluded that the economic effects of trade liberalization in developed countries were very small.

These findings are consistent with the earlier empirical work by Hsieh and Hu (1997) for Taiwan, and Chaloupka and Laixuthai (1996) for several Asian countries, which concluded that liberalization of trade in tobacco products led to significant increases in cigarette smoking. It is important to keep in mind that this analysis does not examine the overall benefits and costs of trade liberalization, but simply that it points out one of the potentially harmful effects of the recent dramatic increases in global trade in tobacco and tobacco products. The key message from this is that, given increasing globalization and the strong positive relationship between globalization and cigarette smoking in low-income and middle-income countries, these countries need to be more proactive in adopting strong tobacco control policies if reducing the health consequences of tobacco use is a priority. As discussed in other chapters in this volume, (see Chapter 10, Chapter 8, Chapter 9, Chapter 11, and Chapter 12), there are a number of policies and other approaches that governments can adopt to discourage tobacco use.

14.6 Conclusions

Controlling the rapid globalization of the tobacco epidemic is an extraordinary public health challenge. The recent liberalization of tobacco-related trade through bilateral, regional, and international trade agreements has significantly reduced tariff and non-tariff trade barriers. The elimination or reduction of these barriers has almost certainly increased competition in tobacco-product markets leading to reductions in the relative prices of these products and increases in their advertising and promotion. Economic theory, and a small but growing body of empirical research, clearly indicate that the liberalization of tobacco-related trade has contributed to global increases in cigarette smoking and other tobacco use, particularly in low-income and middle-income countries. In the absence of strong tobacco-control activities, the long-term consequences of this will be a significant increase in the burden of death and disease caused by tobacco.

Tobacco-related international trade is, however, only one element of the globalization of tobacco growing, production, and use. The globalization of tobacco through trade, investment, advertising, promotion, smuggling, and other means, necessitates prompt and effective national, regional, and global action, including the adoption and implementation of strong tobacco-control regulation, particularly in low-income and middle-income nations where globalization has its greatest impact on tobacco use. Increased trade liberalization and other aspects of globalization, however, do not preclude strong national, regional, and global tobacco control activities. The GATT decision in the Thai case described above suggests that strong-tobacco control policies aimed at reducing the health consequences of tobacco use are consistent with international trade agreements, as long as they are applied in a non-discriminatory fashion. Indeed, the decision implies that a country could ban the sale of all cigarettes and other tobacco products—domestic and foreign—and still be consistent with the GATT.

Since many of the challenges of tobacco control increasingly transcend national boundaries, effectively stemming global tobacco use requires that countries address tobacco control not only within their own borders, but also collectively through the development and implementation of multilateral instruments on tobacco control (Taylor 1996). The increasing transnationalization of the tobacco epidemic restricts the capacity of nations to regulate tobacco effectively through unilateral action. Depending upon the political will of states, these international tobacco-control instruments could promote the harmonization of national measures on aspects of tobacco control that transcend national boundaries, including checks on smuggling, pricing policies, advertising restrictions, the regulation and disclosure of toxic ingredients, and information sharing, as well as the establishment of comprehensive national tobacco control regulatory policies. Moreover, multilateral tobacco-control instruments could incorporate institutional mechanisms and resources to assist developing countries to build sustainable national capacity in tobacco control regulation.

Given global trends toward freer trade, future multilateral instruments for tobacco control could also address tobacco trade issues (Bettcher *et al.* in press). As Bettcher *et al.* have pointed out, it cannot be assumed that GATT (1994) will be applied in a manner that supports the protection of public health in future decisions. Under GATT (1994), the central criterion for resolving trade disputes is the promotion of free trade, not the protection of public health. International legal scholars have frequently and consistently noted the trade bias of the WTO in cross-border disputes relating to the environmental consequences of trade; the same is likely to apply to disputes where trade may have consequences for public health. Moreover, the implications of several new WTO multilateral agreements for tobacco regulation remain uncertain and may leave governments unsure as to their ability to establish and enforce tobacco-related regulations where these regulations have an impact on trade. Finally, future international agreements, such as the for-now side-lined Multilateral Agreement on Investments, may severely restrict the capacity of countries to regulate tobacco to protect public health.

As described further by Jha *et al.* (Chapter 19) and Taylor (1996), the proposed World Health Organization Framework Convention on Tobacco Control offers a long-term approach to global cooperation and coordination on tobacco control. The Convention is likely to be an important mechanism for ensuring that tobacco control moves into a new phase where domestic policies/actions are harmonized with global action and national foreign policies (Yach 1998, Taylor and Bettcher 2000).

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