

April 2012

TOBACCO TAXES

Large Disparities in Rates for Smoking Products Trigger Significant Market Shifts to Avoid Higher Taxes





Highlights of GAO-12-475, a report to congressional committees

Why GAO Did This Study

In 2009, CHIPRA increased and equalized federal excise tax rates for cigarettes, roll-your-own tobacco, and small cigars. Though CHIPRA also increased federal excise tax rates for pipe tobacco and large cigars, it raised the pipe tobacco tax to a rate significantly below the equalized rate for the other products, and its large cigar excise tax can be significantly lower, depending on price. Treasury collects federal excise taxes on tobacco products.

Also passed in 2009, the Family **Smoking Prevention and Tobacco** Control Act (Tobacco Control Act) granted FDA regulatory authority over tobacco products. This act directed GAO to report on trade in tobacco products, including the effects of differing tobacco tax rates. This report (1) reviews the market shifts in smoking tobacco products since CHIPRA; (2) examines the impact of the market shifts on federal revenue and Treasury's actions to respond; and (3) describes differences in FDA's regulation of various smoking tobacco products. GAO interviewed agency officials, industry members, and public health representatives. GAO analyzed tax and revenue data and reviewed relevant literature.

What GAO Recommends

As Congress continues its oversight of CHIPRA and Tobacco Control Act implementation, it should consider equalizing tax rates on roll-your-own and pipe tobacco and, in consultation with Treasury, consider options for reducing tax avoidance due to tax differentials between small and large cigars. Treasury generally agreed with GAO's conclusions and observations.

View GAO-12-475. View related video clip. For more information, contact David Gootnick at (202) 512-3149 or gootnickd@gao.gov.

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Large Disparities in Rates for Smoking Products Trigger Significant Market Shifts to Avoid Higher Taxes

What GAO Found

Large federal excise tax disparities among tobacco products, which resulted from the Children's Health Insurance Program Reauthorization Act (CHIPRA) of 2009, created opportunities for tax avoidance and led to significant market shifts by manufacturers and price sensitive consumers toward the lower-taxed products. Monthly sales of pipe tobacco increased from approximately 240,000 pounds in January 2009 to over 3 million pounds in September 2011, while roll-your-own tobacco dropped from about 2 million pounds to 315,000 pounds. For the same months, large cigar sales increased from 411 million to over 1 billion cigars, while small cigars dropped from about 430 million to 60 million cigars (see figure). According to government, industry, and nongovernmental organization representatives, many roll-your-own tobacco and small cigar manufacturers shifted to the lower-taxed products after CHIPRA to avoid paying higher taxes.



While revenue collected for all smoking tobacco products from April 2009 through fiscal year 2011 amounted to \$40 billion, GAO estimates that federal revenue losses due to market shifts from roll-your-own to pipe tobacco and from small to large cigars range from about \$615 million to \$1.1 billion for the same period. The Department of the Treasury (Treasury) has limited options to respond to these market shifts. Treasury has attempted to differentiate between roll-your-own and pipe tobacco for tax purposes but faces challenges because the definitions of the two products in the Internal Revenue Code of 1986 do not specify distinguishing physical characteristics. Treasury also has limited options to address the market shift to large cigars and faces added complexity in monitoring and enforcing tax payments due to the change in large cigar tax rates.

Unlike cigarettes and roll-your-own tobacco, pipe tobacco and cigars are not currently regulated by the Food and Drug Administration (FDA) and thus are not subject to the same restrictions on characterizing flavors, sales, or distribution. In 2011, FDA indicated its intent to issue a proposed rule that would deem products meeting the statutory definition of "tobacco product" to be subject to FDA's regulation. However, FDA had not issued the proposed rule as of March 2012. FDA officials told GAO that developing the rule was taking longer than expected.

_ United States Government Accountability Office

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Abbreviations

CHIPRA	Children's Health Insurance Program Reauthorization Act of 2009
FDA	Food and Drug Administration
IRC	Internal Revenue Code of 1986
RYO	roll-your-own tobacco
Tobacco Control Act	Family Smoking Prevention and Tobacco Control Act
Treasury	Department of the Treasury

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United States Government Accountability Office Washington, DC 20548

April 18, 2012

The Honorable Tom Harkin Chairman The Honorable Michael B. Enzi Ranking Member Committee on Health, Education, Labor, and Pensions United States Senate

The Honorable Fred Upton Chairman The Honorable Henry A. Waxman Ranking Member Committee on Energy and Commerce United States House of Representatives

Tobacco use is the leading cause of preventable death, disease, and disability and a significant contributor to health care costs in the United States. The Centers for Disease Control and Prevention reports that smoking and exposure to secondhand smoke account for over 440,000 premature deaths per year and cost the United States an estimated \$193 billion annually in health care expenditures and productivity losses. Federal and state legislation has aimed to discourage tobacco use and raise revenues by increasing excise taxes on tobacco products. The most recent federal increase occurred in 2009 when Congress passed the Children's Health Insurance Program Reauthorization Act of 2009 (CHIPRA),¹ which amended the Internal Revenue Code of 1986 (IRC) by raising excise tax rates on tobacco products. The Department of the Treasury (Treasury) is responsible for collecting these taxes. In addition, in order to reduce tobacco use and protect public health, in June 2009, Congress passed the Family Smoking Prevention and Tobacco Control Act (Tobacco Control Act),² which granted the Food and Drug Administration (FDA) authority to regulate the manufacture, distribution, and marketing of tobacco products.

¹Pub. L. No. 111-3, 123 Stat. 8.

²Pub. L. No. 111-31, Div. A, 123 Stat. 1776.

Title III of the Tobacco Control Act directed GAO to report on various aspects of trade in tobacco products, including the effects resulting from the differing tax rates applicable to tobacco products.³ This report examines the federal revenue effects resulting from different federal excise tax rates on various smoking tobacco products and differences in FDA's regulation of these products. Specifically, we (1) review the market shifts among smoking tobacco products since CHIPRA went into effect on April 1, 2009; (2) examine the impact of these market shifts on federal revenue and Treasury's actions to respond; and (3) describe differences in FDA's regulation of various smoking tobacco products. Our review includes smoking tobacco products that are subject to federal excise tax: cigarettes and four other tobacco products-roll-your-own tobacco (sometimes called RYO), pipe tobacco, small cigars, and large cigars.⁴ However, in analyzing the market shifts among these products, we focused solely on the four smoking tobacco products other than cigarettes.

To address the three objectives in this study, we reviewed documents and interviewed agency officials from Treasury's Alcohol and Tobacco Tax and Trade Bureau, FDA, and the Centers for Disease Control and Prevention, as well as tobacco industry members, representatives of public health and other nongovernmental organizations, and academics, to obtain information on tobacco legislation and regulations, tobacco product sales trends, and consumption patterns. We also reviewed studies analyzing the relationship between tobacco tax increases and smoking, including among youth. We analyzed Treasury removals data to identify sales trends across the different tobacco products. As used in this report, for smoking tobacco products, "removals" means the amount removed for distribution in the United States from the factory or released from customs.⁵ In this report, we consider removals to be equivalent to sales and use the term sales. In addition, we collected and analyzed data

⁵26 U.S.C. § 5702(j).

³Responding to this mandate, in March 2011, we issued a first report on illicit tobacco trade and schemes. GAO, *Illicit Tobacco: Various Schemes Are Used to Evade Taxes and Fees*, GAO-11-313 (Washington, D.C.: Mar. 7, 2011).

⁴Smokeless tobacco products that are subject to federal excise taxes, such as chewing tobacco and snuff, were outside the scope of this review. "Processed tobacco" is not subject to federal excise tax and is defined in the IRC by what it is not: processed tobacco does not include the farming or growing of tobacco or the handling of tobacco solely for sale, shipment, or delivery to a manufacturer of tobacco products or processed tobacco.

on federal excise tax rates for these tobacco products and the revenues generated from their sale. We estimated what the effect on tax revenue collection would have been if the sales trends for roll-your-own and pipe tobacco and for small and large cigars had not been affected by substitution between the products but had been affected by the increase in price due to the tax—in other words, if the market shifts resulting from the substitution of higher-taxed products with lower-taxed products had not occurred. In this report, we refer to this estimated effect on federal tax revenue collection as revenue losses. Our analysis takes into account the expected fall in quantity demanded due to the price increases resulting from higher federal excise tax rates that CHIPRA imposed on all four of these smoking tobacco products. See appendix I for more information on our objectives, scope, and methodology.

We conducted this performance audit from March 2011 to April 2012 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Cigarettes continue to dominate the smoking tobacco product market, accounting for approximately 91 percent of sales in 2011. However, the use of other smoking tobacco products has increased over the past 10 years. Between 2001 and 2011, combined sales of roll-your-own tobacco, pipe tobacco, and small and large cigars grew from 3 percent of the smoking tobacco market to 9 percent. Although cigarette use in the United States is declining, it is partially offset by growing use of other smoking tobacco products. (See app. II for data on U.S. sales of smoking tobacco products from fiscal year 2001 through fiscal year 2011.)

Increasing the price of tobacco products by raising excise taxes is widely recognized as an effective policy for reducing smoking prevalence across

	socioeconomic and racial groups. ⁶ Public health and economic studies have found that adolescents are more responsive than adults to tobacco tax and price increases because they have less disposable income. ⁷ However, the impact of tax increases on reducing overall smoking prevalence is likely to be weaker if smokers can turn to tobacco products that can be used as functional equivalents of factory-made cigarettes and cost significantly less, according to public health officials and academics.
Tobacco Products Have Broad Definitions	Smoking tobacco products are broadly defined in the IRC. ⁸ Roll-your-own tobacco and pipe tobacco are defined by such factors as the use for which the product is suited and how they are offered for sale, as indicated by their appearance, type, packaging, and labeling. Cigars are differentiated from cigarettes by their wrapper and whether the product is, for a number of reasons, likely to be offered to, or purchased by, consumers as a cigarette. The tax rate for cigars is categorized into small and large cigars, which are differentiated by a weight threshold alone—small cigars are defined as weighing 3 pounds or less per thousand sticks. ^{9,10} The definitions found in the IRC characterize five types of
	⁶ The World Health Organization, for example, recommends raising tobacco taxes as one of the six components of its MPOWER framework, which provides guidance to countries to implement tobacco control policies. The World Bank recommends that, to curb tobacco use, excise taxes should account for two-thirds to four-fifths of the retail price of a pack of cigarettes. In the United States, the Centers for Disease Control and Prevention, the U.S. Surgeon General, and the Institute of Medicine of the National Academy of Sciences report that tobacco excise tax increases are one of the most effective tobacco strategies for reducing tobacco use. The Centers for Disease Control and Prevention, which through its Office on Smoking and Health is the lead federal agency for tobacco control and prevention, recognizes tobacco excise tax increases as an effective population-based tobacco control and prevention intervention at the federal and state levels.
	⁷ In 1989, GAO reviewed studies available at that time; see GAO, <i>Teenage Smoking:</i> <i>Higher Excise Tax Should Significantly Reduce the Number of Smokers</i> , GAO/HRD-89-119 (Washington, D.C.: June 30, 1989).
	⁸ 26 U.S.C. § 5702.
	⁹ 26 U.S.C. § 5701.
	¹⁰ As with small and large cigars, the IRC distinguishes between small and large cigarettes based on weight. Small cigarettes are defined as weighing 3 pounds or less per thousand sticks. When we refer to cigarettes in this report, we are discussing small cigarettes, as defined in the IRC. Treasury data show that no large cigarettes were manufactured in the United States between fiscal years 2001 and 2011.

smoking tobacco products that are relevant to our discussion, as shown in table 1.¹¹

Table 1: Definitions of Smoking To	obacco Products in the IRC
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Product	Definition
Cigarette	(1) Any roll of tobacco wrapped in paper or in any substance not containing tobacco or (2) any roll of tobacco wrapped in any substance containing tobacco which, because of its appearance, the type of tobacco used in the filler, or its packaging and labeling, is likely to be offered to, or purchased by, consumers as a cigarette described in (1).
Roll-Your-Own tobacco	Any tobacco which, because of its appearance, type, packaging, or labeling, is suitable for use and likely to be offered to, or purchased by, consumers as tobacco for making cigarettes or cigars, or for use as wrappers thereof.
Pipe tobacco	Any tobacco which, because of its appearance, type, packaging, or labeling, is suitable for use and likely to be offered to, or purchased by, consumers as tobacco to be smoked in a pipe.
Small cigar	Any roll of tobacco wrapped in leaf tobacco or in any substance containing tobacco (other than any roll of tobacco which is a cigarette) that weighs 3 pounds or less per thousand.
Large cigar	Any roll of tobacco wrapped in leaf tobacco or in any substance containing tobacco (other than any roll of tobacco which is a cigarette) that weighs more than 3 pounds per thousand.

Source: 26 U.S.C. §§ 5701, 5702.

Figure 1 shows a sample of different cigarette and cigar products. Several of the products closely resemble each other in size and shape. The three on the left are cigarettes. The first is a roll-your-own cigarette¹² made by hand with roll-your-own tobacco. The second is a roll-your-own cigarette made in a commercial roll-your-own machine¹³ with pipe tobacco. And the third from the left is a factory-made cigarette. The three products on the right are cigars, which can vary widely in size, shape, flavor, and aroma. According to industry representatives, a nongovernmental organization, and government officials, traditionally, cigars are hand-rolled, wrapped in a tobacco leaf, large in size, and their smoke is not meant to be inhaled. However, they indicated that many small and large cigars now have filters, are wrapped in a type of paper made with tobacco, and can be similar in size and appearance to cigarettes.

¹¹The IRC also provides definitions for smokeless tobacco products, which are not listed here.

¹²In this report, we define roll-your-own cigarettes as cigarettes made by consumers with loose tobacco, such as roll-your-own tobacco or pipe tobacco.

¹³Commercial roll-your-own machines are located in some stores that sell tobacco products. These machines allow customers to make a carton of cigarettes in less than 10 minutes. They are discussed in more detail in the next section of the report.



Figure 1: Examples of Cigarette and Cigar Products

Source: GAO.

Federal Excise Taxes on Tobacco Products Most Recently Increased by CHIPRA

While the enactment of CHIPRA in 2009 represents the most recent increase in federal excise taxes on tobacco products, Congress has taxed tobacco products since its inception as a means to raise revenue.¹⁴ Of the smoking tobacco products that we discuss in this report, Congress taxed only cigarettes, small cigars, and large cigars prior to 1989. Congress began taxing pipe tobacco on January 1, 1989,¹⁵ and roll-your-own tobacco on January 1, 2000.¹⁶ As the danger of tobacco became better known, congressional debates surrounding tobacco taxes expanded from increasing revenue to protecting the public from health risks of tobacco.

¹⁴Act of August 10, 1790, ch. 39, §§ 1-2, 1 Stat. 24 (1789).

¹⁵Technical and Miscellaneous Revenue Act of 1988, Pub. L. No. 100-647, § 5061(d), 102 Stat. 3342, 3679. This tax became effective after December 31, 1988.

¹⁶Balanced Budget Act of 1997, Pub. L. No. 105-33, § 9302(g), 111 Stat. 251, 672. This tax became effective after December 31, 1999.

Figure 2 shows the tax rates for four smoking tobacco products from 1951 to 2010.

Figure 2: Tax Rates for Cigarettes, Roll-Your-Own Tobacco, Pipe Tobacco, and Small Cigars, 1951-2010



Source: GAO analysis of the IRC.

Note: Large cigar tax rates are not included in this figure because they are taxed at an ad valorem rate—a percentage of the manufacturer's or importer's sale price—up to a maximum tax per thousand sticks, rather than a rate based on units or weight.

^aRoll-your-own and pipe tobacco taxes are shown at an equivalent tax per stick rate based on the Master Settlement Agreement conversion rate for roll-your-own tobacco of 0.0325 ounces per stick. We are applying this conversion rate to pipe tobacco for the purpose of comparison because Treasury has not yet differentiated the physical characteristics of roll-your-own and pipe tobacco.

The federal excise tax rates on different tobacco products are calculated in different ways. Cigarettes and small cigars are taxed on a unit basis number of sticks. Roll-your-own and pipe tobacco are taxed by weight. Table 2 provides information on the different federal excise tax rates for cigarettes, roll-your-own tobacco, pipe tobacco, and small cigars before and after CHIPRA.

Tobacco products	Unit of taxation	Before CHIPRA	After CHIPRA	Percentage increase
Cigarettes ^a	thousand sticks	\$19.50	\$50.33	158%
Roll-Your-Own tobacco	pounds	\$1.10	\$24.78	2,159%
Pipe tobacco	pounds	\$1.10	\$2.83	158%
Small cigars	thousand sticks	\$1.83	\$50.33	2,653%

Table 2: Federal Excise Tax Rates for Cigarettes, Roll-Your-Own Tobacco, Pipe Tobacco, and Small Cigars, Before and After CHIPRA

Source: GAO analysis of the IRC.

Note: Although we rounded the tax rates to the nearest cent for this table, we used the exact tax rate in our calculations.

^aThe federal excise tax rate for large cigarettes up to 6.5 inches long was \$40.95 per thousand sticks prior to CHIPRA and became \$105.69 per thousand sticks after CHIPRA. Large cigarettes over 6.5 inches long are taxed at the rate for small cigarettes, counting each 2.75 inches or fraction thereof of the length of each as one cigarette.

Before CHIPRA, the federal excise tax rate on cigarettes was higher than the rates on roll-your-own tobacco, pipe tobacco, and small cigars. However, CHIPRA significantly raised the tax rates on these four products and equalized the rates on cigarettes, roll-your-own tobacco, and small cigars (see fig. 3). Congress equalized the tax rates on rollyour-own tobacco and small cigars with the cigarette tax rate in part in response to concerns that smokers had been using these two products as substitutes for higher-taxed factory-made cigarettes, according to nongovernmental organizations. CHIPRA also raised the federal excise tax rate on pipe tobacco, but to a rate that is considerably lower. Prior to CHIPRA, the tax rate on roll-your-own tobacco and pipe tobacco was the same.



Figure 3: Changes in Federal Excise Tax Rates as a Result of CHIPRA—for Cigarettes, Roll-Your-Own Tobacco, Pipe Tobacco, and Small Cigars

Source: GAO analysis of the IRC.

^aThe roll-your-own tobacco and pipe tobacco cigarette stick equivalent is based on the weight of 0.0325 ounces of tobacco per cigarette stick using the Master Settlement Agreement conversion rate.

CHIPRA significantly changed the federal excise tax rate on large cigars. Large cigars are unique among tobacco products in that the tax rate is ad valorem—a percentage of the manufacturer's or importer's sale price per thousand sticks—up to a maximum tax per thousand sticks. Before CHIPRA, large cigars were taxed at 20.72 percent of the manufacturer's or importer's sale price up to a maximum tax of \$48.75 per thousand sticks. After CHIPRA, the ad valorem rate increased to 52.75 percent of the manufacturer's or importer's sale price, and the maximum tax per thousand sticks increased to \$402.60 (see table 3). According to an industry association, the retail prices of premium handmade large cigars range from \$3 to \$20. A public health organization noted that smaller factory-made cigars that meet the legal definition of a large cigar can cost as little as \$0.07 per cigar.

Table 3: Federal Excise Tax Rates for Large Cigars, Before and After CHIPRA

Tobacco product	Unit of taxation	Before CHIPRA	After CHIPRA	Percentage increase
Large cigars	Ad valorem rate based on manufacturer's or importer's sale price up to a maximum tax rate	20.72%	52.75%	155%
	Maximum tax per thousand sticks	\$48.75	\$402.60	726%

Source: GAO analysis of the IRC.

Figure 4 illustrates the tax structure for large cigars, before and after CHIPRA and includes three different scenarios. The sloped line represents the ad valorem rate, which becomes flat when it reaches the maximum tax per thousand cigars. The following are examples of the federal excise taxes manufacturers and importers would have to pay for differently priced large cigars, before and after CHIPRA (see examples corresponding with fig. 4):

- A. If the manufacturer's or importer's sale price per thousand large cigars is \$100, before CHIPRA the ad valorem tax rate was \$20.72 per thousand; after CHIPRA it became \$52.75 per thousand.
- B. If the manufacturer's or importer's sale price per thousand large cigars is \$500, before CHIPRA the tax rate was the maximum tax of \$48.75 per thousand; after CHIPRA it became \$263.75 per thousand based on the new ad valorem tax rate.
- C. If the manufacturer's or importer's sale price per thousand large cigars is \$800, before CHIPRA the tax rate was the maximum tax of \$48.75 per thousand; after CHIPRA it became \$402.60, which is the new maximum tax rate per thousand.





Note: The sloped lines represent the ad valorem rates for large cigars before and after CHIPRA, with the lines becoming flat when they reach the maximum rates of \$48.75 (before CHIPRA) and \$402.60 (after CHIPRA).

Treasury is responsible for administering and collecting the federal excise tax on all tobacco products, among other things.¹⁷ In general, federal excise taxes are collected when tobacco products leave the domestic factory or, in the case of imports, when the products are released from

¹⁷Treasury's Alcohol and Tobacco Tax and Trade Bureau administers Chapter 52 of the IRC (26 U.S.C. Chapter 52) pursuant to section 1111(d) of the Homeland Security Act of 2002, codified at 6 U.S.C. § 531(d). The Secretary of the Treasury has delegated various authorities through Treasury Department Order 120-01 (Revised), dated January 21, 2003, to Treasury's Alcohol and Tobacco Tax and Trade Bureau Administrator to perform the functions and duties in the administration and enforcement of this law. Treasury conducts audits and investigations to enforce civil and criminal laws relating to tobacco tax collection, sometimes referring criminal cases to the U.S. Attorney's Office for prosecution. It also operates a tobacco laboratory, which conducts analyses to evaluate products for tax compliance and to support appropriate tax classification of different tobacco products.

customs custody.¹⁸ Tobacco manufacturers and importers are required to obtain a Treasury permit to operate and must comply with Treasury's recordkeeping, reporting, and other requirements.¹⁹ Tobacco product wholesalers and distributors are responsible for paying state and local excise taxes, but they are not required to obtain a Treasury permit and are not subject to Treasury recordkeeping requirements. Figure 5 shows the major steps in the tobacco supply chain, including the key points at which taxes are paid.

Figure 5: Payment of Federal, State, and Local Excise Taxes in the Supply Chain for U.S. Tobacco Products



Source: GAO.

Note: Supply chains can differ by manufacturer/importer, and this figure does not represent all of the steps in the distribution process.

¹⁸While Treasury collects federal excise taxes from domestic manufacturers, the U.S. Customs and Border Protection within the Department of Homeland Security collects federal excise taxes on imported tobacco products. Where tobacco products are imported for distribution in the U.S. market and first deposited into a customs warehouse or foreign trade zone, the federal excise taxes become due when they are removed from the first warehouse, even when they are removed for transfer to another warehouse (26 U.S.C. § 5703).

¹⁹CHIPRA also extended Treasury's permit requirement and related recordkeeping and reporting requirements to manufacturers and importers of processed tobacco. Treasury's temporary regulatory definitions provide that the processing of tobacco includes, but is not limited to, stemming, fermenting, threshing, cutting, or flavoring the tobacco, or otherwise combining the tobacco with nontobacco ingredients. This definition is in effect until June 22, 2012.

Tobacco Control Act Gave FDA Broad Authority to Regulate Tobacco Products to Protect Public Health

In the Tobacco Control Act passed in June 2009, Congress amended the Food, Drug, and Cosmetic Act by inserting a chapter governing tobacco products and granting FDA authority to regulate the manufacture, distribution, and marketing of tobacco products under that chapter.²⁰ The act aims to, among other things, reduce the use of tobacco products to decrease health risks and social costs associated with tobacco-related diseases. It recognizes that virtually all new users of tobacco products are adolescents under the age of 18. According to the law, FDA's regulation of tobacco products is based, in part, on a public health standard rather than the safety and effectiveness standard by which FDA regulates pharmaceutical drugs and medical devices. For example, FDA can issue restrictions on the sale, distribution, advertising, and promotion of a tobacco product, if the public health standard is met. This standard requires FDA to demonstrate that the proposed regulation is appropriate for the protection of public health, based on a consideration of the risks and benefits to the population as a whole, including users and nonusers of tobacco products.

The act specifies that FDA's authority over tobacco products under Chapter IX of the Food, Drug, and Cosmetic Act shall apply to cigarettes, roll-your-own tobacco, cigarette tobacco, and smokeless tobacco, as well as any other tobacco products that the agency deems by regulation to be subject to such authority.²¹ FDA does not at present regulate pipe tobacco and small and large cigars. To implement the Tobacco Control Act, FDA has established the Center for Tobacco Products.

²⁰Pub. L. No. 111-31. The Tobacco Control Act amended Chapter IX of the Food, Drug, and Cosmetic Act, the main federal law that governs FDA's work. Chapter IX provides the primary authority for FDA's regulation of tobacco products.

²¹Pub. L. No. 111-31, § 101. The act defines cigarette tobacco as any product that consists of loose tobacco that is intended for use by consumers in a cigarette and smokeless tobacco as any tobacco product that consists of cut, ground, powdered, or leaf tobacco and that is intended to be placed in the oral or nasal cavity.

Large Tax Disparities among Similar Tobacco Products Triggered Significant Market Shifts to Avoid Higher Taxes	Large federal excise tax disparities among tobacco products resulting from CHIPRA caused sizable market shifts from higher to lower-taxed products. According to our analysis and interviews with knowledgeable sources, the tax disparities created incentives for price sensitive manufacturers and consumers to substitute higher-taxed products with lower-taxed products. The market for roll-your-own tobacco shifted to pipe tobacco and the growth rate of the combined market increased after CHIPRA. Roll-your-own tobacco manufacturers shifted to pipe tobacco with minimal, if any, changes to the products, and consumers substituted pipe tobacco for use in roll-your-own cigarettes. At the same time, the cigar market shifted from small to large cigars, and the combined cigar market continued to grow after CHIPRA.
Market Shifted from Roll- Your-Own Tobacco to Pipe Tobacco after CHIPRA	Market trends for roll-your-own and pipe tobacco changed immediately after CHIPRA, with sales of pipe tobacco rising steeply while sales of roll- your-own tobacco plummeted. According to government officials and representatives of industry and nongovernmental organizations, manufacturers and consumers switched to lower-taxed pipe tobacco to make roll-your-own cigarettes. After CHIPRA, the federal excise tax on roll-your-own tobacco was over \$20 per pound more than the tax on pipe tobacco, whereas before CHIPRA, the taxes on both products were the same. Figure 6 shows the market shift through monthly sales of roll-your- own and pipe tobacco from fiscal year 2001 through fiscal year 2011. Total annual sales of pipe tobacco grew from approximately 3.2 million pounds in fiscal year 2008, the last year before CHIPRA, to 30.5 million pounds in fiscal year 2011, representing an increase of about 869 percent. Over the same period, total annual sales of roll-your-own tobacco declined from approximately 19.7 million pounds to 5.2 million pounds, a decrease of about 74 percent. According to the representatives of industry and nongovernmental organizations we interviewed, the shift can be mostly attributed to consumers switching from using roll-your-own tobacco to pipe tobacco in roll-your-own cigarettes, rather than to a sudden increase in pipe smoking.





Source: GAO analysis of Treasury data.

CHIPRA's increase in the federal excise tax for roll-your-own tobacco did not dampen the overall sales of roll-your-own and pipe tobacco. Instead, the combined sales of roll-your-own and pipe tobacco increased because of the rapid growth in pipe tobacco sales following CHIPRA. Before CHIPRA, from October 2000 through March 2009, the combined average monthly growth rate was 0.63 percent; after CHIPRA, the combined average monthly growth rate increased to 2.00 percent. See Figure 7 for the trends in combined sales of roll-your-own and pipe tobacco from fiscal year 2001 through fiscal year 2011.

Figure 7: Combined U.S. Sales of Roll-Your-Own and Pipe Tobacco, Fiscal Years 2001-2011



Manufacturers Switched from Roll-Your-Own to Pipe Tobacco, and Consumers Began to Use Commercial Roll-Your-Own Machines

According to government officials, representatives of nongovernmental organizations, and industry, after CHIPRA many manufacturers of rollyour-own tobacco switched to producing pipe tobacco in order to avoid higher taxes. According to these representatives and government officials, the new pipe tobacco products have minimal, if any, differences from roll-your-own tobacco. Roll-your-own tobacco and pipe tobacco are defined in the IRC by such factors as the use for which the product is suited and how they are offered for sale, as indicated by their appearance, type, packaging, and labeling. To meet the definition of pipe tobacco in the IRC and Treasury's regulations,²² a product must be clearly labeled as pipe tobacco and not indicate other uses. The definitions of tobacco products in the IRC do not specify physical characteristics that

²²In June 2009, Treasury revised regulations on packaging and labeling roll-your-own and pipe tobacco to more clearly differentiate the two products. See table 4 for more information.

would differentiate pipe tobacco from roll-your-own tobacco. Representatives of industry and nongovernmental organizations provided examples of current pipe tobacco brands that had been roll-your-own brands prior to CHIPRA, with minimal differences in the packaging and the appearance of the tobacco itself. We also found examples of Internet retailers signaling to customers in their marketing that pipe tobacco was suitable for smoking in roll-your-own cigarettes. One manufacturer of pipe tobacco had designed its label with three-letter markings, to indicate to customers the product's similarity to brand-name cigarettes. For example, the marking MRD indicated Marlboro Red and CML indicated Camel Light.

We approached 15 pipe tobacco manufacturers to ask about their companies' actions in response to the CHIPRA tax changes. Each of the three tobacco manufacturers that agreed to speak with us explained that their companies switched from selling higher-taxed roll-your-own tobacco to lower-taxed pipe tobacco in order to stay competitive. One company changed the cut of its roll-your-own tobacco and labeled it as pipe tobacco, although a company representative acknowledged that there was no real difference between its pipe-cut tobacco and its roll-your-own tobacco. A representative from another company that switched from selling roll-your-own tobacco to selling pipe tobacco stated that she was not aware of any difference in the two products other than the federal excise tax rate.

Data show that the total number of companies exclusively manufacturing pipe tobacco increased significantly since CHIPRA, while the number of companies exclusively manufacturing roll-your-own tobacco decreased sharply. Treasury emphasized that it is unclear whether these manufacturers modified their roll-your-own tobacco beyond reclassifying it as pipe tobacco. Data also show the number of companies producing both roll-your-own and pipe tobacco has slowly increased since 2007 (see fig. 8).



Number of companies (per quarter) 60



Source: GAO analysis of U.S. Department of Agriculture data.

The rise in pipe tobacco sales coincided with the growing availability of commercial roll-your-own machines. Treasury officials stated that there has recently been significant growth in commercial roll-your-own machines. These machines enable customers to produce a carton of cigarettes using pipe tobacco and cigarette-paper tubes with filters. By using pipe tobacco instead of roll-your-own tobacco, customers are able to save almost \$9 per carton in federal excise taxes.²³ A common commercial roll-your-own machine can produce a carton of cigarettes in less than 10 minutes, providing a significant time saving compared with making roll-your-own cigarettes by hand.

²³Treasury officials also stated that processed tobacco, which is not subject to federal excise tax, is being used in these machines to make roll-your-own cigarettes.

During our visit to a tobacco outlet store in Maryland, we used a commercial roll-your-own machine to make a carton of 200 cigarettes using pipe tobacco in about 8 minutes. We made a video showing this machine being used to make cigarettes (See http://www.gao.gov/multimedia/video#video_id=589493). The carton we made in Maryland cost about \$25, which included state and federal excise taxes. The total price of \$25 for our carton was about half the price of a carton of discount cigarettes in nearby stores that sold tobacco²⁴ (see fig. 9).

Figure 9: Examples of Maryland Retail Prices for Cartons of Various Types of Cigarettes



Source: GAO.

^aThe retail price does not include sales tax.

^bThese roll-your-own cigarettes were made in a commercial roll-your-own machine.

Cigar Market Shifted from Small to Large Cigars after CHIPRA CHIPRA's 2009 changes in federal excise tax rates on tobacco products also resulted in an immediate shift in the cigar market, with sales of lowertaxed large cigars rising sharply while sales of higher-taxed small cigars dropped. Figure 10 shows the market shift through monthly sales of small and large cigars from fiscal year 2001 through fiscal year 2011. Total annual sales of large cigars increased from approximately 4.8 billion sticks in fiscal year 2008 to about 10.3 billion sticks in fiscal year 2011, representing an increase of about 116 percent. For the same period, the total annual sales of small cigars declined from 5.3 billion sticks to 0.8

²⁴This is not nationally representative because states have varying tobacco tax rates. According to the Campaign for Tobacco-Free Kids, state cigarette taxes vary from \$0.17 to \$4.35 per pack, and pipe tax rates vary from a tax per ounce to a percent of manufacturer's or wholesale price. Maryland's cigarette tax is \$2.00 per pack, and pipe tobacco tax is 15 percent of the wholesale price. The price shown for the roll-your-own cigarettes made in a commercial roll-your-own machine with pipe tobacco includes a \$10 fee charged by the store for the use of the machine.

billion sticks, a decrease of 85 percent. According to government officials and representatives of nongovernmental organizations, because weight is the only characteristic that distinguishes small cigars from large cigars, many cigar manufacturers made their small cigars slightly heavier to qualify for the large cigar tax rate and avoid higher taxes levied on small cigars after CHIPRA. Figure 10 shows an increase in large cigar sales in the months immediately prior to the tax change. Treasury officials stated that although they have not specifically investigated the cause of this increase, there was an incentive for retailers and wholesalers to purchase and stockpile large cigars after the date CHIPRA was signed into law (February 4, 2009) and before the tax increase went into effect (April 1, 2009). In addition, these officials noted that a floor stocks tax is typically imposed to prevent stockpiling just before a tax increase, but the floor stocks tax imposed by CHIPRA did not apply to large cigars.



Figure 10: Monthly and Annual U.S. Sales of Small and Large Cigars, Fiscal Years 2001-2011

Source: GAO analysis of Treasury data.

The combined sales for small and large cigars continued to increase after CHIPRA, though at a slightly lower rate. Before CHIPRA, from October 2001 through March 2009, the combined average monthly growth rate was 0.75 percent, compared with a 0.17 percent growth rate from April 2009 through September 2011. See figure 11 for trends in overall cigar sales from fiscal year 2001 through fiscal year 2011.

Figure 11: Combined U.S. Sales of Small and Large Cigars, Fiscal Years 2001-2011



Market Shifts to Avoid Taxes Have Reduced Federal Revenue, and Treasury Has Limited Options to Respond While tax revenue collected for all smoking tobacco products from April 2009 through the end of fiscal year 2011 amounted to \$40 billion, we estimate that the market shifts from roll-your-own to pipe tobacco and from small to large cigars reduced federal revenue by a range of approximately \$615 million to \$1.1 billion for the same period. We estimated what the effect on tax revenue collection would have been if the sales trends for roll-your-own and pipe tobacco and for small and large cigars had not been affected by substitution between the products but had been affected by the increase in price due to the tax—in other words, if the market shifts resulting from the substitution of higher-taxed

products with lower-taxed products had not occurred. In this report, we refer to this estimated effect on federal tax revenue collection as revenue losses. Although Treasury has taken steps to respond to these market shifts, it has limited options. For example, Treasury has pursued differentiating between roll-your-own and pipe tobacco for tax collection purposes but faces challenges because the definitions of the two products in the IRC do not specify distinguishing physical characteristics. Furthermore, Treasury also has limited options to address the market shift to large cigars.

Estimated Federal Revenue Losses from Market Shifts after CHIPRA Range from \$615 Million to \$1.1 Billion

We estimated that federal revenue losses due to the market shifts from roll-your-own to pipe tobacco and from small to large cigars range from \$615 million to \$1.1 billion. This range includes combined tax revenue losses for the roll-vour-own and pipe tobacco markets, as well as the small and large cigar markets. We conducted analyses of data from Treasury and the Bureau of Labor Statistics to estimate tax revenue losses in these markets.^{25,26} Our methodology takes into account the expected fall in demand for a product following a price increase, holding other variables constant. To calculate the range of federal revenue losses, we included high and low estimates based on assumptions about the effect of a price increase on projected sales.²⁷ Economic studies show that, when the price of a product increases, the quantity demanded for the product will adjust downward, decreasing at an estimated rate based on the quantity demanded for the product, that is, price elasticity.²⁸ Based on our interviews with government officials and academics and our literature review, we determined that the price elasticity for the smoking tobacco

²⁷Using a somewhat similar approach, Treasury estimated that in 2010, over \$400 million in revenue was lost due to the shift from roll-your-own to pipe tobacco. Treasury's estimate did not take into account the expected decline in demand following a price increase.

²⁸For example, a price elasticity of demand of -0.6 means that when prices go up by 10 percent, demand will decrease by 6 percent.

²⁵In the absence of this market shift due to differential tax rates, more tax revenue would have been collected because roll-your-own tobacco and small cigars had historically much higher levels of sales than pipe tobacco and large cigars, and after CHIPRA these tobacco products also had a much higher tax rate.

²⁶Cigarettes are taxed at the same rate as roll-your-own tobacco and small cigars, but the analysis does not take into account the likely impact of a similar market shift from cigarettes to pipe tobacco and large cigars. See appendix II for information on sales of cigarettes and other smoking tobacco products.

products ranges from -0.6 to -0.3 for the low and high revenue estimates, respectively. Our projections also take into account the historic sales trends for these products and the tax component of the price.²⁹ Appendix I contains more information on our methodology for developing these estimates.

Tax Revenue Losses in the Roll-Your-Own and Pipe Tobacco Markets Treasury collected \$573 million in tax revenue from roll-your-own and pipe tobacco from April 2009 through September 2011.³⁰ We estimate that during the same period the market shift from roll-your-own to pipe tobacco reduced federal revenues by between \$255 million and \$492 million (see fig. 12).

²⁹For a detailed explanation of this methodology, see Frank Chaloupka and Jidong Huang, "A Significant Cigarette Tax Rate Increase in Illinois Would Produce a Large, Sustained Increase in State Tobacco Tax Revenues" (Chicago, IL: University of Illinois at Chicago, Jan. 3, 2011, working paper).

³⁰That is about \$228 million per year after CHIPRA compared with \$25.5 million for fiscal year 2008.

Figure 12: Estimated Revenue Losses for Roll-Your-Own and Pipe Tobacco



Sources: GAO analysis of Treasury and Bureau of Labor Statistics data.

^aLow projected revenue loss is calculated as the difference between the projected revenue in the low scenario and the actual collected revenue. When the actual revenue is higher than the low projected revenue, the estimated figure of \$255 million includes the difference.

Tax Revenue Losses in the Small and Large Cigar Markets Treasury collected \$1.7 billion in tax revenue from small and large cigars from April 2009 through fiscal year 2011.³¹ We estimate that during that same period the market shift from small to large cigars reduced federal revenue by between \$360 million to \$559 million (see fig. 13).^{32.33}

³¹That is about \$680 million per year after CHIPRA compared with \$217.5 million for fiscal year 2008.

³²Treasury estimates that \$723 million in revenue was lost due to the shift from small to large cigars over the 2 years after CHIPRA was enacted. Treasury did not include the price elasticity of demand in their estimate.

³³As with the roll-your-own and pipe tobacco estimates, the low and high scenarios are calculated using the price elasticity of demand of -0.6 and -0.3, respectively. Because cigar taxes are based on price, our estimate included price data. Small cigar revenues were calculated by multiplying the number of unit sales in each month by the tax rate. Large cigar revenues were calculated by subtracting small cigar revenue from cigar revenue. Once the large cigar revenue was calculated, the average tax paid was estimated by dividing the large cigar revenue by the number of large cigar units. From March 2007 through March 2009, this average was 4.3 cents per stick.





^aLow projected revenue loss is calculated as the difference between the projected revenue in the low scenario and the actual collected revenue. When the actual revenue is higher than the low projected revenue, the estimated figure of \$360 million includes the difference.

Developing Standards to Differentiate between Roll- Your-Own and Pipe Tobacco Presents Challenges to Treasury	Differentiating between roll-your-own and pipe tobacco for tax collection purposes presents challenges to Treasury because the definitions of the two products in the IRC are based on such factors as the use for which they are suited and how they are packaged and labeled for consumers and do not specify distinguishing physical characteristics. Treasury officials and representatives of nongovernmental organizations we spoke with stated that because the two products were taxed at the same rate prior to CHIPRA, there was no revenue-related reason to clarify the differences between the two products beyond the existing statutory definitions. However, according to Treasury comments in the <i>Federal</i> <i>Register</i> , the large differences in tax rates resulting from CHIPRA created
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IRC Definitions

Roll-your-own tobacco-Any tobacco, which because of its appearance, type, packaging, or labeling, is suitable for use and likely to be offered to, or purchased by, consumers as tobacco for making cigarettes or cigars, or for use as wrappers thereof.

Pipe tobacco–Any tobacco which, because of its appearance, type, packaging, or labeling, is suitable for use and likely to be offered to, or purchased by, consumers as tobacco to be smoked in a pipe. an incentive for industry members to present roll-your-own tobacco as pipe tobacco products, thus enabling them to pay a lower tax rate.³⁴

After the CHIPRA tax changes and the market shift from roll-your-own to pipe tobacco that immediately followed. Treasury took steps through rulemaking notices in an effort to more clearly differentiate the two products for tax collection purposes. However, Treasury has not yet issued a final rule to distinguish the two products based on physical characteristics. The tobacco industry members' comments on the June 2009 temporary rule and the July 2010 advance notice of proposed rulemaking highlighted the complexity and difficulties in developing objective standards that clearly differentiate the two tobacco products. Treasury also issued a ruling determining that retail establishments that make cigarette-making machines available for use by customers are manufacturers of tobacco products.³⁵ However, a U.S. District Court enjoined Treasury's enforcement of the ruling pending the outcome of a court case on this ruling, which was still pending as of March 2012. Table 4 summarizes Treasury's actions on roll-your-own and pipe tobacco following CHIPRA, the resulting tobacco industry comments, and the status of Treasury's actions.

³⁴74 Fed. Reg. 29,401 (June 22, 2009).

³⁵Treasury refers to the machines as cigarette-making machines rather than roll-your-own machines. Treasury's position is that the retailers who make these machines available for use are manufacturers of cigarettes.

Table 4: Treasury Actions on Roll-Your-Own and Pipe Tobacco following CHIPRA, Industry Comments, and Status

Date	Treasury action	Tobacco industry comments ^d	Status	
June 2009	Temporary rule. ^a Treasury revised regulations on packaging and labeling of roll-your-own and pipe tobacco to more clearly differentiate the two products. The temporary rule is set to expire in June 2012.	 New requirements are insufficient to prevent misclassification of roll-your-own tobacco as pipe tobacco. Alternative standards based on physical characteristics are suggested. 	 Market continued to shift from roll-your-own to pipe tobacco. 	
July 2010	Advance notice of proposed rulemaking. ^b Treasury requested public comments on proposed standards to differentiate between roll-your-own and pipe tobacco based upon physical characteristics. Treasury reopened the notice requesting comments in August 2011. ^c	 Significant differences in views on proposed standards are expressed. 	 Treasury has not issued a subsequent rulemaking establishing standards to differentiate roll-your-own and pipe tobacco. Market shift from roll-your-own to pipe tobacco continued. 	
September 2010	Ruling on cigarette-making machines. Treasury determined that the owner of a retail establishment who facilitates the making of cigarettes by or for others by providing the use of commercial cigarette-making machines for use on the premises is engaged in the business of a tobacco product manufacturer and must obtain a Treasury permit to engage in such business.		 A manufacturer of these machines sued Treasury, and a U.S. District Court enjoined Treasury's enforcement of the rule pending the outcome of the case. Use of cigarette-making machines in retail establishments is growing. 	

Source: GAO analysis of Treasury information.

^a74 Fed. Reg. 29,401 (June 22, 2009).

^b75 Fed. Reg. 42,659 (July 22, 2010).

^c76 Fed. Reg. 52,913 (Aug. 24, 2011).

^dTreasury received comments from a range of tobacco companies and associations, and the comments cited in this table do not reflect industry consensus. Rather, they are intended to summarize key comments made by companies or associations.

• *Temporary rule*³⁶ *on packaging and labeling requirements:* Following the CHIPRA tax changes that took effect in April 2009, Treasury

³⁶A temporary rule is issued without an advance notice of proposed rulemaking, but in the publication of the rule the agency may request comments and state that it may modify the rule in response to the comments.

published a temporary rule in June 2009, set to expire in June 2012, that outlined new labeling and packaging requirements for roll-yourown and pipe tobacco to more clearly differentiate the two products. The temporary rule required that, to be classified as pipe tobacco, the packaging must clearly indicate the product type by bearing the words "pipe tobacco" wherever the brand name appears, and that the packaging cannot suggest a use other than as pipe tobacco. Treasury also stated in the temporary rule that it was evaluating analytical methods and other standards to differentiate between roll-your-own tobacco and pipe tobacco, and it expected to publish rulemaking proposals on this subject for comment in the future. In response to this temporary rule. Treasury received comments from tobacco industry members indicating that its new labeling and packaging requirements were insufficient to prevent the misclassification of rollvour-own tobacco as pipe tobacco and that standards to further differentiate the products were urgently needed. Treasury received comments from industry members proposing alternative standards to distinguish between roll-your-own and pipe tobacco based on physical characteristics such as moisture content, cut, and variety of tobacco used. The market shift from roll-your-own to pipe tobacco continued despite Treasury's issuance of this temporary rule.

Advance notice of proposed rulemaking³⁷ on standards to differentiate roll-your-own and pipe tobacco: In July 2010, Treasury published an advance notice of proposed rulemaking issuing a request for public comments on standards and characteristics proposed by commenters to differentiate between roll-your-own and pipe tobacco, but it has not issued a subsequent rule proposing the standards it would use. In the notice, Treasury discussed the heightened need for more regulatory detail to clarify the difference between the two products and stated its primary concern that the standards be objective and enforceable. The industry members' comments to Treasury highlighted the complexity and difficulties in developing objective standards that clearly differentiate the two tobacco products. Industry members disagreed on the standards and physical characteristics that should be implemented, with some commenters noting that the two products overlap greatly. Some industry commenters also expressed concerns that proposed standards could easily be manipulated by consumers.

³⁷An advance notice of proposed rulemaking can announce and explain agencies' plans to solve problems and accomplish goals and give interested persons an opportunity to submit comments to improve the final regulation.

For example, a proposed standard for the cut width of pipe tobacco could be compromised by a consumer using basic kitchen or hardware appliances to grind wider cut tobacco into a smaller width for use in cigarettes.

In August 2011, Treasury issued a second advance notice of proposed rulemaking, thereby reopening the period for receiving comments on the proposed standards. Treasury said it did so because it had received an additional set of proposed standards after the original comment period closed. Treasury received a number of additional comments, many by the same companies that commented on the earlier notices, and the comments continued to reflect significant differences within the industry on standards that define and distinguish roll-your-own tobacco from pipe tobacco. This second comment period closed in October 2011. As of March 2012, Treasury has not issued a subsequent rulemaking based on the comments received, and no anticipated issuance date has been communicated. Throughout this period, the market shift from roll-your-own to pipe tobacco has continued, with negative impacts on federal revenue. Appendix III contains a more detailed summary of the Federal *Register* notices issued by Treasury related to differentiating between roll-your-own and pipe tobacco and the industry comments in response to these notices.

Ruling on commercial cigarette-making machines: Treasury also issued a ruling in September 2010 determining that retailers who make commercial cigarette-making machines available for use on their premises are tobacco product manufacturers and are thus subject to the permit and tax requirements of the IRC. In October 2010, RYO Machine Rental LLC, the maker of the RYO Filling Stations, sued Treasury over this ruling. In December 2010, a federal district court judge in Ohio ordered a preliminary injunction on the enforcement of the Treasury rule, and the case is currently on appeal in the U.S. Court of Appeals for the Sixth Circuit. During the period that enforcement has been delayed, several organizations told us that businesses continue to maintain these machines on their premises, and the number of machines in use has increased. These machines, which cost the retailer about \$30,000 each, have also been the focus of government regulation at the state level. A number of states are taking action against commercial roll-your-own machines, including Arkansas, Michigan, New Hampshire, and West Virginia. For

example, Arkansas passed a law prohibiting tobacco retailers licensed, permitted, appointed, or commissioned under Arkansas tobacco tax law from possessing or using the machines.³⁸

CHIPRA's Changes to Tax Rates on Large Cigars Also Present Challenges to Treasury

CHIPRA's changes to the federal excise tax rate on large cigars also present challenges to Treasury. The first challenge resulted from CHIPRA's tax rate on the most inexpensive large cigars, which was significantly lower than its rate for small cigars. This disparity in tax rates provided an incentive for some small cigar manufacturers to make minimal changes to their product to meet the legal definition of a large cigar. The second challenge came about because CHIPRA's rate for large cigar taxes resulted in more large cigar manufacturers and importers paying taxes based on the manufacturer's or importer's sale price rather than simply paying the maximum set tax rate. This added complexity to Treasury's monitoring and enforcement of large cigar tax payments and appears to have motivated some manufacturers and importers of large cigars to restructure their market transactions to lower the taxes they have to pay.

The first challenge resulted from CHIPRA's changes to the federal excise tax rate on large cigars, which created an incentive for small cigar manufacturers to switch to making large cigars when the manufacturer's or importer's sale price is less than \$95.42 per thousand cigars. Before CHIPRA, there was little incentive for small cigar manufacturers to alter their product to meet the definition of a large cigar. Because small cigars are taxed at a fixed rate, and large cigars are taxed at an ad valorem rate, when CHIPRA raised the small cigar tax from \$1.83 per thousand to \$50.33 per thousand, manufacturers of inexpensive small cigars had an incentive to change their product to fit the lower-taxed large cigar category. According to Treasury officials and other industry experts, prior to CHIPRA, many small cigars weighed close to 3 pounds per thousand sticks, which is the dividing line between small and large cigars set by the IRC.³⁹ Small cigars that weighed just under or exactly 3 pounds per thousand sticks would be able to qualify as large cigars with minimal changes. After CHIPRA, the same companies could use the same machines to add a small amount of weight to their product, turning small

³⁸Ark. Code Ann. § 26-57-263.

³⁹The IRC does not distinguish small and large cigars by any characteristic other than weight.
cigars into a product legally defined and taxed as large cigars. For example, manufacturers could add weight by packing the tobacco more tightly. Some manufacturers then changed their labels from "small cigars" to "filtered cigars" or "cigars"—often with the same packaging and design. For example, if a manufacturer sold cigars for \$50 per thousand before CHIPRA, by manufacturing small cigars instead of large cigars, it would pay \$1.83 per thousand in taxes, a tax savings of \$8.53 per thousand. After CHIPRA, the same manufacturer selling cigars for \$50 per thousand would pay \$26.38 per thousand in taxes, a tax savings of \$23.95 per thousand, by manufacturing large cigars instead of small cigars (see fig. 14). Treasury officials stated that the agency lacks the authority to remedy the tax revenue losses resulting from manufacturers' legitimate modifications of small cigars to qualify them for the lower tax rate on large cigars.



Figure 14: Post-CHIPRA Incentives for Some Manufacturers to Switch from Small to Large Cigars

Source: GAO analysis of the IRC.

Note: The large cigar tax structure before CHIPRA is represented on the left side of the figure, with the sloped line showing the ad valorem rate and the line becoming flat upon reaching the maximum rate of \$48.75 per thousand large cigars. For space reasons, the right side of the figure does not include the maximum rate of \$402.60 per thousand large cigars.

The second challenge resulting from CHIPRA's changes to tax rates on large cigars is the complexity that has been added to Treasury's efforts to

monitor and enforce tax payments because many more manufacturers and importers must now determine the correct tax by applying the tax rate to the manufacturer's or importer's sale price per stick (ad valorem) rather than simply paying the maximum set tax rate. According to Treasury officials, prior to CHIPRA, the majority of domestic manufacturers of large cigars paid the federal excise tax at the maximum rate of \$48.75 per thousand cigars. Specifically, manufacturers or importers that sold large cigars priced at \$235.30 per thousand and above paid the set maximum tax. The increase in the large cigar maximum tax after CHIPRA resulted in many more manufacturers and importers of large cigars paying taxes based on the ad valorem rate, according to Treasury officials. Currently, the maximum tax rate does not apply until the manufacturer's or importer's price is \$763.22 per thousand or above, and then, the maximum rate is \$402.60 per thousand. For example, if a manufacturer sold large cigars for \$400 per thousand, before CHIPRA, it would pay \$48.75—based on the maximum tax. After CHIPRA, the manufacturer's tax would increase to \$211 per thousand—based on the ad valorem rate. If the manufacturer is able to lower its price for the large cigar product from \$400 to \$300 per thousand, its tax would decrease to \$158.25 per thousand, a tax savings of \$52.75 per thousand. Before CHIPRA, if the manufacturer had lowered its price from \$400 to \$300, its tax rate would have remained at the maximum rate of \$48.75 (see fig. 15).





Source: GAO analysis of the IRC.

Note: The sloped lines represent the ad valorem rates for large cigars before and after CHIPRA, with the lines becoming flat when they reach the maximum rates of \$48.75 (before CHIPRA) and \$402.60 (after CHIPRA) per thousand large cigars.

After CHIPRA, according to Treasury officials, some large cigar manufacturers and importers began to restructure their market transactions to lower the manufacturer's or importer's sale price for large cigars in order to obtain the tax savings of a lower ad valorem rate, creating enforcement challenges. These Treasury officials stated that some manufacturers and importers are "structuring" or "layering" sales transactions by including an additional transaction at a low price before the sale to the wholesaler or distributor, and using this low initial price to calculate the tax. This transaction is conducted with an intermediary that may have a special contract arrangement with the manufacturer or importer. A large markup may then be added to the intermediary's subsequent sale to the wholesaler or distributor. This added transaction effectively lowers the manufacturer's or importer's sale price, and thus reduces the taxes collected. According to Treasury officials, these layered transactions have become more common after CHIPRA. Treasury officials noted that manufacturers and importers of large cigars have approached the agency for advice on different proposals to structure their sales transactions to lower their taxes and still comply with the law. They also stated that Treasury has not determined the legality of all of the proposals under consideration, and that while Treasury can investigate individual cases, its authority to enforce additional tax collection from these kinds of large cigar transactions is limited. Officials stated that Treasury is carefully examining the tobacco importer and manufacturer pricing arrangements and taking corrective actions where appropriate on a case by case basis.

The impact of the federal excise tax increases and the resulting actions by industry to mitigate the CHIPRA tax increase on large cigars are evidenced by large cigar pricing trends. Prior to CHIPRA, the average manufacturer's or importer's sale price for large cigars was \$244 per thousand, Treasury officials stated. After the CHIPRA tax increases, the average manufacturer's or importer's sale price dropped to \$189 per thousand. According to Treasury officials, since large cigar federal excise taxes increased by a minimum of 155 percent, and the federal excise tax is included in the sale price, large cigar manufacturer's and importer's sale prices were expected to increase, not decrease.

FDA Currently Regulates Cigarettes and Roll-Your-Own Tobacco but Not Pipe Tobacco and Cigars

When the Tobacco Control Act amended the Food, Drug, and Cosmetic Act in June 2009, it granted FDA immediate regulatory authority over four tobacco products, including cigarettes and roll-your-own tobacco, but did not specify authority over pipe tobacco and small and large cigars.⁴⁰ According to the law, FDA has the authority to deem by regulation any other tobacco products, including pipe tobacco and small and large cigars, to be subject to the tobacco provisions in Chapter IX of the Food, Drug, and Cosmetic Act.⁴¹ Deeming additional products to be subject to these tobacco provisions of the Food, Drug, and Cosmetic Act requires FDA to go through the process of developing and issuing a regulation (known as the rulemaking process).

Because FDA does not currently regulate pipe tobacco and small and large cigars, these products are not subject to the tobacco product provisions in Chapter IX of the Food, Drug, and Cosmetic Act or regulations that FDA has issued since June 2009 to implement the Tobacco Control Act. Some of act's provisions and key FDA regulations address, for example, (1) the use of characterizing flavors, (2) the sale and distribution of tobacco products, and (3) the requirements for new health warnings depicting negative health consequences of smoking:

• Ban on the use of characterizing flavors: FDA implemented a ban on cigarettes with characterizing flavors in September 2009 (with the

⁴⁰The Food, Drug, and Cosmetic Act and the IRC each maintain their own definitions of tobacco products, including the smoking tobacco products discussed in this report. The laws and implementing regulations of the Food, Drug, and Cosmetic Act utilize the definitions found at 21 U.S.C. § 387. The laws and implementing regulations of the IRC utilize the definitions found at 26 U.S.C. § 5702. These statutes have slightly different definitions for cigarettes and roll-your-own tobacco. The IRC's definition of a cigar is slightly different from the Food, Drug, and Cosmetic Act's definition of a little cigar. In addition, while the IRC defines pipe tobacco, the Food, Drug, and Cosmetic Act does not.

⁴¹Pub. L. No. 111-31, § 101(b). The law states that "[t]obacco products ... shall be regulated by the Secretary [of Health and Human Services] under this chapter ..." and that "[t]his chapter shall apply to all cigarettes, cigarette tobacco, roll-your-own tobacco, and smokeless tobacco and to any other tobacco products that the Secretary by regulation deems to be subject to this chapter."

exception of tobacco or menthol).⁴² However, pipe tobacco and small and large cigars—some of which look similar to cigarettes (see fig. 1)—are available in multiple flavors because this Tobacco Control Act provision does not apply to these products. Smokers can make rollyour-own cigarettes with flavored pipe tobacco and buy cigars in candy, berry, fruit, or other flavors. According to the U.S. Surgeon General, the growing popularity of cigars among younger adults (those under the age of 30) appears to be linked to the marketing of flavored tobacco products, including cigars, that might be expected to be attractive to youth.⁴³

 Restrictions on the sale and distribution of cigarettes and smokeless tobacco to protect children and adolescents.⁴⁴ Pipe tobacco and small and large cigars are not subject to FDA's rule containing numerous youth access and marketing restrictions that was issued in March 2010.⁴⁵ One restriction generally prohibits the sale and distribution of individual cigarettes or packs containing fewer than 20 cigarettes.⁴⁶ In contrast, cigars can be sold individually, and filtered cigars are often sold in packs containing fewer than 20. A second restriction generally

⁴³U.S. Department of Health and Human Services, *Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General* (Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2012).

⁴⁴75 Fed. Reg. 13,225 (Mar. 19, 2010) (codified in 21 C.F.R. pt. 1140).These restrictions apply to roll-your-own tobacco, and the rule stipulates that the definition of a cigarette "[i]ncludes tobacco, in any form, that is functional in the product, which, because of its appearance, the type of tobacco used in the filler, or its packaging and labeling, is likely to be offered to, or purchased by, consumers as a cigarette or as roll-your-own tobacco."

⁴²21 U.S.C. § 387g. The law states that "a cigarette or any of its component parts (including the tobacco, filter, or paper) shall not contain, as a constituent (including a smoke constituent) or additive, an artificial or natural flavor (other than tobacco or menthol) or an herb or spice, including strawberry, grape, orange, clove, cinnamon, pineapple, vanilla, coconut, licorice, cocoa, chocolate, cherry, or coffee, that is a characterizing flavor of the tobacco product or tobacco smoke." On April 4, 2012, the World Trade Organization (WTO) Appellate Body issued a report finding that this restriction is inconsistent with the United States' WTO obligations. Unless the Dispute Settlement Body rejects the report by consensus, the United States has 30 days from the time the report is adopted to state its intention regarding the implementation of the recommendations of the Appellate Body.

⁴⁵21 C.F.R. pt. 1140.

⁴⁶21 C.F.R. § 1140.14.

requires that retail sales of cigarettes and smokeless tobacco be conducted in a direct, face-to-face exchange.⁴⁷ This restriction does not apply to pipe tobacco and cigars, and these products are sold on the Internet. A third restriction bans brand-name sponsorship of sporting and cultural events by manufacturers, distributors, or retailers of cigarettes and smokeless tobacco⁴⁸ and does not currently apply to pipe tobacco and cigars. A cigar company recently signed a multiyear sponsorship deal for a major collegiate sporting event, but the deal was canceled due to public pressure, as has been reported in the press.⁴⁹

Requirements for new health warnings depicting negative health consequences of smoking: Pipe tobacco and cigar packs are not subject to FDA's rule that requires each cigarette pack and advertisement to bear one of nine new textual warning statements accompanied by color graphics, issued in June 2011.⁵⁰ According to the law, the new warnings must cover the top half of the front and back of cigarette packs and at least 20 percent of cigarette advertisements and must contain color graphics depicting the negative health consequences of smoking.⁵¹ FDA selected nine color

⁴⁸21 C.F.R. § 1140.34. The regulation does not ban a manufacturer, distributor, or retailer from sponsoring sporting and cultural events in the name of the corporation that manufactures the tobacco product, provided that, among other things, the corporate name does not include any brand name used for any brand of cigarettes or smokeless tobacco.

⁴⁹In December 2011, the parent company of Camacho Cigars, according to a company press release, signed a 3-year sponsorship deal with the Orange Bowl Committee, a nonprofit organization that stages an annual football game and the supporting Orange Bowl Festival in South Florida. The press release stated that under the sponsorship agreement, Camacho Cigars intended to have a substantial presence at Sun Life Stadium in Miami Gardens, FL, with cigar lounges for football fans and a special Camacho Club Lounge at the Orange Bowl Game Day Fan Zone, the largest pregame event. News organizations reported that the Camacho Cigars logo had been featured on the official Orange Bowl website until the sponsorship agreement was canceled in response to appeals from three U.S. senators and public health groups urging the Orange Bowl Committee to call off the deal that promoted tobacco use.

⁵⁰Most cigar packs and some individual cigars sold in the United States are required to display a Surgeon General warning as the result of an agreement reached in 2000 between the Federal Trade Commission and seven largest cigar companies. There are no federal requirements for pipe tobacco packages to display a Surgeon General warning.

⁵¹Pub. L. No. 111-31, § 201.

⁴⁷21 C.F.R. § 1140.14. An exception is made for vending machines and self-service displays that are located in facilities where no person under the age of 18 is present, or permitted to enter, at any time.

graphic health warning messages after reviewing relevant scientific literature, 1,700 public comments, and the results of its experimental 18,000-person study to assess the effectiveness of the warnings. While the Tobacco Control Act mandates that the warnings take effect no later than 15 months after FDA issues regulations, that is, by September 2012, pending litigation may impact implementation.⁵²

FDA indicated its interest in deeming additional tobacco products to be subject to the agency's tobacco product authorities in the four recent issues of the U.S. government's semiannual regulatory agenda.⁵³ In the spring and fall 2010 agendas, FDA announced that it planned to issue a proposed rule that would deem cigars to be subject to the provisions of the Food, Drug, and Cosmetic Act.⁵⁴ In the spring and fall 2011 agendas, FDA announced that it planned to broaden the proposed rule's scope to encompass all products that meet the statutory definition of "tobacco product"⁵⁵ under Chapter IX of the Food, Drug, and Cosmetic Act.⁵⁶ The fall 2011 announcement, the most recent, indicated that the proposed rule would be issued in December 2011; however, FDA had not issued the proposed rule as of March 2012, and FDA officials told us that developing the rule is taking longer than they expected.

A typical rulemaking process consists of three basic phases—initiation of rulemaking actions, development of proposed rules, and development of

⁵³The semiannual agenda, also known as unified agenda, summarizes the rules and proposed rules that each federal agency expects to issue.

⁵⁴75 Fed. Reg. 21,791 (Apr. 26, 2010) and 75 Fed. Reg. 79,771 (Dec. 10, 2010).

⁵⁶76 Fed. Reg. 40,052 (July 7, 2011) and 77 Fed. Reg. 7,946 (Feb. 13, 2012).

⁵²In August 2011, several tobacco companies filed a lawsuit to stop FDA from implementing the new warning requirements. In February 2012, the U.S. District Court for the District of Columbia granted the plaintiff's motion for summary judgment and ordered a permanent injunction to halt FDA from enforcing the rule until 15 months after resolution of the plaintiff's claim on the merits. As of March 2012, the case is on appeal before the U.S. Court of Appeals for the District of Columbia Circuit.

⁵⁵Section 201(rr)(1) of the Food, Drug, and Cosmetic Act defines the term "tobacco product" as any product made or derived from tobacco that is intended for human consumption, including any component, part, or accessory of a tobacco product (except for raw materials other than tobacco used in manufacturing a component, part, or accessory of a tobacco product). By comparison, according to the IRC, "[t]obacco products' means cigars, cigarettes, smokeless tobacco, pipe tobacco, and roll-your-own tobacco."

final rules—and involves internal review by the rulemaking agency, external review by the Office of Management and Budget, and public comments on proposed rules (fig. 16). In developing the proposed rule deeming additional products, including pipe tobacco and cigars, to be subject to the agency's regulatory authority, FDA is in the second phase of the process. FDA officials told us that, as of March 2012, the proposed rule was undergoing review by the agency and the Department of Health and Human Services and that FDA had not yet submitted the proposed rule to the Office of Management and Budget. In a 2009 report on the federal rulemaking process, we found—based on an analysis of 16 rules at different federal agencies, including FDA—that the average time needed to initiate, develop, and complete a rulemaking was about 4 years, with considerable variation among agencies and rules.⁵⁷

⁵⁷The time needed to complete the 16 rules ranged from 1 to 14 years. One of the recommendations we made in the report was that FDA routinely track major milestones for significant rules in its rulemaking process. See GAO, *Federal Rulemaking: Improvements Needed to Monitoring and Evaluation of Rules Development as Well as to the Transparency of OMB Regulatory Reviews*, GAO-09-205 (Washington, D.C.: Apr. 20, 2009).

However, FDA does not generally track rulemaking milestones during the early phases of rule development, that is, before the agency prepares proposed rules for publication in the *Federal Register*. FDA informed us that it takes several actions to track major milestones, such as maintaining the *Federal Register* Document Tracking System database to track the progress of all its *Federal Register* documents through the agency's rule development and clearance process and holding monthly and quarterly meetings where senior agency officials discuss major milestones in the rulemaking process for potentially significant regulations.



Figure 16: Basic Phases in FDA's Rulemaking Process

Legend: HHS = Department of Health and Human Services; OMB = Office of Management and Budget Source: GAO.

FDA will be able to exercise authority over the deemed products once the rulemaking process is completed and the final rule is published in the *Federal Register*. At that time, the deemed products will be subject to the provisions of Chapter IX the Food, Drug, and Cosmetic Act that are applicable to tobacco products in general. Examples of such provisions include a requirement for annual registration with FDA of establishments engaged in the manufacture of tobacco products, payment of user fees by manufacturers and importers of specified classes of tobacco products, as well as restrictions and penalties for misbranded products. However, if FDA decides to expand the scope of its existing regulations applicable to cigarettes and roll-your-own tobacco to encompass the deemed products, it will have to amend those regulations through the rulemaking process. For example, FDA would have to amend its rule covering the sale and distribution restrictions for cigarettes and smokeless tobacco in order to make it applicable to the deemed products.

Conclusions

Federal legislation has aimed to discourage tobacco use and raise revenues by increasing excise taxes on tobacco products. In 2009, Congress passed CHIPRA, which increased taxation on all smoking tobacco products, but by different levels for pipe tobacco and for large cigars. Also in 2009, Congress passed the Tobacco Control Act, which gave FDA immediate regulatory authority over four tobacco products, including cigarettes and roll-your-own tobacco, but did not specify authority over pipe tobacco and small and large cigars. In equalizing the federal excise tax rates on small cigars and roll-yourown tobacco with the tax rate on cigarettes, CHIPRA was responding to concerns that these products were increasingly used as substitutes to factory-made cigarettes. However, by introducing large tax disparities between cigarettes, roll-your-own tobacco, and small cigars, on the one hand, and pipe tobacco and large cigars, on the other, CHIPRA has contributed to the substitution of higher-taxed tobacco products with lower-taxed products. Sales of the lower-taxed pipe tobacco and large cigars saw significant growth following CHIPRA, as manufacturers and consumers sought to take advantage of lower-taxed products. We estimate that this tax avoidance has resulted in between approximately \$615 million and \$1.1 billion in lost federal revenue since 2009.

Treasury has not succeeded in addressing the continued tax avoidance behavior reflected in the market shifts to pipe tobacco and to large cigars. In the absence of legislative changes, Treasury has limited options for effective action. First, roll-your-own and pipe tobacco are similar and, in some cases, may be substitutable products, and the IRC lacks specificity on how they should be distinguished based on physical characteristics. Treasury is currently considering and analyzing various proposals to more clearly and objectively differentiate the two products based on their physical characteristics. However, the lack of consensus on which characteristics or criteria truly define and differentiate roll-your-own from pipe tobacco reveals the complexity and difficulty in attempting to develop standards and tests to distinguish the products from each other. In addition, there is the concern that products could easily be manipulated to negate any newly established standards or tests.

Because small and large cigars are distinguished in the IRC only by weight, and because many small cigars already weighed at or close to the 3 pounds per thousand threshold for classification as large cigars, many small cigar manufacturers were able to legally shift to the lower-taxed large cigar category with minimal changes to their products. In addition, the large cigar tax structure, which consists of an ad valorem tax rate up to a maximum rate, is complex and creates an incentive to lower the manufacturer's or importer's sale price to avoid paying higher federal excise taxes.

FDA, which implements the Tobacco Control Act, currently regulates cigarettes and roll-your-own tobacco but does not regulate pipe tobacco and small and large cigars. These regulatory disparities make pipe tobacco and small and large cigars more accessible and attractive to current and potential smokers. While FDA announced its intent to issue a

	proposed rule that would subject additional products, including pipe tobacco and small and large cigars, to its regulation, it had not issued the proposed rule as of March 2012.
Matter for Congressional Consideration	Disparities in tax rates on smoking tobacco products have negative revenue implications because they create incentives for manufacturers and consumers to substitute higher-taxed products with lower-taxed products. In light of that fact, as Congress continues its oversight of CHIPRA and Tobacco Control Act implementation, it should consider modifying tobacco tax rates to eliminate significant tax differentials between similar products. Specifically, Congress should consider equalizing tax rates on roll-your-own and pipe tobacco and, in consultation with Treasury, also consider options for reducing tax avoidance due to tax differentials between small and large cigars.
Agency Comments and Our Evaluation	We provided a draft of this report to the Secretary of the Treasury and the Secretary of Health and Human Services for their review and comment. We received technical comments from Treasury and the U.S. Department of Health and Human Services, which we have incorporated in the report as appropriate. We also received written comments from Treasury, which are reprinted in appendix IV.
	Treasury generally agreed with our overall conclusion that CHIPRA's introduction of large tax disparities between similar products contributed to the substitution of higher-taxed tobacco products with lower-taxed products. Treasury also agreed with our observation concerning modifying tobacco tax rates to eliminate significant tax differentials between similar products, which is consistent with our Matter for Congressional Consideration.
	Treasury noted our use of the term "revenue losses" and commented that our estimates did not pertain to actual losses of revenues but rather were estimates of revenue increases that would be realized if Congress were to change the law to eliminate the tax disparities or had the market shifts due to the disparities not occurred. We state in the report that our analysis does not incorporate the hypothetical case of equal tax rates among smoking products; rather, we estimate the revenues Treasury would have collected under current law—but in the absence of the market shifts from higher-taxed products to lower-taxed products. The difference between the revenues collected under current law and our estimate of the

higher revenues that would have been due in the absence of the market shifts is what we refer to as "revenue losses."

In response to Treasury's comment about the use of this term, we note that Treasury's Alcohol and Tobacco Tax and Trade Bureau developed its own estimates of what it termed revenue losses stemming from the market shifts involving these products, and we discuss these estimates in our report. In addition, the Alcohol and Tobacco Tax and Trade Bureau's 2011 Annual Report uses the term revenue losses when estimating the effect of the market shifts since CHIPRA. Appendix I contains a more detailed discussion of our methodology for developing our estimates.

We are sending copies of this report to the appropriate congressional committees and to the Secretaries of Health and Human Services and Treasury, and other interested parties. This report also is available at no charge on the GAO website at http://www.gao.gov.

If you or your staff members have any questions about this report, please contact me at (202) 512-3149 or gootnickd@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Individuals who made key contributions to this report are listed in appendix V.

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David Gootnick Director, International Affairs and Trade

Appendix I: Objectives, Scope, and Methodology

The Family Smoking Prevention and Tobacco Control Act (Pub. L. No. 111-31) directed GAO to report on various aspects of cross-border and illicit trade in tobacco products, including the effects of differing tax rates applicable to tobacco products.¹ In accordance with our agreement with Senate Committee on Health, Education, Labor, and Pensions and House Energy and Commerce Committee staff, this report provides information on the federal revenue effects of differing tax rates applicable to tobacco products. Our objectives for this report are to (1) review the market shifts among smoking tobacco products since the Children's Health Insurance Program Reauthorization Act (CHIPRA) of 2009 went into effect on April 1, 2009; (2) examine the impact of these market shifts on federal revenue and the Department of the Treasury's (Treasury) actions to respond; and (3) describe differences in regulation of various smoking tobacco products by the Food and Drug Administration (FDA). Our review includes smoking tobacco products that are subject to federal excise tax: cigarettes and four other tobacco products-roll-your-own tobacco (sometimes called RYO), pipe tobacco, small cigars, and large cigars.² However, in analyzing the market shifts among these products, we focused solely on the four smoking tobacco products other than cigarettes.

To address the three objectives in this study, we reviewed documents and interviewed agency officials from Treasury's Alcohol and Tobacco Tax and Trade Bureau, FDA, and the Centers for Disease Control and Prevention, as well as tobacco industry members, representatives of public health and other nongovernmental organizations, and academics to obtain information on tobacco legislation and regulations, tobacco product sales trends, and consumption patterns. Tobacco industry members that we spoke with included industry associations and individual companies. We identified and contacted 15 pipe tobacco manufacturers to ask about their companies' actions in response to the CHIPRA tax changes, and 3 of the manufacturers agreed to speak with us. We also reviewed studies analyzing the relationship between tobacco tax

¹Responding to this mandate, in March 2011, we issued a first report on illicit tobacco trade and schemes, GAO-11-313.

²Smokeless tobacco products that are subject to federal excise taxes, such as chewing tobacco and snuff, were outside the scope of this review. "Processed tobacco" is not subject to federal excise tax and is defined in the Internal Revenue Code of 1986 by what it is not: processed tobacco does not include the farming or growing of tobacco or the handling of tobacco solely for sale, shipment, or delivery to a manufacturer of tobacco products or processed tobacco.

increases and smoking, including among youth. We also collected data from Treasury, the Bureau of Labor Statistics, and the Department of Agriculture and determined that they were sufficiently reliable for our purposes.

We analyzed Treasury removals data³ to identify sales trends across the different tobacco products before and after CHIPRA took effect. In addition, we collected and analyzed price data and data on federal excise tax rates for roll-your-own tobacco, pipe tobacco, small cigars, and large cigars, as well as the federal tax revenue generated from their sale. We estimated what the effect on federal tax revenue collection would have been if the market shifts resulting from substitution of higher-taxed products with lower-taxed products had not occurred once CHIPRA's higher tax rates went into effect. In this report, we refer to this estimated effect on federal tax revenue losses. Our analysis takes into account the expected fall in quantity demanded due to the price increases resulting from the higher federal excise tax rates that CHIPRA imposed on these smoking tobacco products.

To estimate federal tax revenue losses due to market shifts after CHIPRA, we analyzed Treasury's monthly sales and revenue data from fiscal year 2001 through fiscal year 2011 for roll-your-own and pipe tobacco and for small and large cigars. Our analysis compares the actual tobacco tax revenue collected by Treasury with a counterfactual scenario. Our counterfactual model draws from one used by Dr. Frank Chaloupka, an economist who has investigated the effect of prices and taxes on tobacco consumption in numerous publications. In particular, we follow the methodology used in a paper from January 2011 in which Dr. Chaloupka calculates the effect of raising cigarette taxes in the state of Illinois.⁴ This methodology projects the effect of a future tax increase based on the historic sales trend, the amount of the tax, and the effect of

³As used in this report, for smoking tobacco products, "removals" means the amount removed for distribution in the United States from the factory or released from customs, as measured in pounds for roll-your-own and pipe tobacco or in the number of sticks for cigarettes and small and large cigars. 26 U.S.C § 5702(j). In this report, we consider removals to be equivalent to sales and use the term sales.

⁴For a detailed explanation of this methodology, see Frank Chaloupka and Jidong Huang, "A Significant Cigarette Tax Rate Increase in Illinois Would Produce a Large, Sustained Increase in State Tobacco Tax Revenues" (Chicago, IL: University of Illinois at Chicago, Jan. 3, 2011, working paper).

a price increase on projected sales (that is, price elasticity of demand).⁵ Our counterfactual model, then, projects post-CHIPRA sales of roll-yourown and pipe tobacco and small and large cigars according to the historic sales trends for these products, adjusted downward to account for the fall in demand due to the higher post-CHIPRA tax component of the price.⁶ To calculate the impact on demand due to the higher taxes on these products, we included high and low estimates for price elasticity. Based on our interviews with experts and a review of the relevant literature,⁷ we assumed that the price elasticity for the smoking tobacco products in our analysis ranges from -0.6 to -0.3, which set, respectively, the low and high boundaries of the estimated revenue losses.⁸

Our analysis does not incorporate the hypothetical case of equal tax rates among smoking tobacco products; rather, we estimate the revenues that Treasury would have collected in the absence of the market's substitution of higher-taxed products with lower-taxed products. An analysis that projected the impact of equal tax rates across all smoking tobacco products would necessarily produce a much higher estimate of lost tax revenues. We did not attempt to develop such a model, however, because doing so was beyond the scope of our analysis. The reliability of any such model would depend on the assumptions made, particularly with regard to large cigars—the only tobacco product for which excise taxes are calculated as a percentage of price. Compared with determining the tax on all other tobacco products, according to Treasury, determining the tax on large cigars is extremely complex. Modeling hypothetical consumption trends for smoking tobacco products after equalizing tax

⁷For an extensive literature review of tobacco price elasticity studies, see Qiang Li, *The Effects of Cigarette Price and Tax on Smokers and Government Revenue*. Unpublished doctoral dissertation (Buffalo, NY: The State University of New York, 2007).

⁸In our counterfactual scenario, a lower decrease in demand results in a higher estimate of revenue losses. A price elasticity of -0.6 means that when prices go up by 10 percent, demand will decrease by 6 percent; a price elasticity of -0.3 for the same price increase means that demand will decrease by 3 percent.

⁵Economic theory states that when the price of a product increases, the quantity demanded for the product will decrease at a rate that is computed from the underlying demand curve.

⁶Hence, it is assumed that the actual change in revenue is based on the new tax differential. If changes in sales were due to other market forces, such as changes in the prices of other products or changing demand, this would cause our estimates to be over or under stated.

rates on them would require a complex set of assumptions not necessarily grounded in reliable data.

We used data from two sources to build our counterfactual model projecting post-CHIPRA sales of roll-your-own and pipe tobacco and small and large cigars. The first source is Treasury's data from fiscal year 2001 through fiscal year 2011 on smoking tobacco product tax revenues and removals (the amount of tobacco removed for sale from the factory or released from customs). The second data source is tobacco products price data from the Bureau of Labor Statistics, which it uses to calculate the Consumer Price Index for tobacco products. The Bureau of Labor Statistics data contain retail price information collected each month throughout the country; the prices include the cost of production, markup, and excise taxes from federal, state, and local governments—shipping, handling, sales tax, and fuel surcharges have been removed from the data.⁹

For roll-your-own and pipe tobacco and for small and large cigars, we calculated an average taxable manufacturer's or importer's sale price for the year before CHIPRA was enacted. We then estimated the post-CHIPRA price by adding the corresponding post-CHIPRA tax to the pre-CHIPRA price.¹⁰ Thus, our counterfactual model includes only the effect of CHIPRA on tax revenue.

To calculate the average taxable manufacturer's or importer's sale price for large cigars, we used Treasury's revenue data and removals data. Treasury collects revenue data for cigars but does not collect separate revenue data for small and large cigars. However, Treasury's removals data are separated by small and large cigars, reporting the number of sticks removed for sale from the factory or released from customs. After CHIPRA, small cigars are taxed at \$50.33 per thousand sticks, whereas large cigars are taxed at 52.75 percent of the manufacturer's or importer's price up to a maximum tax rate per thousand sticks. We calculated small

⁹The price data for cigars, pipe tobacco, and roll-your-own tobacco are subsets of the sample used to calculate the Consumer Price Index for *Tobacco products other than cigarettes*. The Bureau of Labor Statistics cautioned that these data be interpreted with care because they do not meet its standard publication criteria.

¹⁰Using an average post-CHIPRA price from the Bureau of Labor Statistics would be misleading as it would include increases in state and local taxes and would artificially inflate the effect of CHIPRA on prices.

cigar revenue by multiplying the number of sticks reported in Treasury's removals data in each month by the tax rate. We then calculated large cigar revenues by subtracting small cigar revenues from total cigar revenues. Once we had calculated the large cigar revenues, we estimated the average tax paid by dividing the large cigar revenues by the number of large cigar sticks reported in the removals data for each month and calculating the average price. From March 2007 through March 2009, the average large cigar tax collected was 4.3 cents per stick. These figures corroborate Treasury's statement that a majority of manufacturers were paying the maximum rate. CHIPRA raised this maximum rate from 4.8 cents to 40 cents per stick. We estimated that the average taxable manufacturer's or importer's sale price before CHIPRA was 20.65 cents. Hence, the average tax paid after CHIPRA using the new tax rate should be 10.9 cents per cigar, and this is the number we used to estimate post-CHIPRA tax revenues in our counterfactual model. Treasury does not maintain records of the manufacturers' and importers' sale prices of large cigars where the manufacturer or importer paid the maximum rate, thereby making it impossible to determine the magnitude of underestimation in our model caused by the maximum rate.

To describe FDA's regulation of tobacco products under Chapter IX of the Food, Drug, and Cosmetic Act, we examined FDA's regulatory actions and announcements and interviewed officials from FDA's Center for Tobacco Products, including the Offices of Compliance and Enforcement, Policy, Regulations, and Science.

We conducted this performance audit from March 2011 to April 2012 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Sales of Smoking Tobacco Products in the United States, Fiscal Years 2001-2011

Treasury's data on taxable removals (sales) show that the decline in cigarette sales in the last decade has been partially offset by the combined growth in sales of roll-your-own tobacco, pipe tobacco, small cigars, and large cigars.¹ Table 5 provides annual sales data for cigarettes, roll-your-own tobacco, pipe tobacco, small cigars, and large cigars from fiscal year 2001 through fiscal year 2011. Figure 17 uses the same data to depict the concomitant decline in cigarette sales and growth in combined sales of the other four smoking tobacco products.

From fiscal year 2001 through fiscal year 2011, sales of the smoking tobacco products—cigarettes, roll-your-own tobacco, pipe tobacco, small cigars, and large cigars—in the United States decreased by about 26 percent. Sales of cigarettes, which continue to dominate the market, declined by 30 percent from about 414 billion sticks in fiscal year 2001 to about 289 billion sticks in 2011. However, combined sales of roll-your-own tobacco, pipe tobacco, small cigars, and large cigars increased by 131 percent during the same period from about 12 billion sticks or cigarette stick equivalents (for roll-your-own and pipe tobacco) in fiscal year 2001 to about 29 billion sticks or cigarette stick equivalents. The share of these four products grew from 3 percent of the smoking tobacco market in fiscal year 2001 to 9 percent in fiscal year 2011.

¹As used in this report, for smoking tobacco products, "removals" means the amount removed for distribution in the United States from the factory or released from customs, as measured in pounds for roll-your-own and pipe tobacco or in the number of sticks for cigarettes and small and large cigars. 26 U.S.C. (§ 5702(j). In this report, we consider removals to be equivalent to sales and use the term sales.

Table 5: U.S. Sales of Cigarettes and Other Smoking Tobacco Products, Fiscal Years 2001-2011 (in Billions of Sticks)

Other smoking tobacco products							
Fiscal year	Cigarettes	Roll-your-own tobacco ^a	Pipe tobacco ^a	Small cigars	Large cigars	Subtotal ^b	Total ^b for cigarettes and other smoking tobacco products
2001	414.17	4.33	2.42	2.18	3.50	12.42	426.60
2002	406.59	4.74	2.35	2.26	3.70	13.05	419.61
2003	376.14	6.02	2.13	2.28	3.95	14.38	390.52
2004	372.24	6.02	1.96	2.49	4.17	14.64	386.88
2005	367.23	7.16	1.79	3.45	4.39	16.78	384.01
2006	363.01	8.10	1.77	4.15	4.54	18.56	381.58
2007	356.05	8.37	1.58	4.58	4.57	19.10	375.15
2008	337.64	9.68	1.55	5.34	4.76	21.33	358.98
2009	316.40	7.96	4.31	3.35	6.88	22.50	338.90
2010 ^c	296.23	3.03	10.25	0.91	9.88	24.07	320.29
2011	288.50	2.56	15.02	0.80	10.27	28.65	317.14

Source: Treasury.

^aThe roll-your-own tobacco and pipe tobacco cigarette stick equivalent is based on the weight of 0.0325 ounces. of tobacco per cigarette stick using the Master Settlement Agreement conversion rate.

^bThe subtotal and total may not add up due to rounding.

^c2010 is the first full fiscal year following April 1, 2009, when the new federal excise tax rates on tobacco products resulting from CHIPRA took effect.



Number of sticks (per year in billions) 500



Source: GAO analysis of Treasury data.

^aThe roll-your-own tobacco and pipe tobacco cigarette stick equivalent is based on the weight of 0.0325 ounces. of tobacco per cigarette stick using the Master Settlement Agreement conversion rate.

Appendix III: Summary of Treasury's Proposed Rulemaking Actions to Distinguish between Roll-Your-Own and Pipe Tobacco

Treasury published a temporary rule and request for public comments in June 2009 that outlined new labeling and packaging requirements for rollyour-own and pipe tobacco to more clearly differentiate the two products on those bases. Treasury also noted the need for additional rulemaking on other standards and methods to differentiate the products. In response to its June 2009 rulemaking notice, industry members proposed standards to distinguish between roll-your-own and pipe tobacco based on physical characteristics. For example, Treasury received comments setting forth certain criteria for distinguishing between the products based on whether the product met a certain number of factors, including moisture content; cut width; percentage of weight consisting of reducing sugars; and percentage of weight consisting of flavoring, casing, or other nontobacco content.

In July 2010, Treasury published an advance notice of proposed rulemaking issuing a request for public comments on these and other standards proposed by commenters to differentiate between roll-your-own and pipe tobacco. The industry members' comments responding to Treasury's 2010 request highlighted the complexity and difficulties in developing objective standards based on physical characteristics that clearly differentiate the two tobacco products. Industry members disagreed on the number of criteria that should be used and the specific thresholds for differentiating between the products. For example, while some industry members generally agreed that pipe tobacco traditionally has had a thicker cut and greater moisture content than roll-your-own tobacco, they disagreed on the specific cut width or moisture content that defines pipe tobacco. Some comments noted that the physical characteristics of the two products overlap greatly, emphasizing the numerous types of roll-your-own and pipe tobacco products on the market and various manufacturing methods, all of which make it difficult to develop concrete definitions that clearly differentiate between the two products. Other comments emphasized the challenges of conducting tests to distinguish the two products as, for example, test results can be influenced by factors such as the age of the sample used and the temperature of the facility, potentially creating different results on tests of the same tobacco products. Some industry members also proposed that Treasury take into consideration the preexisting or established pipe tobacco brands prior to CHIPRA and continue to classify them as pipe tobacco through a grandfathering clause, regardless of how the tobacco might fare in any tests based on objective standards. Other industry members disagreed, however, stating that a grandfathering clause would favor existing companies, reduce competition, and give some companies

the opportunity to introduce misclassified pipe tobacco into the market without accountability.

Other industry members expressed concerns that the proposed standards could easily be manipulated by consumers. For example, the tobacco cut width standard for pipe tobacco could be compromised by a consumer using a blender or coffee grinder to obtain a smaller width for use in cigarettes. Additionally, the moisture content standard could also prove to be ineffective because end users could dry out the moister pipe tobacco for use in cigarettes.

After the initial public comment period closed in September 2010, Treasury did not issue a subsequent rulemaking on clarifying standards. Treasury said it received an additional proposal after the close of the comment period and, as a result, issued a second advance notice of proposed rulemaking in August 2011 reopening the period for receiving comments on the standards proposed by commenters, including the new proposal. Treasury received a number of additional comments, many by the same companies that commented on the earlier notices, and the comments continued to reflect significant differences within the industry on standards that define and distinguish roll-your-own tobacco from pipe tobacco. This second comment period closed in October 2011, and Treasury has not issued a subsequent rulemaking as of March 2012.

Within the 2011 notice, Treasury also published the results of the preliminary analysis conducted by its laboratory on a sample of roll-yourown and pipe tobacco products. For this analysis, Treasury purchased a sample of products labeled as roll-your-own and pipe tobacco from local retail vendors in Maryland. These samples were purchased just prior to the CHIPRA tax increases going into effect. Treasury officials emphasized that their sample was not a representative market sample and thus not generalizable. Treasury officials stated that the purpose of the preliminary analysis was to investigate what could be learned about the initial proposed standards rather than to complete a definitive test differentiating the products or attempting to determine whether the products were roll-your-own or pipe tobacco, as they were labeled. Treasury tested for several of the proposed standards, including total reducing sugars and moisture content. Treasury's results, in some cases, appeared to show a lack of a clear distinction between the roll-your-own and pipe tobacco samples.

Appendix IV: Comments from the Department of the Treasury

Administrator	Department of the Treasury Alcohol and Tobacco Tax and Trade Bureau 1310 G Street NW, Box 12, Suite 300 Washington, DC 20005
	April 10, 2012
U.S. Governmer Washington, DC Re: Draft Repor	tional Affairs and Trade it Accountability Office 20548 t GAO-12-475, "TOBACCO TAXES: Large Disparities in Rates for
Smoking Produc	ts Trigger Significant Market Shifts to Avoid Higher Taxes"
Department of th Office's (GAO) w Program Reauth agree with GAO' products "CHIPF lower-taxed prod	e opportunity to review and comment on the draft report. The U.S. the Treasury (Treasury) appreciates the U.S. Government Accountability work in conducting its review of the impacts of Children's Health Insurance orization Act (CHIPRA) of 2009 on tobacco tax revenue. We generally s conclusion that "by introducing large tax disparities" between similar A has contributed to the substitution of higher-taxed tobacco products with lucts." We also agree with your observation that "modifying tax rates to ant tax differentials between similar products" would address the market identifies.
characterize the revenues that wo eliminated or had actual losses of I	is appropriate to note that the report uses the term "revenue losses" to difference between revenues due and collected under current law, and build be collected if the tax disparities between similar products were d the market shifts due to the disparities not occurred. These are not revenues, but rather your estimates of the revenue increases if Congress he law to eliminate the disparities.
tobacco from 200 shifts in demand	Roll-Your-Own (RYO) and pipe tobacco, the increase in sales of pipe 08 to 2011 illustrates that disparate tax rates for like products influences Given the tax differentials between using pipe tobacco and higher taxed easury expects the increased demand for pipe tobacco to continue.
the tax on small than the rate on the tax on the to lower "large ciga based on sales p	nded the disparate tax rates between small cigars and cigarettes, raising cigars means the tax rate on some large cigars can be substantially less other, slightly smaller cigars. In some cases manufacturers may reduce bacco used in a cigar, if they adjust the weight to avail themselves of a r" tax rate and select a low sales price point. (The tax on "large cigars" is price, so lower priced tobacco is taxed at a lower rate.) In fact, we have ble shift in the cigar market since the passage of CHIPRA. For example, in

the year preceding the tax increase on April 1, 2009, of all cigars removed for sale in the United States by domestic manufacturers, 52 percent were small cigars (cigars weighing less than 3 pounds per thousand) and 48 percent were large cigars (cigars weighing over 3 pounds per thousand). In the 2-year period following April 1, 2009, these numbers were 8 percent for small cigars and 92 percent for large cigars. Again, thank you for the opportunity to comment on this draft report. John J. Manfreda John J. Manfreda

Appendix V: GAO Contact and Staff Acknowledgments

GAO Contact	David Gootnick (202) 512-3149 or gootnickd@gao.gov
Staff Acknowledgments	In addition to the individual named above, Christine Broderick, Assistant Director; Sada Aksartova; Pedro Almoguera; David Dayton; Etana Finkler; Jeremy Latimer; Grace Lui; and Alana Miller made key contributions to this report. In addition, Barbara El Osta, Joyce Evans, Marc Molino, Theresa Perkins, Jena Sinkfield, and Cynthia S. Taylor provided technical assistance.

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