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CHAPTER 15
Prohibition by Price: Cigarette Taxes and Unintended Consequences

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The reader would be hard pressed today to find many souls in the United States willing to defend the country's "noble experiment" in alcohol prohibition. Ratification of the Eighteenth Amendment, which took effect in 1920, was supposed to mean that "Hell will be forever for rent," as the Rev. Billy Sunday once famously preached at a fake funeral for John Barleycorn, a fictional representation of alcohol. It was not to be.

People still had a strong preference for alcohol consumption despite a national edict against its manufacture and distribution. Consumers were willing to break the law to obtain the product, and crime syndicates—large and small—were happy to provide it for a profit. Individuals made their own alcohol, visited underground businesses known as speakeasies that would sell alcohol to them, or made more creative arrangements to obtain the product. The Twenty-first Amendment repealed Prohibition in 1933.

Policymakers were taught an important lesson but a limited one. Prohibition of popular products will lead to a raft of unintended consequences that may undermine laudable health and economic goals. Governments around the country no longer work to prevent the manufacture and distribution of alcohol. They do, however, work to reduce the negative consequences associated with certain products by imposing so-called sin taxes. In fact, they did so even before the alcohol prohibition experiment. Imposing excise taxes raises the price of consumption (the sin), which—as both theory and evidence tell us—reduces consumption. This is the logic behind high taxes on tobacco products, particularly cigarettes.

Between January 1, 2005, and December 31, 2013, state governments and Washington, DC, raised excise taxes on cigarettes seventy-two times (Orzechowski and Walker 2014). These increases do not include the 61¢ increase (to $1.00) imposed by the federal government in 2009[1] or those imposed by cities, townships, counties, or other taxing jurisdictions (US Department of the Treasury, Alcohol and Tobacco Tax and Trade Bureau 2010). Nationwide, 602 local units imposed some sort of excise tax on cigarettes through fiscal year 2014 (Orzechowski and Walker 2014).

To be clear, the number and size of such tax increases does not constitute prohibition. They do not prevent the legal purchase of cigarettes. The title of this chapter is intended to underscore the fact that taxes help facilitate illegal activity in much the same way that actual prohibition does. In fact, prohibition is merely "the ultimate tax," as Gary Anderson (1997, 171) wrote in *Taxing Choice,* the predecessor to this book:

> The sin is first subjected to a tax; sometime later this tax is increased to prohibitive levels; and finally, the same government institutes an outright prohibition directed against the activity in question.

Due in large part to tax-induced price increases, an illicit trade in cigarettes has developed, which significantly parallels the problems of the Prohibition era. Today's cigarette market features massive amounts of tax evasion through illegal distribution (smuggling); high risks of theft and violence; adulterated products, such as "loosies" and "roll-your-own;" and corruption, among other issues.

In effect, the nation's cigarette market is experiencing prohibition by price, whereby the product remains legal, but the legal purchase of it is increasingly difficult. Likewise, cigarettes are growing in profit-earning potential for dealers of illicit goods.

Because different units of government—especially the states—choose different cigarette excise tax levels, opportunities exist to arbitrage price differences for profit. That is, individuals may buy cigarettes in low-tax states and then transport them to high-tax states for personal use or for sale and distribution. The tax-induced difference between the cigarettes, minus transportation and other costs of doing business (including taking steps to avoid detection), represent profit (or savings) to those who smuggle or transport cigarettes across such taxing jurisdictions.

Not all tax avoidance is evasion. Such states as Minnesota permit their citizens to acquire a small number of cigarettes from other taxing jurisdictions for personal consumption. Moving a carton of cigarettes from North Dakota to Minnesota represents legal avoidance until the number of cigarettes moved into the state violates Minnesota's de minimis limits of one carton per month (State of Minnesota, Department of Revenue 2013, 2).

Michigan, in contrast, has a zero tolerance policy. One cigarette brought in from Indiana, Ohio, Wisconsin, or Canada is illegal and would qualify as a smuggled product. The evasion-avoidance description is one reason the term "diversion" is used periodically in the literature to describe cross-border flows of cigarettes.

To what extent are cigarettes in the United States diverted from legal channels? To what degree do consumers knowingly engage in tax evasion or avoidance, and how do they do it? Scholars have tried to answer such questions, and they have come up with a range of answers depending on the techniques they use and the political entities they study.

PAST RESEARCH SHOWS SUBSTANTIAL TAX AVOIDANCE

For the most part, scholars have used three methods of estimating the pervasiveness of tax avoidance and smuggling: ask people about their behavior, observe their behavior, and look at evidence of tax avoidance in the legal marketplace.

Regardless of method used, however, the conclusions point to three general facts (table 1). First, smuggling and avoidance does occur. Second, cigarettes are transported over distances short and long in the pursuit of avoiding higher taxes. And third, anywhere from 4 percent to 76.2 percent of cigarettes are bought and sold with the goal of avoiding higher taxes or profiting from providing lower-taxed cigarettes.

Population Surveys

The most straightforward way to estimate tax avoidance is to ask people about their habits. For example, 19 percent of respondents in a study involving the state of New York confessed to always buying their smokes on Indian reservations,

Table 1. Estimates of Cigarette Tax Avoidance, Expressed in Percentages of Tax Stamps, Cigarettes, Packages of Cigarettes, or Consumers

Estimates of Avoidance	Methods Used to Make Estimate	Reference
4.5 percent of stamps showed tax stamp from Virginia; 10.6 percent were counterfeit	Examine tax stamps on 830 cigarette purchases made in New York, looking for counterfeit or out-of-state stamps	Silver et al. (2015)
8.5 percent of cigarettes smoked (net) were purchased in another jurisdiction.	Determine market share of avoidance and evasion by comparing the difference between reported smoking rates and legal sales	National Research Council (2015)
19 percent of consumers surveyed sought tax avoidance	Ask survey respondents in New York State how often they purchase from Indian reservations	DeCicca et al. (2014)
20–21 percent of packs owned by subjects may have been acquired outside participants' home state	Classify unopened packs sent in by smokers as taxed or untaxed by smokers' home jurisdiction	Fix et al. (2013)
4.1–18.7 percent of smokers acknowledged buying cigarettes in other jurisdictions	Examine smokers' acknowledgments of cross-border purchases in US Census Bureau surveys	DeCicca et al. (2010)
13–25 percent of smokers (nationally) and up to 63 percent in Washington, DC, buy in other jurisdictions	Determine percentage of smokers in metropolitan areas who buy cigarettes across taxing jurisdictions based on estimates of cigarette demand	Lovenheim (2008)
4 percent of smokers will cross a state border to purchase cigarettes	Estimate casual smuggling based on surveys of purchasing behavior reveal that smokers will travel 2.7 miles to save a dollar	Chiou and Muehlegger (2008)
34 percent of smokers shop in untaxed/low tax venue	Survey smokers by telephone to explore patterns for purchases	Hyland et al. (2005)
30.5–42.1 percent of packs are trafficked across a jurisdiction	Examine discarded packs in five northeastern cities	Davis et al. (2013)
76.2 percent of packs avoided state and local tax through an absent or counterfeit stamp	Examine discarded packs in South Bronx to calculate number of cigarettes that avoided city and state tax	Kurti et al. (2012)
15 percent of packs were without a stamp; went up to 24 percent after tax increase	Examine discarded packs in New York, before and after a tax increase, looking for packs without a stamp	Chernick and Merriman (2011)

Table 1. (*continued*)

Estimates of Avoidance	Methods Used to Make Estimate	Reference
29 percent of packs in Chicago area bore the Indiana tax stamp; only 25 percent carried the city tax stamp	Examine discarded packs in Chicago for evidence of out-of-jurisdiction stamps	Merriman (2010)
12.7 percent of cigarettes in 2001 obtained through avoidance and evasion	Compute difference between reported smoking rates and sales	Stehr (2005)

Source: Author's compilation.

which do not levy state taxes (DeCicca et al. 2014). Another group of researchers, who asked smokers to mail them a package of their unopened cigarettes, found that 20 percent of the packs returned to them in 2009 "were classified as untaxed by the participants," while the number for 2010 was 21 percent (Fix et al. 2013). In a working paper published by the National Bureau of Economic Research, DeCicca et al. (2010, table 2) drew on data from the 2003 and 2006–2007 "Tobacco Use Supplement to the Current U.S. Population Survey." They found that in 2006–2007, some 18.7 percent of respondents in Vermont and 18.5 percent of them in Washington, DC, admitted to cross-border purchases. The figures are 13.7 percent for Maryland and 4.1 percent for New York for this period.

Finally, yet another survey, this one of 3,602 smokers in the United States in 2001, determined that 34 percent of respondents "regularly purchase from a low or untaxed venue" (Hyland et al. 2005, 86). A "venue" could mean an Indian reservation or another state or country. The study's authors also noted that one of "the strongest predictors of purchasing less expensive cigarettes" was "living within 40 miles of a place with a lower cigarette excise tax." (Hyland et al. 2005, 90). Of those responding to the survey from Binghamton and Johnson City in New York State, 66 percent (240) said they purchased lower-priced cigarettes elsewhere—most likely in Pennsylvania, which is only miles away (Hyland et al. 2005, 89).

Examining Discarded Cigarette Packs

Since people are not always trustworthy or reliable when talking about their habits, a second approach of estimating tax avoidance is to examine their behavior. One way of doing this is to collect and analyze discarded cigarette packs.

In one report, Davis et al. (2013) collected and examined discarded cigarette packages in Boston, New York, Philadelphia, Providence, RI, and Washington, DC. By looking at each package, the researchers identified tax stamps that specify the origin of the cigarettes.

The authors determined that among the five cities, 30.5–42.1 percent of the discarded packs were moved through illegal trafficking. The authors also estimate that these cities lose between $680 million and $729 million annually as a result of illicit trafficking (Davis et al. 2013, 1).

Of the study's city-specific numbers, two stand out. More than 75 percent of discarded packs collected in Providence, RI, originated from Massachusetts. The dataset used by the authors includes 2011 excise tax rates. At that time, Massachusetts maintained a tax rate of $2.51 per pack, while Rhode Island's rate was $3.46 per pack. Of those packs collected in Washington, DC, 50 percent came from Virginia, and 32 percent from Maryland (Davis et al. 2013, 3).

A more narrowly focused study looked at New York City, using discarded cigarette packs to measure smuggling rates in the city. Merriman and Chernick (2013, 8) collected discarded packs in thirty city Census tracts—once before a 2008 state excise tax increase of $1.25 and then three times after it.

They found that before the hike, 15 percent of discarded packs had no tax stamp, but afterward, this number leapt to 24 percent. The authors also argue that "tax avoidance may be higher in poorer areas of NYC neighborhoods." The degree to which a relationship exists between poverty and smuggling is quantified this way: "a one standard deviation increase in poverty rates impl[ies] a five percentage point increase in avoidance rates" (Merriman and Chernick 2013, 11, 20; quote is from p. 27).

An even more focused study looked at the South Bronx, a poor area in the city. This study collected discarded cigarette packs throughout the area to estimate the percentage that had been taxed. Kurti et al. (2012, 138) found that "76.2 percent of cigarette packs collected avoided the combined New York City and State tax." Almost 58 percent were not taxed at all. The authors' conclusion was that poor areas of the United States may have higher tax evasion and avoidance rates compared to other locations.

Moving away from the Northeast, a 2010 study used discarded packs collected from Chicago's streets in 2007. It concluded that 29 percent of the packs collected in the city bore the tax stamp of Indiana (Merriman 2010, 69). The report also found that only 36 percent of those discarded cigarette packages bore the tax stamp of Cook County, while only 25 percent bore the tax stamp of the city of Chicago. (Both the county and the city impose additional excise taxes on cigarettes.) In other words, "Chicago littered packs were slightly more likely to have an Indiana stamp than a Chicago stamp" (Merriman 2010, 69–70).

Note that these discarded packages in Chicago were collected before the most recent cigarette excise tax increases by state, county, and city governments. Cook County hiked its cigarette excise tax in 2013 by $1 to $3 per pack,[2] and Chicago hiked its cigarette tax in 2014 by 50 cents.[3] Also raising its cigarette excise tax was the state of Illinois, which had lifted its excise tax in 2012, by $1 (Orzechowski and Walker 2014, 10). In addition, two cities in Cook County also mandate municipal-level taxes: Evanston and Cicero imposed excise taxes on cigarettes of 50¢ and 16¢, respectively (Boonn 2016).

Examining Retail Shops

Another approach to estimating tax avoidance, also measuring behavior, is to look at the prevalence of counterfeit tax stamps in retail settings.

In an attempt to quantify how many cigarette packs are sold illegally in retail stores, an investigative team made 830 purchases of cigarettes in 92 neighborhoods, at 80 subway stops (across five boroughs of New York City) and in twelve retail areas with bus or train access to Staten Island (Silver et al. 2015, 1). The team found that more than 15 percent of cigarette packs bought had either out-of-state or counterfeit stamps, the latter comprising 10.6 percent of the total. Of the 125 packs with out-of-state or counterfeit stamps, 29.6 percent had a tax stamp from Virginia, while the other 70.4 percent bore counterfeit stamps designed to replicate those used by the city or state of New York (Silver et al. 2015, 2).

Statistical Techniques Comparing Smoking Rates to Legal Paid Sales

Last, there are statistical estimates that scholars make using different measuring techniques. One of the most recent—published by the National Research Council and Institute for Medicine in 2015—involved comparing estimated smoking rates to legal paid sales. The difference between the two must be explained, and the authors attributed the difference to tax avoidance and evasion. Their estimate found that 8.5 percent of cigarettes nationwide are diverted (National Research Council 2015, 3).

My colleague, Ball State University economist Todd Nesbit, and I have used the same technique in a larger statistical model to measure smuggling rates since 2008. The Institute for Medicine and National Research Council used our Mackinac Center research estimates to calculate a national smuggling rate of 13.5 percent (National Research Council 2015).

A third study using a residual method was published in 2005 and concluded that that between 59 and 85 percent of declines in legal paid sales of cigarettes may be explained by tax avoidance and evasion. It also estimated that by 2001, 12.7 percent of cigarettes were being purchased without payment of state taxes (Stehr 2005, 294, 295).

In 2008, a Stanford professor used micro-data on consumption of cigarettes from the Current Population Survey Tobacco Supplement to estimate cigarette demand, from which he determined the estimated percentage of smokers in metropolitan areas who purchase cigarettes across jurisdictional boundaries. His estimates suggested that nationwide, the percentage of cigarette consumers who smuggle ranges between 13 percent and 25 percent.

PARALLELS WITH PROHIBITION

In 2002, Michael Bloomberg, then mayor of New York, signed into law a measure increasing the city's excise tax to $1.50 a pack. He said at the time, "This may be the most important measure my administration takes to save people's lives." He added that he viewed the hike not as a revenue initiative so much as a public health one. "If it were totally up to me, I would raise the cigarette tax so high the revenues from it would go to zero" (quoted in Cooper 2002, n.p.).

As Bloomberg's comments suggest, excise taxes may for practical purposes make cigarettes cost prohibitive. The results include many of the attendant consequences of the alcohol prohibition experiment of the Progressive Era.

In simple theoretical terms, a tax-induced price increase should move buyers upward on the demand curve, reducing the quantity of cigarettes demanded. This theory is supported by empirical evidence, which shows that people reduce or eliminate consumption of cigarettes as a direct result of price increases (Callison and Kaestner 2014).

Prices act as signals, however, and as the relative price of one product rises, it leads people to substitute one product for another—sometimes one of inferior quality or greater potency. They also signal to producers and distributors that profits can be made and to consumers that money can be saved. In the case of high cigarette taxes, individual consumers and distributors face powerful incentives to arbitrage the difference between the tax-induced prices of cigarettes of various jurisdictions.

The result is large-scale tax evasion and avoidance, the majority of which is probably the result of diversion (much of which is illegal smuggling). This is the largest and most obvious parallel between today's rampant cigarette smuggling and the era of alcohol prohibition.

The state of Michigan seems to be at a crossroads in the parallels between prohibition of alcohol by statute and prohibition of cigarettes by price. In his popular book, *Last Call: The Rise and Fall of Prohibition*, Daniel Okrent (2010, 124) writes that some "900,000 cases of liquor found their way from Canadian distilleries to the border city of Windsor, Ontario," across from Detroit.

That liquor often passed through Michigan first on its way to other US destinations. During Prohibition, more than 75 percent of the hard liquor entering the country came across the Detroit River, the St. Clair River, and Lake St. Clair (Nolan 1999). At one point along the Detroit River, only 1 mile separates Canada from Michigan. Illegal booze flowed southward into Michigan on boats, biplanes, and at least one underwater sled. In the winter, ice skiffs were used. Trains and trucks also delivered illegal liquor. Smuggling was so rampant that at one point, 27 percent of the federal government's Prohibition enforcement budget for the country was spent fighting the illicit trade in Michigan (Engelmann 1979, xiv).

The smuggling of alcohol was not limited to international borders. Canadian whiskey, for example, transited a number of states before reaching its destinations. But Michigan went "dry" in 1918, before the rest of the country, and interstate smuggling of alcohol began almost immediately.

There was so much illegal alcohol flowing north from Ohio that one stretch of highway—US 25 (also known as the "Dixie Highway")—was dubbed "The Avenue de Booze." Years later, the freeway constructed nearby could easily be called "The Avenue de Smokes" for all of the illegal cigarettes flowing northward into southeast Michigan.

Today smuggling still occurs between the United States and Canada—and Michigan still plays a role, given its proximity to the border. But the smuggling now involves exports of tobacco instead of alcohol, and it flows in the opposite direction. In 2013, I along with co-researcher Todd Nesbit estimated that for every 100 smokes consumed in Michigan, an additional 3 were smuggled out to Canada. While smokers in Detroit pay a state excise tax of $2.00, those across the Detroit River in Windsor are taxed at CA$3.300 per pack.[4] Michigan is not the only source state for Canadian consumers.

Loose tobacco is trafficked northward, too. In January 2013, 30,000 pounds of loose tobacco was confiscated by the Canadian government at the Ambassador Bridge, which connects Canada to the United States (LaFaive and Nesbit 2013). This bridge, which opened in 1929, once helped facilitate liquor smuggling into the United States.

In 1994, Michigan voters adopted Proposal A, a public school funding package designed to revolutionize the way schools are financed. One component involved a cigarette tax increase of 50¢, a 200 percent increase. This large increase was passed without a corresponding mandate for tax stamps, which provide evidence on each package of cigarettes that the appropriate taxes had been paid.

So a smuggler could purchase vanloads of cigarettes in North Carolina, which had very low excise taxes of 5¢ per pack—and also had no tax stamp requirement—and shuttle them up to Michigan for distribution and sale, where taxes had increased to 75¢ per pack. Smugglers would thus arbitrage the 1,400 percent tax-induced price difference between the states. Authorities were unable to tell the difference between the two states' cigarettes, which made illicit trafficking all the more attractive. This created an opportunity for high profits at low cost, including the low probability of getting caught.

Cigarette smuggling continued to grow in Michigan and in 2007, I—along with scholars Todd Nesbit and Patrick Fleenor—measured its growth. The result was an exhaustive study about the degree to which cigarette taxes are diverted, usually by being smuggled illegally from low-tax to high-tax jurisdictions. The study contained smuggling rates by year, from 1990 through 2006 for forty-seven of the forty-eight contiguous states (LaFaive et al. 2008; LaFaive, Nesbit, and Drenkard 2015).[5]

The average smuggling rate for calendar year 1993—the year before the adoption of Proposal A—was just 8.67 percent of all Michigan-specific consumption. In the first full calendar year after adoption of Proposal A (1995), the smuggling rate was 20.5 percent, a 136.4 percent increase in illicit activity. Given the theoretical underpinnings and supportive empirical research, it would be incredible if this huge increase in smuggling after a big jump in excise taxes was just a coincidence or an anomaly. It is instead likely that illicit trafficking increased as a direct result of a law that had the unintended consequence of encouraging lawlessness, much like what happened during Prohibition.

To estimate diversion rates we used a two-stage residual econometric model that examined the difference between per capita legally paid sales and reported smoking rates by state.[6] The difference between official sales and what sales would have been without diversion is the total diversion rate. Our model cannot distinguish between evasion and avoidance, but we believe that legal avoidance by individual consumers represents a small part of the total.

The model also generated "percentages of diversion" in two major categories: casual and commercial. The former involves individuals who cross into another taxing jurisdiction to acquire cheaper cigarettes or purchase them on the Internet for personal consumption. The latter involves long-haul, large shipments, typically from a "tobacco state" like North Carolina to a higher-taxed state like Michigan or Illinois.

The results of our model complement the findings from the existing literature cited earlier. Recall that this literature generally concludes that legal cigarettes are diverted to a significant degree through tax avoidance and evasion strategies.

In the 2015 update to the study (LaFaive, Nesbit, and Drenkard 2015), we noted that through 2013, New York State stands out as a perennial leader in cigarette diversion percentages. We found that 58 percent of the Empire State's total market was diverted, most of which likely involved smuggling. The highest rate was followed by Arizona (49.3 percent),[7] Washington State (46.1 percent), New Mexico (46.1 percent), and Rhode Island (32 percent) (see table 2).

The top five exporting states include New Hampshire (28.7 percent), Idaho (24.2 percent), Delaware (22.6 percent), Virginia (22.6 percent), and Wyoming (21 percent). That is, for every 100 cigarettes consumed in, say, New Hampshire, an additional 28.7 percent were diverted to other states.

According to our estimate using 2013 data, the net revenues lost to cigarette tax avoidance and evasion in the continental United States is $5.1 billion. To obtain this number, we added up revenue gains to states that export cigarettes and subtracted revenue losses from state's that import diverted smokes.

INCIDENCE OF VIOLENCE

Violence was part and parcel of Prohibition. It was used by organized crime syndicates to enforce territorial agreements and intimidate unwilling participants or witnesses to the trade. The artificially high price of alcohol at this time also encouraged criminals to use violence to steal the product. Indeed, violent acts were an omnipresent feature of Prohibition.

Professor Mark Thornton (1991, 6), writing for the Cato Institute, noted that serious crime had been trending downward until Prohibition, when trends did a U-turn. He noted among other changes that occurred with Prohibition that

Table 2. State Cigarette Smuggling as a Percentage of Total State Cigarette Consumption (Legal and Illegal), 2013

			2013 Estimated Smuggling Rates				Rank by Net Smuggling into the State		
State	Per Capita Legal Sales (packs)	Tax Rate (cents per pack)	Commercial (Interstate) Percentage	Casual (Interstate) Percentage	Smuggling Involving Canada or Mexico Percentage	Total Percentage	2013 Rank	2012 Rank	Rank Change
AL	64.6	42.5	0.28	6.85	0.00	7.11	37	39	–2
AR	57.5	115.0	–8.56	0.06	0.00	–8.50	25	25	0
AZ	24.4	200.0	–7.56	–12.06	–18.04	–49.28	2	2	0
CA	23.9	87.0	–3.24	–7.44	–17.70	–31.50	6	6	0
CO	38.3	84.0	–3.99	–9.17	0.00	–13.55	20	20	0
CT	31.4	340.0	–28.14	2.42	0.00	–24.82	11	12	–1
DE	77.1	160.0	–13.94	32.27	0.00	22.58	44	43	1
FL	44.3	133.9	–6.72	–9.43	0.00	–17.10	17	16	1
GA	49.9	37.0	0.93	3.29	0.00	4.20	36	37	–1
IA	48.5	136.0	–7.50	–8.31	0.00	–16.66	18	17	1
ID	43.1	57.0	–2.03	22.92	3.49	24.20	46	45	1
IL	31.7	198.0	–17.68	–2.75	0.00	–20.92	14	30	–16
IN	66.9	99.5	–7.14	21.40	0.00	15.55	40	36	4
KS	41.0	79.0	–3.58	–10.96	0.00	–14.95	19	19	0
KY	93.5	60.0	–1.56	8.97	0.00	7.56	38	38	0
LA	73.3	36.0	0.80	–3.62	0.00	–2.78	30	27	3
MA	32.2	251.0	–27.12	12.09	0.00	–12.04	22	21	1
MD	32.6	200.0	–15.86	–3.66	0.00	–20.19	15	15	0
ME	48.5	200.0	–16.18	0.97	3.75	–10.65	24	23	1
MI	45.4	200.0	–12.83	–13.84	2.98	–24.97	10	10	0

MN	43.1	160.0	−9.67	−10.40	2.69	−17.96	16	14	2
MO	87.4	17.0	2.73	11.30	0.00	13.70	39	40	−1
MS	63.9	68.0	−2.29	−5.97	0.00	−8.42	26	24	2
MT	44.3	170.0	−9.17	−15.68	2.42	−23.66	12	13	−1
ND	72.5	44.0	0.09	1.93	1.76	3.74	35	33	2
NE	51.2	64.0	−1.87	−0.93	0.00	−2.83	29	28	1
NH	89.6	168.0	−12.88	34.24	3.43	28.65	47	47	0
NJ	30.6	270.0	−29.43	12.98	0.00	−12.90	21	18	3
NM	26.4	166.0	−8.06	−8.45	−21.81	−46.13	4	3	1
NV	43.2	80.0	−6.19	24.03	0.00	18.76	41	41	0
NY	16.6	435.0	−28.41	−25.34	4.02	−57.99	1	1	0
OH	54.6	125.0	−9.25	2.02	0.00	−7.05	27	26	1
OK	67.2	103.0	−5.92	2.78	0.00	−2.95	28	29	−1
OR	43.3	118.0	−6.89	−3.64	0.00	−10.82	23	22	1
PA	52.8	160.0	−14.15	12.61	0.00	0.12	31	31	0
RI	35.3	350.0	−22.34	−6.95	0.00	−31.98	5	7	−2
SC	62.0	57.0	−1.31	3.68	0.00	2.41	32	34	−2
SD	42.7	153.0	−9.01	−11.83	0.00	−22.29	13	11	2
TN	66.2	62.0	−2.00	4.78	0.00	2.87	33	35	−2
TX	36.2	141.0	−6.36	0.49	−19.61	−27.38	8	8	0
UT	21.4	170.0	−11.42	−13.92	0.00	−27.34	9	9	0
VA	69.4	30.0	1.79	21.13	0.00	22.58	45	44	1
VT	42.1	262.0	−29.41	21.15	5.65	3.08	34	32	2
WA	19.5	302.5	−23.16	−22.95	4.07	−46.37	3	4	−1
WI	39.8	252.0	−13.71	−14.04	0.00	−31.24	7	5	2
WV	103.1	55.0	−1.21	20.49	0.00	19.50	42	42	0
WY	60.8	60.0	−2.13	22.74	0.00	20.98	43	46	−3

Source: LaFaive, Nesbit, and Drenkard (2015), using 2013 data.

the "homicide rate increased to 10 per 100,000 population during the 1920s, a 78 percent increase over the pre-Prohibition period."

In his paper "Violence and the U.S. Prohibitions of Drugs and Alcohol," Jeffrey Miron (1999, 3) writes that there exists a "demand for violence" designed to resolve disagreements. The private sector, asserts Miron, has several dispute resolution mechanisms that can be deployed—"negotiations, lawsuits, arbitrations"—that peacefully resolve disagreements over commercial transactions. When a product is prohibited and parties are working in an illegal environment, however, they more easily turn to violence "in lieu of lawyers" as a solution.

Miron is not the only observer to note that extralegal activities often come with extralegal solutions. In his book, *Last Call: The Rise and Fall of Prohibition*, Daniel Okrent (2010, 276) describes how famed attorney Clarence Darrow—an enemy of Prohibition—explained the "bootleggers' dilemma:"

> The business pays very well, Darrow said, but it is outside the law and they can't go to court, like shoe dealers or real-estate men or grocers when they think an injustice has been done them, or unfair competition has arisen in their territory. So, Darrow concluded, they naturally shoot.

During Prohibition, the St. Valentine's Day Massacre of six organized crime participants was one of the highest-profile uses of violence to end a dispute—this one involving control of Chicago's liquor traffic. But it was hardly the only one. Violence is still used in the illicit cigarette market for many of the same reasons it was employed during Prohibition. Consider a few examples.

- In October 2014, a convenience store clerk in Frankfort Township, Illinois (East of Joliet), was forcibly zip-tied and left in a bathroom while a team of four thieves stole cigarettes, cash, and other items.[8] Stealing cigarettes is not an uncommon phenomenon. Each pack in high-tax states represents a little gold bar to criminals, a secondary currency of sorts.
- In June 2013, a shooting death involving three gunmen may have been related to cigarette smuggling in Virginia. Frank Green, a reporter with the *Richmond Times-Dispatch* noted that "a law enforcement source said the slaying is believed to have been related to cigarette trafficking" (Green 2015a). In a September 2015 interview, the detective assigned to the case told this author that the victim was "heavily

involved in cigarette trafficking." The detective, citing an ongoing police investigation, could not confirm that the murder was directly tied to smuggling.[9]

- In September 2013, police in Warren, Michigan, were forced to shoot at cigarette thieves in self-defense. In their attempt to escape capture, the thieves swerved their getaway van directly toward officers (Gantert 2015).

One of the greatest costs associated with trade in any prohibited arena is the costs associated with getting caught. Traffickers will go to great lengths to avoid capture, and that includes putting others' lives at risk:

- In October 2013, two men were indicted in a murder-for-hire scheme against witnesses scheduled to testify in a cigarette smuggling operation. A press release from the New York attorney general indicates that these were just two of sixteen members in a smuggling operation that purportedly avoided $80 million in taxes on their contraband smokes. Police Commissioner Raymond Kelly said in a press statement: "This indictment shows the scope of intent of these two individuals was not limited to generating profits through illegal cigarettes; it now includes a murder plot" (New York State Office of the Attorney General 2013). This is not the only hired gun story involving illicit smokes.
- In 2010, a Fairfax, Virginia man named Xing Xiao pleaded guilty in a conspiracy to hire someone to kill a man whom he thought had stolen 15,000 cartons of his contraband cigarettes, according to the US Department of Justice. Xing Xiao was one of fourteen people who were working to purchase and resell 77 million cigarettes in New York.[10]
- In 2008 in Cornwall in the Canadian province of Ontario, an American couple died when a suspected smuggler slammed into their automobile while trying to flee the police.[11]

Violence is also sometimes used to acquire a product, particularly one that is prohibited by law or price. Arguably the most brazen acts of theft involve the hijacking of both legal and illegal shipments.

During Prohibition, the "Gustin Gang" was known for hijacking the illicit shipments of delivery vehicles at street intersections, among other crimes. The leader of the gang, Frankie Wallace, was ultimately murdered by a rival crime syndicate.[12]

In his book on Prohibition, *Last Call*, Daniel Okrent (2010, 278) noted the constant "threat of hijackers looking to commandeer a boat and seize its cargo." There were "auxillaries of the violent urban gangs" on the ocean, robbing "rum runners" of cash and liquor in acts that also included extreme violence.

The irony is rich and repeated in the prohibition by price of cigarettes: one group of lawbreakers robs another group of lawbreakers. The headline of an April 2015 news story borders on the humorous: "Robbery Victim Arrested, Charged in Cigarette Trafficking." As it turned out, the victim was robbed by at least one employee of his own cigarette outlet store, a store that was apparently a legal front for an illegal cigarette distribution system. The news article reports that "New York authorities complain traffickers there have been robbing each other of cash and valuable, readily disposable cigarettes." In this case, the victim had made ninety cash deposits in the business's bank account worth more than $14 million (Green 2015b).

In January 2015, two men who were loading a van with cigarettes were hijacked before they could finish the job. The hijackers stole products valued at $90,000, according to the *Richmond Times-Dispatch* (Green 2015a). In 2011, a cigarette delivery truck was hijacked by an armed robber in Hitchcock, Texas (Weisman 2011). In 2010, in East Peoria, Illinois, cigarette delivery trucks were stolen before drivers had a chance to move their cargo (Ori 2010). A 2012 news report in the *Journal Star* indicated that the stolen cigarettes had a value of about $8 million and that the theft was carried out by a crime syndicate working out of Florida. The syndicate was responsible for stealing more than cigarettes and worked in other states, too (Renken 2012).

While these recent stories are dramatic in their own right, earlier stories out of Michigan also deserve mention. In 2005, two separate hijackings of cigarette delivery trucks operated by wholesaler Martin & Snyder of Detroit left management and employees shaken. The drivers of the trucks were tied up and eventually freed unharmed, but all parties wanted to avoid the future risk of injury or death (LaFaive et al. 2008, 47).

As mentioned above, one cost to illicit traffickers is the risk of getting caught. But there is another cost that is often borne by legal distributors of the product that is prohibited by price, including Martin & Snyder. Its cost was that of being victimized by a robbery, being subjected to physical violence, and then having to pay for tighter security.

Martin & Snyder hired Threat Management Group to help protect its employees and shipments as they moved through the Detroit area. The work not only included the use of twelve armed guards but also an empty decoy truck, a security dog, a live camera from a security vehicle to Martin & Snyder headquarters, and a rotating delivery schedule to avoid shipment predictability.[13] The plan minimized the company's risk of being subject to theft and violence, but it came at great expense to the wholesaler of a legal product.

The same business owner also suffered brazen violence to his property when thieves smashed their way through the brick exterior of his business to steal cigarettes. Others businesses have similarly suffered. In July 2015, thieves broke through the brick wall of a Detroit retailer to steal cigarettes, alcohol, and lottery tickets (Herrera 2015). In September 2012, a Columbus, Ohio, retail store was robbed of 120 cartons of cigarettes after a car smashed through a large door.[14]

The list of damage done to people and property is long. They are distinguished by the costs associated with it and the incentive from which it was born: prohibition by price. The list above involves mainly examples of explicit violence, but countless stories exist of robberies where the threat of violence is either simply implied or not made at all.

CORRUPTION

Corruption of public officials also appears to be routine under both prohibition scenarios, although the extent of corruption under Prohibition was much larger than it is today.

Mark Thornton (1991, 8) quotes Commissioner of Prohibition Henry Anderson: "The fruitless efforts at enforcement are creating public disregard not only for this law [but also] for all laws. Public corruption through the purchase of official protection for this illegal traffic is widespread and notorious." That is more than mere speculation. Almost 9 percent of federal prohibition agents between 1920 and 1931 were fired over issues related to corruption (Comte 2010, 170).

According to Daniel Okrent (2010, 274–75), "political corruption had been baked into the system almost from the beginning." One "dry" congressman from Kentucky arranged for 1 million gallons of liquor—dubbed "medicinal"—to be released to bootleggers in New York.

Excise taxes on cigarettes can be profitable for modern lawmakers, too. In June 2015, Tennessee state Rep. Joe Armstrong was indicted on tax fraud and other charges stemming from profits he made arbitraging cigarette excise taxes on which he voted. As for most states, Tennessee imposes a tax stamp on each pack of cigarettes sold as evidence that the taxes it levies have been paid. In this case, Armstrong purchased a large quantity of cigarette tax stamps the day before he and his colleagues voted to more than triple the excise tax on cigarettes, from 20¢ to 62¢ per pack.

According to news reports, he later sold those stamps at a profit, tried to cover up the transaction, and failed to report income from the deal. Armstrong pleaded not guilty.[15]

- In 2012, an official in Cook County's revenue office was caught taking payments from retailers for advanced warnings of raids on their businesses (LaFaive and Nesbit 2014–2015).
- In 2013, a sheriff with decades of experience in law enforcement was sent to prison in Illinois for taking part in a cigarette smuggling scheme for which he was paid thousands of dollars. In a secret recording made in 2011, a smuggler named Mustafa Mohd Shaikh endorses the sheriff: "Anything happens to you in Chicago, this guy will get you out," he said. "This guy is willing to protect. Nobody will touch you or come by you" (LaFaive and Nesbit 2014–2015, 17).

In 2012, a police officer in Maryland's Prince George's County was sentenced for helping run illegal cigarettes while in uniform, firearm at the ready, and with his police vehicle (LaFaive 2015).

Corruption does not stop at the thin blue line. It is all too easy to find stories about prison and jail guards smuggling cigarettes—among other items—into federal, state and local corrections facilities. Police officers have also been impersonated by the criminal class during alcohol Prohibition and today's prohibition by price with cigarettes.

- The Gustin Gang posed as federal agents to confiscate the illegal liquor of other bootleggers and then resell it.[16]
- In November 2013, Charles Watson was sentenced to prison for stealing cigarettes from a retail store while pretending to be a cop (LaFaive and Nesbit 2014–2015).

BATHTUB GIN

Prohibition saw its share of injury and death from adulterated liquor products, often made by those who had little knowledge of alcohol production. Purveyors of cheaply made liquor produced their goods in innumerable—but usually discreet—locales. Their work included acquiring genuine, safer liquor and cutting it with chemicals to increase the volume of alcohol (and hence, their revenues). Today, counterfeit cigarettes have been found to carry all manner of materials that do not belong there.

The UK *Daily Mail* reported in 2012 on similar findings from an investigation of discarded packs of cigarettes in the city of Birmingham. Some cigarettes contained “human excrement, asbestos and dead flies” (Preece 2012). Counterfeit cigarettes are often sold to unsuspecting customers and may include dangerous chemicals, such as sulphur and carbamide (Shen et al. 2010, 245).

THE IRON LAW OF PROHIBITION

In addition to counterfeit cigarettes, today smokers may seek out packages and cartons bearing lower tax rates. But they have also substituted cigarettes produced by licensed manufacturers with those they roll themselves with loose tobacco. This need not be a more dangerous route, but it can be if consumers increase their nicotine intake by forgoing the use of filters—getting more bang for their nicotine buck. This practice has parallels to the era of alcohol Prohibition.

In his analysis, Mark Thornton (1991, 3) details how beer became more expensive relative to liquor “because of its bulk.” In other words, it cost more to illicitly move that product than its more potent alternatives. “The typical beer, wine, or whiskey contained a higher percentage of alcohol by volume during Prohibition than it did before or after.” Likewise, people have substituted other products for cigarettes to get their nicotine fix; such substitutions are not necessarily healthier or safer (CDC 2012).

A 2012 report from the Centers for Disease Control (CDC 2012) notes that certain smokers changed tobacco types to avoid higher cigarette taxes. Specifically, the CDC reported that while cigarette use declined by 32.8 percent between 2000 and 2011, the use of loose tobacco and cigars leapt by 123.1 percent during the same period. The change came most notably—according to the CDC—after the 2009 federal cigarette excise tax increase (CDC 2012).[17]

Despite the good intentions of reformers, prohibition—either by mandate or by price—undermines the goals often used to justify proposed policies. The public health improvements sought by champions of the excise tax are frustrated by tax evasion and avoidance as well as the substitution effect.

LOOSIES

One of the more interesting parallels between Prohibition and today’s high cigarette prices and illicit trade are “loosies,” or loose cigarettes sold one or two at a time for 25–50¢ or more. The term loosie is not a new one, but it took on particular prominence after the tragic death of Eric Garner. His death was caused by a confrontation with police officers in New York City and aggravated by his own poor health, according to a New York City official. The reason Garner was confronted by the police in the first place, however, was his sale of cigarettes. Garner was apparently selling loosies in Staten Island.

According to the *Wall Street Journal,* arrests associated with the sale of loosies in New York dropped 33 percent after Garner's death, to 295 through July 5, 2015, from 439 through the same time frame in 2014 (Francescani 2015). An October 2015 report indicated that Chicago arrested 800 people in 2013 for selling loosies and issued 490 citations costing $1,000 per recipient. The problem is so pervasive that one alderman has publicly remarked that gang wars over loosie turf might erupt in the city.[18]

During Prohibition, some men sold single shots of whiskey to others as they left the factory for the day. In *Last Call*, Daniel Okrent (2010, 283) writes: "In some cities they [cars] were mobile taverns, their proprietors parking outside factory gates, peddling shots of liquor for twenty cents apiece and speeding off at the first scent of an honest Prohibition Agent." Today those cars are simply backpacks worn on the backs of street sellers or perhaps a simple box underneath the counter of some retailer.

CONCLUSION

Cigarette excise taxes have increased in the past decade at all levels of government, some to a much greater degree than others. The tax-induced price differences of cigarettes have led to a raft of unintended consequences that mimic those of Prohibition. It is easy to see why.

The extraordinary profits associated with prohibiting a popular product have given criminals and even law-abiding citizens lucrative incentives to engage in trade in often illicit or legal but expensive products. Some do it to save money; some do it to make money. In some instances, those products are less expensive substitutes that may also provide a more potent shot of nicotine than might otherwise be ingested.

The first and most obvious unintended consequence of prohibition by price is rampant smuggling. The academic literature on the subject points to illicit trafficking on a large scale. Nationwide, one 2015 study pegged the average tax evasion and avoidance rate in the United States at as low as 8 percent and as high as 21 percent.

Of course, this is just the national average. States that have some of the highest excise taxes typically have higher rates of tax evasion and avoidance.

Fifty-eight percent of New York State's total cigarette market may be illicit. The state's smuggling rate is high due in part to its proximity to low-tax Virginia, much as Michigan's Prohibition-era alcohol smuggling was due first to its proximity to wet Ohio and ultimately to Canada.

This unintended consequence, however, is only the largest and most obvious parallel with the era of Prohibition. Others—including the creation of crime syndicates, violence against people and property, corruption of elected officials and police, adulterated and increasingly potent product substitutes, and the sale of loosies—are all reflected in a quasi-prohibition, that of a tax-induced prohibition by price.

NOTES

1. "Children's Health Insurance Program Reauthorization Act of 2009" (Washington, DC: Government Printing Office, February 4, 2009), (Sec. 701), https://www.gpo.gov/fdsys/pkg/PLAW-111publ3/pdf/PLAW-111publ3.pdf (accessed September 10, 2015).
2. "Cook County Department of Revenue Tobacco Tax Ordinance: Notice of 2013 Tax Rate and Definition Changes," https://perma.cc/2UHA-BBL8 (accessed July 25, 2017).
3. City of Chicago "Cigarette Tax Delinquency Notices," https://www.cityofchicago.org/city/en/depts/fin/provdrs/tax_division/alerts/2013/dec/notice-of-cigarette-tax-increase.html (accessed July 25, 2017).
4. "Tobacco Tax," 2017 (Ontario: Ontario Ministry of Finance), http://www.fin.gov.on.ca/en/tax/tt/. We also estimated that Vermont, Washington State, New York, New Hampshire, North Dakota, Montana, Minnesota, Maine, and Idaho act as source states for illicit exports to Canada. For every 100 cigarettes consumed in these states, between 1.8 and 5.7 cigarettes are smuggled to Canada. Of course, US states are not the only source of illicit importation. Both Canadian and American authorities must also consider other nations (for example, China) or the tribal nations in each country as sources of illicit product. American Indian reservations have been a major source of low-tax cigarettes in the United States and in Canada (LaFaive et al. 2015).
5. The LaFaive et al. (2008) smuggling study was first published in 2008 using 2006 data and was updated in LaFaive and Nesbit (2015) with data through 2013.
6. We also estimated a single-stage model including prevalence of smoking, a time trend, and the same variables as appear in our two-stage model. When our study was first published in 2008, this was an approach adopted by other scholars. The results were similar to those for the two-stage model, for which we have a great preference.
7. Our model attributes much of this smuggling to cross-border activities with Mexico. However, it is possible that a large portion may actually be coming through bonded warehouses instead. We are unable at this time to include a measure of this traffic due to the dearth of available data.
8. "Frankfort Township Tobacco Store Robbed," *Herald-News* (Joliet, IL), October 6, 2014, http://www.theherald-news.com/2014/10/06/frankfort-township-tobacco-store-robbed/asewmp4/.
9. Telephone conversation between Detective Johnny Capocelli of the Chesterfield Police Department and Michael LaFaive, Director of the Morey Fiscal Policy Initiative with the Mackinac Center for Public Policy, September 29, 2015.
10. US Department of Justice, US Attorney's Office, Eastern District of Virginia, "Fairfax Man Pleads Guilty to Murder-for-Hire Scheme as Payback for Stolen Cigarettes" (news release, 2010), https://www.staffordsheriff.com/apps/public/news/newsView.cfm?News_ID=184.

11. "Suspected Cigarette Smuggler Kills Couple in Crash." *Ottawa Citizen*, 2008, http://www.canada.com/ottawacitizen/story.html?id=a73ac247-4ede-4db4-b12a-9e53fcb8ef7d.
12. Wikipedia Foundation, "Gustin Gang," March 29, 2015, https://en.wikipedia.org/wiki/Gustin_Gang.
13. And this is only part of the story. A Martin & Snyder cash-and-carry customer was hijacked of his cigarettes and car and was shot in the process. He lived but lost a kidney. These are just some of the costs imposed on this one wholesaler in association with high cigarette excise taxes (Lafaive et al. 2008, 47).
14. WBNS-10TV, Columbus, OH, "Thieves Crash Car into Carry Out to Steal 100 Boxes of Cigarettes," September 24, 2012, http://www.10tv.com/article/thieves-crash-car-carry-out-steal-100-boxes-cigarettes.
15. Mike Donila and Jim Matheny, "Armstrong Pleads Not Guilty to Tax Fraud; Governor Reacts to Charges," WBIR, Knoxville, TN, June 19, 2015, http://www.wbir.com/story/news/2015/06/19/representative-joe-armstrong/28976805/.
16. Wikipedia Foundation, "Gustin Gang."
17. The percentages reported here may exaggerate the substitution effect taking place. Without absolute volumes, it is difficult to determine just how much cigarette consumption was offset by loose tobacco and cigars.
18. Stephanie Cox and Ted Lulay, " 'Loosies' Cigarette Sales Could Spark Gang Conflict, Alderman Says." DNAinfo.com (Chicago), October 7, 2015, https://www.dnainfo.com/chicago/20151007/near-west-side/loosies-cigarette-sales-could-spark-gang-conflict-alderman-says.

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