

ECONOMIC THEORY LOST IN TRANSLATION: WILL BEHAVIORAL ECONOMICS RESHAPE THE COMPELLED COMMERCIAL SPEECH DOCTRINE?

*Kyle Rozema**

For half a century, Congress has required that tobacco companies include text-based warning labels on cigarette packages. In 2009, Congress decided that these warnings were insufficient and should be supplemented by graphic images of cigarette smoke flowing out of exposed tracheas and warnings of nicotine's addictiveness. Congress's decision was informed by Nobel laureate Daniel Kahneman's research in behavioral economics, which ranks salient, emotion-evoking images as being more effective than textual statements in promoting the internalization of advertising messages. Ill-equipped to handle the First Amendment implications of this measure, courts have fumbled over the question of whether these graphic images reshape warning information into a form of speech, compelling a state-imposed ideology upon the tobacco industry.

This Article consolidates the economic and legal theory needed to properly analyze the impact of salience measures on the commercial speech doctrine. By walking through various First Amendment scenarios, this Article describes and differentiates between the two main governmental interests motivating graphic image requirements on cigarette labels: reducing smoking and informing consumers. The Article then sets up a game-theoretic model of the compelled commercial speech doctrine and uses Bayesian inference to make assumptions about how the Supreme Court would rule if it eventually rules on similar graphic images placed on cigarette labels. Solving the model by way of forward induction yields the prediction that the constitutionality of the graphic image requirements will depend on whether the images are ideologically neutral.

This Article makes three basic arguments. First, it argues that, to assess the constitutionality of the salience measure, we must first understand the economic underpinnings that motivated Congress to implement

* Economics Ph.D. Candidate, Cornell University; J.D., Washington University in St. Louis; B.S.E., Mechanical Engineering, Grand Valley State University. Many thanks to Josh Chafetz, Michael Frakes, Don Kenkel, John Cawley, Scott Stirling, Gary Cohen, Joel Landry, and Rachel Hestrin whose valuable comments much improved this Article.

the graphic image requirements in the first place. Specifically, the measure’s constitutionality depends on whether Congress is using increased salience solely to promote effective internalization or whether it is going beyond that to compel expression of smoking is disgusting. Second, this Article contends that Daniel Kahneman’s two-system model of cognitive function should be used to make this determination. Finally, it argues that certain images attempted to manipulate consumers’ emotions to prevent rational decision-making, and that the measure should therefore have been held unconstitutional.

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INTRODUCTION

The following “pass it on” game begins when Economist secretly whispers a short story to Member of Congress and tells Member of Congress to pass it on. The story then secretly works its way from Member of Congress to the Food and Drug Administration (FDA), and finally from the FDA to the D.C. Circuit. The game ends when the D.C. Circuit stands up and tells the story.

Economist:¹ Government should not intervene with properly functioning markets. The tobacco market does not function properly because: (1) smokers do not consider the healthcare costs to society when they smoke and (2) consumers are not fully informed about the risks and consequences of smoking. Therefore, government should intervene to fix both problems. Gov-

¹ For a comprehensive review on the market failures of smoking, see John Cawley & Christopher J. Ruhm, *The Economics of Risky Health Behaviors*, in 2 HANDBOOK OF HEALTH ECON. 95–200 (Mark V. Pauly et al. eds., 2012).

ernment could, for example, levy a cigarette tax equal to the amount of added health care costs to society so that consumers consider these costs when deciding to smoke. This measure would decrease smoking rates. Government could also require warning labels on cigarette packets to inform consumers. Pass it on.

Member of Congress:² The tobacco market does not function properly. We should tax cigarettes so smokers consider the healthcare costs of smoking. We should also require graphic warning labels on cigarettes so consumers are informed. Maybe we should punish cigarette companies for lying to smokers in the past. Pass it on.

FDA: No one should smoke. The deceitful tobacco industry causes some people to smoke. Taxing cigarettes is not doing enough to reduce smoking; we should put graphic warning labels on cigarettes. Also, “[g]raphic health warnings promote greater understanding of the health risks of smoking and would help to reduce consumption.”³ Pass it on.

D.C. Circuit: “The *only* explicitly asserted [government] interest . . . is an interest in reducing smoking rates.”⁴ The FDA’s interest in “ ‘effectively communicating’ the health risks of smoking is merely a description of the means by which it plans to accomplish its goal of reducing smoking rates, and not an independent interest”⁵ Moreover, the government’s “attempt to reformulate its interest as purely informational is unconvincing, as an interest in ‘effective’ communication is too vague to stand on its own.”⁶

² See, e.g., The Family Smoking Prevention and Tobacco Control Act, 15 U.S.C. § 1333, Pub. L. No. 111–31, 123 Stat. 1776, 1844 (2009).

³ Required Warnings for Cigarette Packages and Advertisements, 76 Fed. Reg. 36,628 (June 22, 2011) (to be codified at 21 C.F.R. pt. 1141) [hereinafter Final Rule].

⁴ R.J. Reynolds Tobacco Co. v. FDA, 696 F.3d 1205, 1218 (D.C. Cir. 2012).

⁵ *Id.* at 1221.

⁶ *Id.*

In most pass it on games, the final story contains modified descriptive words while retaining its original underlying theme. However, as the example above demonstrates, the *Government-Interest-in-the-Tobacco-Industry* version of the pass it on game results in the underlying theme becoming twisted and totally changed. Unlike most pass it on games, which are hypothetical, this game is real and has real consequences. The recently decided *R.J. Reynolds v. FDA* case seemed to play out like a pass it on game, in which the original underlying theme of the graphic images disappeared as it made its way from Economist to the D.C. Circuit. The result was that clearly defined economic theory was lost in translation.

Congress passed the Family Smoking Prevention and Tobacco Control Act (the Act) in 2009, which enabled the FDA to select graphic images to cover fifty percent of the front and rear panels of every cigarette pack.⁷ The nine images the FDA selected are shown in Figure 1 below. Following the FDA's Required Warnings for Cigarette Packages and Advertisements (Final Rule), tobacco companies brought two cases challenging the graphic image requirements on First Amendment free speech grounds. In *Discount Tobacco City & Lottery, Inc. v. United States* the Sixth Circuit ruled that the graphic images were constitutional.⁸ However, in *R.J. Reynolds Tobacco Co. v. FDA*, the D.C. Circuit ruled the graphic images unconstitutional,⁹ thereby establishing a circuit split.¹⁰ Although the losing plaintiffs in *Discount Tobacco* filed for review by the Supreme Court (which the Court declined), the FDA did not appeal *R.J. Reynolds Tobacco*. Yet, the question remains: how did the D.C. Circuit reason so very differently than the Sixth Circuit?

To determine the government's interests, the D.C. Circuit relied on both the Act and the FDA's final rule. Unlike pass it on games, there were no relay stages where the content of the economic story could have been skewed through incorrect reporting by the listener. Thus, the D.C. Circuit had no excuse to err in uncovering the government's interest. Economics defines the so-called market failures in the tobacco industry and instructs the government to correct such failures through market intervention. Yet, accepting complex First Amendment arguments, the D.C. Circuit ignored obvious market failures and ultimately contradicted the original theory behind the adoption of the requirements.¹¹ It over-

⁷ 15 U.S.C. § 1333 (2009).

⁸ 674 F.3d 509 (6th Cir. 2012).

⁹ 696 F.3d at 1205.

¹⁰ See *American Snuff Company, LLC v. United States* (6th Cir. 2012), *petition for cert. filed*, (U.S. Nov. 26, 2012) (No.12-521).

¹¹ See *Reynolds*, 696 F.3d at 1229 ("The government's attempt to reformulate its interest as purely informational is unconvincing, as an interest in 'effective' communication is too vague to stand on its own.").

looked the fact that economic theory clearly defines the two governmental interests of reducing smoking and the *separate* interest of informing consumers of the health risks of smoking.¹²



FIGURE 1: THE THE NINE FDA PROPOSED HEALTH WARNINGS REQUIRED ON CIGARETTE LABELS¹³

Reconciling the First Amendment legal standards with the empirical economic support for the specific question at issue is a daunting task. On the one hand, compelled commercial speech is a doctrinal mess requiring courts to determine which of three legal standards applies to each governmental interest.¹⁴ On the other hand, courts must also determine

¹² See A. MAS-COLELL, M. WHINSTON & J. GREEN, *MICROECONOMIC THEORY* 312 (1995) [hereinafter MWG].

¹³ Required Warning for Cigarette Packages and Advertisements, 75 Fed. Reg. 69,524, 69,525 (Nov. 12, 2010).

¹⁴ As I discuss in Part II, *infra*, the Court could apply one of the three following standards to determine whether the graphic image requirements are constitutional: (1) the lenient *Zauderer* standard under *Zauderer v. Office of Disciplinary Counsel of the Superior Court of Ohio*, 471 U.S. 626 (1985); (2) the *Central Hudson* standard under *Central Hudson Gas & Electric Corp. v. Public Service Commission of New York*, 447 U.S. 557 (1980); or (3) the strict *Wooley* standard under *Wooley v. Maynard*, 430 U.S. 705, 716–14 (1977). The *Zauderer* standard only applies to an interest in preventing consumer deception that constitutional law, not economics, defines. The *Central Hudson* and *Wooley* standards potentially apply to both of the government's interests (in reducing smoking and providing information to consumers).

which empirical economic studies apply to the various governmental interests under the different legal standards.¹⁵ This consolidation effort is similar to the communication between two people who do not speak a common language. While lawyers distinguish among the legal standards and economists distinguish among the empirical studies, courts are left to translate and condense both legal and economic arguments into a coherent message. The complexity of the legal and economic arguments often obscures the point and courts can lose track of governmental interests altogether. In the end, what was once clearly defined economic theory gets lost in translation.

To most non-economists, graphic image requirements are not what they appear to be. Graphic image requirements do not merely aim to reduce smoking, but also seek to inform consumers.¹⁶ Reconciling this difference is paramount. Yet, courts ignore the second interest of informing consumers and apply First Amendment law only to the government's interest in reducing smoking.¹⁷ This Article will explain the importance of separating the two governmental interests in the graphic image requirements and consolidate the economic and legal theory in analyzing these interests.¹⁸ As simple as it may seem, the D.C. Circuit in *Reynolds* ignored the government's interest in providing information.¹⁹ This Article sets up a game-theoretic model of the compelled commercial speech doctrine based on these governmental interests and uses Bayesian inference to make assumptions about how the Supreme Court would rule if it hears a similar case.

Ultimately, the constitutionality of graphic image requirements will depend on whether they are a form of information or a form of compelled ideology.²⁰ Under the First Amendment, the specific question is

Whether the Court applies the *Wooley* strict scrutiny standard over the *Central Hudson* intermediate scrutiny standard depends on whether it finds the graphic images to be more ideological rather than informational in nature. See *Wooley*, 430 U.S. at 713–14.

¹⁵ Many of the arguments in the Final Rule were made in the context of administrative law, where the requirements to pass regulations are much different and are unsuited to the context of First Amendment law. See Final Rule, *supra* note 3, at 36,636.

¹⁶ See Final Rule, *supra* note 3, at 36,635.

¹⁷ See *R.J. Reynolds Tobacco Co. v. FDA*, 696 F.3d 1205, 1230 (D.C. Cir. 2012).

¹⁸ In doing so, this Article will analyze the problems that arise when the government relies on empirical evidence to demonstrate its interest in informing consumers. The government's interest in reducing smoking is determined by using empirical evidence, i.e., arguments for or against a policy that are based on conclusions drawn from data-driven economic research. As Part IV of this Article explains, while empirical evidence analyzing whether graphic images reduce smoking exists, the evidence is limited in regards to whether graphic images actually inform consumers.

¹⁹ See *Reynolds*, 696 F.3d at 1229.

²⁰ If the Court finds the graphic images to be a form of information so that the *Central Hudson* intermediate scrutiny standard applies, the labels should be held constitutional. If the Court finds the graphic images to be a form of speech that says “smoking is disgusting” or the value judgment suggesting that no one should ever smoke so that the *Wooley* strict scrutiny

whether the graphic images are a *form of information* provided to consumers, like falling stick figures on warning signs reading “CAUTION: WET FLOOR,” or a *form of compelled speech*, like requiring all automobiles to display license plates that say “Live Free or Die.”²¹ On one hand, graphic images could help to better communicate the information already relayed through a particular textual statement.²² On the other hand, the graphic images could communicate the opinion that smoking is disgusting or the value judgment that no one should ever smoke. It is important to point out that graphic images may simultaneously perform both an informing and an association function.²³ However, First Amendment law requires a determination to be made regarding whether graphic images are ideologically neutral.²⁴ Analyzing the graphic images in this light presents a court with a new legal issue: At what point do more salient forms of otherwise ideologically neutral information become compelled ideology?²⁵

This is the first article to investigate this question.²⁶ The author acknowledges that this Article takes a law-and-economics maximalist approach in the sense that it assumes that the tools of economic analysis can capture all of the relevant considerations. It is important to point out that fixing economically-defined market failures is by no means the only justification for government intervention in the marketplace.²⁷ However,

standard applies, the labels should be held unconstitutional. Solving the model by forward induction yields the prediction that the constitutionality of the graphic image requirements will depend on whether the images are ideologically neutral. See discussion *infra* Part III.

²¹ See *Wooley v. Maynard*, 430 U.S. 705, 707 (1977). By setting up and solving a game-theoretic model of the compelled commercial speech doctrine, this Article predicts that the constitutionality of the graphic image requirements will depend on whether the images are ideologically neutral. See discussion *infra* Part III.

²² Lower courts have disagreed on this issue. The Sixth Circuit considered the graphic images to be “purely factual” information in *Discount Tobacco City & Lottery Inc. v. United States*, 674 F.3d 509, 528 (6th Cir. 2012). However, in *Reynolds*, 696 F.3d at 1216–17, the D.C. Circuit considered the images to be information, but not purely factual. Moreover, the D.C. District Court considered the images to be a form of compelled speech in *R.J. Reynolds Tobacco Co. v. FDA*, No. 1:11-cv-01482 (D.D.C. 2011).

²³ See, e.g., DAN ARIELY, *PREDICTABLY IRRATIONAL: THE HIDDEN FORCES THAT SHAPE OUR DECISIONS* (2010).

²⁴ See Dayna B. Royal, *Resolving the Compelled-Commercial-Speech Conundrum*, 19 VA. J. SOC. POL’Y & L. 205, 236 (2012).

²⁵ The Sixth Circuit pointed this out in *Discount Tobacco City & Lottery*, 674 F.3d at 528 (“The requirement imposed by the FSPTCA—that a product manufacturer place a large scale color graphic on a product warning label—is simply unprecedented.”).

²⁶ This issue has come to the forefront, in part, because the novel New York City law requiring all food providers with over fifteen locations to publically post the number of calories in their foods has expanded across the U.S. in both location and form. See *Food Preparations and Food Establishments*, New York City Health Code § 81.50 (1996). For example, can the government require calorie labeling based on a recommended 2,000 calorie diet (which may be considered a point of view)?

²⁷ One commonly addressed governmental interest that appears relevant to graphic image requirements but is not analyzed in this Article directly is the government’s interest in

this Article addresses the relevant justifications for government intervention into the marketplace implicitly in its economic approach. For example, by giving greater deference to commercial speech regulation designed to protect minors rather than adults, this Article mimics the Supreme Court by integrating the government's interest in protecting minors from harmful materials²⁸ and its interest in providing information.²⁹ This Article treats non-economic considerations as secondary for the simple reason that Congress was motivated by the information market failure when it passed the graphic image regulation.³⁰ For the straightforward reason that attempting to cure a market failure is an economic question, I defend my use of this law-and-economics lens.

Part I of this Article examines the economic underpinnings of the two governmental interests in the tobacco industry, including what governments should do when addressing those interests. Part I also explores how advertising can affect consumers' decisions to smoke. Part II briefly presents the modern compelled commercial speech doctrine. Part III uses a game-theoretic model to help analyze which economic arguments should and should not be used in the various legal tests. Part III then analyzes the main issue which could eventually reach the Supreme Court: Whether graphic image requirements are a form of information or a form of compelled ideology. Part III also proposes using a new test

promoting the health of citizens. See Final Rule, *supra* note 3, at 36,629 ("The U.S. Government has a substantial interest in reducing the number of Americans, particularly children and adolescents, who use cigarettes and other tobacco products in order to prevent the life-threatening health consequences associated with tobacco use."). However, it is discussed indirectly by investigating whether graphic images reduce smoking. See discussion *infra* Part IV.

²⁸ The Supreme Court has repeatedly recognized an independent interest in protecting minors from harmful materials such as tobacco. See, e.g., *Denver Area Educ. Telecomm. Consortium, Inc. v. FCC*, 518 U.S. 727, 744–45 (1996) (upholding cable television restrictions as a means of protecting children from indecent programming); *FCC v. Pacifica Found.*, 438 U.S. 726, 749 (1979) (upholding the FCC finding that indecent speech during an afternoon broadcast when children are listening should be restricted); *Ginsberg v. New York*, 390 U.S. 629, 636 (1968) (rejecting the assertion that "the scope of the constitutional freedom of expression . . . cannot be made to depend on whether the citizen is an adult or a minor").

²⁹ See LAWRENCE O. GOSTIN, *PUBLIC HEALTH LAW: POWER, DUTY, RESTRAINT* 357 (2008) ("[F]or example, [the Supreme Court has] distinguished between alcoholic beverage advertisements targeted to adults and those targeted to children."). This interest will ultimately play a crucial role in justifying the images under the information market failure because the images will have differential impacts across different groups of citizens such as children. See discussion *infra* Part IV.

³⁰ The Institution of Medicine has found the warnings in place to be "unnoticed and stale" and the Department of Health and Human Services notes that they have failed to "convey relevant information in an effective way." See Institute of Medicine Report 2007, 75 FR 69524, at 291 [hereinafter IOM]. This has continuously been the case ever since the first regulations in the 1950s. In the graphic image regulation, for example, this motivation can be seen when the Final Rule states that "the existing cigarette health warnings are given little attention or consideration by viewers." See Final Rule, *supra* note 3, at 36,629. This is exactly the same information market failure Congress has attempted to cure over the past fifty years.

based on behavioral economics to answer that question. Part V is the conclusion.

I. ECONOMICS BACKGROUND

Most of the time, markets operate efficiently and government intervention is not required.³¹ Then, one may ask, why does the government heavily regulate the tobacco industry and not, for example, the fruit industry? Because the tobacco industry differs from most other industries in two important ways that justify government intervention.³²

The first difference between the tobacco industry and other industries is that consumers do not consider the societal costs of smoking when deciding to smoke. For example, many smokers do not consider how smoking increases costs to government health care programs or how it increases the health risks of nonsmokers through secondhand smoke.³³ Instead, consumers only consider the internal costs of cigarettes when deciding whether to smoke.³⁴ In general, when the purchaser of a good does not consider the external costs associated with that good, the government should intervene and force consumers to consider the consequences of using the product.³⁵ Cigarette taxes are in this sense similar to environmental taxes. Like the environmental taxes imposed on manufacturers to make them consider pollution when deciding, for example, how many goods to produce and how to produce those goods, cigarette taxes are imposed on smokers so that they are forced to consider today how smoking increases health care expenditures in the future.

The second characteristic differentiating the tobacco industry from the fruit industry is that consumers lack relevant information about smoking. For example, without intervention, consumers may not be fully informed of the consequences of smoking, such as the probability that they will die from smoking-related cancer or the fact that smoking slows healing time in recovering from other illnesses. Government intervention is required so that consumers can make informed decisions about smoking. Therefore, the government should intervene in the market to either provide that information directly or require tobacco companies to disclose the information.³⁶ The government interest here is not per se whether consumers smoke after having all the information about smoking; the government interest is in guaranteeing that consumers have the

³¹ See MWG, *supra* note 12, at 312.

³² See *id.* at 315.

³³ See Cawley & Ruhm, *supra* note 1, at 99.

³⁴ See *id.* at 104. These internal costs may not include certain hidden costs to the smoker, but these hidden costs are not the focus with this market failure.

³⁵ However, governments should intervene in the presence of market failures when the benefits exceed the costs of the intervention. See MWG, *supra* note 12, at 368.

³⁶ See *id.* at 231.

information in the first place. Compare this to buying a car without knowing its gas mileage or safety rating. Even knowing that an SUV gets lower than average miles per gallon or that a sports car is less safe than a sedan, consumers still decide to purchase them. It seems apparent that consumers will only purchase a vehicle after knowing the gas mileage, but unlike buying cars, smokers will purchase cigarettes without knowing their nicotine, tar, or carbon monoxide content. Unlike SUV owners who today feel the impact of high fuel expenditures on their bank account, cigarette consumers cannot measure the potential costs of smoking until years down the road.³⁷

Economics refers to these two differences in the tobacco industry as market failures.³⁸ The name derives from the fact that if government leaves the tobacco industry alone, the market fails to lead to the socially optimal level of smoking. As a result, too much smoking occurs. The sections that follow explain why we care about these two market failures and provide insight on why and how the government should address them. The importance of reviewing these basic concepts may not become immediately apparent. But after reading these sections and reviewing the *Reynolds* decision, the importance in highlighting these market failures will become evident.³⁹ While the first market failure—that smokers do not consider external costs of smoking—settles intuitively with most people; some people, especially lawmakers, courts, and lawyers seem to forget or fail to appreciate the importance of the second market failure—that smokers lack information when deciding to smoke. As simple as it may seem at first glance, even the FDA missed this interest in its Regulatory Impact Analysis (RIA).⁴⁰ Comment 214 addressed this error, and the FDA responded in its Final Rule.⁴¹ Nonetheless, the

³⁷ See Cawley & Ruhm, *supra* note 1, at 138.

³⁸ See, e.g., MWG, *supra* note 12, at 12.

³⁹ See generally *R.J. Reynolds Tobacco Co., v. FDA*, 696 F.3d 1205 (D.C. Cir. 2012).

⁴⁰ Federal agencies (such as the FDA) are required under Executive Order 12866 to conduct a regulatory impact analysis (RIA) of all major regulations. RIAs amount to a cost-benefit analysis, which is somewhat similar to the *Central Hudson* “directly advancement” test. In RIAs, the agencies weigh the relevant market failures and other justifications against the downside of the regulations (in this case the impact on tobacco companies’ First Amendment rights). RIAs also require agencies to assess all costs and benefits of available regulatory alternatives when it selects a regulation to maximize net benefits.

⁴¹ See Final Rule, *supra* note 3, at 36,709. Comment 214 pointed out that the FDA failed to discuss the economic rationale for the rule. Specifically, the Comment noted that in its RIA, the FDA failed to identify which market failure the graphic images addressed. As the FDA pointed out in its Final Rule, “[t]he comment went on to state that warning labels are a means of disseminating information, and if consumers are already fully informed about a particular product, there can be no increase in consumer welfare due to the addition or revision of a warning label.” In response, the FDA said, “[a]n absence of adequate information is a well-established market failure, one which provides a rationale for disclosure requirements.”

D.C. Circuit in *Reynolds* ignored the government's interest in providing information.⁴²

A. *What Do Cigarette Prices Have to Do with Smoking?*

Eating apples does not come with external costs. Eating apples does not require Medicare to pay for cancer treatment that it caused, nor does it require the governmental disability program to pay for extended benefits because apples prevented people from healing properly from an illness. Smoking does.⁴³ One cure for this market failure is to tax a cigarette pack an amount equal to the costs of the negative side effects from that pack and use the revenue to pay for the increased external healthcare costs.⁴⁴

By forcing consumers to pay for all the external costs of smoking through cigarette taxes, a remarkable phenomenon occurs.⁴⁵ This phenomenon is the single largest misconception about cigarette taxation and smoking.⁴⁶ Some people say that because smoking is addictive, higher cigarette prices will not decrease instances of smoking or smoking rates. However, this is not so. Higher prices do cause some smokers to quit, decrease smoking rates, and lead to large decreases in the probability of initiation by non-smokers.⁴⁷

⁴² See *Reynolds*, 696 F.3d at 1229.

⁴³ See Cawley & Ruhm, *supra* note 1, at 96.

⁴⁴ See *id.* at 165. In economic terms, one would say “[t]o internalize the externalities associated with smoking it is clear that cigarettes should be taxed.” This is called a “Pigouvian tax.” See generally W. Baumol, *On Taxation and the Control of Externalities*, 61 AM. ECON. REV. 307 (1972) (arguing that Pigouvian taxes, or subsidies, imposed upon the generator of a particular externality are the best means of curbing that externality).

⁴⁵ Cigarette taxes should be set by including associated health care costs of smoking, which would mean that taxes should be increased. See F. SLOAN ET AL., *THE PRICE OF SMOKING* 101 (2004) [hereinafter SLOAN]. However, economists cannot agree on the health care costs associated with smoking a pack of cigarettes. The suggested health care costs per pack of cigarettes ranges from \$0.15 to \$1.44. See *id.*; see also WILLARD G. MANNING ET AL., *THE COSTS OF POOR HEALTH HABITS* 127 (1991). When the government raises taxes on cigarettes, however, tobacco companies raise the price of cigarettes more than just the cost of the tax, which is called tax passing. The term in economics is that taxes are “over-shifted.” See Cawley & Ruhm, *supra* note 1, at 166. Tax passing may be justified for tobacco companies to maintain profits in light of an increase in cigarette taxes, i.e., they must increase profits per pack of cigarettes because people respond to a tax increase by smoking less. See Frank Chaloupka & Kenneth Warner, in *The Economics of Smoking*, 1B HANDBOOK OF HEALTH ECON. 1567 (Anthony J. Culver & Joseph P. Newhouse eds., 2000). The extent of the tax passing, which exceeds 100% at times, cannot be ignored by consumers. *Id.* Another potential problem is that consumers do not consider some internal costs of smoking, such as the amount of time spent smoking. If states force consumers to internalize these costs, the tax per pack of cigarette could be as high as \$32.78. See SLOAN ET AL., *supra*, at 101.

⁴⁶ See, e.g., Baumol, *supra* note 44, at 322.

⁴⁷ See Donna Gilleskie & Koleman Strumpf, *The Behavioral Dynamics of Youth Smoking*, 40 J. HUM. RES. 822, 823 (2005). Prior to 1988, even economists thought that addicts were irrational and therefore unresponsive to incentives such as price. See John Cawley, *Reefer Madness, Frank the Tank or Pretty Woman: To what Extent do Addictive Behaviors*

The amount by which cigarette prices must be increased to decrease smoking rates is much lower than economists once thought.⁴⁸ Three different questions address the extent to which price matters. First, at what price do smokers cut back on smoking? Second, at what price do smokers quit smoking altogether? Third, what price prevents non-smokers from initiating smoking? These are all interesting questions, and the answer to all of these is that we do not know with exact certainty and that the prices vary from person to person. However, some studies do estimate the effects of price increases within ranges.⁴⁹ A five percent increase in price is estimated to reduce the number of cigarette packs purchased by 1.5%–2.5%.⁵⁰ The consensus among economists is 2.5%.⁵¹ That means that if the price of a pack of cigarettes originally costing \$6 is raised to \$7.25, an estimated one out of every ten cigarette packs would no longer be purchased. In terms of price increases needed to induce smoking cessation and prevent smoking initiation, a five percent increase in cigarette taxes is estimated to reduce 2%–3.5% of the total number of years spent smoking.⁵² In 1998, for example, an increase in cigarette taxes by \$0.43 per pack (nearly twenty percent) reduced youth smoking rates by thirteen percent,⁵³ adult smoking rates by five percent,⁵⁴ and pregnant women smoking rates by less than three percent.⁵⁵

Economic studies indicate that how smokers respond to price increases depends on certain demographic characteristics. Men respond more to prices than women, and pregnant women respond differently to prices than non-pregnant women.⁵⁶ In terms of smoking initiation, prices

Respond to Incentives?, in *INCENTIVES AND CHOICE IN HEALTH AND HEALTH CARE 7* (Frank Sloan & Hirschel Kasper eds., 2008). After the breakthrough introduction of the theory of rational addiction (TORA) was used to model how addicts buy addicting goods, such as cigarettes, numerous studies provide evidence that smokers do in fact respond to prices. See, e.g., Gary Becker & Kevin Murphy, *A Theory of Rational Addiction*, 96 J. POL. ECON. 675 (1988).

⁴⁸ See SLOAN ET AL., *supra* note 45, at 101.

⁴⁹ For two summaries on this issue, see Chaloupka & Warner, *supra* note 45, at 1539, 1546–47, and Craig Gallet & John List, *Cigarette Demand: A Meta-Analysis of Elasticities*, 12 HEALTH ECON. 821, 821-3 (2003).

⁵⁰ See Chaloupka & Warner, *supra* note 45, at 1540 (noting the price elasticity for overall cigarette demand is in the range of -0.3 to -0.5).

⁵¹ See Gilleskie & Strumpf, *supra* note 47, at 822; see also Michael Grossman, *Individual Behaviours and Substance Use: The Role of Price*, in 16 *ADVANCES IN HEALTH ECONOMICS AND HEALTH SERVICES RESEARCH* 15, 16 (Björn Lindgren & Michael Grossman eds., 2005).

⁵² See Martin Forster & Andrew Jones, *The Role of Tobacco Taxes in Starting and Quitting Smoking: Duration Analysis of British Data*, 164 J. ROYAL STAT. SOC'Y 517, 518 (2001).

⁵³ See *id.* at 518.

⁵⁴ See SLOAN, *supra* note 45, at 101.

⁵⁵ See Douglas E. Levy & Ellen Meara, *The Effect of the 1998 Master Settlement Agreement on Prenatal Smoking*, 25 J. HEALTH ECON. 276, 277 (2006).

⁵⁶ See Gallet & List, *supra* note 49, at 822.

do not impact youth, especially girls, as much as adults.⁵⁷ Also, higher prices reduce heavy smoking⁵⁸ more than light smoking.⁵⁹ In addition, higher prices decrease the demand for cigarettes for teens and young adults less than for adults.⁶⁰ This heterogeneity of consumer response to taxation complicates the prospect of determining an optimal cigarette tax.⁶¹ Another response that complicates using cigarette taxes to cure the externalities market failure is compensating behaviors by smokers. That is, when cigarette taxes are raised, smokers react in ways that defeat the purpose of taxing cigarettes in the first place. Studies have found that when cigarette prices increase, smokers may switch to cigarettes with higher tar content per cigarette⁶² and extract more nicotine per cigarette by taking longer drags on cigarettes, reducing the idle time between puffs, increasing the degree and length of inhalation, blocking filter holes, and smoking the cigarette further down to the butt.⁶³ The government can use a few alternatives in attempts to prevent this compensating behavior, which may also help cure the externalities market failure.⁶⁴ Placing restrictions on the purchase or use of cigarettes is one possible way to reduce smoking.⁶⁵ For example, age restrictions, such as laws

⁵⁷ See Philip DeCicca, Donald Kenkel & Alan Mathios, *Putting Out the Fires: Will Higher Taxes Reduce the Onset of Youth Smoking?*, 110 J. POL. ECON. 144, 145 (2002). For the difference between boys and girls, see John Cawley, S. Markowitz & John Tauras, *Lighting Up and Slimming Down: The Effects of Body Weight and Cigarette Prices on Adolescent Smoking Initiation*, 23 J. HEALTH ECON. 293, 294 (2004).

⁵⁸ Heavy smoking is defined as smoking eleven or more cigarettes per day. See Cawley et al., *supra* note 57.

⁵⁹ Light smoking is defined as smoking between six and ten cigarettes per day. See *id.*

⁶⁰ See D. Kenkel, *Health Behaviours Among Young People*, in 6 THE ELGAR COMPANION TO HEALTH ECONOMICS 60 (2006).

⁶¹ See Cawley & Ruhm, *supra* note 1, at 166 (citing HARVEY S. ROSEN, PUBLIC FINANCE (6th ed. 2002)). The regressive impact of cigarette taxation is a further complicating factor—the same tax costs lower-income individuals proportionately more than it does higher-income individuals. See *id.* For example, in a recent study released in September 2012, low-income smokers in New York were found to spend 25% of their income on cigarettes, while wealthier smokers were found to spend only 2% of their income on cigarettes. See *Poor Smokers in New York State Spend 25% of Income on Cigarettes, Study Finds*, N.Y. TIMES (Sept. 19, 2012), http://www.nytimes.com/2012/09/20/nyregion/poor-smokers-in-new-york-state-spend-25-of-income-on-cigarettes-study-says.html?_r=0.

⁶² See M. C. Farrelly et al., *The Effects of Higher Cigarette Prices on Tar and Nicotine Consumption in a Cohort of Adult Smokers*, 13 HEALTH ECON. 49, 53–54 (2004).

⁶³ See Jérôme Adda & Francesca Cornaglia, *Taxes, Cigarette Consumption, and Smoking Intensity*, 94 AM. ECON. REV. 1013, 1014 (2006). This study is controversial. A Comment on this study questioned the findings. See Jason Abrevaya & Laura Puzello, *Taxes, Cigarette Consumption, and Smoking Intensity: Comment*, 102 AM. ECON. REV. 1751 (2012).

⁶⁴ See William N. Evans & Mathew C. Farrelly, *The Compensating Behavior of Smokers: Taxes, Tar, and Nicotine*, 29 RAND J. ECON. 578, 579 (1998). The government can take action in response to the consumer's response. By modifying how consumers perceive the tax, the government can decrease consumer responses to tax increases. See Raj Chetty et al., *Salience and Taxation: Theory and Evidence*, 99 AM. ECON. REV. 1145, 1145–46 (2009).

⁶⁵ Place restrictions (commonly known as clean indoor air laws), such as laws barring smoking in public places, bars, and workplaces, are known to reduce smoking rates. See

barring underage smoking, have been estimated to decrease younger teen participation, but may have no effect on older teens and young adult smokers.⁶⁶ Apart from a few alternative methods, cigarette taxes are the main route the government takes to cure the externalities market failure.

Forcing consumers to consider the hidden costs of smoking when deciding to smoke turns out to be difficult. Nonetheless, many times intervention is needed to help consumers consider the consequences of using tobacco. Deciding how to do this most effectively depends on how knowledgeable consumers are and the role of information in deciding to smoke. The next section addresses the government's interest in guaranteeing that consumers are adequately informed about the risks of smoking. While these two government interests are separate, the overlap between the role of information in deciding to smoke muddies their division.

B. *Why Do Some Doctors Smoke?*

In an efficient marketplace, consumers are able to obtain all the information they need to make purchasing decisions.⁶⁷ Fully informed consumers are able to weigh the costs of purchasing and using a product against the benefits it provides. They consume the product if the benefits outweigh the costs. Otherwise, the product is not consumed. When markets are open, society usually assumes that the truths about products will be discovered in the long run.⁶⁸ Thus, the open marketplace is usually efficient. With some products, however, necessary information cannot be easily discovered. In those circumstances, consumers cannot weigh the benefits against the costs, the efficient result does not occur, and either too much or too little of a product is consumed.⁶⁹ In the tobacco market, many smokers lack the information needed to accurately assess

Chaloupka & Warner, *supra* note 45, at 1596. The effectiveness of clean indoor air laws have been shown to vary by industry. Industries with prevalent smoking, such as bartending, have larger reductions in smoking than other industries where smoking was not prevalent beforehand, such as in schools or in the government. See Marianna P. Bitler et al., *Effects of Venue-Specific State Clean Indoor Air Laws on Smoking-Related Outcomes*, 19 HEALTH ECON. 1425, 1426 (2010). Clean indoor laws address the problem of secondhand smoke as opposed to reducing smoking. As such, reductions in smoking in public places do not significantly reduce smoking rates because smoking is displaced to private places. There are conflicting studies in this area. Compare Jérôme Adda & Francesca Cornaglia, *The Effect of Bans and Taxes on Passive Smoking*, 2 AM. ECON. J.: APPLIED ECON. 1, 2 (2010); with Christopher Carpenter et al., *Public-Place Smoking Laws and Exposure to Environmental Tobacco Smoke (ETS)*, 3 AM. ECON. J. ECON. POL'Y 35, 35 (2011).

⁶⁶ See John Tauras et al., *Tobacco Control Policies and Youth Smoking: Evidence from a New Era*, in 16 ADVANCES IN HEALTH ECONOMICS AND HEALTH SERVICES RESEARCH 277, 277 (2005).

⁶⁷ See MWG, *supra* note 12, at 390.

⁶⁸ See GOSTIN, *supra* note 29, at 150.

⁶⁹ See MWG, *supra* note 12, at 400.

the costs of smoking. Therefore, government intervention, by way of directly providing the missing information or requiring cigarette companies to disclose the information, is justified under an efficiency rationale.⁷⁰

Society takes a public health perspective on smoking and argues that no one should smoke under any circumstances. Economists, on the other hand, determine an ideal amount of smoking to be above zero because—as much as society does not care to admit—smoking has benefits. I am not talking about health benefits because, despite 1950s tobacco advertising, we all know this to be false.⁷¹ The benefits of smoking are social: smoking with friends is fun and nicotine feels good. Why else would your doctor smoke knowing its harms unless he or she enjoys it? Economists look at how much someone enjoys smoking and contend that they smoke only if the total benefits outweigh the total harms. When employing this method, economists set the number of people who should smoke above zero. While this thinking may seem immoral, we should not fail to consider the social benefits of smoking. One obvious question becomes how many people derive happiness from smoking that, for them, exceeds the costs? The answer is that we do not know for sure because many people lack information about the risks and consequences of smoking. However, if we assume that medical doctors have full information about smoking, then we know at least the portion of medical doctors who choose to smoke decide the benefits they attain from smoking outweigh the harms.⁷² According to a 2011 poll, approximately two percent of physicians smoke.⁷³ Considering this low smoking prevalence among physicians, the second obvious question is whether the eighteen percent smoking prevalence among non-physicians⁷⁴ is higher than the two percent prevalence of physicians because of inadequate information. Again, the answer is that we do not know. But considering the difference in access to medical information between physicians and the general public, it is fair to assume that inadequate access to information plays a role.

⁷⁰ See *id.* at 370.

⁷¹ See discussion *infra* Part IV.

⁷² See Donald S. Kenkel, *Health Behavior, Health Knowledge and Schooling*, 99 J. POL. ECON. 287, 288 (1991).

⁷³ Carol Peckham, *Medscape Physician Lifestyle Report: 2012 Results*, MEDSCAPE.COM, <http://www.medscape.com/features/slideshow/lifestyle/2012/public> (last visited Aug. 17, 2013).

⁷⁴ *Healthy and Unhealthy Behavior and Lifestyle Trends: No Significant Change in 2011 in Proportions of Adults Who Are Obese, Smoke or Wear Seatbelts*, HARRIS INTERACTIVE 1, 1 (May 25, 2011), <http://www.harrisinteractive.com/vault/HI-Harris-Poll-Healthy-Behaviors-2011-05-25.pdf>.

Even with accurate information on the health consequences of smoking, smokers underestimate their personal risks⁷⁵ and underestimate the probability that they will become addicts.⁷⁶ Therefore, the government may be justified in providing different information, educating consumers, or participating in counter-advertising to prevent consumers from misinterpreting how the facts apply to them.⁷⁷ Proponents of graphic images on cigarette packs may argue that if the government continues to provide information to consumers through various means, consumers will eventually truly understand how the adverse health consequences of smoking apply to them. However, evidence suggests this is not necessarily so. Many smokers will not personalize the risks “unless there is clear evidence that [smoking] is negatively affecting their own health.”⁷⁸ While this notion is concerning from a policy perspective, many can relate to it. Many of us know of the Grandma Jeanie, Aunt Kim, or brother Matt who—twenty years too late—stopped smoking when diagnosed with lung cancer.

We should not ignore the social benefits of smoking and blame addiction as the only reason people smoke.⁷⁹ It is true that addiction complicates the tradeoff between social benefits of smoking and the costs of smoking.⁸⁰ Yet, regardless of the role addiction plays in smoking, it is critical to understand that the government is justified in providing infor-

⁷⁵ See GOSTIN, *supra* note 29, at 138. This is known as “optimism bias.”

⁷⁶ See Athanasios Orphanides & David Zervos, *Rational Addiction with Learning and Regret*, 103 J. POL. ECON. 739, 740 (1995).

⁷⁷ *Id.* at 740.

⁷⁸ See V. Kerry Smith et al., *Do Smokers Respond to Health Shocks?*, 83 REV. ECON. & STAT. 675, 676 (2001).

⁷⁹ Cawley & Ruhm, *supra* note 1, at 141.

⁸⁰ Before 1988, addiction was thought to be irrational and therefore impossible to analyze under the standard rational optimization framework typically used in economics, which assumes that a rational person is able to formulate a consistent plan to maximize utility over time. Under this framework, “a good could be addictive to some persons but not others, and a person could be addicted to some goods but not to other goods.” See Becker & Murphy, *supra* note 47, at 676. Because of this mindset, research before 1988 focused on aspects of addiction which were more backward looking, i.e., consumption depends on the path of past consumption, such as habit formation or reinforcement. The now standard approach to model addiction is the theory of rational addiction from the seminal 1988 paper by Gary Becker and Kevin Murphy. See *id.* Under the model, addiction has two traits, reinforcement and tolerance, where the former means that “greater consumption of a good raises its future consumption” and latter means that “given levels of consumption are less satisfying when past consumption has been greater.” *Id.* The theory of rational addiction posits that even forward-looking smokers with stable preferences (i.e., consider both current the monetary price of cigarettes and the cost of future addiction) can optimally choose to smoke (or consume other addictive goods). See Becker & Murphy, *supra* note 47, at 676; see also Jonathan Gruber & Botond Koszegi, *Is Addiction “Rational”? Theory and Evidence*, 116 Q. J. ECON. 1261, 1262 (2001) (“we provide new and convincing evidence that smokers are forward-looking in their smoking decisions, using state excise tax increases that have been legislatively enacted but are not yet effective, and monthly data on consumption.”)

mation to consumers even if providing the information does not necessarily reduce smoking. Many lawmakers, judges, and lawyers overlook this market failure. For example, the D.C. Circuit in *Reynolds* stated “[t]he government’s attempt to reformulate its interest as purely informational is unconvincing, as an interest in ‘effective’ communication is too vague to stand on its own.”⁸¹ Lawmakers, judges, and lawyers must appreciate that the government is justified in providing the missing information. This justification does not necessarily depend on whether we can measure how smokers respond to the newly acquired information through empirical research. While the government can attempt to convince people not to smoke through anti-smoking campaigns, it should also inform.⁸² The information market failure does not exist for those doctors who choose to smoke and know the health effects of smoking, but rather for the uninformed.

C. *Why Does the Government Restrict Tobacco Advertisements?*

The information market failure perspective takes the consumer’s point of view and asks whether the consumer has all the information he or she needs when he or she decides to smoke. To provide information to the consumer, the government can either provide information itself through anti-smoking advertising or require the tobacco companies to disclose the missing information. The First Amendment takes the tobacco companies’ point of view and asks whether tobacco companies’ free speech is violated when the government requires them to disclose different types of material on their products. Acknowledging that these two points of view exist, it is important to distinguish between how regulation can infringe on the tobacco companies’ free speech—the topic of the next section—and how regulation helps inform consumers—the topic of this section.

Does advertising cure or worsen the information market failure? Most of the time, we should only be skeptical of advertising when the quality of a good is unknown to consumers.⁸³ When a good’s quality is well-known, advertising usually focuses on prices and availability, neither of which worsen the information market failure.⁸⁴ When a good’s quality can only be determined upon consumption, advertising can worsen the market failure, especially if it excludes factual information or price.⁸⁵ In addition, for those goods whose qualities are difficult

⁸¹ *Reynolds*, 696 F.3d 1205, 1234 (D.C. Cir. 2012).

⁸² See GOSTIN, *supra* note 29, at 351.

⁸³ See DENNIS W. CARLTON & JEFFREY M. PERLOFF, *MODERN INDUSTRIAL ORGANIZATION* 159 (Denis Clinton et al. eds., 3rd ed. 2000) [hereinafter IO].

⁸⁴ These are known in economics as “search goods.” *Id.* at 454.

⁸⁵ These are known in economics as “experience goods.” *Id.*

to evaluate even after consumption, the potential for advertising worsening the market failure is at its highest, because it is in this case that companies benefit the most from deceptive advertising.⁸⁶

To illustrate why we should be skeptical about the advertising of some goods and not others, consider purchasing cigarettes versus purchasing movies. The quality of a movie can be immediately judged by advertising; it is high quality if it is a Blu-ray, lower quality if it is a DVD, and of the lowest quality if it is a VHS.⁸⁷ Consumers know what to expect from the Blu-ray, DVD, and VHS formats, so any advertising campaign suggesting that a DVD is better quality than a Blu-ray disk would be nonsensical.⁸⁸ Government intervention is not needed to tell consumers that this sort of advertising is ridiculous. As such, advertising for movies usually deals with price and location. Cigarettes are not like movies in this sense. The quality of a cigarette cannot be immediately judged by advertising or even directly after consumption.⁸⁹

In addition to these quality concerns, cigarette advertising also presents a different, and larger, concern. Cigarette advertising may be more detrimental to society if it expands the market by convincing new people to begin smoking⁹⁰ than if it simply results in smokers switching brands.⁹¹ Whether this is true or not, society often singles out advertising as one of the reasons people smoke.⁹² To support this notion, people argue that the U.S. tobacco industry would not spend more than \$1 billion annually on advertising if it did not increase cigarette sales.⁹³ As a result, a common response to reduce smoking is to “ban or regulate to-

⁸⁶ See Cawley & Ruhm, *supra* note 1, at 128.

⁸⁷ One main reason the quality of a movie is known to consumers is that product standards are in place. With cigarettes, however, no such standards exist for some aspects of the cigarette, such as menthol content. For a review of the benefits of standards and how technical standards are set, see Kyle Rozema, *Modifying RAND Commitments to Better Price Patents in the Standards Setting Context*, 6 J. BUS. ENT. & L. 23 (2012).

⁸⁸ There is a question of whether standards should be set in the tobacco industry so that cigarette companies can more easily advertise cigarettes as light, ultra light, or low tar. Tobacco companies advertising is currently restrained to a great degree, including regulations that restrict companies from advertising that cigarettes are “light” or low in tar and nicotine. See GOSTIN, *supra* note 29, at 350.

⁸⁹ See Cawley & Ruhm, *supra* note 1, at 128.

⁹⁰ This is known in economics as “cooperative advertising.” *Id.* at 180.

⁹¹ This is known in economics as “competitive advertising.” *Id.* at 181.

⁹² See U.S. DEP’T OF HEALTH & HUMAN SERVS., REDUCING THE HEALTH CONSEQUENCES OF SMOKING: 25 YEARS OF PROGRESS [501] (1989), available at <http://profiles.nlm.nih.gov/ps/access/NNBBXS.pdf>; see also CDC, *Preventing Tobacco Use Among Young People—A Report of the Surgeon General (Executive Summary)*, 43 MORBIDITY & MORTALITY WKLY. REP. 1, [9] (1994), available at <http://www.cdc.gov/mmwr/PDF/rr/tr4304.pdf>; U.S. DEP’T OF HEALTH & HUMAN SERVS., REDUCING TOBACCO USE: A REPORT OF THE SURGEON GENERAL [161] (2000), available at http://www.cdc.gov/tobacco/data_statistics/sgr/2000/complete_report/pdfs/fullreport.pdf.

⁹³ See Fed. Trade Comm’n, Fed. Trade Comm’n Cigarette Rep. for 2007 and 2008 (2011).

bacco advertisements . . . or to call for voluntary limits on advertising by manufacturers.”⁹⁴

The long history of tobacco advertising regulation can enlighten us on the relationship between advertising and smoking. Four major regulatory events presented opportunities for economists to study how cigarette advertising affects smoking. The four major events are the 1953 health scare, the 1964 Surgeon General’s Report, the 1967–1970 Fairness Doctrine, and the 1971 ban of broadcast advertising.⁹⁵ An article by economist Jon Nelson divides advertising and consumption patterns into four time periods based on these major events.⁹⁶

Nelson defines the first time period as pre-1964, when few restraints were placed on advertising.⁹⁷ The 1952–1953 “health scare,” which made citizens aware of significant health consequences of smoking for the first time, resulted in a decline in cigarette consumption.⁹⁸ To address the decline, cigarette companies shifted manufacturing to filtered cigarettes and the government responded with two advertising restrictions that went into effect in 1955.⁹⁹ One regulation prohibited any reference to the physical effects of smoking, such as reduced throat irritation, while the other regulation prohibited representations of low nicotine or low tar cigarettes if unproven by “competent science.”¹⁰⁰ The end of this first period was sparked by a 1962 English report on smoking, which caused the U.S. to begin a more serious investigation of the health effects of smoking.¹⁰¹

The famous 1964 Surgeon General’s Report on Smoking and Health led to what Nelson considers to be the second time period, which lasted until 1970.¹⁰² Following this release, every cigarette package was required to contain the following words: “Caution: Cigarette Smoking May

⁹⁴ See Cawley & Ruhm, *supra* note 1, at 177. These measures include “bans of broadcast and billboard advertising; restrictions on advertising messages and placements; public reporting requirements for advertising expenditures; requirements for package warning labels; and attempts to further limit promotions or packaging that might appeal to adolescents and young adults.” Jon P. Nelson, *Cigarette Advertising Regulation: A Meta-analysis*, 26 INT’L REV. L. & ECON. 195, 196 (2006). A meta-analysis is an Article that studies empirically many findings on a single issue.

⁹⁵ *Id.* at 196.

⁹⁶ *Id.* at 197.

⁹⁷ See *id.* at 203.

⁹⁸ See L. Miller & J. Monahan, *The Facts Behind the Cigarette Controversy*, READER’S DIG., July 1954, at 1; see also R. Norr, *Cancer by the Carton*, READER’S DIG., Dec. 1952, at 7.

⁹⁹ See Nelson, *supra* note 94, at 203.

¹⁰⁰ See Cigarette Advertising Guides, 16 C.F.R. 15 Part 238 (1955).

¹⁰¹ See C. Scheraga & J. Calfee, *The Industry Effects of Information and Regulation in the Cigarette Market: 1950–1965*, 15 J. PUB. POL’Y & MARKETING 216, 219 (1996).

¹⁰² See, e.g., U.S. DEP’T OF HEALTH, EDUC., & WELFARE, SMOKING AND HEALTH: REPORT OF THE ADVISORY COMMITTEE TO THE SURGEON GENERAL OF THE PUBLIC HEALTH SERVICE (1964), available at <http://profiles.nlm.nih.gov/ps/access/NNBBMQ.pdf>.

Be Hazardous to Your Health.”¹⁰³ The 1964 release led to an even larger decline in cigarette consumption than the 1952 health scare.¹⁰⁴ It also led to the first free broadcasting time for anti-smoking commercials, which evidence suggests decreased smoking slightly.¹⁰⁵

The 1971 cigarette television advertisements ban began the third time period, which lasted until 1997. This time period brought more extensive warning labels (which were adopted in 1971 and again in 1985), warnings in print advertising, the Federal Trade Commission’s (FTC) tar and nicotine ratings, bans on smoking on airplanes, and the shift toward non-price promotions.¹⁰⁶ This fourth time period started in 1998 and commenced the shift to modern smoking regulations. This period saw the Master Settlement Agreement advertising bans, state and local clear air laws, competition from generic and deep-discount brands, and increased emphasis on price promotions.¹⁰⁷

Studying these four periods helps us understand how advertising influences smoking habits and consumer health.¹⁰⁸ Figure 2 plots cigarette consumption per capita and the amount of money tobacco companies spent on advertising over time. In Figure 2, a relationship exists between advertising and smoking: patterns of high advertising spending by tobacco companies and patterns of high smoking rates tend to move together. On the one hand, notice that per capita consumption peaked in 1963 during the first time period, slowed for about a decade, and has been decreasing since 1998.¹⁰⁹ On the other hand, notice that media advertising declined in the early 1970s, rose from the mid-1970s to the mid-1980s, and has been declining sharply since.¹¹⁰

¹⁰³ See Federal Cigarette Labeling and Advertising Act of 1965, 15 U.S.C. § 1331 (1966) (however, in 1966, the ban of representations of nicotine or tar content levels was removed); see also Press Release, FTC, Factual Statements of Tar and Nicotine Content on Labels and in Cigarette Advertising (Mar.)

¹⁰⁴ See Nelson, *supra* note 94, at 196.

¹⁰⁵ See FTC Policy Statement on Unfairness, 104 F.T.C. 949, 1070 (1984).

¹⁰⁶ See Nelson, *supra* note 94, at 203.

¹⁰⁷ See *id.*

¹⁰⁸ See, e.g., *id.* at 200. Using the four major regulatory events, Nelson studied these effects.

¹⁰⁹ See *id.* at 203–05. Between 1982 and 2002, cigarette consumption declined annually at a rate of 3.24% due in part to the sharp increase in real cigarette prices, which rose by 88% between 1980 and 1992. *Id.*

¹¹⁰ See *id.* at 203. Nominal media advertising declined from 1971 to 1973, rose by 12.7% per annum between 1973 and 1985, then declined sharply after 1989. *Id.* Real media and non-price promotions rose by 7% per annum between 1985 and 1994 and declined after 1994 as price promotions rapidly increased. *Id.*

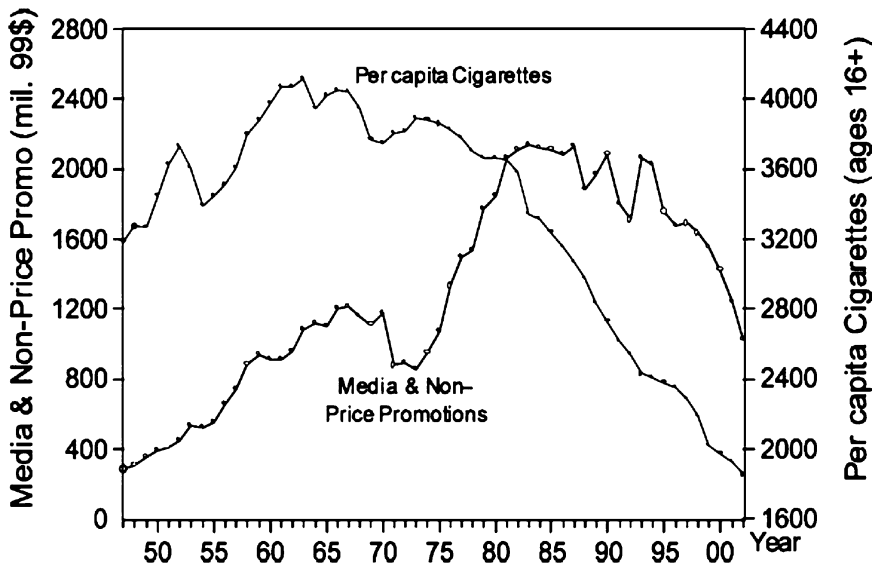


FIGURE 2: CIGARETTE CONSUMPTION AND ADVERTISING, 1947–2002¹¹¹

However, the impact of advertising on smoking has not been isolated because it is difficult to determine whether consumers are responding to advertising or whether advertisers are responding to consumption.¹¹² While many studies have been done to answer this question, the economic opinion on whether advertising increases cigarette use is unsettled.¹¹³ History shows that some governmental regulations result in a decrease in smoking, while other regulations do not. The economic consensus today is that advertising bans, whether comprehen-

¹¹¹ See *id.* at 203.

¹¹² See M. Roberts & L. Samuelson, *An Empirical Analysis of Dynamic Nonprice Competition in an Oligopolistic Industry*, 19 RAND J. ECON. 200, 201 (1988) (indicating that cigarette advertising has been found to expand the market to some degree); Don Kenkel et al., *Private Profits and Public Health: Does Advertising Smoking Cessation Products Encourage Smokers to Quit?*, 115 J. POL. ECON. 447, 448 (2007) (indicating that negative advertising campaigns have been found to increase consumers' quitting attempts, but have had less success in stopping them from smoking permanently); see also Nelson, *supra* note 94, at 205 (indicating that overall, cigarette consumption has declined importantly and smoking prevalence fell from about 53% of the male population in 1964 to 43% in 1974 and 27% in 1995). Despite rising real expenditures on promotions, the picture is one of a steadily declining market. Hence, it is unclear if advertising has had any effect on the overall size of the market.

¹¹³ See E. Blecher, *The Impact of Tobacco Advertising Bans on Consumption in Developing Countries*, 27 J. HEALTH ECON. 930, 931 (2008); see also C. Czart et al., *The Impact of Prices and Control Policies on Cigarette Smoking Among College Students*, 19 CONTEMP. ECON. POL'Y 135, 135 (2001) (indicating that other evidence today exists that supports this notion); E. Lewitt, D. Coate, & M. Grossman, *The effects of government regulation on teenage smoking*, 24 J.L. & ECON. 545, 545 (1981); Nelson, *supra* note 94, at 218 (noting that the 1971 ban of broadcast advertising was the first indication that banning advertisements has no significant impact on cigarette consumption); Henry Saffer & Frank Chaloupka, *The Effect of Tobacco Advertising Bans on Tobacco Consumption*, 19 J. HEALTH ECON. 1117, 1119 (2000).

sive or limited, do not greatly affect cigarette consumption.¹¹⁴ Nonetheless, both cigarette companies and the government alike spend large amounts of money on advertising.¹¹⁵ Meanwhile, governmental regulations for tobacco advertising have been increasing in recent times.¹¹⁶ Yet, from a consumer's point of view, maybe more information—even if it is from the tobacco company—is better than less information. On the one hand, advertising may simply allow tobacco companies to increase profits by changing consumer preferences in superficial ways.¹¹⁷ Advertising may also allow tobacco companies to reduce consumer response to their cigarettes when the price of another cigarette changes.¹¹⁸ On the other hand, advertising can provide valuable information about “product attributes, quality, price, and lower[] search costs,”¹¹⁹ and may allow tobacco companies to differentiate their products.¹²⁰

Hypothetically, tobacco advertising can inform consumers. In reality, however, most actual advertising is not informative at all. “The typical Marlboro ad, with a cowboy smoking a cigarette . . . conveys no credible information concerning the nature of the product being sold, the price at which the product is sold, or where the product may be obtained.”¹²¹ These advertisements do not help to cure the information market failure. Exacerbating the market failure is the tobacco industry's long history of deception and unfair trade practices dating back to the 1920s.¹²² While it is clear that this sort of deception worsens the information market failure, most questions regarding the impact of tobacco advertising on smoking are unfortunately left unanswered.

II. LEGAL BACKGROUND

The economics background section takes the government's and the consumer's view and discusses why and when government intervention

¹¹⁴ See Cawley & Ruhm, *supra* note 1, at 177 (noting that comprehensive bans include bans on anything related to smoking such as television, radio, print, outdoors, movies, sponsorship and at point of purchase); see, e.g., J. Nelson, *Cigarette Demand, Structural Change, and Advertising Bans: International Evidence*, 2 CONTRIBUTIONS TO ECON. ANALYSIS & POL'Y 10 (2003).

¹¹⁵ See Saffer & Chaloupka, *supra* note 113, at 1118.

¹¹⁶ See Blecher, *supra* note 113, at 930.

¹¹⁷ See GOSTIN, *supra* note 29, at 210.

¹¹⁸ See Cawley & Ruhm, *supra* note 1, at 128. This is known in economics as the cross-price elasticities of demand.

¹¹⁹ See *id.*

¹²⁰ See *id.*

¹²¹ See Joseph E. Stiglitz, *Imperfect Information in the Product Market*, in 1 HANDBOOK OF INDUSTRIAL ORGANIZATION 769, 842 (Richard Schmalensee & Robert Willig, eds., 1989).

¹²² In the early 1920s tobacco companies “tactically colluded to keep prices high, and competed only on the basis of advertising, creating substantial barriers to the entry of potential new rivals.” Walter Adams, *Price Policies in the Cigarette Industry*, 42 AM. ECON. REV. 461, 462 (1952).

can be justified. That section, however, ignores the fact that cigarette manufacturers have rights under the Constitution. In contrast, this section takes the view of cigarette manufacturers while discussing how cigarette manufacturers' constitutional rights can limit government intervention into the marketplace. The next section will take a neutral, pragmatic perspective while applying and weighing economic reasoning against cigarette manufacturers' constitutional rights.

The First Amendment states that "Congress shall make no law . . . abridging the freedom of speech."¹²³ Freedom of speech includes not only the right to speak,¹²⁴ but also the right to refrain from speaking.¹²⁵ This right to refrain from speaking prevents the government from forcing association—that is, the government cannot compel individuals to express a message with which they disagree¹²⁶ or to subsidize speech with which they disagree.¹²⁷ However, because the value of some expression may not outweigh the benefits of regulating that expression, commercial speech is afforded less protection than non-commercial speech.¹²⁸

One reason to protect commercial speech is to allow the truth about products to be discovered in an open marketplace.¹²⁹ The idea is that the market is better at filtering out what is truthful and what is not truthful than the government would be if it attempted to censor out the falsities.¹³⁰ The theory rests in the fact that "[i]n the long run, true ideas do tend to drive out false ones."¹³¹ For at least this reason, however, the

¹²³ U.S. CONST. amend. I.

¹²⁴ See *Police Department of Chicago v. Mosley*, 408 U.S. 92, 95-96 (1972).

¹²⁵ See *Wooley v. Maynard*, 430 U.S. 705, 714 (1977).

¹²⁶ See *id.* at 714–15 (quoting *W. Va. State Bd. of Educ. v. Barnette*, 319 U.S. 624, 636 (1943)).

¹²⁷ See *United States v. United Foods, Inc.*, 553 U.S. 405, 410–11 (2001).

¹²⁸ See ERWIN CHERMERINSKY, *CONSTITUTIONAL LAW: PRINCIPLES AND POLICIES* 953 (4th ed. 2011) [hereinafter CHERMERINSKY]. However, no clear definition of commercial speech exists. In 1975, the first case that protected commercial speech under the First Amendment held that an expression that proposes a commercial transaction is considered commercial speech. See *Bigelow v. Virginia*, 421 U.S. 809, 821 (1975). Yet, *Bigelow* did not limit commercial speech to that or expand on the definition of what is or what is not commercial speech. *Id.* The year 1980 brought some clarity as to the meaning of commercial speech. See *Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm'n of N.Y.*, 447 U.S. 557, 561 (1980). In *Central Hudson*, the Court defined commercial speech as an "expression related solely to the economic interests of the speaker and its audience." *Id.* Then, in 1983, the Court in *Bolger v. Youngs Drug Products Corp.* held that commercial speech must have the following three characteristics: (1) it is an advertisement of some form, (2) it refers to a specific product, and (3) the speaker has an economic motivation for the speech. 463 U.S. 60, 66–67 (1983). Applying this test to the graphic image regulations, this Article assumes that because tobacco companies have an economic interest in advertising on the space (i.e., 50% of the front and back panels) that the graphic images are to occupy, the graphic image requirements meet the general definition of commercial speech.

¹²⁹ See, e.g., *Abrams v. United States*, 250 U.S. 616, 630 (1919) (Holmes, J., dissenting).

¹³⁰ Harry H. Wellington, *On Freedom of Expression*, 88 *YALE L.J.* 1105, 1130–31 (1979).

¹³¹ See *id.* at 1122.

First Amendment does not protect all commercial speech. The First Amendment only protects truthful commercial speech; false and deceptive commercial speech is afforded no protection.¹³² The reason for this distinction follows directly from the First Amendment's purpose—false and deceptive ads distort the marketplace of ideas.¹³³ In fact, it is for that reason that the First Amendment affords no protection for advertising that even *risks* deceiving consumers, even where the advertisement's substantive message is truthful.¹³⁴

When commercial speech is regulated, the framework for determining the constitutionality of that regulation requires answering a threshold question of what type of disclosure is at issue.¹³⁵ Depending on the type of disclosure, three possible legal standards can apply. If the regulation requires the disclosure of uncontroverted factual information about a product, the lenient *Zauderer* standard can apply to the government's interest in preventing deception.¹³⁶ If the regulation requires the disclosure of controverted factual information about a product, the *Central Hudson* intermediate scrutiny standard applies to the governmental interests defined in the regulation.¹³⁷ If the regulation compels the speaker to adopt an ideology or a viewpoint, the *Wooley* strict scrutiny standard can apply to the governmental interests defined in the regulation.¹³⁸ For the graphic image requirements, care should be given in categorizing the type of disclosure at issue in the regulation and what governmental interests are at stake.

The lenient *Zauderer* standard applies to the government's interest in preventing consumer deception.¹³⁹ For *Zauderer* to apply, a court

¹³² See *Cent. Hudson*, 447 U.S. at 557.

¹³³ See CHEMERINSKY, *supra* note 128, at 1132. But the problem with false and deceptive advertising is that the Court has never decided a case on those merits. But we do know that although false advertising is considered separately from truthful advertising, many times they come hand in hand.

¹³⁴ See *Friedman v. Rogers*, 440 U.S. 1, 2 (1979).

¹³⁵ See *Royal*, *supra* note 24, at 236.

¹³⁶ See *id.*

¹³⁷ See *Cent. Hudson*, 447 U.S. at 570.

¹³⁸ See *Wooley v. Maynard*, 430 U.S. 705, 705–06 (1977).

¹³⁹ See *Zauderer v. Office of Disciplinary Counsel of Superior Court of Ohio*, 471 U.S. 626, 629 (1985). The Court in *Zauderer* held that the deception can occur by omission. In that case, an attorney's advertisements were held to be deceptive by omission when advertising that the lawyer would work on a contingency fee. The advertisements stated that clients would not be required to pay fees if they won their case, but omitted that the clients would still be responsible for their litigation costs. As such, laws requiring a disclosure of information in advertising can be constitutional. See *Milavetz, Gallop, & Milavetz, P.A. v. United States*, 130 S. Ct. 1324, 1329 (2010) (upholding a federal law requiring debt relief agencies to disclose that they are "debt relief agencies" in their advertising). The reasoning is that disclosure is sometimes needed to combat inherently misleading commercial advertising or to preserve the "fair bargaining process." See *Milavetz*, 130 S. Ct. at 1340; see also *44 Liquormart, Inc. v. R.I.*, 517 U.S. 484, 501 (1996).

must find that graphic images are “purely factual and uncontroversial information” which is “reasonably related” to the state’s interest in preventing consumer deception regarding how the health consequences of smoking apply to consumers.¹⁴⁰ Deception under *Zauderer* has its own meaning under First Amendment doctrine. *Zauderer* deception is not deception in the normal sense because if “the speech is actually misleading, it enjoys no First Amendment protection.”¹⁴¹ For the *Zauderer* standard to apply, commercial speech must only present the “possibility of deception” or a “tendency to mislead.”¹⁴² A court may rely on experience and common sense instead of “evidence that [the] advertisements are misleading” if it finds that “the likelihood of deception” is “hardly a speculative one.”¹⁴³

The *Central Hudson* intermediate scrutiny standard could be used to address the government’s interests in reducing smoking and informing consumers.¹⁴⁴ The Supreme Court articulated a four-part test in *Central Hudson*.¹⁴⁵ First, commercial speech must concern a lawful activity and not be false, deceptive, or misleading. Second, the government interest asserted must be substantial. Third, the regulation of commercial speech must directly advance the governmental interest asserted. Fourth, the regulation must be no more extensive than necessary to serve the governmental interest.¹⁴⁶ A challenged government regulation is constitutional under *Central Hudson* only if it meets this four-part test.

The *Wooley* strict scrutiny standard could also be used to address the government’s interests in reducing smoking and informing consumers.¹⁴⁷ For *Wooley* to apply, a court must first find that the disclosure does not convey factual information to consumers, but that it conveys an ideological message.¹⁴⁸ With respect to graphic image requirements, the message would likely suggest that smoking is disgusting. Alternatively,

¹⁴⁰ *Zauderer*, 471 U.S. at 651.

¹⁴¹ *Thompson v. W. States Med. Ctr.*, 535 U.S. 357, 367 (2002).

¹⁴² *Milavetz*, 130 S. Ct. at 1340.

¹⁴³ *R.J. Reynolds Tobacco Co. v. FDA*, 616 F.3d 1205, 1227 (Rogers, J., dissenting) (quoting *Milavetz*, 130 S. Ct. at 1340).

¹⁴⁴ *See Cent. Hudson Gas & Elec. Corp. v. Public Serv. Comm’n of N.Y.*, 447 U.S. 557, 566 (1980).

¹⁴⁵ *See id.* As a procedural note, the government has the burden of proving that the restriction of commercial speech meets the *Central Hudson* test. *See Endenfield v. Fane*, 507 U.S. 761, 770–71 (1993).

¹⁴⁶ In three cases following the *Central Hudson* opinion, the Court seemed to alter the test before changing it back to the original version. *See Greater New Orleans Broad. Ass’n v. United States*, 527 U.S. 173, 195–96 (1999) (declaring bans on gambling advertisements unconstitutional); *Lorillard Tobacco Co. v. Reilly*, 533 U.S. 425, 570–71 (2001) (declaring placement of tobacco advertisements unconstitutional); *Thompson v. W. States Med. Ctr.*, 535 U.S. 357, 376–77 (2002) (declaring certain bans on certain drugs advertisements unconstitutional).

¹⁴⁷ *See Wooley v. Maynard*, 430 U.S. 705, 717 (1977).

¹⁴⁸ *See Lorillard Tobacco Co.*, 533 U.S. at 554–55.

the message might be that the risks associated with smoking outweigh the pleasure derived from smoking. If a court finds the messages to be ideological in nature, a court must then find that either the government's interests in reducing smoking or the government's interest to inform consumers demonstrates a compelling government interest.¹⁴⁹ If the court concludes that one or both of the interests are compelling, it must then find that graphic warning labels provide a narrowly tailored means of achieving one or both of those interests and that less restrictive, alternative means of providing consumers with information cannot serve the government's purpose.¹⁵⁰ The graphic images can only overcome the heavy burden of strict scrutiny if they meet each part of the *Wooley* test.¹⁵¹

III. ANALYSIS

Compelled commercial speech is a doctrinal mess. Courts must first decide whether the *Zauderer*, *Central Hudson*, or *Wooley* standard applies. Then, courts must actually apply the standards to the facts. Complicating the compelled commercial speech doctrine for the graphic image requirements are various theoretical and empirical economic arguments both for and against the requirements.

This analysis aims to inform non-economists about how the various economic arguments should apply to First Amendment law. This is necessary because the adversarial process of the law caused both the FDA and tobacco companies to use aspects of the relevant economics literature to construct arguments most favorable to them. This analysis attempts to reconcile the economic and legal theories brought to bear in these arguments, and proceeds as follows. The first section uses a game theory approach to analyze each separate governmental interest under applicable legal tests, and presents what the ultimate outcomes should be in all of the legal tests. That section then uses Bayesian inference to make assumptions about how the Supreme Court would rule employing the various legal tests.¹⁵² Solving the model by forward induction yields the prediction that the constitutionality of the graphic image require-

¹⁴⁹ See *Thompson*, 535 U.S. at 357.

¹⁵⁰ See *Wooley*, 430 U.S. at 716–17.

¹⁵¹ See *id.*

¹⁵² Here, Bayesian inference uses updating techniques to make assumptions about what the Court must rationally hold to reach a certain point in the analysis. See ROBERT GIBBONS, *GAME THEORY FOR APPLIED ECONOMISTS* 143 (1992); see also DOUGLAS BAIRD, ROBERT GERTNER & RANDAL PICKER, *GAME THEORY AND THE LAW* 159 (1994). For example, for the Court to reach *Central Hudson's* "directly advance" analysis, it must have considered the graphic images ideological neutral. Therefore, in determining how the Court will partake in this analysis, we would take those facts as given.

ments will depend on whether the images are ideologically neutral.¹⁵³ The second section proposes a new, more concrete, and more tractable test for what should be the critical question before the Court: Whether graphic image requirements are a form of information or a form of compelled speech.

A. *A Game-Theoretic Model of the Compelled Commercial Speech Doctrine*

To determine whether the graphic image requirements are constitutional, care must be given in pointing out exactly which interests could potentially apply to the different legal standards. Table 1 charts the three government interests along with the authority and legal standards that could control. For example, the *Zauderer* standard may apply to address the government's interest in preventing deception, an interest created under constitutional law related to the government's interest in informing consumers. The *Wooley* and *Central Hudson* standards could potentially apply to address the government's interest in reducing smoking, its interest in informing consumers, or both. Whether the *Wooley* strict scrutiny standard applies, rather than the *Central Hudson* intermediate scrutiny standard, depends on whether the graphic images are ideological rather than informational in nature. However, even if the images convey an ideological message, that finding will not necessarily outweigh the images' informing function to the point where they become unconstitutional under *Wooley*.¹⁵⁴

¹⁵³ Forward induction is a technique that looks at past behavior to determine what will happen at a later stage in the game. This is a solution technique that uses Bayesian inference to determine how we could reach a certain point in the game. See GIBBONS, *supra* note 152, at 239.

¹⁵⁴ The *Reynolds* dissent was right in saying: "Regardless of which level of scrutiny applies, the court errs in failing to examine both of the government's stated interests. In the rulemaking, the FDA articulated complementary, but distinct, interests in effectively conveying information about the negative health consequences of smoking to consumers and in decreasing smoking rates." *R.J. Reynolds Tobacco Co. v. FDA*, 616 F.3d 1205, 1223 (D.C. Cir. 2012) (Rogers, J., dissenting) (citing Final Rule, *supra* note 3, at 36,633). The dissent was correct to point out that the majority missed the government's second interest of effectively conveying information when it dismissed the government's interest in informing consumers as being "too vague" and was right to find that this interest "merits independent consideration." *Id.*

TABLE 1: COMPLETE CONTINGENT PLAN FOR THE COURT

Government Interest	Authority	Interest Required	Standard of Proof
Prevent Deception	<i>Zauderer</i>	Established	Reasonably Related
Provide Information	<i>Wooley</i>	Compelling	Narrowly Tailored
	<i>Central Hudson</i>	Substantial	Directly Advances
Reduce Smoking	<i>Wooley</i>	Compelling	Narrowly Tailored
	<i>Central Hudson</i>	Substantial	Directly Advances

Courts have disagreed on which legal test is controlling. The D.C. District Court in *Reynolds* applied *Wooley*.¹⁵⁵ On appeal, the D.C. Circuit in *Reynolds* applied *Central Hudson*.¹⁵⁶ Moreover, both the District Court for the Western District of Kentucky¹⁵⁷ and the Sixth Circuit¹⁵⁸ applied *Zauderer* in *Discount Tobacco City & Lottery*. The dissenting opinion for the Sixth Circuit said *Central Hudson* should apply.¹⁵⁹ When applying the different legal standards, courts have used and misused related arguments to reach their conclusions.¹⁶⁰ This Article will

¹⁵⁵ See *R.J. Reynolds Tobacco Co. v. FDA*, 823 F. Supp. 2d 36, 45 (D.D.C. 2011).

¹⁵⁶ See *Reynolds*, 696 F.3d at 1217.

¹⁵⁷ See *Discount Tobacco City & Lottery Inc. v. United States*, No. 09-cv-00117 (W.D.K.C. 2011).

¹⁵⁸ See *Discount Tobacco City & Lottery Inc. v. United States*, 674 F.3d 509, 534 (6th Cir. 2012) (Clay, J., dissenting).

¹⁵⁹ See *Discount Tobacco City & Lottery*, 674 F.3d at 534 (Clay, J., dissenting).

¹⁶⁰ Some arguments for applying different standards should overlap. First, the question of whether the images convey information (under *Central Hudson*) or are compelling ideology (under *Wooley*) is a similar inquiry to the question of whether the images are purely factual and uncontroversial under *Zauderer*. If the images are considered ideological in nature and therefore *Wooley* applies, it would suggest that the graphic images are not purely factual and uncontroversial under *Zauderer*. Next, the question of whether the graphic images inform consumers under *Central Hudson* and *Wooley* is a similar inquiry to the question of whether the graphic images are needed to prevent consumer deception under *Zauderer*. If the graphic images are in fact needed to prevent consumer deception under *Zauderer*, this suggests that consumers are not fully informed and therefore the images would indeed inform consumers under *Central Hudson* and *Wooley*.

Other arguments in applying certain standards must not overlap. It is important to distinguish the question of whether the graphic images inform consumers and the question of whether the graphic images reduce smoking. All the statistics about the number of deaths per year caused by smoking are relevant to the government's interest in reducing smoking, but are not directly relevant to the government's interest in informing consumers. As discussed in the background section, the main governmental interest in informing consumers deals with the addictive nature of nicotine and how smoking risks apply to them personally. While this may

set up a game-theoretic model that will help avoid misusing irrelevant arguments.

Before setting up the extensive form game tree model, we, like a court, shall begin our inquiry by briefly pointing out and noting as insufficient to carry the standards the government's interest in reducing smoking under both *Central Hudson* and *Wooley*. With over thirty countries having adopted graphic images on cigarette packs similar to those analyzed here, economists have been able to study the effect of the images on smoking rates.¹⁶¹ The general empirical findings suggest that graphic images on cigarette packages do not significantly reduce smoking.¹⁶² In fact, there is suggestion that the FDA concedes this point.¹⁶³ The simple fact that a consensus exists should end the Court's inquiry on whether the government's interest in reducing smoking can justify the graphic images. Thus, we have quickly narrowed our constitutional inquiry to the government's interest in providing information, which could potentially be justified under *Zauderer*, *Central Hudson*, or *Wooley*.

The three-stage extensive form game tree modeling how courts should decide the constitutionality of the graphic images is provided in Figure 3.¹⁶⁴ As represented in the game tree, the Court should first de-

in fact lead to reductions in smoking prevalence, providing information is an interest on its own, regardless of whether it reduces smoking.

¹⁶¹ See *Australia Is First Country to Require Plain, Logo-Free Cigarette Packaging*, BLOOMBERG NEWS (Aug. 15, 2012), <http://adage.com/article/global-news/australia-rules-plain-logo-free-cigarette-packaging/236696/>.

¹⁶² See, e.g., R. Borland et al., *Impact of Graphic and Text Warnings on Cigarette Packs: Findings from Four Countries over Five Years*, 18 TOBACCO CONTROL 358 (2009), available at <http://tobaccocontrol.bmj.com/content/18/5/358.full.pdfhtml>; see also Damon Clark & Heather Royer, *The Effect of Education on Adult Health and Mortality: Evidence from Britain*, (NBER Working Paper No. 16013, 2010); Franque Grimard & Daniel Parent, *Education and Smoking: Were Vietnam War Draft Avoiders Also More Likely to Avoid Smoking?*, 27 J. HEALTH ECON. 896 (2007); but see James Thrasher et al., *Smokers' Reactions to Cigarette Package Warnings with Graphic Imagery and with Only Text: A Comparison between Mexico and Canada*, 49 SALUD PÚBLICA MÉXICO 233 (2007), available at http://bvs.insp.mx/rsp/_files/File/2007/supl%202/10-smokers.pdf. Some studies have not been able to establish or rule out a causal relationship. See, e.g., Steffen Reinhold & Hendrik Jürges, *Secondary School Fees and the Causal Effect of Schooling on Health Behavior*, 19 HEALTH ECON. 994 (2009). Other studies have found that they may affect men but not women. See, e.g., D. Kenkel, *Health Behaviours Among Young People*, in 6 THE ELGAR COMPANION TO HEALTH ECONOMICS 60 (2006). However, other research indicates that both warning labels on cigarette packs and paid antismoking advertisements have significantly cut tobacco use in the past. See Chaloupka & Warner, *supra* note 45, at 1594–95.

¹⁶³ As the D.C. Court of Appeals in *Reynolds* points out: “[O]ne of the principal researchers on whom FDA relies recently surveyed the relevant literature and conceded that ‘[t]here is no way to attribute . . . declines [in smoking] to the new health warnings.’” *Reynolds*, 696 F.3d at 1220 (citing David Hammond, *Health Warnings Messages on Tobacco Products: A Review*, 20 TOBACCO CONTROL 327, 331 (2011), available at <http://tobaccocontrol.bmj.com/content/20/5/327.full.pdf>).

¹⁶⁴ Although courts will not set up the game tree in Figure 3, it will rule as if it did set up the game tree. Likewise, although courts will not say the constitutionality of the images de-

cide whether the images are “purely factual and uncontroversial information.”¹⁶⁵ If the Court answers this question in the affirmative, it should apply *Zauderer*.¹⁶⁶ If not, it should advance to Stage 2, where it will ask whether the images are information or compelled ideology. Depending on what it finds in Stage 2, the Court will then proceed either to the *Central Hudson* or *Wooley* analysis.

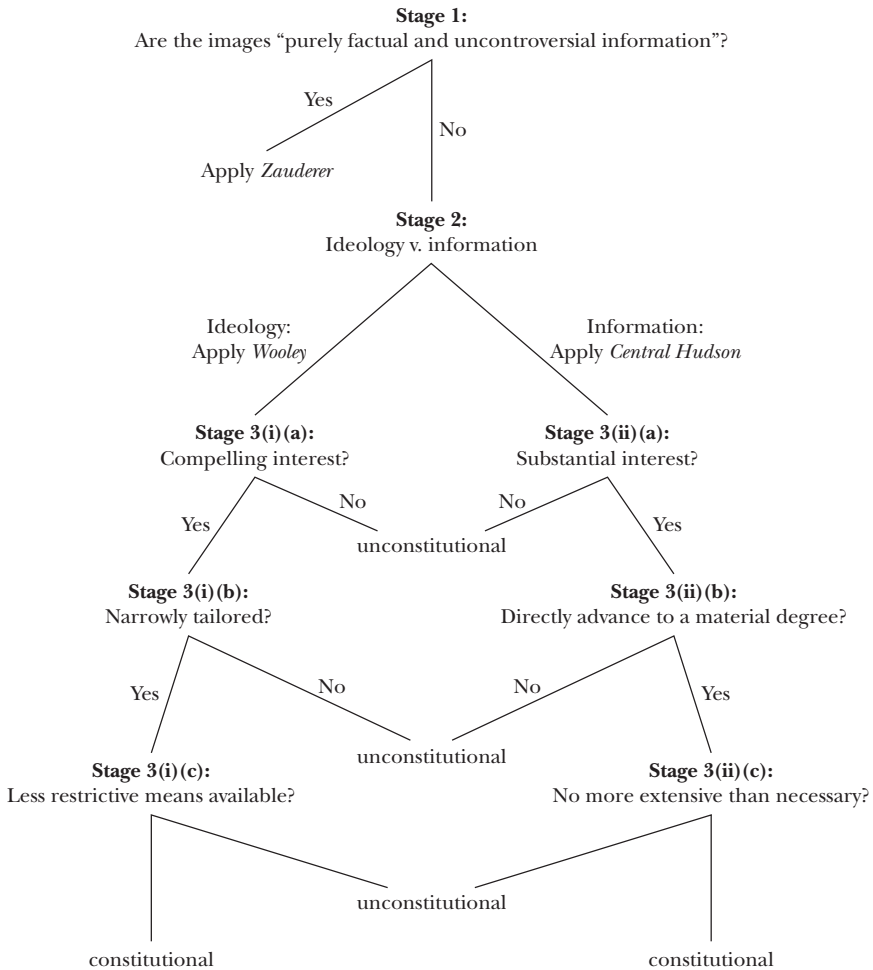


FIGURE 3: EXTENSIVE FORM GAME TREE

depends on the solution to the game, they will rule as if the constitutionality depends on the solution.

¹⁶⁵ See *Zauderer v. Office of Disciplinary Counsel of Superior Court of Ohio*, 471 U.S. 626, 651 (1985).

¹⁶⁶ This Article does not provide a sub-game for the *Zauderer* analysis because, as this section will discuss, that analysis should not be rationally reached.

We will solve the game using forward induction.¹⁶⁷ To simplify the game, however, we shall start at Stage 1 and briefly point out why *Zauderer* is not controlling. For *Zauderer* to apply, the graphic images must be considered purely factual and uncontroversial information.¹⁶⁸ The graphic images were designed to evoke emotion for the purpose of helping consumers retain the health information presented.¹⁶⁹ Evoking emotion by its very nature does not seem to be the type of uncontroversial information required under *Zauderer*.¹⁷⁰ This Article agrees with the D.C. Circuit majority in *Reynolds*, where it convincingly explained how the “FDA’s images are a much different animal” than the textual statements requiring advertisements to disclose how a fee is calculated in *Zauderer*.¹⁷¹ Unlike purely textual and informative disclosure, the graphic images rely on behavioral economic theory, which suggests that the images evoke consumers’ emotions to help them to better process, comprehend, and retain information.¹⁷² Even the FDA concedes that the images “are not meant to be interpreted literally, but rather to symbolize the textual warning statements, which provide ‘additional context for what is shown.’”¹⁷³ Thus, the graphic images are not the sort of “purely factual and uncontroversial” information that *Zauderer* allows.¹⁷⁴ Accordingly, the Court will reach Stage 2 of the game tree. We will solve the game by determining the outcome in each situation using forward induction. First, we will pretend we have reached Stage 3(i)(a) and assume that the images send an ideological message when we solve that sub-game. Next, we will pretend we are at Stage 3(ii)(a) and assume that the images are ideologically neutral when we solve that sub-game.

¹⁶⁷ Solving an extensive form game like this one using forward induction is done by using information that must have been determined in prior stages for the game to progress into the current stage. See GIBBONS, *supra* note 152, at 239.

¹⁶⁸ *Zauderer v. Office of Disciplinary Counsel of Superior Court of Ohio*, 471 U.S. 626, 651 (1985).

¹⁶⁹ See Final Rule, *supra* note 3, at 36,642.

¹⁷⁰ The disclosures in *Zauderer* required “any advertisement that mentions contingent-fee rates [to] ‘disclos[e] whether percentages are computed before or after deduction of court costs and expenses.’” *Zauderer*, 471 U.S. at 633. Further, the disclosures in *Milavetz* required advertisements to describe what type of agency the party was and how they helped clients by requiring them to include the following statement: “We are debt relief agency. We help people file for under the Bankruptcy Code.” *Milavetz Gallop, & Milavetz, P.A. v. United States*, 130 S. Ct. 1324, 1330 (2010).

¹⁷¹ *R.J. Reynolds Tobacco Co. v. FDA*, 696 F.3d 1205, 1224 (D.C. Cir. 2012).

¹⁷² This issue is the topic of Part III.B *infra*.

¹⁷³ *Reynolds*, 696 F.3d at 1224 (citing Final Rule, *supra* note 3, at 36,655).

¹⁷⁴ *Zauderer*, 471 U.S. at 651. Even if the images are held to be purely factual and uncontroversial information, the images are not needed to prevent consumer deception. Tobacco companies’ advertising is currently restrained to a great degree, including regulations that restrict companies from advertising that cigarettes are “light” or low in tar and nicotine. It seems that, on its face, cigarette advertising is so lacking of any information at all that it could not possibly be inherently misleading. Disclosure of information does not seem to be needed to combat current cigarette advertising because there is really nothing to combat.

First, assume we reach Stage 3(i)(a), i.e., that the Court finds the images to be ideological in nature so that *Wooley* applies. Then, because Stage 3(i)(a), i.e., determining whether an interest is compelling, is usually a perfunctory step under *Wooley*, we jump to Stage 3(i)(b) and ask whether informing consumers of smoking risks by using graphic images is narrowly tailored.¹⁷⁵ For the sake of argument, assume we make it past Stage 3(i)(b). Then, in Stage 3(i)(c), forward induction tells us that graphic images are more like forced association than a form of information, so images do not function solely to inform consumers. Said differently, for *Wooley* to apply in the first place, the Court must find that graphic images are more like forced association than a form of information and, thus, do not function solely to inform consumers. As other means of informing consumers are less restrictive by their very nature (i.e., they do not regulate tobacco company speech), the Court would probably not find that less restrictive alternative means cannot serve to inform the consumers as required under *Wooley*.¹⁷⁶ Therefore, if Stage 3(i)(a) is reached, the images will be held unconstitutional. That is, if the images are not found to be ideologically neutral, they will be unconstitutional under *Wooley*.

Next, assume we reach Stage 3(ii)(a) and that the Court finds the images to be ideologically neutral so that *Central Hudson* applies. Stage 3(ii)(a) requires that providing health information about the consequences of smoking and the addictiveness of nicotine to consumers to be a “substantial” governmental interest.¹⁷⁷ Establishing this requirement should be simple. Smokers lack the information needed to accurately assess the risks and costs of smoking and therefore cannot make informed choices about smoking—a well-defined market failure.¹⁷⁸ Thus, the government can be justified in intervening in the tobacco market to guarantee that consumers are adequately informed.¹⁷⁹ Accordingly, the Court should find that providing health information about the consequences of smoking and the addictiveness of nicotine to consumers is a “substantial” governmental interest under *Central Hudson*.

The next question in Stage 3(ii)(b) is whether the FDA has offered substantial evidence showing that the graphic warning requirements “directly advance the governmental interest” in informing consumers of the

¹⁷⁵ See Stephanie Jordan Bennett, Comment, *Paternalistic Manipulation through Pictorial Warnings: The First Amendment, Commercial Speech, and the Family Smoking Prevention and Tobacco Act*, 81 MISS. L. J. 1909, 1911 (2012) (citing R.J. Reynolds Tobacco Co. v. FDA, No. 11-1482, 2011 U.S. Dist. LEXIS 128372, at *27 (D.C. Cir. Nov. 7, 2011)).

¹⁷⁶ See GOSTIN, *supra* note 29, at 361.

¹⁷⁷ See *Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm’n of N.Y.*, 447 U.S. 557, 557 (1980).

¹⁷⁸ See MWG, *supra* note 12, at 368.

¹⁷⁹ See *id.*

risks of smoking and the addictive nature of nicotine.¹⁸⁰ Forward induction tells us that the graphic images are a form of information and not of forced association.¹⁸¹ Said differently, for courts to apply *Central Hudson*, it must have found that graphic images are a form of information and not of forced association.¹⁸² Evidence suggests that the graphic images will be viewed 7,000 times a year by every pack-a-day smoker.¹⁸³ Evidence also suggests that graphic images will lead to *more informed* consumers in the United States.¹⁸⁴ That graphic images (which the Court considers a form of information) will be viewed 7,000 times a year by pack-a-day smokers and in addition will lead to more informed consumers means that the graphic images should “directly advance” the government’s interest in informing consumers.

The next question in Stage 3(ii)(b) is whether the graphic images inform consumers to a “material degree.”¹⁸⁵ Stage 3(ii)(c) requires the images to be no more extensive than necessary. We will address these stages together. The government bears the heavy burden of justifying the means for the end, which cannot be merely “speculation or conjecture.”¹⁸⁶ The extent to which graphic images lead to more informed consumers depends on how many consumers are at least partially uninformed. The more uninformed consumers there are, the more the graphic images will be found to inform to a material degree. Although the government has made considerable attempts to inform consumers in the past, evidence suggests that many consumers are not fully informed of the risks of smoking and the addictive nature of nicotine.¹⁸⁷ For ex-

¹⁸⁰ See *R.J. Reynolds Tobacco Co. v. FDA*, 696 F.3d 1205, 1235 (D.C. Cir. 2012) (citing *Edenfield v. Fane*, 507 U.S. 761, 769 (1993)).

¹⁸¹ See *Wooley v. Maynard*, 430 U.S. 705, 720 (1977).

¹⁸² See *id.*

¹⁸³ *Overview: Cigarette Health Warnings*, FDA.GOV, <http://www.fda.gov/TobaccoProducts/Labeling/ucm259214.htm>.

¹⁸⁴ See *Effectiveness of Cigarette Warning Labels in Informing Smokers About the Risks of Smoking: Findings From the International Tobacco Control (ITC) Four Country Survey*, 15 *TOBACCO CONTROL* 19 (2006).

¹⁸⁵ See *Florida Bar v. Went For It, Inc.*, 515 U.S. 618, 626 (1995).

¹⁸⁶ See *Edenfield v. Fane*, 507 U.S. 761, 770 (1993); see also *Rubin v. Coors Brewing Co.*, 514 U.S. 476, 487 (1995).

¹⁸⁷ The Court should look to what we know about informing consumers. Over the past fifty years, we have learned much about what works and what does not work in regards to informing consumers about smoking. First, new ways of displaying information have informational impacts. Information gets old over time and has diminishing impact as time elapses, but some evidence suggests that graphic images may sustain their informative effects longer than text-only warning labels. See J. Li & M. Grigg, *New Zealand: New Graphic Warnings Encourage Registrations with the Quitline*, 18 *TOBACCO CONTROL* 72 (2009). Besides television, smokers obtain most of their health information about smoking from warning labels. See D. HAMMOND, *TOBACCO LABELLING & PACKAGING TOOLKIT: A GUIDE TO FCTC ARTICLE 11*, 17 (2009), available at <http://www.tobaccolabels.ca/tobaccolab/uatldtook>. Even non-smokers and children pay attention to the warning labels. See *id.*, at 19. Second, “[c]onsumers sometimes respond strongly to the provision of new information. A dramatic example is the release

ample, current smokers consuming cigarettes in cartons without graphic warnings are overly optimistic about how long they will survive (compared to scientific predictions given their smoking behavior).¹⁸⁸ The information consumers lack is not homogenous, however, and some consumers are more informed than others.¹⁸⁹ Some consumers are not fully informed of their health risks,¹⁹⁰ while others are unaware of how the health risks apply to them.¹⁹¹ There are also smokers who do not always have consistent outlooks on the harms of smoking.¹⁹² For these reasons, the FDA claims it designed the nine graphic images to present different information.¹⁹³

of the first Surgeon General's report on smoking and health in 1964, which was followed by an immediate 5 percent decrease in smoking." See Cawley & Ruhm, *supra* note 1, at 175. Highly educated individuals respond more to new types of information than less educated individuals. See, e.g., M. Grossman, *The Human Capital Model*, in 1 HANDBOOK OF HEALTH ECONOMICS 347 (A. J. Culyer & J. P. Newhouse eds. Elsevier, 2000). This suggests that the government should identify the trends among unknowledgeable smokers and design policies specifically addressing how these groups could be informed. For example, if the only way the government can inform low income consumers is through graphic images, it may be justified in using the images on the sole grounds of informing those low income consumers. After all, we know that some consumers are more sensitive to information regarding health consequences than others. See Cawley & Ruhm *supra* note 1, at 137.

¹⁸⁸ See Smith et al., *supra* note 78, at 676; A. Khwaja, F. Sloan, & S. Chung, *The Relationship between Individual Expectations and Behaviors: Mortality Expectations and Smoking Decisions*, 35 J. RISK & UNCERTAINTY 192, 197 (2007).

¹⁸⁹ For example, low-income individuals are less informed than higher income individuals and some individuals are less informed because of language barriers. See Hyon B. Shin & Rosalind Bruno, *Language Use and English-Speaking Ability: 2000*, CENSUS.GOV 9 (Oct. 2003), <http://www.census.gov/prod/2003pubs/c2kbr-29.pdf>.

¹⁹⁰ For example, "smokers aged 50 to 65, unlike their nonsmoking counterparts, underestimate their personal probability of dying within the next 10 years." See Khwaja et al., *supra* note 189, at 197. The Final Rule provides insightful evidence that

smokers may not be fully informed of the risks associated with cigarette smoking . . . that those who have an accurate understanding of the statistical risks may underestimate their personal risks; and even where consumers have an accurate understanding, the risk might not be considered at the time of purchase.

Final Rule, *supra* note 3, at 36,709 (citing Smith et al., *supra* note 79, at 676). "[Y]oung American consumers are aware of some health consequences of smoking, such as the increased probability of lung cancer, but not of others, such as the increased probability of stroke." *Id.*; see M. O'Hegarty et al., *Young Adults' Perceptions of Cigarette Warning Labels in the United States and Canada*, 4 PREVENTING CHRONIC DISEASE 1 (2007).

¹⁹¹ See Smith et al., *supra* note 79, at 676, 684, 686 (Noting that many smokers will not personalize the risks "unless there is clear evidence that [smoking] is negatively affecting their own health.").

¹⁹² For example, "adults [are] much more likely to *overestimate* than to *underestimate* the extent to which smoking raises the risk of lung cancer." Cawley & Ruhm, *supra* note 1, at 138 (citing W. Viscusi, *Do Smokers Underestimate Risks?*, 98 J. POL. ECON. 1253, 1268 (1990)). Older smokers who are considered "heavy smokers" have a subjective expectation to live twice as long as their true life expectancy. See M. Schoenbaum, *Do Smokers Understand the Mortality Effects of Smoking? Evidence from the Health and Retirement Survey*, 87 AM. J. PUB. HEALTH 755, 757 (1997).

¹⁹³ See Final Rule, *supra* note 3, at 36,629.

Research shows us that smoking “tends to be habitual, repetitious, and almost unconscious.”¹⁹⁴ Thus, one justification for why the graphic images are needed to help inform consumers—which likely influenced Congress’s decision to pass the bill—is that they make the unconscious become conscious. By evoking emotion, the FDA explains, graphic images will help consumers to better process, comprehend, and retain the information.¹⁹⁵ That is, if the traditional warnings cannot be understood by, for example, lower educated people,¹⁹⁶ then the images may be needed as a salience measure to provide them with information.¹⁹⁷ In

¹⁹⁴ B. Means et al., *Cognitive Research on Response Error in Survey Questions on Smoking*, 6 VITAL AND HEALTH STATISTICS 5, 8 (1992).

¹⁹⁵ See Final Rule, *supra* note 3, at 36,642 (referencing studies, which showed significant effects on salience measures for all of the nine required warnings, as well as the international experience demonstrating the enhanced communication value of larger, graphic warnings). The Final Rule also references studies suggesting the improved effectiveness of Canada’s larger, graphic warnings at communicating health risks. For example, national surveys conducted on behalf of Health Canada indicate that approximately 95% of youth smokers and 75% of adult smokers report that the Canadian pictorial warnings have been effective in providing them with important health information. See Final Rule, *supra* note 3, at 36,699.

¹⁹⁶ It is estimated that each additional year of education is associated with a three percent lower probability of smoking. See D. Cutler & A. Lleras-Muney, *Understanding Differences in Health Behaviors by Education*, 29 J. HEALTH ECON. 1, 4 (2010). College graduates were 13.9% less likely to smoke than high school dropouts. Cawley & Ruhm, *supra* note 1, at 106 (correlating education with healthier behaviors); A. Lleras-Muney & F. Lichtenberg, *Are the More Educated More Likely to Use New Drugs?*, 79 ANNALES D’ECONOMIE ET STATISTIQUE 671, 693 (2005) (demonstrating that people with higher education are more likely to adopt medical technologies). Even more concerning is the widening gap between the number of poor and uneducated that smoke and the number of non-poor educated that smoke. See S. Kanjilal et al., *Socioeconomic Status and Trends in Disparities in 4 Major Risk Factors for Cardiovascular Disease Among US Adults*, 166 ARCHIVES INTERNAL MED. 2348, 2348 (2006) (relying on data analysis to show that education and income related disparities have worsened for smoking). This larger gap has only “emerged over the past four decades because of larger reductions in smoking for more advantaged adults.” Cawley & Ruhm, *supra* note 1, at 107 (explaining “the gap in current smoking between persons with more versus less than a high school education was 11.6 percentage points (33.5 vs. 45.1 percent) in 1971-1974 but had almost doubled to 21.5 points (17.1 vs. 38.6 percent) in 1999-2002; during the same period the smoking differential between the highest and lowest poverty-income-ratio (PIR) quartiles rose from 10.5 (33.5 vs. 44.0 percent) to 23.5 (13.9 vs. 37.4 percent) percentage points.”). Furthermore, Cawley’s study found the gap in “smoking rates between those with and without a college degree grew from 2 percentage points in 1954 to 15 points in 1999.” Cawley & Ruhm, *supra* note 1, at 107 (concluding that “highly educated tobacco users are much more likely than their less educated counterparts to quit smoking”). Whether this is because of the informational difference between the highly educated and the less educated is unclear, but we have not been able to rule it out. One argument that supports that information is the issue deals with access to health care. Although physicians counseling smokers of the extent of health risks reduces smoking rates, many smokers do not receive this advice from their doctors, especially ethnic minority groups. See L. Stead, G. Bergson, & T. Lancaster, *Physician Advice for Smoking Cessation*, 2 COCHRANE DATABASE SYSTEMATIC REV. 165 (2008).

¹⁹⁷ See RICHARD J. BONNIE ET AL., ENDING THE TOBACCO PROBLEM: A BLUEPRINT FOR THE NATION 295 (2007), available at <http://www.nap.edu/catalog/11795.html> (noting that text-based warnings likely require a college reading level and may be inappropriate for youth and Americans with poor reading abilities).

other words, these consumers will internalize the addictiveness of nicotine better by viewing the picture of the man with smoke flowing out of his trachea than by reading an essay about how nicotine can be addictive. The images thereby serve as a complement to the textual statements. They provide necessary reinforcement to each of the nine messages that the FDA is attempting to communicate. Without the images, less educated and younger consumers may be unable to discern the health risks of smoking because textual warning labels and government antismoking advertisements do not fully inform them of the associated risks.¹⁹⁸

Whether graphic images inform consumers of the negative health consequences of smoking to a material degree is not totally clear. What is also not clear is the extent that the tobacco industry's history of deception will play a role in this inquiry. On one hand, preventing deception is not the determining factor under *Central Hudson*. On the other hand, past deception can in fact lead consumers to be uninformed and can therefore play an indirect role. Overall, evidence suggests that graphic images are more effective for educating smokers about the health risks of smoking than text-only warnings,¹⁹⁹ increasing smokers' thoughts about the health risks more than text-only warnings,²⁰⁰ and informing the public about health risks in general.²⁰¹ However, many smokers will not personalize the risks unless there is clear evidence that smoking is nega-

¹⁹⁸ Smoking trends support this argument. See M. Grossman & R. Kaestner, *Effects of Education on Health*, in THE SOCIAL BENEFITS OF EDUCATION, 69, 75 (Jere R. Behrman & Nevzer Stacey, eds., 1997) (noting that the more educated will likely have a more rapid response when learning about the harmful effects of smoking). Other factors, such as better occupation or higher income, also correlate with lower rates of smoking. See, e.g., Cawley & Ruhm, *supra* note 1, at 107. However, at least three studies point directly to higher education correlating with a reduction of the probability of smoking. See *id.*; see also J. Currie & E. Moretti, *Mother Education and the Intergenerational Transmission of Human Capital: Evidence from College Openings and Longitudinal Data*, 118 Q. J. ECON. 1495, 1495 (2003) (finding that education reduces the probability of smoking); Damien de Walque, *Education, Information, and Smoking Decisions: Evidence from Smoking Histories, 1940–2000*, 45 J. HUM. RESOURCES 682, 682 (2004), available at http://aeaweb.org/assa/2006/0108_1300_0601.pdf (observing that there is strong correlation between education and health even after controlling for income).

¹⁹⁹ Some evidence suggests that graphic images lead to fewer disparities in health knowledge across educational levels. See Hammond, *supra* note 187, at 19. Other evidence suggests that graphic images are more likely to be noticed than text-only warning labels. See D. Hammond et al., *Text and Graphic Warnings on Cigarette Packages: Findings from the ITC Four Country Survey*, 32 AM. J. PREVENTATIVE MED. 202, 202 (2007).

²⁰⁰ See J. Thrasher et al., *Smokers' Reactions to Cigarette Package Warnings with Graphic Imagery and with Only Text: a Comparison Between Mexico and Canada*, 49 SALUD PÚBLICA DE MÉXICO 233, 233 (2007). "Australia's requirement of larger warning labels increased tobacco consumers' knowledge that smoking causes cancer, heart and circulatory illnesses, and pregnancy-related problems." Final Rule *supra* note 3, at 36,709 (citing M. O'Hegarty et al., *Young Adults' Perceptions of Cigarette Warning Labels in the United States and Canada*, in 4 PREVENTING CHRONIC DISEASE 1 (2007)).

²⁰¹ See Hammond et al., *supra* note 199, at 202.

tively affecting their own health, which if true implies that “graphic images will only have a limited effect on behavior until individuals incur a health shock related to the unhealthy behavior.”²⁰² The key issue here is the fact that the Court has given greater deference to commercial speech regulation designed to protect minors rather than adults.²⁰³ The Court has said that “minors are not yet fully able to assess and analyze independently the value of the message presented.”²⁰⁴ That minors will be more informed of the risks of smoking and the addictiveness of nicotine appears to be beyond “speculation or conjecture”²⁰⁵ to the point graphic images directly advance the government’s interest in informing consumers to a material degree. Therefore, if Stage 3(ii)(b) is reached, the images should be held constitutional. In other words, the Court should find the graphic images to be constitutional under *Central Hudson* if it finds the graphic images to be ideologically neutral.

Using a game theory model, this section has exhausted all of the possible legal routes the Court could take. Some of the arguments in this section have used forward induction to determine how the Court would likely rule upon reaching certain points in its analysis. To summarize, the Court should have four findings. First, the Court should find that graphic images do not reduce smoking, and therefore should not partake in a lengthy constitutional analysis on this governmental interest. Second, the Court should not find *Zauderer* to control because the graphic image requirements were designed to evoke emotion, and are therefore not “purely factual and uncontroversial” information.²⁰⁶ This means that the answer to Stage 1 is No. Finally, depending on which standard it finds controlling, the Court should find that the graphic image requirements are either unconstitutional under *Wooley* or constitutional under *Central Hudson* based on the government’s interest in providing information. Therefore, the constitutionality of the graphic images should boil down to the outcome in Stage 2, i.e., whether *Central Hudson* or

²⁰² See Cawley & Ruhm, *supra* note 1, at 139.

²⁰³ See, e.g., *Denver Area Educ. Telecomm. Consortium, Inc. v. FCC*, 518 U.S. 727, 744–45 (1996) (upholding cable television restrictions as a means of protecting children from indecent programming); *FCC v. Pacifica Found.*, 438 U.S. 726, 739 (1979) (upholding the FCC finding that indecent speech “in an afternoon broadcast when children are in the audience was patently offensive”); *Ginsberg v. New York*, 390 U.S. 629, 636 (1968) (rejecting the assertion that “the scope of the constitutional freedom of expression . . . cannot be made to depend on whether the citizen is an adult or a minor”).

²⁰⁴ *Anheuser Busch, Inc. v. Schmoke*, 101 F.3d 325, 329 (1996). This is because “by the time they are capable of making a mature judgment, their health may be harmed irrevocably and their decisional capacity impaired by the product’s addictive qualities.” GOSTIN, *supra* note 29, at 357.

²⁰⁵ See *Edenfield v. Fane*, 507 U.S. 761, 770–71 (1993); see also *Rubin v. Coors Brewing Co.*, 514 U.S. 476, 487 (1995).

²⁰⁶ See *Zauderer v. Office of Disciplinary Counsel of Superior Court of Ohio*, 471 U.S. 626, 633 (1985).

Wooley is controlling. As this is the only remaining legal question, it is where we now turn.

B. *Central Hudson* versus *Wooley*

We are in Stage 2. The question we seek to answer here is simple. Under the First Amendment, are graphic images a *form of information* provided to consumers like the printed textual warning labels currently on cigarette packages and a warning sign with a picture of a stick figure man falling that say “CAUTION: WET FLOOR”? Or are they a *form of speech* like requiring children to salute a flag²⁰⁷ or like requiring all automobiles to display license plates that say “Live Free or Die”?²⁰⁸

In the commercial speech context, graphic images are a form of speech if they compel opinions or value judgments.²⁰⁹ It is important to point out what types of information and speech the graphic images could be presenting. On the one hand, the graphic images could be communicating the health consequences of smoking and the addictive nature of nicotine. There are nine specific risks the FDA is attempting to communicate, one for each of the nine labels.²¹⁰ On the other hand, the graphic images could be communicating the opinion that smoking is disgusting or the value judgment that no one should ever smoke because the harms of smoking outweigh the benefits. The fact that some people in society hold the opinion that smoking is disgusting or the judgment that no one should smoke does not transform it from compelling ideology to factual information.²¹¹ Distinguishing between the speech as an opinion

²⁰⁷ See *West Virginia State Board of Education v. Barnette*, 319 U.S. 624, 643 (1943) (holding that saluting the flag is a form of speech).

²⁰⁸ See *Wooley v. Maynard*, 430 U.S. 705 (1977).

²⁰⁹ See Nancy Levit, *Listening to Tribal Legends: An Essay on Law & the Scientific Method*, 58 *FORDHAM L. REV.* 263, 279 (1989)); Royal, *supra* note 24, at 240 (“A value judgment is a statement that something is good or bad, that one believes in something, or that one *should* do something. . . .” Of course a message need not take the form of a command to constitute ideology. The message that mushrooms are worth consuming irrespective the brand implicitly suggests mushrooms should be consumed, and this renders it ideological. It is an “ought” not an “is.”) (citing J.P. Smit, *The Supposed “Inseparability” of Fact and Value*, 22 *S. AFR. J. PHIL.* 51, 51–60 (2003) (“A ‘value judgment’ is . . . a judgment regarding the irreducible ‘goodness,’ ‘badness,’ etc., of something, or the equivalent judgment that something ‘should’ or ‘should not’ be done.”)).

²¹⁰ Again, the nine textual statements were as follows: (1) Cigarettes are addictive; (2) tobacco smoke can harm your child; (3) cigarettes cause fatal lung disease; (4) cigarettes cause cancer; (5) cigarettes cause strokes and heart disease; (6) smoking during pregnancy can harm your baby; (7) smoking can kill you; (8) tobacco smoke causes fatal lung disease in non-smokers; (9) quitting smoking now greatly reduces serious risks to your health. See Final Rule, *supra* note 3, at 36,628.

²¹¹ See Royal, *supra* note 24, at 240. In addressing whether the images are a form of speech, this Article assumes that the *textual* statements accompanying the graphic images are in fact true. As the government has leeway to require warning labels, the text warnings alone should be considered information and therefore pass muster under the First Amendment.

and speech as a value judgment would include articulating artificial arguments and fabricating fictitious frameworks. Thus, the opinion and value judgment the images could be communicating will be addressed collectively.

It is also important to point out that graphic images can perform an informing function and an association function simultaneously. For example, the graphic images could help inform consumers of the addictiveness of nicotine while at the same time sending the message that smoking is disgusting. However, although graphic images can function to inform and to associate simultaneously, a determination must be made as to whether graphic images are more like forced association than information.²¹² The *Central Hudson* analysis in the previous section proceeded under the assumption that graphic images can function to inform, whether or not the images should be considered a form of information over a form of association under the First Amendment. That analysis was done in a vacuum apart from the association function. That section analyzed the informing function of the graphic images on an absolute scale.

The inquiry here must simply be done on a relative scale, which requires a yes or no answer to the question: “should the graphic images be considered forced association?” To illustrate the difference between these sections, consider a simple situation. Imagine that the Court can rate the informing function and the association function of the graphic images each from zero to ten. Assume the Court rates the association function of the images at six and rates the information function of the images at five. Because six is greater than five, the Court would hold the images to be ideological in nature and therefore apply *Wooley*. This instance tells us that *Wooley’s* strict scrutiny does in fact apply, but tells us nothing about whether the raking of five for the informing function would survive *Wooley’s* strict scrutiny (or intermediate scrutiny if the Court found the images to be informational in nature) standard review.

The specific question we are after here is whether the images indirectly say that smoking is disgusting and that no one should ever smoke.²¹³ At one extreme, it is clear that a warning label stating “Smoking is disgusting” or “No one should ever smoke” with accompanying images representing these notions would obviously not be considered a

²¹² See Royal, *supra* note 24, at 236 (suggesting that in order to determine which First Amendment test to apply to commercial speech, we must first decide what type of speech it is).

²¹³ This fact/value distinction has been debated by philosophers. See generally J.P. Smith, *The Supposed “Inseparability” of Fact and Value*, 22 S. AFR. J. PHIL. 51, 51–60 (2003).

form of information. At some point, however, an image can portray the same message.

At what point an image expresses a certain ideological message is unclear. The First Amendment, however, requires drawing the line between where graphic images accompanying textual statements become less like information and more like saying that smoking is disgusting. To make this determination, I suggest using the behavioral economics research that models the inner-workings of our minds when we are presented with these images. Nobel laureate Daniel Kahneman's model of cognitive function distinguishes two modes of thinking and deciding, corresponding to the so-called intuitive System I (i.e., "thoughts [that] come spontaneously to mind, without conscious search or computation, and without effort") and the so-called reasoning of System II (i.e., thoughts done "deliberately and effortfully").²¹⁴ As Kahneman explains:

Reasoning is what we do when we compute the product of 17 by 258, fill an income tax form, or consult a map. Intuition is at work when we read the sentence 'Bill Clinton is a shy man' as mildly amusing, or when we find ourselves reluctant to eat a piece of what we know to be chocolate that has been formed in the shape of a cockroach.²¹⁵

In the context of the graphic images on cigarette labels, the difference between System I and System II in work amounts to the difference between consumers quickly, automatically, and effortlessly glancing at the images in disgust and consumers taking the time and effort needed to deliberately think: "Wow, this can really happen to me if I continue to smoke!"²¹⁶

This Article suggests using the two modes of thinking as a way to determine whether the graphic images are considered information or speech.²¹⁷ Graphic images should be considered information if they ini-

²¹⁴ See Daniel Kahneman, *Maps of Bounded Rationality: Psychology for Behavioral Economics*, 93 AM. ECON. REV. 1449, 1450 (2003); see also Keith Stanovich & Richard West, *Individual Differences in Reasoning: Implications for the Rationality Debate?*, 23 BEHAV. & BRAIN SCI. 658 (2000) (proposing the neutral labels of System I and System II).

²¹⁵ See Daniel Kahneman, *supra* note 214, at 1450 (citing Paul Rozin & Carol Nemeroff, *Sympathetic Magical Thinking: The Contagion and Similarity "Heuristics,"* in HEURISTICS AND BIASES: THE PSYCHOLOGY OF INTUITIVE THOUGHT 201–16 (Thomas Gilovich et al. eds., 2002)).

²¹⁶ See Kahneman, *supra* note 214, at 1453.

²¹⁷ See, e.g., *id.* at 1451–52 ("The perceptual system and the intuitive operations of System I generate *impressions* of the attributes of objects of perception and thought. These impressions are not voluntary and need not be verbally explicit. In contrast, *judgments* are always explicit and intentional, whether or not they are overtly expressed. Thus, System II is involved in all judgments, whether they originate in impressions or in deliberate reasoning. The label 'intuitive' is applied to judgments that directly reflect impressions.").

tiate System II, i.e., result in consumers reasoning through the information presented.²¹⁸ Otherwise, graphic images should be considered speech if System I is in play, i.e., they result in an intuitive response where they do not reason through the information. Using the System I versus System II structure in this determination is supported by the definition of information. One definition of information applicable here is “facts learned about something or someone,” where “learn” is defined as “commit to memory.”²¹⁹ The requirement to “commit to memory” in the definition of learning is exactly the “slower, serial, effortful, and deliberately controlled” operations of System II.²²⁰ Without this deliberation, our minds will make intuitive judgments about the images unrelated to the information the images attempt to help communicate.²²¹

Most thoughts and actions are governed by the intuitive System I.²²² It takes an external stimulus, such as a logical connection between an image and the textual statement to activate System II. Without such a connection to stimulate System II, the intuitive System I will be at work to associate the images with ideas not related to the information presented in the textual statements. It is the author’s opinion that only two of the images in Figure 4 activate System II. First, there is an obvious connection between the addictive nature of nicotine and the man with smoke flowing out of his trachea. That image should activate a consumer’s System II for a number of reasons. Many people may have to look closely at the image to see what is actually happening, as many people have not likely ever seen a smoker exhaling tobacco smoke out of a hole in his trachea. Moreover, many consumers may not realize the

²¹⁸ See, e.g., Marianne Bertrand et. al., *What is Advertising Worth?*, 125 Q.J. ECON. 263, 268 (2010) (“The System II content does not have jointly significant effects on [action]. The System I content does have jointly significant effects on [action]. Hence, in our context at least, advertising content appears to be more effective when it aims to trigger an intuitive rather than a deliberative response. However, because the classification of some of our treatments into System I or System II is open to debate, we view this evidence as more suggestive than definitive.”).

²¹⁹ These definitions are part of Google, Inc. dictionary, available at www.google.com.

²²⁰ See Kahneman, *supra* note 214, at 1451.

²²¹ See *id.*, at 1450.

²²² See, e.g., TIMOTHY WILSON, *STRANGERS TO OURSELVES: DISCOVERING THE ADAPTIVE UNCONSCIOUS* (2002); Daniel T. Gilbert, *Thinking Lightly About Others: Automatic Components of the Social Inference Process*, in UNINTENDED THOUGHT 189–211 (James S. Uleman & John A. Bargh eds., 1989); Seymour Epstein, *Cognitive-Experiential Self-Theory of Personality*, in HANDBOOK OF PSYCHOLOGY, VOLUME 5 PERSONALITY AND SOCIAL PSYCHOLOGY 159–84 (Theodore Millon & Melvin J. Lerner eds., 1st ed. 2003). We do, however, self-monitor the quality of our intuition. See generally Daniel Kahneman and Shane Frederick, *Representativeness Revisited: Attribute Substitution in Intuitive Judgment*, in HEURISTICS AND BIASES: THE PSYCHOLOGY OF INTUITIVE JUDGMENT (Thomas Gilovich et al. eds., 2002). Nonetheless, such self-monitoring is not likely here because many intuitive judgments are made, including some that are erroneous, because we are “content to trust a plausible judgment that quickly comes to mind.” Kahneman, *supra* note 214, at 1450.

lengths people with extreme addiction will go to smoke. For these two reasons, many people's System II will reason through the image as if it were textual information, and therefore it should be considered a form of information.

The second image that likely activates System II is the comparison of a healthy lung and a diseased lung. While the connection between fatal lung disease and the picture of the discolored, diseased lung is not totally clear (it is possible for a non-smoker to have lung disease), it is understandable enough to serve as a stimulus and provoke a consumer to connect the differences between the lungs in the image to the text. That image will likely activate most consumer's System II because some consumers may not realize what stained and diseased lungs look like in comparison to healthy lungs. The image requires a consumer's deliberation to compare and reason through the differences between the healthy lung and the diseased lung presented. It is this effort that activates System II.

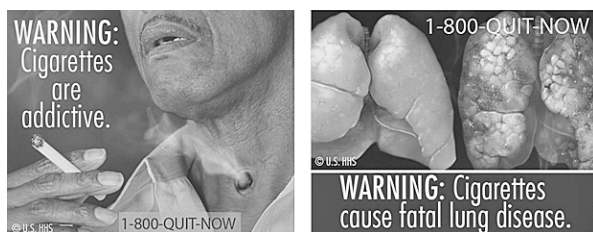


FIGURE 4: IMAGES THAT ACTIVATE SYSTEM II

In both of the images in Figure 4, the connection between the image and the text seems to be great enough to activate the reasoning of System II. Therefore, this Article argues that these images should be considered a form of information. Other arguments can be made why these images should be considered information. One philosophical argument as to why the images should be considered a form of information is that the pictures are simply the same thing as a thousand words. The image of the man with smoke flowing out of his trachea informs consumers about addictiveness in a way similar to reading an essay about how nicotine can be addictive. Therefore, because an essay cannot be printed on cigarette labels (and consumers would not read it anyway),²²³ the images are a substitute for the essay. Moreover, even though most people would think that the *images* are disgusting,²²⁴ this is not to say that the images say that *smoking* is disgusting. Arguably, the images simply point out

²²³ See Final Rule, *supra* note 3, at 36,642.

²²⁴ However, the actual underlying message that the graphic images will convey will vary by consumer. As the dissent in *Discount Tobacco & Lottery* points out, "the underlying message that they convey will vary with the interpretation and context of its viewer. The color graphics can be seen one way by some smokers, yet another by other smokers—one way by

the disgusting consequences of smoking. This is one of many arguments in favor of considering these images to be ideologically neutral information. However, this argument, as well as many others, is not as tractable as the System I versus System II test. One reason for this is that this same argument can be applied to all the images, which is not the case with the System I versus System II test. For example, it is possible that one day we will be able to reliably use brain scans to determine whether a particular image activates the part of the brain in which System II operates.²²⁵ Further, we can survey consumers and study what thoughts the images create.²²⁶ While we cannot precisely determine whether these two images activate System II from a simple examination of its definition, it does provide us with an objective starting point. This objective starting point leads to the conclusion that the remaining seven images are beyond ideology-neutral information.

It is this author's opinion that the image-text connection with the seven other images is far too faint to activate System II. The images attempt to evoke emotion generally, which will not activate System II's reasoning. The reason for this is simple: the images present nothing for consumers to reason over. People know what dead is—they do not need a stitched-up corpse to tell them. There is no direct connection between the stitched-up corpse and smoking—why would someone who died from smoking be cut open like that? The images present nothing to overcome the fast, automatic, effortless operations of System I. Television and the news provide us with so many disturbing images on a daily basis that we habitually ignore them.²²⁷ The graphic images present on cigarette packs do nothing to overcome the intuitive System I governed by habit. Considering that most thoughts and actions are governed by the intuitive System I, an example of a typical, intuitive reason for the lack of connection needed to active System II is presented in the remaining seven images.

Like persuasive advertisements, the images were “intended to create a visceral reaction in the consumer, in order to make a consumer less emotionally likely to use or purchase a tobacco product.”²²⁸ In doing so, the images attempt to manipulate consumers' emotions to prevent rational decision-making. This is exactly what System I deals with. Only

some non-smokers and yet an entirely different interpretation by other non-smokers.” 674 F.3d 509, 550 (6th Cir. 2012) (Clay, J., dissenting).

²²⁵ See, e.g., Kahneman, *supra* note 214, at 1450.

²²⁶ See, e.g., Bertrand et al., *supra* note 218, at 263.

²²⁷ See, e.g., Sigrun Landro Thomassen, *Disturbing Images on the News*, KIDSANDMEDIA.CO.UK (Oct. 24, 2011), <http://www.kidsandmedia.co.uk/disturbing-images-on-the-news/>.

²²⁸ *Discount Tobacco & Lottery*, 674 F.3d at 528, (drawing conclusions from Ellen Peters et al., *The impact and acceptability of Canadian-style cigarette warning labels among U.S. smokers and nonsmokers*, 9 NICOTINE & TOBACCO RESEARCH 4, 474 (2007)).

two of the images have a connection that goes beyond the intuitive response of System I to activate System II. Thus, regardless of whether emotion leads to consumers processing, comprehending, and remembering the information better,²²⁹ the images were not designed simply for their salience effect. Rather, by including the images, the government aims to get consumers to take its view that smoking is unjustifiable. First Amendment Doctrine allows courts to draw a “commonsense” distinction between prescribing speech that is ideological in nature and prescribing “what shall be orthodox in commercial advertising.”²³⁰ If the images were included only for their salience effect, images would have been selected that establish a clear connection to the text and require activation of System II’s reasoning. However, these images were selected for an entirely different purpose. Therefore, all but two should be considered a form of speech. Thus, taking the nine images as a package, the images should be unconstitutional under *Wooley*.

Behavioral economics has reshaped the way tobacco companies promote cigarettes, how tobacco companies target consumers, and how some governments require companies to disclose product risks.²³¹ Governmental use of more salient information is on the rise around the world. Graphic images are now placed on cigarette labels in over thirty countries.²³² Australia has recently taken Daniel Kahneman’s findings one step further in a measure to nullify tobacco companies’ rights to use brand-promoting advertisements on cigarette labels.²³³ New York City recently expanded its consumer protection laws by requiring calorie labeling on food packaging and menus.²³⁴ It seems that Congress, like the thirty countries adopting graphic image requirements on cigarette packaging, does not trust the marketplace to work out the truths about tobacco on its own. How other countries deal with commercial advertising, however, is not necessarily how America should deal with tobacco advertising. Whether we notice or not, behavioral economics has reshaped commercial advertising. What we may one day find out is whether be-

²²⁹ See Final Rule, *supra* note 3, at 36,642.

²³⁰ See *Zauderer v. Office of Disciplinary Counsel of Superior Court of Ohio*, 471 U.S. 626, 651 (1985) (ideological speech is speech that “prescribe[s] what shall be orthodox in politics, nationalism, religion, or other matters of opinion or force citizens to confess by word or act their faith therein”).

²³¹ See, e.g., Ariely, *supra* note 23, at 48.

²³² See Final Rule, *supra* note 3, at 36,633.

²³³ On December 1, 2012, Australia became the first country to ban tobacco logos from cigarette packs altogether. Thus, uniform font will now be the only identifying material on cigarette packs. See *Australia Is First Country to Require Plain, Logo-Free Cigarette Packaging; Ruling Could Give Boost to Other Countries Interested in Doing Same*, ADAGE.COM (Aug. 15, 2012), <http://adage.com/article/global-news/australia-rules-plain-logo-free-cigarette-packaging/236696>.

²³⁴ See New York City Health Code § 81.50. (2006).

havioral economics will reshape the compelled commercial speech doctrine.

CONCLUSION

This Article has illustrated how displaying information in more salient forms can transform otherwise ideologically-neutral information into compelled ideology, and provides an analytical framework for assessing the legal ramifications of this process. To determine whether this transformation has occurred, this Article suggests using behavioral economics research that models the inner-workings of our minds when we are presented with these images. Specifically, this Article suggests that graphic images are informational in nature if they result in consumer's reasoning through the information presented; otherwise, they should be considered a form of speech. By solving a game-theoretical model of the compelled commercial speech doctrine, this Article argues that the graphic image requirements should have been held unconstitutional under *Wooley* because all but two images should be considered a form of speech. The reason is simple: the images add no additional information for consumers to reason over. For example, there is no direct connection between a stitched up corpse and smoking. People know what dead is and they do not need an image of a corpse in order to understand. The images act as persuasive advertisements and are not included simply for their salient effect. Rather, the images manipulate consumers' emotions to prevent rational decision-making. By requiring placement of the graphic images on tobacco labels, the government forces tobacco companies to adopt the government's ideology and compels society to take the government's view that smoking is unjustifiable.

