

ERASING INTELLECTUAL PROPERTY

“PLAIN PACKAGING” FOR CONSUMER PRODUCTS AND THE IMPLICATIONS FOR TRADEMARK RIGHTS

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Washington, D.C.

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INTRODUCTION

The debate about the plain packaging of tobacco products is not a new one. Its origins can be traced to a September 1989 report to the New Zealand Minister of Health from the Toxic Substances Board, which recommended that all tobacco products be sold in packages that were “plain, that is a white package with black printing, no other colors being permitted either in printing or on the packet itself. No logo or logotype permitted in any form.” According to the report, “Plain packets may have their most important effect in decreasing the attractiveness of tobacco products to young people.” This is because the design of tobacco packages is “meant to enhance sales.” Plain packaging will therefore “reduce the promotional function of packaging” which “would presumably mean that fewer young experimental smokers would progress to become regular daily smokers. More teenage regular smokers might reasonably be expected to quit before becoming seriously addicted.”

Soon after the Toxic Substances Board recommendation, Carr-Gregg and Gray in an article in the *Medical Journal of Australia* argued that plain packaging would reduce the effects of “piggy-back” advertising, “parallel marketing,” and the use of tobacco products in movies. This article was followed by a 1991 piece in the *New Zealand Family Physician* in which Beede and Lawson argued that “cigarette packaging functions in the same promotional role as advertising messages.”

While the argument for plain packaged cigarettes developed in the anti-tobacco community, it was not until 1994 that plain

packaging reached the larger public policy arena when Canada became the first government to give serious consideration to introducing legislation requiring tobacco products to be sold in plain packaging. In the spring of 1994 the Canadian House of Commons Standing Committee on Health held public hearings about plain packaging and issued a recommendation that the “federal government establish the legislative framework required to proceed with plain or generic packaging of tobacco products,” with legislation to be introduced if the results of a Health Canada (the Canadian government department of health) study on tobacco packaging “support[ed] the available evidence that such packaging will reduce consumption.” The Health Canada study, *When Packages Can't Speak: Possible Impacts of Plain and Generic Packaging of Tobacco Products*, appeared in 1995. Despite the qualification of its title, it concluded that there was “some evidence to support the hypothesis that plain and generic packaging made cigarettes less “attractive and appealing” and thus such packaging “would be important, would have perceived utility for encouraging teen and adult smokers to stop smoking, and for discouraging non-smoking teens from starting to smoke.”

Despite this recommendation, Canada did not proceed with plain packaging. A cabinet shuffle brought in a new health minister who appeared to give substantially more weight to the worries that plain packaging would violate Canada’s international trade obligations with respect to intellectual property and freedom of trade than did his predecessor. While plain packaging remained on the tobacco control agenda, there was virtually no serious research on it from 1995 until three years ago when the UK government, as part of its 2008 *Consultation on the Future of Tobacco Control*, solicited “views from stakeholders and members of the public on the potential for plain packaging of tobacco products ... to reduce uptake of smoking, particularly among children and young people.” Indeed, since 2008 there have been at least 20 studies on plain packaging.

Despite the fact that the government did not proceed with plain packaging following the consultation, during the parliamentary debate over the Health Bill banning tobacco displays in 2009, an amendment was proposed to include plain packaging in the legislation. In response to the proposal, Gillian Merron, Minister of State for Public Health noted that the government had chosen not to proceed because of the lack of convincing evidence. She said:

No studies have been undertaken to show that plain packaging of tobacco would cut smoking uptake among young people or enable those who want to quit to do so. Given the impact that plain packaging would have on intellectual property rights, we would undoubtedly need strong and convincing evidence of the benefits to health as well as its workability, before this could be promoted and accepted at an international level – especially as no country in the world has introduced plain packaging.¹

This position was reiterated in the government’s 2010 new tobacco control strategy, *A Smokefree Future: A Comprehensive Tobacco Control Strategy for England*, which noted that the “Government believes that the evidence base regarding ‘plain packaging’ needs to be carefully examined. Therefore, the Government will encourage research to further our understanding of the links between packaging and consumption, especially by young people.”

The UK government’s belief that there was a need for further research to clarify the plain packaging issue has not been shared by the Australian government which in April 2010 announced that it planned to proceed with plain packaging beginning on July 1, 2012, and in April 2011 advanced a formal proposal for public comment. Australian Health Minister Nicola Roxon said that, “Information from tobacco companies themselves that they use their packaging as a way to market their products that kill people convinces us that this is the next step that should be taken.” Roxon noted that the government is acting on advice from the World Health Organization (WHO) that plain packaging should be adopted as a way to reduce smoking.²

The advocates of plain packaging argue that current tobacco packages encourage smoking in four ways. First, they act as advertisements for smoking which lead to smoking initiation by the young. Second, they act as stimulates or reminders to smoke to existing smokers who are trying to quit or to former smokers who have recently quit smoking. Third, they reduce the effectiveness of the health warnings on tobacco products, even graphic warnings. Fourth, their colors mislead smokers about the risks of smoking through suggesting that some cigarettes are safer than others.

Critics of plain packaging counter that taken in its entirety the evidence about tobacco advertising does not demonstrate that it

promotes smoking initiation or increases consumption; there is no compelling evidence that shows that tobacco packaging encourages smoking uptake by young people or inhibits quitting; and there is no evidence that tobacco packages inhibit the effectiveness of health warnings and smokers are well-informed about the risks of smoking. Critics also note that because such packaging forbids trademark use, it violates a variety of international intellectual property rights treaties.

This Monograph focuses on this last point – whether plain packaging runs afoul of intellectual property rights as outlined in various international agreements. Such rights have clearly played a role in Canada’s decision not to proceed with plain packaging in the 1990s, and also in Gillian Merron’s statement in 2009 of UK government policy with respect to plain packaging and intellectual property rights that “given the impact that plain packaging would have on intellectual property rights, we would undoubtedly need strong and convincing evidence of the benefits to health as well as its workability, before this could be promoted and accepted at an international level.” Indeed, Ms. Merron’s statement reflected not only the policy position of the UK government, but also the way in which plain packaging will necessarily be evaluated within the context of intellectual property rights. This is the case because, as we shall see, encroachments upon or indeed abrogation of such rights can only be justified on the basis of the most compelling evidence.

This is why the three key aspects of the plain packaging debate – whether tobacco packaging creates a harm through promoting smoking and/or discouraging cessation; whether plain packaging is an effective remedy for such harms; and whether plain packaging is a violation of intellectual property rights – are inseparable. The questions of the nature of the empirical evidence about traditional tobacco packaging and about plain packaging are not peripheral, but central to whether plain packaging warrants an exception to the protections offered by intellectual property law. If it cannot be shown that tobacco packaging is a genuine harm and that plain packaging is an effective remedy for that harm, then plain packaging fails as a justifiable exception to the protections afforded intellectual property.

Our position on trademark rights is independent of our position about any particular product. Indeed, tobacco is simply the first of other products characterized by the public health community as allegedly uniquely dangerous to human health which will have

their trademark rights challenged. Tobacco, whatever the claims of the advocates of plain packaging, will not be unique. We believe that the current international intellectual property regime does not allow for properly registered trademarks of long use to be suppressed except where it can be shown by the most exacting standards of scientific evidence that 1) the use of the *trademark*, as opposed to the *product itself*, presents a substantial and irremediable danger to public health and 2) there is *compelling* scientific evidence that the restriction of the trademark is not just the only way of dealing with the danger to public health, but will in fact work.

An effective legal and scientific refutation of plain packaging for tobacco products is critical in the broader context of other consumer goods with health implications. Governments, international organizations, and health activists feel they have an “easy mark” in tobacco products and, as they have done outside the realm of packaging, once they establish a precedent, policy efforts can then expand to other “disfavored” products and industries. Last March, the World Health Organization’s World Health Assembly approved a “Strategy to Reduce the Harmful Use of Alcohol”³ which includes a focus on marketing. Activists view packaging as just another form of marketing or a way to circumvent advertising restrictions for tobacco, so it would be a very small step for WHO to go from targeting alcohol ads to seeking plain or nearly plain packaging for alcohol products. Alcohol companies have already had to oppose such a move in Thailand, whose government had proposed shocking warnings on beer and liquor products taking up 20% of the label.⁴ It would also not be a large step down the slippery slope of plain packaging for those dedicated to reducing the world’s collective waistline to target foods and non-alcoholic beverages.

The plan of this Monograph is as follows. In the first section, we look at the key international treaties on intellectual property rights and the rights these treaties provide to the owners of tobacco trademarks. In section two, we examine two of the arguments advanced against the intellectual property rights of the owners of tobacco trademarks, first that trademark registration and ownership may be denied or restricted based on the nature of the trademarked product, and second that even if trademark registration cannot be denied or restricted, such registration does not entail the right to use a trademark, which may be restricted or prohibited. In section three, we turn to the issue of what constitutes a justified restriction on

trademark use and, in the final section, whether the empirical evidence about plain packaging meets that standard.

I.

THE INTELLECTUAL PROPERTY ARGUMENT

In this section, we examine the relevant international trade agreements which deal with intellectual property rights and the impact various provisions of these agreements have on the question of plain packaging. We turn first to the Paris Convention of 1883, the first treaty dealing with intellectual property rights, including trademarks. Next we examine the successor treaty, Trade Related Aspects of Intellectual Property Rights (TRIPS) found within the wider Agreement Establishing the World Trade Organization (WTO). Finally, we look at an example of the intellectual property rights established in a regional trade treaty, the North American Free trade Agreement (NAFTA). In each instance we argue that plain packaging runs afoul of key principles and provisions of the relevant treaty.

A. The Paris Convention

The Convention provides considerable rights to the owners of various types of intellectual property. It notes in Article 1(3) that industrial property, for example, is to be “understood in the broadest sense” and will include “all manufactured or natural products, for example, wines, grain, tobacco leaf, fruit, cattle, minerals, mineral waters, beer, flowers and flour.” Signatories are enjoined to recognize and protect intellectual property, including trademarks, except for three carefully defined exceptions.

Three Articles of the Convention are relevant to the question of plain packaging. First, Article 7 establishes a foundational principle for intellectual property rights by providing for product neutrality in terms of intellectual property protections inasmuch as “The nature of the goods on which the trademark is to be used can, in no case, form an obstacle to the registration of the mark.” The Convention then does

not establish criteria by which to judge such things as the character of the product to which a trademark is attached. (Though this has been interpreted by the signatories to mean legal products.) This contradicts the position of some advocates of plain packaging who argue that the nature of tobacco means that tobacco products are inherently debarred from trademark registration, standing, and protection. While this position may certainly be advanced, it cannot be advanced on the basis of the Paris Convention. Inasmuch as plain packaging establishes a tiered intellectual property system in which certain products such as tobacco are denied property rights while the same rights are provided to all other products, such plain packaging regimes clearly violate the product neutrality provisions of the Convention.

Second, Article 6 sets out three exceptions to the rights of properly registered trademarks. One exception notes that a trademark is not to be protected if the mark is contrary to “morality or public order” or “of such a nature as to deceive the public.” Although neither of these exceptions is relevant to tobacco trademarks, the Convention provides no specific ground for treating tobacco trademarks differently.

Additionally, Article 6 also allows a country to request another country to refuse to register, cancel registration, or prohibit the use of a trademark where the trademark “constitutes a reproduction, imitation, or a translation, liable to create confusion.” This provision also addresses the question of plain packaging inasmuch as the stated purpose of such packaging is to render all tobacco products similar through suppression of their distinctive trademark identities. But identical packages give rise to the very problem outlined in Article 6, namely they are “liable to create confusion” in the marketplace – thus defeating a central purpose of trademarks. As the International Trademark Association noted in its response to the 2008 UK Department of Health’s consultation on the future of tobacco control (September 8, 2008): “While plain packaging legislation would arguably still allow the use of word marks on packages, it would nevertheless prevent right holders from using any of their many other registered trademarks as well as other design elements, which in turn could cause consumer confusion. This is all the more the case as the word mark can only be used in a standardized typeface, size and color.”

Third, further protection against marketplace confusion stemming from trademarks is provided in Article 10, which requires members to prevent unfair competition against other member state nationals, as well as prohibiting “all acts of such a nature as to create confusion by any means whatever with the establishment, the goods, or in the industrial or commercial activities, or a competitor.” As noted above, such confusion is certainly a reasonable consequence of plain packaging, as is unfair competition, particularly to long-established trademarks caused by such confusion. Consequently, plain packaging might well be a violation of Article 10.

B. The WTO & Intellectual Property Rights

The basic legal framework for international trade relations, including intellectual property, is currently found in the WTO and in various annexes to the Agreement. With respect to intellectual property rights, the most important of these are Trade Related Aspects of Intellectual Property Rights (TRIPS), the General Agreement on Trade and Tariffs (GATT), the Technical Barriers to Trade Agreement (TBT), and the General Agreement on Trade in Services (GATS). While the Paris Convention was ratified by virtually all countries and expanded and revised several times, it did not incorporate TRIPS (in Article 2) into the trademark rights of the Paris Convention while addressing the issues of enforcement and dispute settlement.

The basic purpose of TRIPS is contained in the preamble which notes that there is a “need to promote effective and adequate protection of intellectual property rights, and to ensure that measures and procedures to enforce intellectual property rights do not themselves become barriers to legitimate trade.” The preamble speaks also of the “need for new rules and disciplines concerning...the provision of adequate standards and principles concerning the availability, scope and use of trade-related intellectual property rights,” as well as recognizing that “intellectual property rights are private rights.”

A further elaboration of the purpose of intellectual property rights is found in Article 7 Objectives, as well as Article 8 Principles, which set out the reasons why such rights are so important. Article 8 states that “The protection and enforcement of intellectual property rights

should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations.” This principle of balance between the rights and obligations of intellectual property rights owners is also found in Article 8 which allows that “appropriate measures, provided that they are consistent with the provisions of this Agreement, may be needed to prevent the abuse of intellectual property rights by right holders.”

Four articles of TRIPS are relevant to the plain packaging question. First, Article 15 incorporates Article 7 of the Paris Convention and with it the foundational principle of intellectual property rights – product neutrality. Registration is not subject to any test respecting the nature of the good. The fact that tobacco trademarks are tobacco trademarks does not constitute a legitimate reason for not registering them.

Second, Article 17 addresses the exceptions to intellectual property rights. It states that “Members may provide limited exceptions to the rights conferred by a trademark, such as the fair use of descriptive terms, provided that such exceptions take account of the legitimate interests of the owner of the trademark and of third parties.” This provision suggests several impediments to plain packaging. For one thing, the exception is specifically described as “limited.” Given that plain packaging represents a total prohibition on the trademark owner’s right of use, if not registration, it could not be considered “limited.”

Also, exceptions must take “account of the legitimate interests of the trademark owner,” one of whose interests would obviously be the use of his trademark. As a recent WTO dispute panel observed “Every trademark owner has a legitimate interest in preserving the distinctiveness, or capacity to distinguish, of its trademark so that it can perform its function. This includes its interest in using its own trademark in connection with the relevant goods and services of its own and authorized undertakings.”⁵ Plain packaging would appear to infringe both of these legitimate interests which the trademark owner noted in the dispute panel decision, first through undermining the trademark’s capacity to distinguish, and second through eliminating its right to be used. Indeed, it would be fair to say that plain

packaging, far from taking account of the legitimate interests of the trademark owner, is specifically designed to suppress those interests.

Third, Article 20 outlines the standard for regulating the use of a trademark. “Special requirements” for the use of the trademark must be “justifiable.” The Article notes that “The use of a trademark in the course of trade shall not be unjustifiably encumbered by special requirements, such as the use with another trademark, use in a special form or use in a manner detrimental to its capability to distinguish the goods or services of one undertaking from those of other undertakings.” TRIPS fails to define what constitutes unjustifiable, nor does it reflect a negotiating history that illuminates its meaning; one must look to the examples provided in the Article itself.

Two of the examples of unjustifiable encumbrance are clearly relevant to plain packaging. First, such packaging requires the trademark to appear in a special form prescribed by the state, not in the form designed by the trademark owner. Second, such packaging compromises the distinctiveness of trademarks by requiring that all trademarks look alike thus interfering with the trademarks’ ability to “distinguish the goods and services of one undertaking from those of other undertakings.” As Katz and Dearden observe: “A plain packaging measure encumbers the use of a trademark in the course of trade by special requirements. A plain packaging measure violates Article 20’s obligation by prohibiting the use of all or part of a trademark (for example, designs, logos, or crests) or by imposing restrictions on the use of the trademark such as by prescribing the color of the package, or the size of the trademark, or the location of the trademark on the package. Such special requirements are clearly detrimental to the trademark’s capability to distinguish the goods.”⁶

N. Pires de Carvalho, in commenting on the meaning of the examples adduced as unjustifiable encumbrances, makes a similar point: “Loss of distinctiveness is, therefore, the common denominator of the three examples and which causes the need for scrutinizing the justifiability of special requirements. This means that the justification found by a government for imposing encumbrances on the use of a certain mark will be assessed vis-à-vis the loss of distinctiveness.”⁷

Plain packaging arguably runs afoul of Article 20 in a third and even more fundamental sense – it encumbers tobacco trademarks not only with unjustified special requirements but effectively suppresses

the use of such trademarks entirely. This, it might be argued, is the ultimate encumbrance and one clearly not admitted under Article 20.

The fourth article of TRIPS relevant to the issue of plain packaging, and by far the most contentious one, is Article 8, the so-called public health exemption. According to Article 8, “Members may, in formulating or amending their laws and regulations, adopt measures necessary to protect public health and nutrition, and to promote the public interest in sectors of vital importance to their socioeconomic and technological development, provided that such measures are consistent with the provisions of this Agreement.” It is often argued that this Article provides a justification for plain packaging within the scope of the TRIPS intellectual property structure. We shall examine those claims at length in section three. For now it is enough to note that if Article 8 does provide an exception to intellectual property rights through permitting public health measures such as plain packaging, it does so only in carefully prescribed ways – ways which many public health measures may be unable to satisfy.

First, Article 8 requires that public health measures must be *necessary* to protect public health. At minimum, this requires a careful and compelling demonstration of a connection between the proposed measure – in this instance plain packaging – and protection of public health. The proposed limitation on intellectual property must be shown to result in a public health gain – not theoretically but actually. As we shall see it is not at all clear that the evidence about plain packaging demonstrates such a connection.

But, beyond necessity, Article 8 also requires that public health measures be “consistent” with the provisions of TRIPS. This would mean at least three things. First, public health measures would need to be consistent with the protections of intellectual property established in Articles 15, 17, and 20; otherwise they would establish a fundamental incoherence within the structure of the Agreement in which central provisions were obviated. As we have noted above, it is not at all clear that plain packaging meets this requirement.

Second, public health measures would need to be consistent with the principles and objectives set out in Article 7 which notes that the Agreement is designed to establish a balance of “rights and obligations.” Article 17 also speaks of the legitimate interest of

trademark owners. It is difficult to see how a public health measure such as plain packaging, which seeks to eliminate the rights of an entire group of trademark owners, is consistent with such a balance. Indeed, it by definition erases such a balance.

Third, public health measures would need to be the *least restrictive* to the intellectual property rights established in TRIPS. Plain packaging as a measure designed to eliminate the right of use of an entire class of trademarks certainly appears not to be the least restrictive regulation with respect to TRIPS property rights.

C. NAFTA

The North American Free Trade Agreement between Canada, Mexico, and the United States is designed to promote trade in both goods and services between the member states. Its intellectual property provisions provide an example of regional trade-related intellectual property frameworks and how these relate to plain packaging.

The agreement recognizes the importance of establishing and protecting intellectual property rights as an important part of trade promotion. (*See* Preamble and Articles 102 and 1701 and 1721) At a minimum this requires the NAFTA parties to provide for the intellectual property rights outlined in both Article 1701 and in the Paris Convention. Several of these rights are relevant to plain packaging.

First, as with the Paris Convention and TRIPS, the nature of the product or service cannot be deemed to prevent trademark registration. (Article 1708)

Second, as with TRIPS Article 20, the NAFTA intellectual property provisions prohibit trademark encumbrances through special requirements. (Article 1708)

Third, as with TRIPS, NAFTA provides for a range of limited exceptions to the rights of trademark owners as long as these recognize and take into account the legitimate interests of the owner. The exceptions are carefully delineated, and they provide the basis for any interpretation of what constitutes a permissible exception. For instance, the major exception is fair use of descriptive terms which

cannot be appropriated exclusively in a trademark. This interpretative framework thus provides a significant obstacle to plain packaging inasmuch as for a regulatory measure to be deemed to be a justifiable limited exception it would have to accord with the instances outlined in the agreement. Plain packaging fails to meet this burden – it is not a limited exception such as the fair use provision. Moreover, even if plain packaging were to meet the criteria of limited exception it would still fail the requirement, as we have argued above, of taking into account the legitimate interests of the trademark owner.

Fourth, NAFTA contains certain exceptions to the trade rights it sets out, and one of these is allowing for measures to protect public health. However, the “health exemption” does not apply to the agreement’s intellectual property rights. As Katz and Dearden observe: “these general exceptions do not apply to the intellectual property rights and obligations set out in Part Six Chapter 17 of NAFTA. Article 2101 (general exceptions) is very specific as to what parts of chapters it applies, namely Part Two (Trade in Goods), Part Three (Technical Barriers to Trade), Chapter 12 (Cross Border Trade in Services) and Chapter 13 (Telecommunications). The general exceptions do not make any reference to Part Six Chapter 17 which contains the intellectual property provisions of NAFTA.”⁸ The NAFTA health exemption does not provide a basis for plain packaging to override the intellectual property rights of trademark owners.

Consistent throughout the three intellectual property agreements discussed above are not only a series of objectives and principles, but also specific provisions which constitute a prima facie case against plain packaging being compatible with intellectual property law. These include product neutrality; preservation of the distinctiveness of a trademark in distinguishing goods; the requirement that special requirements relating to trademarks be justifiable; the requirement that public health measures be rigorously demonstrated to be necessary; and the emphasis on the legitimate interests of trademark owners and securing a balance of rights and obligations.

II.

THE PROPERTY RIGHTS COUNTERARGUMENT

In the previous section we examined the rights provided to trademark holders by various international intellectual property agreements. We found that these provided at least a prima facie defense against plain packaging requirements for tobacco products. There are many in the tobacco control community, as well as in the wider community of critics of international trade agreements, who would argue that such a claim about the intellectual property rights of tobacco trademark owners is overly legalistic, devoid of context, and strikingly superficial. By placing intellectual property rights in an appropriate context, and explicating limitations on such rights, plain packaging, these advocates would argue, can be seen to be an entirely justified limitation on tobacco trademarks.

This section examines two arguments plain packaging proponents advance against intellectual property rights for tobacco trademarks: the “nature of the product” argument and the “right of use” argument. We conclude that neither of these arguments successfully defends plain packaging.

A. The Nature of the Product Argument

Despite the clear provisions of the relevant intellectual property agreements that the nature or character of a product cannot form the basis for denying trademark protection, the champions of plain packaging, and the critics of intellectual property rights more generally, have asserted that in the case of tobacco, if not with respect to some other products, these provisions should not be upheld.

For instance, Ira Shapiro, writing about why the nature of cigarettes should exempt them from normal trade protections, observes that: “Smoking is the leading preventable cause of death and disease in the world. About half of all long-term smokers die of diseases caused by their addictive habit. The very fact that tobacco products are so lethal, set them apart from other products in commerce, and requires that they be treated as an exception to ordinary trade rules.”⁹ It is precisely because tobacco is so uniquely

lethal, argues Shapiro, that “governments should be given broad latitude to enact the tobacco control measures they deem appropriate.”

Shapiro argues there are precedents for such product specific treatments. He notes that:

Trade in weapons has been excluded from GATT and WTO rules since the trading system came into effect. Narcotics and psychotropic substances are subject to extremely strict and elaborate international controls and bilateral agreements ... In the environmental arena, more than 20 treaties contain trade-related provisions. International treaties establish rules for special treatment of ozone-depleting chemicals, persistent organic pollutants ... hazardous waste, and endangered species. In all these areas, nations have recognized that particular products pose a special problem warranting carefully tailored treatment rather than arbitrary application of the usual trade rules.

Indeed, Shapiro argues that the character of the product should even trump the public health exemption found in agreements such as GATT (Article 20). This is because “the notion of balancing trade and public health factors, or limiting the exceptions to open trade, should have no resonance where the product is lethal.” Shapiro also asserts that the rigorous evidence demanded for exercising the health exemption should not apply to tobacco given that the tobacco industry has “long supported biased research to exploit any degree of real or perceived uncertainty about the nature and magnitude of risk posed by active smoking, passive smoking, tobacco advertising, addiction, additives and other issues.” This essentially guts the requirement that health exemptions be rigorously demonstrated with scientific evidence and eliminates all trademark rights defenses.

Donald Zeigler echoes Shapiro’s perspective, noting that the harms to health associated with alcohol and tobacco and the right to health mean that health must take “ascendancy over trade.”¹⁰ He notes that, “Medical and other non-governmental organizations need to advocate for health impact assessments of trade and trade impact assessments of health regulations in advance of their nations’ concluding treaties ... Ultimately we need to exclude alcohol and tobacco from trade agreements.”

Shaffer et al. echo Zeigler and Shapiro in their argument that because of the scope of tobacco-related harms, tobacco must be exempted from trade agreements and protections.¹¹ They argue that “in areas where there are conflicts, the human right to health needs to be promoted and protected, even at the cost of the commercial rights of access to markets.” Trade agreements and rights, according to the authors, “directly threaten states’” abilities to protect the right to health...health should take priority over the right of corporations to compete in markets generally, and particularly in the case of tobacco products and services.”

Shaffer et al.’s position with respect to the absolute priority of certain human rights such as health over trade rights is also found in a report by the International Federation for Human Rights, which urges that the “Universal Declaration of Human Rights...prevails over any trade agreement and that it is incumbent on the WTO as well as on every WTO member to observe the fundamental principles of human rights.”¹²

The same right to health argument is found in Kingston.¹³ According to Kingston, trademark registration is judged against the criteria of the wider public interest, in this case the interest in health. A product such as tobacco, when examined against this criteria, clearly does not merit registration, since “denial of trademark registration to such products would be no more than recognition that they are incapable of contributing to the public good objectives for which registration was devised.” For Kingston,

Any legal privilege can be modified or even eliminated in the wider public interest, so that it is legitimate to speculate about the possibility of withdrawing the privilege of trademark registration from products that do not conform to the objectives for which it was introduced given the amount of specific evidence that tobacco products are harmful to health, then it is evidently not to the public benefit that they can be manufactured in quantity to consistent standards, nor that they can be widely and efficiently distributed – the purposes for which the privilege of trademark registration was introduced ... Trademark owners do not have a right to registration. And since registration is a privilege, it can be withdrawn in any case where the result that it is intended to bring about either has not been achieved or cannot be.

The essential line of argument running throughout these expositions is that underlying the specific language of intellectual property agreements is a broad principle – the public interest or public good principle – which trumps any of the specific provisions of such agreements, and most specifically voids the product neutrality obligation to register the trademark of all legal products. On this account, public health is a superior good which in any instance negates intellectual property rights. But is this really the case? We would suggest that it is not as there are several significant problems with this argument.

First, none of the exponents of this argument to deny trademark registration to certain products such as tobacco provide a principled reason as to why public health is a superior good to intellectual property rights which are non-discriminatory with respect to trademark registration. Indeed, the activists seem to believe that it is sufficient to simply elaborate the harms of tobacco use to establish the priority of public health. But this confuses two quite different things – the harms associated with tobacco use and harms associated with tobacco trademarks – which are far from the same. While it may well be true that there are significant harms associated with tobacco use, it does not follow from this that there are first significant harms associated with the use of tobacco trademarks and in turn that these harms justify denial of trademark registration.

For instance, it may be the case that tobacco use causes the premature death of half of those who use it. This however, does not mean that allowing the registration of tobacco trademarks causes the tobacco use that causes the premature death of half of those who use it. The argument about the superiority of the public health good of preventing tobacco use is simply too general and too broad to apply to trademark registration without careful and detailed reasoning. Indeed, such reasoning would be required whether or not the issue were tobacco trademark registration; otherwise the goods of public health would be accorded an unchallenged priority whenever they collided with any other right. Put more directly, public health is but one of many rights and can only be accorded preeminence in a particular instance on the basis of argument, not mere assertion.

The trademark registration argument at heart thus begs the central question at issue which is not that tobacco use is risky and harmful

but whether the right to trademark registration for tobacco products is itself not only harmful but so harmful as to justify automatic denial.

This conflation is particularly obvious with Shapiro, who claims that, “Because the health consequences of tobacco use are clearly established, governments should be given broad latitude to enact the tobacco control measures they deem appropriate.” Though arguing about trade and tobacco, Shapiro fails to narrow the argument sufficiently to focus on the question at issue which is the right to trademark registration. Instead he assumes, without any evidence that because tobacco is a harm, any measure to control tobacco is a good which outweighs intellectual property rights.

This conflation runs counter to TRIPS Article 8 which provides for public health measures provided that such measures are consistent with the provisions of TRIPS and that they are necessary. As we saw in the first section, however, the public health exception is not the blanket sort argued by those who advocate denying trademark registration based on the nature of a product. It is rather one that must be carefully evidenced in a fashion that establishes not only a trademark caused harm but also a trademark-restricted remedy. The position advanced by those demanding a denial of registration allows for no such process.

The denial of registration based on the nature of the product argument fails to work in the first instance because it does not provide a reasoned account of why the public interest in health necessarily trumps the public interest in intellectual property rights, particularly when some proposed attenuation of intellectual property rights such as denial of registration does not have a compelling connection with the public interest in health.

The more extreme form of the argument, of course, is that intellectual property rights are not really human rights at all – something found in the FIDH position paper. But this position, despite its popularity, is clearly not supportable. Several international declarations and statements – the Declaration of the Berne Union for the Protection of Literary and Artistic Works (1986); the Universal Declaration of Human Rights (1948) Article 17, which recognizes that “everyone has the right to own property alone as well as in association with others” and “no one shall be arbitrarily deprived of his property;” and the United Nations International Covenant on

Economic, Social and Cultural Rights (1966) (Article 15) – all provide for intellectual property rights being construed as human rights.

As Cass observes,

The three different strands of property rights included within the set of basic rights identified by the major international human rights accords consisted of rights to ownership and control of property; rights to the fruits of one's labor; and also the right to enjoyment of the benefits from contributions to scientific and intellectual advancement. This third strand of property rights would seem to be encompassed within the first two... While rights to intellectual property... are implicit in the other property rights recognized as human rights, international charters of human rights such as the Universal Declaration of Human Rights and the International Covenant on Economic, Social and Cultural Rights also expressly grant protection to intellectual property rights.¹⁴

The second problem with the denial of registration argument is that the other instances of trademark restrictions which are cited as supporting a denial of registration to tobacco products are fundamentally different from what is proposed for tobacco trademarks. Shapiro's trade rights-related restrictions are different in two key respects. First, they are not related to intellectual property but are more generally trade-related. Second, and even more crucially, the trade-rights restrictions cited by Shapiro do not alter any right in such a fundamental respect as does a denial of product registration. Such a denial essentially means that the product ceases to have trademark rights as opposed to merely having its trademark rights regulated or restricted, as in Shapiro's supposedly analogous examples.

Third, the nature of the product argument which is advanced on the basis of the pre-eminence of public health interests is not supported in a 2002 joint study by the WHO and the WTO, which specifically addressed the issue of intellectual property rights.¹⁵ Rather than accepting the position that certain products could be denied trademark registration, the study instead notes that health exceptions on trademark use must be based on the principle of "non-discrimination" – something which clearly excludes using the nature of a product as a basis for a judgment on registration – and must also be justified as necessary and efficacious as provided for in TRIPS.

A fourth problem with the argument about denying trademark registration is that in many instances, for example, it is postured as a prospective or forward-looking position to be taken with respect to future trade agreements as opposed to a retrospective principle which applies to already existing trade agreements. Since tobacco trademarks are already registered, they would be excluded from any forward-looking measures respecting registration.

Fifth, the claim that tobacco products fail to fulfill the objectives of trademark registration is untrue. Kingston, for instance argues that trademark registration can be denied or presumably revoked if the registration fails to contribute to the public good requirements for which registration was created. But tobacco trademarks do clearly fulfill several of the major public good requirements of trademarks. For one thing, they allow different products to be distinguished thus preventing marketplace confusion. For another, they are essential to the “promotion of technological innovation” cited in TRIPS Article 8 (Principles). The reason for this is that trademark owners have little incentive to accept the risks and costs of product innovation if the innovation cannot be clearly linked to a particular product – something that will not occur in a commoditized tobacco market in which all products appear the same – which is the undisputed result of plain packaging.

Given that the key innovations in the tobacco market are related to risk reduction, the end result of Kingston’s proposal would be to block the development of less risky tobacco products – a curious gain for public health.

Finally, the kind of trademark system envisioned by those arguing for denying trademark registration to tobacco and other products is an inferior intellectual property system to one which is founded on product neutrality. Indeed, this was clearly the judgment of those who established the current system. There are two reasons for this.

First, a system which allows for trademark registration based on the nature of the product is an arbitrary system in which subjective and ideological judgments about product values and the hierarchy of societal values determine trademark rights. The entire point of rights is that they be placed beyond the reach of subjective and arbitrary determination. But by tying trademark registration to the nature of the product one inevitably links it to judgments, that might well reflect

not only the views of a few in a particular time and place, but judgments that are not well supported. By making trademark registration contingent on product judgments one effectively challenges the notion of trademark rights.

Second, a system which establishes trademark registration based on the nature of a product ultimately works against the very public interests, such as health, that it is supposedly designed to protect. It does this by imposing its judgments about appropriate products instead of allowing the marketplace to make its own judgments. This is in sharp contrast to a non-discriminatory intellectual property system which allows trademark protections to any legal product and thus maximizes the opportunities for not only economic development but also innovation, both of which promote increases in societal wealth which is in turn strongly correlated to societal health.

Attenuated intellectual property rights, such as discriminatory trademark registration, thus work against the very economic development that both undergirds and drives improvements to societal health. As Cass observes,

Access to intellectual property and to goods and services embodying intellectual property facilitates economic development. Respecting intellectual property rights encourages owners of the rights and producers that incorporate these rights, to product greater access to the products built on them. The connection to health also should be seen in this light. Health, as already noted, is strongly correlated with increase societal wealth. Steps that encourage economic advancement will serve interests in health more securely for a longer time than short-run efforts to expropriate intellectual property.¹⁶

One way of capturing the stark differences between these two types of intellectual property systems would be to engage in a thought experiment in which one would ask prospective trademark owners who knew nothing about the nature of their product or its potential value which system they would prefer, one that would protect their trademark rights irrespective of the product or one that might use a criteria to deny trademark rights. Clearly trademark owners would opt for the non-discriminatory system.

B. The “Right of Use” Argument

The second point plain packaging advocates advance against the rights of tobacco trademark owners is the right of use argument. According to this argument, WTO members have substantial freedom under the Paris Convention and TRIPS to limit the rights of trademark owners to use their trademarks. Indeed, while tobacco trademarks may be registered, their use may be completely restricted. For instance, Mitchell argues that neither TRIPs nor the Paris Convention provides a right to use trademarks. “Despite the force with which the tobacco companies have put these arguments, their reasoning confuses registration with use. These concepts are separate and distinct. TRIPS Article 15.4 and Paris Convention Art 6 *quinquies* grants the right to ‘register’ a trademark. However, there is no provision in either agreement that obliges WTO Members to grant the owner of a registered trademark, an affirmative right to actually ‘use’ that mark.”¹⁷

According to Mitchell, “While the shift towards plain packaging would affect the ‘use’ of tobacco trademarks, the ‘registration’ of such trademarks would remain unaffected...The fact that a trademark has been registered for a particular good does not give the owner the right to use that mark or be exempted from any regulatory limitation on the use of the mark.” While Mitchell provides a brief outline and defense of the right of trademark use argument, the leading exponent of the argument is Ben McGrady of the Department of International Health in the School of Nursing and Health Studies at Georgetown University.

McGrady rejects the nature of the product argument noting that, “A good faith interpretation of this provision [Article 15] would therefore appear to preclude a Member from taking such measures as denial or cancellation of registration in this context.”¹⁸ But he argues that “no right of use is provided for by TRIPs.” He claims that this position can be justified on the basis of a careful analysis of Article 20 of TRIPs, which he notes is made difficult by the fact that the “wording...makes it difficult to determine the exact extent to which it may limit the actions of a Member.”

According to McGrady, Article 20 might be interpreted in either a broad or narrow fashion. “At its broadest, Article 20 could constitute a rule preventing Members from prohibiting or restricting use of

trademarks in any form. At its narrowest the provision could prevent members from requiring that something be attached to a trademark wherever that trademark is used.” McGrady suggests that there are three considerations which point toward the narrow interpretation.

First, the purpose of TRIPS was to provide “minimum” standards of intellectual property protection and such minimum standards do not support an expansive view of Article 20. Writes McGrady, “It is clear that the provision established a standard of protection for the use of trademarks but does not unconditionally prevent a State from prohibiting or restricting the use of a trademark. In contrast, the inclusion of a limited degree of protection for the use of trademarks suggests that the intention of the drafters was not to create such an all-encompassing provision.”

Second, in the process of drafting TRIPS there was no discussion of banning trademark use. According to McGrady this “tends to support the conclusion that such a prohibition was not intended to be unlawful.”

Third, the general argument supporting intellectual property rights – their importance to innovation and competition – does not apply to trademarks since they “do not encourage innovation through creation of entirely new classes of products.” Taken together, these considerations tend to support a narrow reading of Article 20 and “weigh against the existence of a general right to use a trademark, being implied into the TRIPs Agreement or Paris Convention. The drafters of each agreement clearly made provision for basic intellectual property rights in those agreements and did not include the right of use. Since such a right is not a necessary corollary of any other provision, or of either agreement as a whole, its existence should not be implied thereby leading to the conclusion that use of trademarks may be prohibited or restricted.”

Despite the widespread citation and support that McGrady’s analysis has attracted in the tobacco control community, it is not sustainable for a variety of reasons. First, McGrady’s position is fundamentally incoherent for in allowing a right of registration but simultaneously denying a right of use it voids the entire purpose of registration, which is to establish the right of exclusive use. Indeed, McGrady would have us believe that the relevant intellectual property agreements only create the right to register trademarks but no right to

use such marks. However, the purpose of the Paris Convention and TRIPs is not to establish a merely formalistic property regime which allows for a system of trademark registration but without permitting trademark use. The purpose of intellectual property rights with respect to trademarks is to establish the conditions of their use. As Bernitz notes,

It is obvious from the overall structure of both the Paris Convention and national trade mark acts that registered trade marks can be used commercially. This can be also be inferred indirectly from the very definition of the subject matter of a trade mark found in national legislation which is often formulated as a prohibition against other tradesmen from using confusingly similar trade symbols...It must also be permissible to use such registered trade marks for both tobacco and other products...This follows from the obvious rationale of trade mark law that trade marks are registered in order to be used.¹⁹

The reason that there is no specific mention of trademark use within the Paris Convention or TRIPs is that the drafters understood the integral connection between registration and use and did not consider it necessary to specify the obvious.

Indeed, if we take McGrady's position to be correct, then the entire intellectual property rights framework with respect to trademarks is designed to create nothing other than negative rights for trademarks owners inasmuch as they are allowed the right to bring actions against others for unauthorized use of their trademark but unable to use the same mark themselves. "There is good reason," writes Kur, "to assume that the right to acquire a trade mark and the right to make use of it are two basically inseparable issues: if any applicant meets all of the requirements stipulated in order to obtain valid right, he regularly will be entitled to use it – if only under certain restrictions regarding the concrete way of marketing."²⁰

Second, the requirements for trademark use found within national trademark legislation undermines McGrady's position. Most of these acts require the use of a trademark within five years of registration, suggesting that registration without use is clearly not contemplated.²¹ For instance, trademark registration with the U.S. Patent and Trademark Office is contingent on a bona fide intention to use the mark. As the U.S. Supreme Court has concluded "There is no such

thing as property in a trademark except as a right appurtenant to an established business or trade in connection with which the mark is employed...the right to a particular mark grows out of its use not its mere adoption.”²² The Court’s finding goes to the heart of McGrady’s strained reading of the Geneva Convention and TRIPs with his claim that a trademark holder may indeed register his mark but not use it, for it affirms that trademark rights center not in formalistic adoption – registration in the TRIPs sense – but in use.

Third, a careful consideration of Article 6 of the Paris Convention further weakens the right to use argument. Article 6 addresses the conditions under which a Member may request another Member to prohibit the use of a trademark. Prohibition of use only makes sense in the context of a right to use. Again, the reasons provided in Article 6 for refusing to register a trademark all relate to the ways in which not the registration of the mark but its use would create difficulties, again pointing to the fact that the Convention clearly considers use a right.

The historical background to the Paris Convention also supports the claim that the Convention was crafted to create a right not simply of registration but of use. The purpose of the Convention was to facilitate trade through the protection of industrial property, including intellectual property, by establishing what Castren calls the “living trademark right” of use. He notes that:

The incorporation of Article 6 quinquies...into the Paris Convention was based on the argument that the owner of a mark should be able to use the mark (and have it protect as well) in the marketing of his products in different countries, without being forced by the diverse national regulations to use different marks. That this was in the interest of the free movement of goods...appears from a decision of the Court of Appeal of Leipzig of 16 February 1874, from which the “*telle quelle*” rule originates and which also was pleaded in the concluding protocol of the Paris Conference of 1878 in order to provide for the international protection of industrial property. This historical background to the Paris Convention shows that the intent and purpose of the Convention was from the beginning in the interest of the development of world trade, to create a “living trademark right” and not only a “paper right” which manifests itself only in the right of exclusion which arise on registration.²³

A similar logic to Article 6 is found in TRIPs Article 20, which sets out the ways in which a trademark might be unjustifiably encumbered, such as use with another trademark. As the article reads, “The use of a trademark in the course of trade...” All three of the unacceptable instances of encumbrance relate to infringements on the mark’s ability to function, to be used in the marketplace. Commenting on the Convention, former WIPO Director-General G. Bodenhausen has observed that the purpose of the provisions is to allow the trademark holder to use the mark in similar ways in different countries.²⁴

The same point is made by Katz and Dearden: “[T]he history of this provision [Articles 6 and 7] suggests that most countries recognize their obligations under Article 7 not only to register all marks regardless of the nature of the product, but also to refrain from ‘suppressing or limiting’ the exclusive right of the owner to use the mark as long as the sale of the product is legal.”²⁵ Again, as Kur notes,

If it is prohibited to stipulate special requirements for the way in which a trade mark may be used, it would contradict even more the intentions underlying the trade mark provisions of TRIPs to deprive a trademark owner totally of the right to make use of the mark. Whereas requirements such as use together with another trade mark can be detrimental to the distinctive character of a mark, a total ban against use would go even beyond that; it would not allow the distinguishing capabilities of a mark ever to be exercised. In other words, it would not only weaken a trade mark, but prevent it from coming to real life at all.²⁶

Fourth, the right of use argument has been explicitly rejected in WTO arbitration. In *USA v EC, EC Protection of Trademarks and Geographical Indications for Agricultural Products and Foodstuffs*, a dispute settlement panel found that trademark owners have a legitimate interest in trademark use.²⁷ “Every trademark owner has a legitimate interest in preserving the distinctiveness, or capacity to distinguish, of its trademark so that it can perform that function. This includes its interest in *using* (emphasis added) its own trademark in connection with the relevant goods and services of its own and authorized undertakings.”

Fifth, the narrow interpretation of Article 20 that McGrady proposes conflicts with the clear sense of the Article. He writes that “Article 20 does not expressly state that a Member cannot prohibit or restrict the use of a trademark.” But this claim makes sense only if the drafters of TRIPs assumed that there was no right to trademark use, which we have seen is incoherent both in the context of the Agreement as well as in relation to the purpose and function of trademarks. While it is true that TRIPs does not assume that there are no possible limitations on trademark use, the purpose of Article 20 is to set out the regulatory options open to members in circumscribing trademark use – the justifiable encumbrances. If there was no presumption of a right of use, then prohibiting unjustified restrictions on use would simply make no sense and the need for Article 20 would vanish.

Sixth, the right of use argument is challenged by what might be termed the general right to marketplace freedom. As we have observed above, this right to engage in commercial activities including the positive right to use one’s property is enshrined in a variety of international declarations and statements, most importantly in the Universal Declaration of Human Rights (Article 17). Given the clear recognition that trademarks have standing as property, it would be more than strained to conclude that they cannot be used.

Finally, the more general economic models which argue for the value of intellectual property in general and trademarks specifically, as well as the specific language of TRIPs about the value of innovation, counter the right of use argument. McGrady denies that these models are relevant to trademarks. He claims that “unlike patents and copyrights, trademarks ‘do not provide new ideas.’ Rather, the “economic function of trademarks is, by giving assurance of uniform quality, to economize on consumer search costs.” Trademarks encourage innovation in the sense that they encourage the improvement of an existing product or maintenance of high product quality, by virtue of the ability to signify such quality to the consumer. However, in theoretical terms, trademarks do not encourage innovation through the creation of entirely new classes of products.

McGrady’s argument fails in two ways, one in general and the other specifically related to tobacco product innovation. First, it fails

to take into account the way in which trademarks can facilitate competition and, through competition, innovation. According to Kur:

Every intellectual property right leads to a monopoly, which is justified because – and insofar as – it functions as an incentive for competition on a superior level. For example, patent law, by granting to the owner of a patent the exclusive right to produce article incorporating his invention, leads to a restriction of third parties' freedom to act on the level of production. On the other hand, this leads to an increase of inventive activities and thus to an augmentation of competition on the superior level of innovation. If the same schema is applied to trademarks, it appears that the justification for trademark protection – which leads to restrictions on the level of production (or communication) lies in the fact that it strengthens competition on the information level, by allowing the trade mark owner to build up information concerning the product and its special qualities and features, thus encouraging the marketing of new products. This makes it clear why from an economic point of view the active use of a trade mark constitutes the central aspect of the whole matter: it is only by making use of his mark that the owner participates in competition on the information level and thus adds his contribution to what is the ultimate goal of trade mark protection. Without use, there is no connection between the sign and specific products or services a businessman has to offer; the 'information channel' would convey nothing and thus be meaningless."²⁸

On this account, trademarks through their communication in the marketplace of distinctive product attributes, spur innovation and new product creation as one strategy by which competitors can increase market share.

Second, McGrady's argument fails to take into account the way in which tobacco trademarks are linked to innovation, most crucially with respect to less risky tobacco products. The enormous investment required to bring reduced risk products to market is justified in part only if such products can be identified with existing tobacco brands or new brands. Innovation makes sense only in a marketplace in which the innovation can be distinctive, hence its link with brands and trademarks. Without an ability to link a major innovation with a specific trademark the attractiveness of introducing the innovation is

vastly diminished. This essential connection, however, is made impossible if existing trademarks cannot be extended to new, less risky products or new trademarks created, registered and used – which is precisely the result of a plain packaging marketplace. Preventing trademark use through plain packaging thus significantly threatens tobacco product innovation while at the same time compromising an important component of tobacco control – harm reduction.

In this section, we have looked at two of the arguments against intellectual property rights for tobacco trademarks that plain packaging advocates advance: the nature of the product argument and the right of use argument. In terms of the nature of the product argument, we found that the primary problem with this argument is that it fails to provide a principled reason as to why public health is necessarily a superior good to intellectual property rights. In the case of the right of use argument, we found that not only is it essentially incoherent in that it allows registration of marks but denies use, but it is also contradicted by a careful reading of the relevant parts of the Paris Convention and TRIPS.

III.

THE PUBLIC HEALTH ARGUMENT

Thus far, we have examined two arguments advanced by proponents of plain packaging in favor of limiting the rights of tobacco trademark owners – the nature of the product argument and the right of use argument. We have argued that both of these arguments are, for a variety of reasons, significantly deficient and are thus incapable of justifying the assault on trademark rights integral to plain packaging. Despite these problems, it is nonetheless still open to the plain packaging advocate to argue that plain packaging can be saved through the freedom for public health regulatory measures provided by TRIPs Article 8. It is to an analysis of this claim that we now turn.

Article 8 of TRIPs reads: “Members may, in formulating or amending their laws and regulations, adopt measures necessary to protect public health and nutrition, and to promote the public interest in sectors of vital importance to their socio-economic and technological development, provided that such measures are consistent with the provisions of this Agreement.” According to Mitchell, Article 8 need not present an obstacle to plain packaging for three reasons. First, the article must be read in conjunction with the Doha Declaration on the relationship between intellectual property and public health. According to the Doha Declaration, “the TRIPs Agreement does not and should not prevent members from taking measures to protect public health. . .we affirm that the Agreement can and should be interpreted and implemented in a manner supportive of WTO members’ right to protect public health.” For Mitchell, this means that WTO members are provided with “significant flexibility in enacting public health measures.”

Second, Mitchell argues that the test of necessity in Article 8 is framed by how important a member considers a given public health measure. He writes that “the more important a Member considers a particular health issue, the more likely is the measure necessary. A treaty interpreter may take into account the relative importance of values that the law to be enforced is intended to protect. The more vital or important these values are, the easier it would be to accept as ‘necessary’ a measure designed as an enforcement instrument. Given

that the protection of public health is ‘vital and important in the highest degree’ and that ‘few interests are more vital’ it appears that TRIPS...should be interpreted to allow Members broad discretion in designing their policy space to respond to important health concerns.” Again, he claims that “for the policy and scientific reasons stated in Section II above, plain packaging promotes public health by reducing the incidence of smoking and is therefore ‘justifiable.’”

Third, Mitchell muses that justifiability might well have an “evolutionary” meaning which requires using the guidelines on tobacco promotion and plain packaging of Framework Convention on Tobacco Control (FCTC) Articles 11 and 13. For instance, the guidelines for Article 11 calls on the FCTC parties to “consider adopting measures to restrict or prohibit the use of logos, colours, brand images or promotional information on packaging other than brand names and product names displayed in a standard colour and font style (plain packaging)” on the grounds that this “may increase the noticeability and effectiveness of health warnings and messages, prevent the package from detracting attention from them and address industry package design techniques that may suggest that some products are less harmful than others.”²⁹

We shall return later as necessary to Mitchell’s general claim about the extent of the evidence supporting plain packaging, but for the moment three things should be noted about his arguments. First, Mitchell’s argument about the priority of health over intellectual property rights based on the Doha Declaration is challenged by the joint WTO and WHO study.³⁰ That study concluded that health exceptions to trademark rights must be based on the principle of “non-discrimination” and must also be justified as necessary and efficacious as provided for in TRIPS.

Second, Mitchell’s claim that the standard of necessary is the relaxed one of a member’s subjective judgment about the necessity of a public health measure – “the more important a Member considers a particular health issue, the more likely is the measure necessary” – is not supported by TRIPs or indeed by GATT which also provides a definition of necessary. Necessity in both instances has nothing to do with the member’s beliefs about the importance of the measure, but rather with the objective evidence about the connection between the measure and intellectual property rights and the efficacy of the measure. Health is not accorded a trump position over trademark

rights without compelling evidence. Further, Mitchell's claim imports into the necessity test the same confusion found in the arguments of those advancing the nature of the product argument, namely the failure to distinguish between the problems occasioned by tobacco use and the problems brought about by tobacco trademarks. As we saw, the two are not the same and the requirements of the necessity provision cannot be satisfied unless it can be shown that the problem is due specifically to tobacco trademarks as opposed to tobacco in general or even tobacco promotion.

Third, there is no absolutely no provision in the TRIPs agreement for Mitchell's "evolutionary argument" in which the FCTC guidelines, indeed, not even the treaty itself, are given a defining role in the reading of public health necessity. The proper way to read necessity is that the measure can be demonstrated to achieve a public health objective and that it be consistent with TRIPs in general as well as no more restrictive of intellectual property rights than required. This is the clear meaning of Article 8 and the so-called health exception. Indeed, McGrady concedes this point when he observes that "the requirement for measures to be 'necessary' will be interpreted strictly. It requires that the party introducing a measure demonstrate that the measure is effective and also that there are no less trade restrictive measures reasonably available to achieve the same result." Moreover, Mitchell's evolutionary argument runs afoul, too, of Article 7, which requires that "the protection and enforcement of intellectual property rights" must take account of a "balance of rights and obligations" of the property owners. Eliminating a trademark right through a public health restriction, which is the effective consequence of plain packaging, fails to meet this TRIPs objective.

McGrady's analysis of the public health exception takes a different approach to Mitchell's. He argues that because of the scientific uncertainty about the effects of measures such as plain packaging, that a "low threshold will be applied in determining the effectiveness of a measure." According to McGrady, "because it is scientifically impossible to demonstrate the impact of a measure without introducing it to some degree," the proper approach should be to find the "measure being considered effective in the case of doubt." McGrady claims that there are four reasons which support the claim that plain packaging meets the effectiveness requirement. First, "a number of studies suggest that plain packaging would make cigarettes

less attractive and appealing.” Second, another study has shown the recall of health warnings is higher on plain packages. Third, McGrady claims that packaging has “a similar effect” as tobacco advertising, which has been shown to “significantly increase tobacco sales.” Finally, he notes that “for the first time purchases, packaging is almost as important as the product itself.” Together, these four factors suggest that the “introduction of the measure [plain packaging] appears sufficiently related to its purpose that it could be considered likely to fulfill the effectiveness requirement.”

We shall shortly turn to McGrady’s general claim about the effectiveness of plain packaging, but it may be worth noting in a preliminary fashion three things about his four arguments. First, it is one thing to claim that plain packaging would make cigarettes less attractive and appealing – though this is contentious in itself, it is quite another to show that this results, in an environment where the only cigarettes available would be in plain packages, in less smoking or more quitting. The two are not equivalent and it is the latter that must be established to show that plain packaging is effective.

Second, McGrady’s claim about the importance of packaging to first time purchases misses the essential point that most adolescent smokers experiment with single cigarettes not packaged cigarettes, and become smokers before they purchase a cigarette package. The purchase decision is thus not about becoming a smoker but rather about what brand to smoke.

Third, the low threshold argument that plain packaging should be considered effective in the case of doubt fails to take into account the fact that it is far more likely that effectiveness will be determined by looking at the preponderance of the scientific evidence, not simply the very few plain packaging studies cited by McGrady.

The common thread running throughout the positions about the public health “exemption” found in TRIPs article 8 and its relationship to plain packaging is the claim that the empirical evidence about the effects of plain packaging on smoking uptake and cessation, particularly by young people, is sufficient to justify plain packaging as a measure “necessary to protect public health.” McGrady makes this point explicitly when he claims that tobacco advertising increases tobacco consumption and that packaging has a similar effect to tobacco advertising. For the most part the advocates

of plain packaging ignore the other requirement of Article 8, namely that measures to protect public health be consistent with the provisions of TRIPs as we have seen that it would be very difficult if not impossible to show that a complete suppression of the right to use a trademark, as envisioned by plain packaging, would meet this test. This means that the case for the justification of plain packaging as a measure “necessary to protect public health” rests on an analysis of the strength of the evidence about two things: the harm of tobacco packaging and the efficacy of plain packaging in addressing this harm through preventing/reducing smoking. If plain packaging is to be saved under TRIPs, it can only be done on the strength of this evidence. It is therefore to an analysis of this evidence that we now turn.

The case for plain packaging being necessary for the protection of public health is built on two claims. The first of these is, as McGrady observes, that tobacco packaging as a form of tobacco advertising initiates and increases tobacco consumption in the same fashion as tobacco advertising. The second of these is that plain packaging will end the advertising function of tobacco packaging and reduce smoking initiation amongst the young, consumption among all smokers and increase quitting. We begin then with an examination of tobacco advertising in order to determine whether it in fact does initiate and increase tobacco consumption. If this is not the case in general it is highly unlikely that tobacco packages contribute to smoking uptake and increased consumption. Next we turn to a careful examination of all of the studies of plain packaging in order to determine whether these establish that plain packaging will do any of the things its proponents claim. If these studies fail to establish the efficacy of plain packaging then it is clear that it fails the necessity test of TRIPs.

A. Tobacco Advertising

A perennially contentious debate is whether tobacco advertising causally contributes to smoking initiation and increased total consumption. Previously, the debate was a rather sedate affair consisting of polite exchanges about the data or the correct econometric modeling. Given, however, the anti-smoking movement’s virulent opposition to tobacco advertising, the issue has become much more contentious.

The debate over tobacco advertising has also grown more confused. The critics of tobacco advertising have repeatedly claimed that the academic debate has ended because the weight of the evidence has firmly established that tobacco advertising causes adolescent smoking and increases total consumption. Lovato et al., for example, claim that recent longitudinal studies of tobacco advertising exposure and subsequent adolescent smoking initiation provide “evidence supporting the causal links between tobacco marketing and smoking behaviour.”³¹ In its recent legal case against the tobacco industry, the U.S. government asserted, “The scientific community agrees that cigarette marketing is a substantial contributing factor to youth smoking initiation and continuation.”³² As this Monograph will detail, the evidence appears not to support this conclusion.

Confusion has also dogged the debate because many appear to believe that with the advent of advertising bans in many jurisdictions, not only the academic debate but also the policy debate is over. However, as a 2008 WHO report noted, the issue of tobacco advertising bans remains very much alive as only five percent of the world’s population is covered by complete advertising bans.³³

This review approaches the tobacco advertising debate in a calmer fashion than the polemic found in so many studies of this issue. It makes no judgments about the source of the studies examined, but evaluates them solely on their merits as evidentiary guideposts to arriving at a considered conclusion about the role of advertising in tobacco consumption. We begin with the assumption that both the academic debate about the relationship between tobacco advertising and consumption and adolescent smoking initiation and the policy debate about advertising bans are very much open.

The analysis begins with a statement of the policy issue itself and an examination of two key assumptions in the debate that are rarely discussed: an assumption about the function of tobacco advertising and an assumption about the way in which advertising exposure leads to behavior. Following this, recent econometric examinations of the effects of tobacco advertising, along with several studies of tobacco advertising exposure and recall in relation to youth smoking initiation, are analyzed in order to determine the strength of the evidence of a causal connection between advertising and smoking initiation and consumption. In recent years, the core debate over tobacco advertising has moved away from aggregate econometric analyses to studies of

exposure and recall in an effort to examine the effects of advertising on young people. This review also looks at several recent analyses of the effects of restrictions and bans on tobacco advertising.

Next, the claim about a causal connection is tested by examining studies in two new areas of the tobacco advertising debate: packaging and retail displays. In the last fifteen years, both anti-smoking activists and governments have argued that tobacco packaging functions as an advertisement that causes smoking initiation, increases consumption, and impedes smoking cessation. Proposals designed to reduce the advertising force of the package have included removing all of the brand dress from the package to create a “plain package” product; increasing the size and nature of the health messages on the package, thus reducing the advertising space and effect; and banning shop displays of tobacco packages. We examine several studies that have advanced these claims about tobacco package advertising.

1. The Right Question

At the outset, it is important to ensure that the right question is being addressed. Though the proponents of tobacco advertising restrictions and bans argue that such measures are required because tobacco advertising causes people to start smoking, smoke more, or continue smoking, the precise issue in dispute is often confused by questions about whether advertising is the sole cause of smoking. To frame the issue in such a fashion, however, is a mistake. It is widely accepted that adolescent smoking and, indeed, smoking have multiple causes. Therefore, the primary issue is not whether tobacco advertising is the sole cause of smoking, but whether it is one *significant* cause of smoking, where cause is something that if everything else remains constant, changes an outcome. While the nature and justification for measures to address the effects of tobacco advertising may vary depending on the extent of its causal role, and the relationship of its role to that of other causal agents, these are separate issues from whether it has a causal role.

In short, the tobacco advertising debate is about two causal issues. First, whether such advertising affects tobacco consumption: that is, does it cause people to smoke or increase the amount that they smoke? Second, if it does have such a causal role, how significant is that role in relation to other established causal factors for cigarette smoking?

2. Two Key Assumptions about Tobacco Advertising's Effects

One of the key assumptions in the tobacco advertising debate is that, even though tobacco advertising (like alcohol advertising) is exclusively brand advertising, it still has a spillover effect on smoking initiation and consumption. Critics of tobacco advertising argue that without such an effect the tobacco industry would not spend over a billion dollars annually on brand advertising and price promotions in the United States.³⁴ As Dorsett and Dickerson note, “To those outside the marketing community...this lack of relationship between advertising and overall consumption may seem counter-intuitive. The ‘common-sense’ argument is that advertising’s purpose is to sell and must therefore grow markets.”³⁵

Two factors undermine this “common-sense assumption.” First, taking the United States as an example, there is little connection over the past thirty years between per capita tobacco consumption and tobacco advertising expenditure. Per capita consumption peaked in 1963 and declined continuously from 1973 onward. As Nelson notes, “Between 1982 and 2002, cigarette consumption declined annually at a rate of -3.23 percent due in part to the sharp increase in real cigarette prices.”³⁶ Against this picture, tobacco advertising declined from 1971-1973, increased from 1973-1985, and declined from 1989 onwards.

Second, there is substantial evidence that the tobacco market is predatory; that is, a market where advertising functions to attract customers from rival firms rather than to increase the overall size of the market. Studies by Schmalensee (1972), Hamilton (1972), Fugii (1980), Baltagi and Levin (1986), Seldon and Doroodian (1990), Friedman (1983), and Thomas (1989)³⁷ all suggest that tobacco advertising is predatory in that it redistributes market share but does not affect overall market demand. In this sense, advertising is rational because it promotes brand loyalty and protects against brand switching.

For example, the data from the U.S. shows that brand market share has changed significantly over time. In 1950, the market leader was Camel, followed by Lucky Strike and Chesterfield. In 1995, the leading brand was Marlboro followed by Newport, Winston, and Doral. Whereas in the 1950 market, the share held by each brand was

closer (Camel had 27.2 percent of the market and Lucky Strike 22.7 percent), in 1995 Marlboro had 30.2 percent while each of the following three brands had roughly 5-6 percent. Seldon and Doroodian, for example, examined panel data from the six major U.S. tobacco manufacturers from 1955-1979, a period in which the firms promoted their brands through advertising rather than pricing.³⁸ In all cases, they find that tobacco advertising was purely predatory and did not increase total demand. In a subsequent study, the authors report that advertising increased aggregate demand in the U.S. market from 1952 until 1963, but the advent of government health warnings on tobacco packages after 1963 eliminated this effect so that aggregate advertising elasticity at present is zero, with no effect on aggregate demand.³⁹

A second assumption underlying the tobacco advertising debate is that advertising operates in some fashion in a “hierarchy of effects” that moves consumers from reading, seeing, or hearing an advertisement to remembering it, processing it, believing it, retrieving it, using it to decide, and finally behaving in accordance with it. A typical example of this assumption is found in McGuire’s “information processing model.” According to McGuire, advertising-influenced actions occur at the end of a nine step process that begins with exposure to the advertisement, and moves through attending to it, reacting favorably to it, comprehending it, agreeing with it, storing and retaining its content, remembering it, deciding based on it, and behaving in accordance with that decision.⁴⁰

At any step in the process, the chain can be broken and with this break the “effect” of the ad is lost. As Calfee observes in noting the difficulties of the hierarchy model, “however successful a marketing campaign may be in the early stages of the hierarchy, that success is by no means bound to carry on through actual choices in the marketplace. But many, if not most, applications of this model work exclusively with intervening variables (that is, after the advertisements but before market behavior) and never actually test advertising’s effects on market choices.”⁴¹

Aside from the tenuousness of the process, there are at least three other problems with this model. First, the model often is assumed to assert unidirectional causality such that changes in attitude about a product lead to its purchase rather than follow from its purchase, or that attention to advertisements leads to interest in a product rather

than vice versa. There is considerable empirical evidence for both of these relationships that confounds the causality of the effects model. Second, no tobacco advertising studies trace the advertising “effect” through all of the above steps from encountering the ad to acting on it. Indeed, because there is evidence of an ad being seen or remembered, there is the assumption that the ad has “caused” the behavior, even though there might be no evidence of agreement, storing and retaining content, remembering it, deciding based on the ad, and acting in accordance with the ad. Indeed, as we shall see in the studies of advertising exposure and recall, there are no studies that link purchase of cigarettes and smoking with remembering an ad and deciding to smoke based on an ad.

Finally, sophisticated analyses of the effects model must rely on path analysis, which uses regression, econometric, and factor analysis. A path analysis will model both the direct effects of advertising and the indirect effects as mediated through latent variables, such as risk perception. The total advertising “effect” is thus a total of direct and indirect effects. However, as Nelson and Bollen separately observe, such path analyses are “subject to the full range of econometric problems, including specification bias, measurement errors, sample selection bias, missing data, outliers, multicollinearity, lack of replication and the like.”

Most studies of tobacco advertising exposure and recall measure indirect, as opposed to direct, effects of advertising, and thus seriously undermine any claim to have established advertising as a cause of smoking. Commenting on the application of this sort of path analysis to the association between alcohol advertising and adolescent drinking, Nelson concludes that this type of analysis “can be likened to a coin-flipping experiment. There are four or five possible steps to the actual youth behavior of interest, including advertising exposure, desirability, advertising awareness or identification, positive beliefs, and, lastly, actual drinking behavior or expectancies. The resulting outcome is analogous to the probability of flipping a fair coin, and getting a “heads” four times in a row. The joint probability of this event is $(0.5)^4 = 0.0625$.”

3. *Recent Econometric Studies of Tobacco Advertising*

The econometric literature on tobacco advertising and consumption is considerable. One recent meta-analysis identified 25 U.S. studies alone.⁴² Studies of tobacco advertising in the U.S. from the 1970s to the mid-1990s have for the most part found that aggregate cigarette advertising has little or no influence on total consumption. For example, Bishop and Yoo report a small effect of advertising on tobacco demand but note, “This small coefficient confirms previous studies which suggest that in the industry as a whole, advertising was not very effective in inducing more demand.”⁴³

Typical of the research finding no advertising effect on aggregate demand is Wilcox and Vacker, whose study reported only two predictors – consumer price index for cigarettes and per capita income – to be significantly related to aggregate consumption.⁴⁴ Wilcox et al., in a similar study using data from South Korea, again find no advertising effect on aggregate consumption. Consumption was significantly related to only real income and the relative price of cigarettes.⁴⁵ These findings about the lack of association between advertising and aggregate consumption are supported by Wilcox’s analysis of the relationship between cigarette brand advertising and consumption in the U.S. from 1949-1985. In that study, Wilcox examined the effect of advertising on the consumption levels of five major U.S. cigarette brands. For all brands, there was a positive relationship between advertising expenditure and brand consumption, leading Wilcox to conclude that, “There appears to be general agreement among researchers that aggregate cigarette advertising expenditures in the United States have little or no effect on aggregate consumption but that advertising is one source of competition between brands for market share. These findings presented here support that relationship.”⁴⁶

Studies of tobacco advertising in the UK during the same period also tend to find no statistically significant effect for advertising on total demand, though some of the earlier studies found a small effect of advertising on aggregate consumption. Earlier studies, such as those by Witt and Pass (1981), McGuinness and Cowling (1975), and Radfar (1985),⁴⁷ were generally unsophisticated compared with three more recent studies by Duffy (1991, 1994, 1995).⁴⁸ Duffy’s studies found cigarette demand in relation to advertising to be “insignificantly

different from zero,” and his 1994 study found that advertising actually had negative effects on aggregate consumption. He observes:

This advertising result is robust with respect to changes in model specifications, restrictions and estimation procedures. No evidence has been found in this research to back up the view that aggregate cigarette advertising serves to expand total market demand for cigarettes. On the contrary, the result presented here suggest that the general effect, if one exists, of brand advertisements which carry prominent health warnings may have been to RESTRAIN (emphasis in original) aggregate demand for cigarettes. In other words, cigarette advertisements may paradoxically reinforce and disseminate the health education message through their warnings content.⁴⁹

In some respects, this finding parallels Seldon and Boyd’s hypothesis with respect to the effect of U.S. warnings on consumption.⁵⁰

Duffy’s analyses of the relationship between advertising and consumption in the UK are echoed in a 1992 report by Clive Smee of the UK Department of Health. Smee’s report is often quoted in support of a causal connection between advertising and consumption, as well as advertising bans. However, a close examination of Smee’s statistical analysis shows that his study of the UK data fails to provide support for either such a conclusion or such measures.⁵¹ Smee reports that his analysis of the relationship between tobacco advertising and consumption, using data from 1960-1987, shows that “advertising does not have a statistically significant effect in any form.” Moreover, he reports that his model of advertising and smoking prevalence for UK adolescent men and women found that advertising was not a statistically significant factor. Given the paucity of econometric analyses confined to adolescents, Smee’s finding is important.

Summarizing the econometric literature on tobacco advertising in 1996, Duffy noted, “All of the studies reviewed in this article contain weaknesses in their model specifications, estimation procedures and datasets...The perennial hope is that future research will improve upon previous work, resulting in studies which are not characterized by previously encountered weaknesses.”⁵²

Since 1996, six studies have attempted to improve on the existing econometric literature. The first, by Duffy, again examines the UK

market for seven categories of non-durable goods from 1963-1996.⁵³ Concentrating on food, drink, and tobacco advertising, Duffy uses an almost ideal demand system to conclude that, while price has a substantial influence on consumer expenditure, there is little evidence to demonstrate that advertising has a significant effect on consumer demand for these products in the UK. Cameron examines cigarette demand from 1930-1978 (with the exception of World War II) and finds a statistically significant inelastic price response.⁵⁴ With respect to advertising, he finds that it “does not...have a significant positive effect.” Studies by Gallet⁵⁵ and Gallet and List jointly⁵⁶ both provide estimates of advertising elasticity, with Gallet and List examining 137 different elasticity estimates for which the “group means estimate of the short-run coefficient is insignificant.” Gallet also finds advertising elasticity insignificant, concluding, “advertising has an insignificant effect on demand.” In a second paper in 1998 which reviews the literature, Cameron concludes that, based on the literature, the “evidence on the effects of advertising is inconclusive.”⁵⁷

Lancaster and Lancaster look at 35 published studies from eight countries with 350 advertising demand coefficients. They report that of these, 33.1 percent were positive and significant, suggesting that advertising increases tobacco consumption, while 61.1 percent failed to find a significant relationship between advertising and consumption. They also report that 5.7 percent of the coefficients were significant and negative, which suggests an association between advertising and reduced consumption.⁵⁸

Finally, the most recent study by Nelson (2006) presents a meta-analysis of cigarette advertising elasticities derived from econometric studies published for the U.S., UK, and several other countries over the last 35 years. Nelson’s work differs from previous meta-analyses in that it uses random-effects weighted means, weighted regressions, and mixed-effects weighted regressions, thus addressing many of Duffy’s methodological concerns.⁵⁹

Nelson presents 33 advertising elasticity estimates for the United States, of which only three are statistically significant. He presents 16 elasticities for other countries, of which eight are statistically significant. He concludes that, for the U.S., “any spillover effect of cigarette advertising on aggregate consumption was limited in duration and negligible in magnitude.” Unlike previous meta-analyses by Andrews and Franke and by Gallet and List, Nelson also looks at the

impact on tobacco consumption of advertising restrictions in the United States, such as the 1971 broadcast ban. If advertising effects aggregate consumption as claimed, than such restrictions should logically reduce consumption. He found that the advertising ban had no statistically significant effect on cigarette consumption.

Econometric studies of tobacco advertising and aggregate consumption from the early 1970s to the mid 1990s, in both the United States and in other countries, provide little support for the claim that tobacco advertising causes smoking. Meta-analyses of tobacco advertising elasticities published in the last ten years, particularly those that have taken account of regulatory interventions, such as the anti-smoking ads in the U.S. from 1967-1970 and the 1971 broadcast ban of tobacco advertising, have also generally failed to find a statistically significant connection between advertising and tobacco consumption. Taken as a whole, the econometric literature provides little support for the causal thesis about tobacco advertising and consumption.

4. Studies of Youth Advertising Exposure, Recall & Subsequent Smoking

Because econometric studies of tobacco advertising have for the most part been based on aggregate data (the analysis by Smee is an exception), it has been argued that such studies are unable to discover whether advertising has an effect on smoking uptake and consumption by young people. Instead of econometric studies, many researchers have suggested that cross-sectional or longitudinal studies that examine adolescent exposure to tobacco advertising and subsequent smoking behavior are needed in order to establish whether advertising is associated with smoking. While such studies may be useful, it is nonetheless important to understand their intrinsic limitations in answering the crucial policy question of whether tobacco advertising causes people to begin smoking.

5. Problems with Advertising Exposure & Recall Studies

Champions of exposure and recall studies often claim that such studies are able to provide evidence of a causal connection between advertising and a particular behavior such as drinking or adolescent smoking. For example, in a major review of such studies about

advertising and adolescent tobacco use in 2005, Lovato et al. write that “Properly conducted longitudinal studies that examine the relationship between exposure to marketing approaches and subsequent changes in smoking behavior, while controlling for possible confounding factors, can provide evidence supporting the causal links between tobacco marketing and smoking behavior.”⁶⁰

Such claims, however, are strictly speaking untrue. The only scientifically valid studies that establish causal links are randomized controlled experiments. At best, longitudinal studies provide evidence of a statistical *association* between a variable such as advertising and an outcome such as starting to smoke, but they fail to provide evidence of a *causal* connection. Indeed, even when properly randomized, none of these studies of the relationship between marketing exposure and smoking initiation control for all of the relevant factors that might confound their analysis. Without such controls, one can never assert that the association is a genuine one, as opposed to one that is caused by some other factor.

Second, none of the advertising exposure and recall studies have controlled for other risk factors for smoking initiation. This means that the alleged causal factor of advertising has not been isolated from other risk factors so that a genuine association can be determined. For instance, it might be true that 16 year olds who can remember tobacco advertisements are more likely to smoke as 20 year olds than 16 year olds who do not remember tobacco advertisements, but it does not follow from this that this association is due to the fact that they remembered tobacco advertisements. It might well be that those 16 year olds might also have shared some other characteristic such as being more inclined to risk-taking, or performing poorly at school, and it may be that these factors – which have been excluded from one’s study – rather than tobacco advertisements, are the cause(s) of subsequent smoking. The point is that without controlling for these other factors one can never know. The literature on smoking initiation reports dozens of variables that predict smoking initiation. As Heckman et al. note, “Developing and accurately estimating a robust structural model of youth smoking initiation is a complex task, both because it involves many different factors and because these factors likely occur early in childhood development. Hence, identifying advertising as a causal factor (and measuring the magnitude of the related effect) not only requires rich data sources that include information on parental inputs, peer characteristics, exposure to

cigarette marketing, and other potential influences, but also requires that these variables be observed for extended periods of time.”⁶¹

Third, many of the exposure and recall studies are problematic because they assume the direction of influence between advertising and smoking uptake and consumption is one way. That is, they assume that the reputedly causal direction goes from exposure to advertising, or from owning a tobacco promotional item toward interest in smoking and smoking uptake. Yet there is very little empirical support offered for this type of causal connection. Indeed, important studies such as Smee’s contradict it. Adolescents who are interested in and receptive to smoking can be assumed to have a smoking preference that would lead to their interest in and recall of tobacco advertising. Their preference for smoking could have been formed prior to and independently of any tobacco advertisement. This would mean that discovering an association between remembering tobacco advertisements or owning tobacco promotional items and subsequent smoking does not constitute compelling evidence that the former lead to the latter.

Fourth, although tobacco advertising exposure and recall studies make claims about the effects of tobacco advertising on smoking uptake and consumption, it is not clear that most have measured the exposure to such advertising of any individual who is alleged to have become a smoker. Rather, these studies have in many instances used possession of a tobacco promotional item as a proxy for exposure to tobacco advertising. In other studies, exposure has been determined by using a proxy of a subject’s possession/reading of a magazine containing tobacco advertising. Obviously, the mere possession of a periodical containing tobacco advertising does not guarantee that one has been exposed to tobacco advertising. As the Heckman et al. study observes, “even if the marketing exposure were exogenously determined, these metrics have not been shown to be related to any actual advertising exposure experienced by the participants of these studies.”⁶²

Fifth, tobacco advertising exposure and recall studies often rely on self-reported data, which poses a significant problem in terms of validity. For instance, self-reported data may be inaccurate because of certain situational factors associated with the social desirability of the behavior, such as smoking, being studied. The research literature notes that self-reports are often plagued by social desirability bias, that is,

subjects often report what they believe the interviewer wishes to hear or what is the socially preferred option, rather than what is actually the case. Luekper et al., for example, found that “reported quitting [smoking] by telephone was an unstable category because of relapse and misreporting with 35 percent of self-described quitters in the telephone interview admitting to being smokers in a face-face interview.”⁶³

Some studies have shown that the likelihood of untruthful responses rises with the degree of threat posed by the question. But even setting aside the question of conscious deception, there is the possibility of significant inaccuracy due to faulty recall. As Brener et al. observe:

It has been hypothesized that error potentially arises at each of these stages, which in turn contributes to validity problems...[B]ecause the specific cognitive operations employed in responding to a question may differ depending on such factors as the length of the reference period and the type of response required (e.g. frequency of a behavior versus simply whether the behavior occurred), validity can vary from question to question.⁶⁴

People’s self-reported data then, assuming that it is not self-consciously deceptive, is always in question because they can only report what they remember seeing, doing, believing, and what they think they saw, did, or believe, both of which are different from what they did see, do, or believe. As Agostinelli and Grube write, “People are notoriously inaccurate in making attributions for the causes of their behavior.”⁶⁵

Sixth, many tobacco advertising exposure and recall studies suffer from a variety of methodological issues which undermine their internal validity. These include misspecified variances, omitted interactions and paths, endogeneity, sample attrition, and selection bias. As Nelson has recently noted, most longitudinal studies of advertising exposure and recall fail to deal with these issues.⁶⁶

Commenting specifically on the methodological and data issues in the studies used in the *Cochrane Review* which critics of tobacco advertising argue most effectively demonstrate how such advertising leads to smoking, Heckman et al. write, “the *Cochrane Review* studies do not reliably investigate the causal link between cigarette advertising

and youth smoking initiation, as these studies are flawed in terms of both the methodology and the data employed.” They continued:

There are three central reasons why the studies cited in the *Cochrane Review* are flawed. The first problem is that these studies do not develop empirical causal models that are theoretically and statistically robust The researchers present no reliable empirical or theoretical analyses to justify any aspect of model selection and therefore do not address whether important variables are omitted, whether included variables may be endogenous, or whether underlying assumptions for statistical inferences are consistent with measurable empirical distributions.

The second problem is that these studies ignore well-established principles of statistical analyses of human behavior. Specifically, these studies ignore the consequences of human choice for the validity of their statistical analyses Specifically, the authors treat ownership of cigarette promotional items by a teenager as being exogenously determined. For example, both Biesner and Siegel (2000) and Pierce (1998) used ownership of cigarette promotional items as a measure of advertising exposure. Teenagers’ recollection of cigarette brands is also employed as an additional measure of teen marketing exposure. The problem is that these proxies for participants’ advertising and marketing exposure are plausibly related to already existing unobserved preferences to smoking and the adolescents studied. In other words, participants who have greater preferences for smoking might seek out and obtain more tobacco-related items, even if the items themselves have no independent causal effect on their desire to smoke.

The third flaw is that, even if the marketing exposure were exogenously determined, these metrics have not been shown to be related to any actual advertising exposure experience by the participants of these studies.

The strong inferences made from simple observed statistical associations in the public health literature on youth smoking initiation represent a key point of differentiation between carefully applied econometric analyses and other types of statistical inquires.⁶⁷

The article’s point is well taken and is crucial to the tobacco advertising debate. If advertising exposure and recall studies are

generally defective, then the decisive evidence in the debate comes from the more rigorous econometric analyses, analyses which for the most part fail to support the claim that there is a causal link between tobacco advertising and smoking initiation.

Finally, integral to, but generally unstated, in studies of advertising exposure and recall is the assumption that young people are particularly susceptible to advertising. These studies that posit whether through lack of experience or stage of cognitive development that young people are unable to understand or resist the persuasive appeal of advertising. This assumption is crucial inasmuch as exposure to and recall of advertising is at most a necessary condition for it to have an effect; it is not a sufficient condition. If adolescents understand advertising's intent and are skeptical of it, the research and explanatory assumption that one moves almost inevitably from exposure to behavior is open to serious question. We note this, as there are no studies of exposure to tobacco advertising that explicitly articulate, examine, and defend this assumption. Rather, they proceed on the assumption that, since young people are not sophisticated about advertising, the most plausible explanation of smoking is that exposure leads to smoking initiation.

This assumption is key to the claims about advertising's effect on adolescent behavior. There is, however, considerable empirical evidence that counts against its validity. Moreover, if this is the case, then the logic that advertising exposure provides the most compelling narrative for the movement from nonsmoker to smoker is seriously undermined.

In 2006, Luik examined a rich research base that suggested that children from at least age nine onward had a clear understanding of the pervasive intent of advertising.⁶⁸ Backe and Kommer, in a 1997 German study, found that 57 percent of children aged six understood that advertising was designed to sell things. Indeed, the study found that 58.9 percent of six year olds questioned the credibility of advertising at least some of the time.⁶⁹

Similarly, in Greenberg et al.'s UK study of children's understanding of TV advertisements, the children were asked, "What is the main reason they have advertisements on TV?" Eighty percent answered that it was because advertisers want to sell something. Less

than eight percent of the children did not know why advertisements appeared on TV.

In a 1997 study by Young et al., children aged four to eight were shown a series of seven commercials in which they were told that the end was missing and were asked to complete the advertisement by choosing one of three pictures: one that showed a promotional ending, one that showed a neutral ending, and a third that showed an entertaining ending suggesting that they did not understand the promotional and persuasive purpose of advertising. In the five to six year-old group, almost 38 percent of the children choose a promotional ending to the advertisements, leading Young et al. to conclude, “Children understand the promotional principle in advertising as early as five to six years.”⁷⁰

However, older children and adolescents not only understand what advertising is about; they are profoundly skeptical of it. Nava and Nava, summarizing their research on young people and advertising, observe that “no other age group is considered as discriminating, cynical and resistant to the ‘hard sell’...What emerges quite clearly from this picture then is that young people consume commercials independently of the product which is being marketed.” Comparing the advertising literacy of today’s adolescents with those of previous generations, the Navas argue that contemporary young people are armed with a “skepticism and powers of analysis” that are “a great deal more developed than those of older generations.”⁷¹

Buckingham, in a major UK study of children and adolescent interaction with advertising, reports a similar sophistication and skepticism about advertising. He writes:

In our interviews, we encountered a considerable degree of skepticism – and indeed cynicism – about television advertising. The children were clearly aware of the persuasive functions of advertising, and of the potential for deception...Advertising in general was rejected by many as merely a ‘con’ – a confidence trick The children were also very ready to parody or mock particular advertisements Far from admiring the glamorous role models that allegedly populate the world of advertising, the children seemed to reject the large majority of the people featured in them.⁷²

A study by Nail found a similar skepticism about advertising in a sample of U.S. adolescents. The survey found that only 7 percent of respondents found ads to be truthful. As Forrester notes, adolescents “remain skeptical of the ads they encounter.”⁷³ Because of this skepticism, the researchers found, adolescents are far more likely to ignore traditional advertising and turn to word of mouth product endorsements from family and friends.

With these important limitations in mind we now turn to an examination of several crucial studies of adolescent exposure to tobacco advertising. As the number of such studies is substantial, we have chosen to use those discussed in the *Cochrane Review*.⁷⁴ The *Cochrane Review* provides a systematic analysis of the scientific evidence supporting medical practice and public health interventions such as tobacco advertising bans.

First, it is not clear that any of these studies have adequately controlled for other smoking risk factors. That is, it is not evident that the alleged causal factor of advertising has been properly isolated so that a genuine association can be determined. For example, it might be true that 16-year old adolescents who can remember tobacco advertisements are more likely to smoke as 20-year olds than those who do not remember such advertisements, but it does not follow that this is because they remembered tobacco advertisements. It might well be that those 16-year old adolescents who can remember tobacco advertisements might also share some other characteristic, such as being more inclined to risk-taking, or performing more poorly at school, and it may be these factors (that have been excluded from one’s study) rather than remembering tobacco advertisements, that are the cause(s) of subsequent adolescent smoking. The literature on the tobacco initiation, for example, reports dozens of variables that predict smoking uptake.

These selection issues are a central problem of statistical analysis and there are recognized techniques for dealing with them. However, there is no evidence in any of these studies that they have been addressed and this renders any causal conclusion about the connection between tobacco advertising and adolescent smoking impossible.

Second, all of the studies suffer from the assumption that the direction of causality is one way, that is from exposure of advertising to owning tobacco promotional items, and then to interest in smoking

and, finally, to smoking uptake. Yet, there is no empirical or theoretical support offered for this inference. Adolescents who are interested in and receptive to smoking can be assumed to have a smoking preference that would lead to their interest and recall of tobacco advertising. Their smoking preference could have been formed prior to and independently of any tobacco advertisement. As Smee notes, adolescents “disposed to smoke are more likely to react positively to tobacco advertising and show greater awareness of it.” This would mean then that discovering an association between remembering tobacco advertisements or owning tobacco promotional items and subsequently smoking does not constitute compelling evidence that the former has led to the latter.

Third, although the studies make claims about the effects of tobacco advertising on smoking uptake, it is not clear that they have measured the extent of tobacco advertising and any individual’s exposure to it at all. Rather, they have used possession of a tobacco promotional item as a proxy for exposure to tobacco advertising. In none of the studies, for example, are subjects asked about their actual lifetime exposure to tobacco advertising. In effect, what is reported is exposure to tobacco promotional items and subsequent smoking.

Fourth, all of the studies accept the advertising effects model, where exposure to advertising leads through a causal chain to acting in accordance with the advertising. For example, Pierce et al. claim that they use a communication persuasion framework that incorporates a hierarchy of effects model. Despite this, none of the studies, including Pierce et al., provides any theoretical or empirical evidence that supports this effects model. More importantly, no study traces the effect of an advertisement from its being seen through each of the stages to affecting behavior. This progression of effects is assumed to operate, but it is not demonstrated.

For example, subjects in these studies are asked at T 2 to recall tobacco brands or advertisement exposure from T 1. From this it is claimed that their smoking behavior at T 3 is the consequence of their exposure. But even on the effects model, this assumption is suspect since it postulates the necessary intermediate steps of being convinced by the advertisement, recalling it, using it to make a decision, and acting in accordance with that decision. None of these studies investigates with its subjects whether any of these intervening steps have occurred. None of the studies examines anything more than the

intervening variables after the (presumed) encounter with the advertisement. That is, none of these studies demonstrate that adolescents who have decided to become smokers have done so on the basis of recalling, agreeing with, deciding upon, and acting upon the advertisement that they saw at T 1. What we are offered is an unsubstantiated intuition about the effect of tobacco advertisement that is absent of empirical support. It is, therefore, an open question as to whether on the effects model the outcome at T 3 is a causal consequence of the exposure at T 1.

We now examine each of the four studies. Sargent et al.⁷⁵ examine the relationship between owning a tobacco promotional item and smoking behavior. The authors report that their study provides support of a “causal relation” between owning promotional items and smoking. Several problems, however, render this conclusion untenable. First, the study is not about being exposed to tobacco advertising campaigns, but about owning an item with a tobacco logo. Second, as the authors admit, the cross-sectional character of the study makes it impossible to determine whether ownership precedes smoking. Given that this is the most important question at issue, it renders the study useless for the purpose of the answering the causal question. Third, the study has a marginal statistical significance (Confidence Interval [“CI”] 1.1-2.6) for owning a tobacco promotional item and smoking experimentation that makes its findings indistinguishable from chance. Indeed, the Odds Ratio (“OR”) for being further along the smoking uptake process if one’s family and friends are smokers is 5.5 (CI 3.1-9.8). The adjusted OR of being a smoker if one’s family and friends are smokers is 17.7, meaning that both of these risk factors provide stronger reasons for smoking than putative advertising exposure. Finally, the study found no association between owning a promotional item and smoking experimentation in students in grades 10-12.

Choi et al.⁷⁶ examine the association between tobacco advertising and the movement from experimental to regular smoking in a cohort of California adolescents from 1993-1996. The results fail to support a causal connection between tobacco advertising and progression to regular smoking. First, adolescents who were moderately receptive to tobacco advertising were not more likely to become regular smokers than those who were not receptive. Second, the strongest predictors of becoming a regular smoker were having both family and friends as smokers, poor family relations, and believing that one could quit

smoking at any time. In other words, the study's other associations, which were statistically significant, provided on its own terms stronger alternative accounts of the causes of adolescent smoking than did the statistically non-significant receptivity to advertising measure.

Beiner and Siegel⁷⁷ provide an analysis of adolescent smoking in relation to tobacco advertising based on a telephone survey of Massachusetts youths that they claim provides more support for a causal inference about the effect of tobacco advertising on adolescent smoking uptake. Unlike some other studies, they claim to control for other potential causal factors for smoking uptake. They report an adjusted OR of 2.70 for those who were highly receptive to tobacco advertising in 1993 for becoming a regular smoker in 1998.

Again, however, this study suffers from several problems that make its claims of justifying causal inference invalid. To begin with, the study controls for only eight of well over a hundred variables reported in the literature that might account for smoking uptake. Second, the study reports that those who had the highest likelihood of becoming regular smokers (OR 3.82) were those who were experimenting with smoking in 1993, strongly suggesting an alternative causal hypothesis of much greater power. For another thing, the study fails to provide any measure of actual advertising exposure. Indeed, subjects are not asked to validate that they have seen any tobacco advertisements; instead they are asked which tobacco brand most attracted their attention. Obviously, knowledge of tobacco brands is not necessarily connected with exposure to tobacco advertising, and the study provides no evidence that the one is a reliable proxy for the other. In effect, the study provides no data on whether the subjects were exposed to any tobacco advertising; let alone how much tobacco advertising. Third, students who owned a tobacco promotional item or named a tobacco brand were designated moderately receptive to tobacco advertising, but there was no statistically significant association between being moderately receptive to advertising and becoming a regular smoker.

Finally, Pierce et al.⁷⁸ looks at a total of 1,752 adolescent non-smokers first interviewed in 1993 in a telephone survey in California. Adolescents who reported a favorite tobacco advertisement and who had a tobacco promotional item or were willing to use such an item were more likely to begin smoking than those who did not report an ad or possess a promotional item. This conclusion is undermined by three

factors. First, there is no attempt again to control for relevant alternative explanatory variables. Nor is there any theoretical explanation as to why such alternatives are omitted or whether these variables might be correlated with the variables included in the study. Even those few variables that were included in the original survey were dropped without explanation from the final model. This suggests an omitted variable bias.

Second, the study's results are rendered suspect by the fact that widely reported predictors of smoking uptake such as exposure to peer smoking and exposure to family smoking are not statistically significant. Third, as with the previous studies, there is no objective measure of the degree of exposure to tobacco advertising. Finally, among those who could name a cigarette brand, but not an advertisement, there was no statistically significant association with becoming a smoker. In addition, among those who named an advertisement the association was barely significant (CI 1.04 to 3.2).

Based on both the problems common to all of these studies, and the specific defects of each individual one, it is clear that despite the claims that research on tobacco advertising and adolescent exposure and recall advances the evidence about tobacco advertising and consumption, these studies fail to provide persuasive evidence about a causal connection between advertising and adolescent smoking initiation. Indeed, if these studies do anything, they diminish the case for an advertising smoking uptake connection since when they do provide even a limited control for other predictors of adolescent smoking, three of them provide evidence of alternative causal explanations of adolescent smoking, with associations found between peer and family smoking, believing one can stop smoking at any time, poor family relations and being an experimenting smoker.

B. Tobacco Advertising Bans

If tobacco advertising causes youth smoking and increases consumption then tobacco advertising restrictions or complete bans should reduce both. Advertising restrictions and bans then provide important evidence about the claim that tobacco advertising affects smoking behavior.

Studies of tobacco advertising restrictions and bans fall into two categories: econometric studies of only broadcast advertising bans;

and cross-country econometric studies of advertising restrictions and bans across all media, including TV and radio, print, cinema, billboard, bans of tobacco sponsorship of cultural and sporting events, bans of tobacco brands on non-tobacco items, and tobacco advertising in retail venues.

Studies of broadcast bans are far more numerous with ten studies examining U.S. data (Hamilton, 1972; Schneider et al., 1981; Bishop and Yoo, 1985; Baltagi and Levin, 1986; McAuliffe, 1988; Seldon and Doroodian, 1989; Seldon and Boyd, 1991; Franke, 1994; Gallet, 1999; and Nelson, 2006),⁷⁹ and five studies from other countries (Hamilton, 1977; Atkinson and Skegg, 1973; Johnson, 1986; McLeod, 1986; and Valdes, 1993).⁸⁰ Seven of the U.S. studies find that the 1971 broadcast ban had no statistically significant effect on consumption. All of the non-U.S. studies find that broadcast bans had no statistically significant lasting effects on consumption.

Summarizing the evidence from cross-country econometric studies of advertising restrictions and bans in 1996, Duffy concluded, “There are results pointing in both directions in these studies with respect to the impact upon demand of advertising bans. On the basis of this review, however, we are left with the definite impression that the weight of the evidence in these studies does not give much support, if any, to those who believe that advertising bans are an effective means of reducing consumption.”⁸¹

Duffy based his conclusion on a relatively limited number of studies (five) and also a limited experience of advertising bans. Moreover, none of the early cross-country analyses addressed the question of whether the adoption of advertising restrictions and bans were a product of endogenous as opposed to exogenous factors.

For example, it is reasonable to assume that as the smoking population in a country declines and anti-smoking sentiment increases, then the likelihood of restrictions on tobacco advertising increases. In such a case, the advertising restriction is endogenous. Studies of the effects on consumption and smoking initiation of advertising bans could thus confuse consumption declines as the effect rather than the cause of restrictions and bans. In fact, all of the initial studies of the effects of advertising restrictions proceeded on the assumption that such restrictions were exogenous, which creates the potential for bias.

Since Duffy's 1996 review, there has been a substantial increase in the number of countries that have adopted comprehensive tobacco advertising bans, and during this time there have been four new studies of the effects of such measures. Saffer and Chaloupka examine the experience of 22 OECD countries from 1970-1992 using two dependent variables (annual per capita cigarette consumption and annual per capita tobacco consumption). Using their full dataset, the coefficients on comprehensive bans fail to reach statistical significance in seven of eight specifications. Comprehensive bans are statistically significant on data for only three countries, Finland, Iceland, and Norway. Partial bans are statistically significant only from 1986-1992. The data limits in the study appear, however, to be arbitrary and raise the concern that the data has been mined to produce selected samples confirming the desired results.⁸²

Lancaster and Lancaster, in addition to providing a summary of advertising coefficients in relation to tobacco consumption, summarize 199 coefficients from 21 studies representing data from 23 countries that have examined the effects of tobacco advertising bans on consumption. They find that 70.8 percent of the coefficients were not negative and statistically significant, with 5.5 percent of the ban coefficients positive and significant, suggesting that bans are associated with increased consumption. They conclude, "The evidence indicates that full or partial bans on advertising are likely to have little or no effect on aggregate cigarette or tobacco demand because the banned advertising itself apparently has little or no effect on aggregate demand."⁸³

A first study by Nelson uses a public choice "two equation" model of advertising legislation and cigarette demand. The public choice framework provides a model for explaining the adoption of advertising bans in an effort to address the question of whether such bans proceed and thus cause consumption declines or whether they occur after consumption declines have already taken place.⁸⁴ Unlike Saffer and Chaloupa, Nelson considers not only the type of media banned but also the number. The results validate the public choice model in that advertising bans occur *after* smoking prevalence has declined to such an extent that smokers no longer represent a significant political constituency. Advertising restrictions are thus a response to decreased smoking prevalence and consumption, not a cause of them.

None of the results show that advertising bans or restrictions reduce total consumption. As Nelson notes:

Data and estimation procedures used in previous studies are most likely picking up the significant declines in consumption that began in the late 1970s and early 1980s, which are unrelated to major changes in advertising restrictions. Beginning around 1985, the decline in smoking prevalence, along with a number of related factors, resulted in a shift in price and income elasticities. There was a change in the political climate favoring stronger restrictions on cigarette advertising, which followed rather than caused reductions in smoking and smoking prevalence.

In a second study, Nelson provides a unique analysis of the effect of tobacco advertising bans on youth smoking prevalence. It is the only study that has examined the crucial component of the advertising debate that focuses on the effect of tobacco advertising on youth smoking uptake and consumption. If tobacco advertising causes young people to smoke, it can reasonably be expected that the introduction of tobacco advertising bans should result in a decreased youth smoking prevalence.

According to Nelson, however, this is not the case. Using survey-based data for young people aged 13-15 in 42 developing countries from 1999-2001, and variables for income, demographics, advertising bans, and additional tobacco control policies, such as health warnings, anti-tobacco educational classes, and access restrictions, Nelson finds that while several variables (such as income and smoking by peers) do have an effect on youth smoking prevalence, advertising bans do not. Nelson writes, “regardless of severity, advertising bans are not a factor.”⁸⁵

Nelson’s findings about the ineffectiveness of advertising bans are confirmed in another econometric study that focuses on the effect of personal and national income on smoking. Pampel examines data from 145 countries and finds that a range of government measures, including advertising restrictions and bans, had no statistically significant effect on smoking prevalence.⁸⁶ These results are confirmed by examining the results of the recent Global Youth Tobacco Survey⁸⁷ an international survey of youth smoking prevalence. It finds no statistically significant differences in youth smoking prevalence between countries like Norway, Finland, and

Canada, with comprehensive advertising bans, and countries like the United States, Russia, and Israel, with only a broadcast ban. For example, Norway, with the world's first tobacco advertising ban (1975), had a youth smoking prevalence of 54.6 percent. Finland, with an advertising ban since 1978, had a smoking prevalence of 66 percent, and Canada, with a ban since 1989, had a rate of 54 percent. These rates compare to countries such as the United States, which does not have a comprehensive advertising ban, and has a youth smoking prevalence of 51.3 percent, or Russia, which has virtually no tobacco control policies and no tobacco advertising ban, with its rate of 54.6 percent, or Israel, with a prevalence of 39.8 percent, and only a broadcast ban.

Further confirmation is provided in a meta analysis of the entire published cigarette advertising ban research by Capella et al.,⁸⁸ which found that tobacco advertising bans, either full or partial, did not have a statistically significant effect on cigarette consumption. As they observe: "Our results suggest that both full and partial advertising bans are equally ineffective in reducing consumption. Because advertising bans are found to be non-significant with regard to consumption, eliminating cigarette advertising does not appear to be an effective means of reducing smoking and consequently may not serve its intended purpose."

Indeed, when one examines the experiences of countries such as Norway, Finland, and Canada, it becomes clear that advertising bans have had little impact on youth smoking prevalence. For example, in Norway in 1995 female adolescent smoking prevalence was 44 percent, roughly what it was in 1974 prior to the advertising ban.⁸⁹ In fact, total cigarette consumption in Norway in 2000 was more than it was prior to the advertising ban.⁹⁰ In Finland, despite the advertising ban, prevalence increased through the 1980s to the 1990s.⁹¹ In addition, in Canada one finds that in 1991, three years after the introduction of the comprehensive advertising ban, the government reported that there was no change in smoking prevalence since before the advent of the ban. In fact, prevalence for adolescents aged 15-19 increased despite the absence of advertising. (Luik, 1996, Health Canada, 1994)

The majority of American studies on the effect of broadcast bans, and all of the non-American studies, report no statistically significant effect. Moreover, of the new cross-national studies of the effects of

advertising bans published since 1996, all but one finds no statistically significant effect of advertising bans. Finally, the Global Youth Tobacco Survey data from the World Health Organization reveal no statistically significant differences in youth ever-smoking prevalence between countries with advertising bans, even of long-standing, and countries with only minimal advertising restrictions, such as Russia and the United States.

C. Alternative Accounts of Smoking Initiation

Given the fact that the overall tobacco market in the developed world has been contracting at a reasonably constant rate, and given the absence of compelling econometric evidence that advertising has increased that market, or indeed that advertising restrictions or bans have reduced the tobacco market, the debate over the effects of tobacco advertising has come to focus much more exclusively on the claim that tobacco advertising causes young people to begin to smoke. As we have seen, the evidence from studies of advertising exposure and recall does not support this claim.

Another way in which these claims about the causal role of advertising can be tested is through an examination of alternative accounts of what causes young people to smoke. For example, a commonly applied epidemiological criterion of causality requires that there is no other explanation that can account for the evidence.⁹² These alternative accounts, however, take a young person exposed to tobacco advertising and provide alternative explanations as to why he or she becomes a smoker. Thus, they individually, and severely, undermine the validity of the causal claim about the link between tobacco advertising and smoking uptake.

These alternative accounts, though often ignored in the advertising debate, are held by a majority of researchers who focus on youth substance abuse, and they are richly supported in the research literature. Given the lack of compelling evidence about the causal role of advertising in youth smoking initiation, these provide a better and more evidence-based account of the process. The major academic studies of youth smoking initiation, most underwritten by various national governments, *do not* support the claim that exposure to tobacco advertising is a significant predictor of youth smoking. Six studies over the last decade and half are particularly illustrative of this.

A survey-based study by the Office of Population Censuses and Surveys on behalf of the UK DoH, the Goddard Report,⁹³ identifies a number of characteristics that are more likely to be found among those adolescents who subsequently begin to smoke than among those not starting to smoke. These characteristics include being female; having brothers or sisters who smoke; having parents who smoke; living with a single parent; not intending to stay in full-time education after the age of sixteen; and having relatively less negative views about smoking.

What is particularly interesting is that all of the foregoing characteristics are associated independently with smoking initiation, all but one has no connection with tobacco advertising, and there is no single explanation as to why young people begin to smoke. As Goddard notes, “The onset of smoking in young people is a complex process – no simple combination of a small number of factors can be put together to form a good explanation of why some children start to smoke at this age, while others do not.”

The work of Conrad et al. echoes the conclusions of the Goddard Report.⁹⁴ These authors confined their analysis of youth smoking initiation to longitudinal, as opposed to cross-sectional, studies about the factors influencing youth smoking that were published from 1980 onwards. The age of the adolescents in the studies ranged from 10-17 with the median age being 12-13. The studies ranged from four months to two years and were conducted in the U.S., Europe, and Australia.

Conrad and her colleagues grouped their analysis of the “process of becoming a smoker” around five different categories of smoking predictors: 1) socio-demographic; 2) social bonding; 3) social learning; 4) intrapersonal/personal/self-image; and 5) knowledge, attitudes, and behavior predictors. They then discussed the findings by examining the “proportion of results that were consistent with theoretical expectations,” that is, how well each of the five predicted whether an adolescent would become a smoker.

- Socio-demographic predictors, such as socio-economic status, age, and gender were consistent with theoretical expectations 76 percent of the time, with the strongest predictor of becoming a smoker being socio-economic status and age.

- Social bonding predictors, including family and peer bonding and school influences, were consistent in predicting uptake of smoking 71 percent of the time.
- Social learning predictors – family smoking, family approval of smoking, other adult influences (including tobacco advertisements and tobacco sponsorship of sporting events), peer influences, and the availability of tobacco – were consistent in 72 percent of the cases. Only two studies in the authors’ review examined exposure to advertising and tobacco sponsorship as factors in smoking onset and both of these factors were found to be non-predictive of smoking initiation.
- Intra-personal, personal, self-image predictors – which included tolerance of deviance, independence, rebelliousness, risk-taking, alienation, and locus of control – were consistent in 77 percent of the cases. What is particularly striking is that the most reliable predictor in this grouping was rebelliousness/risk-taking. Indeed, the authors found this predictor to be one of the most reliable indicators of smoking initiation in the entire literature.
- Knowledge, attitude, and behavior predictors – including knowledge and beliefs about physical consequences of smoking, addiction, expected utility, approval of cigarette advertisements, alcohol and substance use – were predictive in 75 percent of the cases. Approval of cigarette advertisements was predictive in one study and non-predictive in another.

Two factors about this exhaustive study of the research literature on youth smoking are particularly relevant to the question of the relationship between advertising and the initiation of youth smoking. First, very few serious students of smoking initiation, as opposed to advertising ban proponents, consider tobacco advertisements to be even a theoretically interesting predictor of smoking onset among children. Second, one of the strongest predictors of smoking initiation among children was rebelliousness and risk-taking.

Conrad et al.’s analysis of the longitudinal research on youth smoking initiation and advertising has been confirmed in other research that has taken predictor variables and combined them into single studies. For example, Smith and Stutts combined the major

predictor variables of youth smoking into a single study that found that all variables related to cigarette advertising and antismoking information ranked low as predictors of smoking.⁹⁵ As the authors noted, “This suggests that exposure to cigarette advertising, paying attention to cigarette ads, being familiar with cigarette characters and brands, and exposure to antismoking information *are not* [emphasis added] good predictors of smoking level.”

A similar skepticism about the role of advertising in children starting to smoke is to be found in Smee’s DoH report. Dismissing the many studies which suggest that recognition of tobacco advertising serves as a proxy for the effect of advertising, Smee is careful to note that there is a crucial difference between young people recognizing tobacco advertisements and such recognition leading to smoking: “Awareness of advertising is at most a necessary condition for coming under its influence. It is not reliable evidence that advertising increases consumption.”⁹⁶ Further, Smee correctly notes that the direction of causality with respect to advertising and smoking uptake is just as plausibly interpreted as running in the opposite direction, namely adolescents “disposed to smoke are more likely to react positively to tobacco advertising and show greater awareness of it.”

Echoing other studies, Smee observes that two of the most important factors for smoking initiation are the smoking behavior of siblings and of parents. Finally, and most importantly, Smee himself, carried out a detailed statistical analysis of whether tobacco advertising is “likely to influence the smoking prevalence among teenagers.” A separate model was developed for UK adolescent men and women, he reports, and “in neither model was advertising a significant factor.”

In 1998, two British researchers, Lloyd and Lucas, published their groundbreaking work on youth smoking.⁹⁷ Their research, commissioned by the UK DoH and based on a decade of actual interviews with adolescents, argued that the traditional anti-smoking interventions, including school-based education programs, needed to be reevaluated as they failed to connect with the actual causes of youth smoking. Lloyd and Lucas argued that most of the research on adolescent smoking has been undertaken from a medically-orientated and middle-aged perspective as opposed to the perspective of adolescent smokers.

Based on two empirical studies of adolescent smokers, one in Sussex and the other in London, Lloyd and Lucas note that the primary reasons behind adolescent smoking are to be found in the structures and functioning of families, school cultures, the need for stress and mood control, and the fact that smoking provides pleasure. Adolescents who lived with their biological parents and in well-functioning family units were far less likely to smoke than those in single-parent families or stepfamilies. The studies also found that peer influences and specific school cultures with their varying rates of academic success also predicted smoking uptake. Finally, smoking was widely used by both boy and girl adolescents to cope with both family-and school-related stress.

The fifth study of interest to the question of youth smoking initiation is the work of Jessor and his colleagues in the United States.⁹⁸ Jessor looked at a range of problem behaviors, including alcohol, smoking, delinquency, and sexual precocity, in order to identify the factors that served to protect adolescents from such risks. Seven protective factors were identified as being crucial: positive orientation towards school; positive orientation towards health; intolerant attitudes towards deviance; positive relations toward adults; strong perceived controls; friends who engage in conventional behaviors; and involvement in pro-social activities (for example, voluntary work).

Contrasting with these seven protective factors were six risk factors that increased the likelihood for behaviors like smoking and drinking: low expectations for success; low self-esteem; general sense of hopelessness; friends who engage in problem behavior; a greater orientation towards friends than towards parents; and poor school achievement. Jessor found that problem behavior like smoking and drinking showed a statistically inverse relationship to protective factors. Protective factors moderated the risks associated with problem behavior.

Jessor's work has subsequently been incorporated into much of the current work on youth smoking and drinking centered on the idea of resilience, which looks at the ways in which adolescents that live in environments with a high risk for smoking and drinking can avoid these behaviors. What is important about the work of Jessor and those researchers focused on resilience is that, like the work by Lloyd and

Lucas, it does not identify advertising as a statistically significant determinant of smoking initiation.

A final approach to explaining youth smoking is, like the work of Jessor, focused on adolescent problem behaviors in general, and explains smoking within the context of this general account of risk factors for problem behavior by young people. Known as the Determinants of Health approach, it argues that the health of populations and individuals is based on four factors: 1) living and working conditions – that is social and economic environments, incomes, social status, education, the community, and social support networks; 2) the physical environment including the human constructed environment; 3) personal capacities, especially for coping; and 4) the nature and extent of the health services. According to this approach, youth smoking is best understood as the result of such factors as income, education, work, school culture, and individual capacities for self-esteem and coping.

Fralick and Hyndman, in a report on the link between adolescent smoking and social determinants for the government of Canada, note that “Young people from lower socioeconomic backgrounds are generally more likely to smoke than their economically privileged peers.”⁹⁹ Indeed, this sort of information is not new. A generation ago Borland and Rudolph found from an examination of high school students in Pennsylvania that socio-economic status (SES) was an important predictor of adolescent smoking.¹⁰⁰ Stanton et al. in an analysis of the sociodemographic characteristics of New Zealand adolescent smokers found that the three most important risks for smoking included low family SES.¹⁰¹ Melissa Davy of the UK Office for National Statistics reports that “time trend analysis shows that a larger percentage of men and women in manual than non-manual households smoke.”¹⁰² Again, Graham and Der found that adolescent SES, along with school-leaving age and school qualifications, had a significant effect on smoking status.¹⁰³ These findings are echoed in Graham et al., which examined the connection between SES and smoking status in an international context and found that “poor childhood circumstances, as measured by parental occupation/education, is associated with higher rates of regular smoking and higher levels of cigarette consumption in adolescence.”¹⁰⁴

Considerable support for the social determinants approach is also prevalent in one of the longest running longitudinal studies on smoking initiation, the Liverpool Longitudinal Study on Smoking (LLSS), which was established in 1994. The key aim of the LLSS was to answer the question, “Why do young people smoke?” To answer this question, the study has followed a single birth cohort of children from the age of 5-16. In its most recent report, *The Liverpool Longitudinal Study on Smoking: Experiences, Beliefs and Behavior of Adolescents in Secondary School 2002-2006*,¹⁰⁵ the study focuses on the key factors that lead to trial and experimental smoking by adolescents. Central risk factors include living in areas of high social and economic deprivation. It notes that “between ages 14-16 those living in an area with a high deprivation score were 95 percent more likely to try smoking.” It also reports that students served by poor schools had a significantly higher risk of trying, with this predictor increasing the risk of trial by 95 percent. Similar findings are reported in Glendinning¹⁰⁶ and Jefferis.¹⁰⁷

In addition to socio-economic factors, family structure and functioning are also important predictors of smoking uptake, according to the determinants approach. Using the ESPAD survey of European school children’s drug use, Kokkevi et al. found that adolescent regular use of tobacco is associated with “parental absence and lack of monitoring of children’s going out, dissatisfaction with parents.”¹⁰⁸ Bjarnason et al. report on the risks of smoking for adolescents not living with both biological parents. They find that, “Adolescents living with both biological parents smoke less than those living with single mothers.”¹⁰⁹ Miller finds that young people in families with both parents present were much less likely to have tried or frequently smoked.¹¹⁰ In an analysis of the ESPAD data with respect to the UK, Miller and Plant find that such risk factors as parental monitoring and parental attitudes to substance abuse were highly reliable for predicting smoking uptake. Again, they found that family relationships “assumed far greater importance in predicting variables such as the student’s self esteem,” another important social determinant of smoking.¹¹¹ These findings, of course, parallel those of Lloyd and Lucas in terms of the importance of family relationships, particularly between parents and children, in terms of smoking uptake. Moreover, the associations are not just between parental characteristics or parent-child interactions, but also siblings. American studies have found that adolescents were three times as likely to not smoke if no one in their home, including siblings, smoked.

What of social networks, particularly friends? Anderson reports that social environment and the influence of friends is the single most important determinant for smoking uptake.¹¹² Van Roosmalen and McDaniel found that friends play a significant role, particularly for female adolescents, in the decision to smoke.¹¹³ In a study commissioned by Health Canada on adolescent smoking initiation, Connop and King report that smoking uptake is driven by the young person's need to be socially integrated into a group that accepts and supports them.¹¹⁴ Young people interested in smoking, particularly those "experiencing strains in their home life coupled with feelings of disenchantment with their parents' expectations," gravitate to other young people with similar feelings and interests. Smoking thus arises out of the process of at least partially self-defined and initiated social exclusion. These peer group structures provide a sense both of belonging and shared values for adolescents who are often disaffected with both their families and schools. Smoking provides an important function in terms of being an activity that defines the group and serves as a condition of membership. (Lloyd and Lucas found similar bonding between adolescents and similar demands on the part of the group that all of its members smoke.) As Connop and King observe, "Smoking's negatively charged public image" is in part precisely what attracts these youths to it, a fact that suggests that the widely advocated policy of denormalisation could have significant counterproductive consequences in terms of young smoker reactance.¹¹⁵

Education in the broadest sense, that is, school culture, connection, and academic success, is also strongly associated with smoking uptake. A number of studies have found that adolescent smoking is strongly linked to poor academic achievement and dissatisfaction with school. Miller and Plant in their study of smoking, drinking, and illicit drug use in the UK found that higher levels of smoking were associated with poorer school performance.¹¹⁶ For example, among students reporting above average school performance, only 20.4 percent reported smoking 40 or more times compared with 44.1 percent of those who reported below average school performance. Bryant et al. found that during adolescence "the predominant direction of influence is from school experiences to cigarette use."¹¹⁷ School misbehavior and low academic achievement contribute to increased cigarette use over time both directly and indirectly."

Hu et al. reported that school performance “is a key factor in predicting smoking status after control for other sociodemographic and family income factors.”¹¹⁸ Again, Jefferis et al. observe, based on a British cohort of individuals followed for 41 years, that not only do educational factors predict adolescent smoking, but the future course of smoking.¹¹⁹ They write that, “The individual’s education level explained most of the association and had a strong graded effect on the odds of persistent smoking...Men and women who had no education qualifications were most likely to smoke.”

Moreover, Lloyd and Lucas note that it is not simply the academic results of the school but its entire culture that is associated with smoking uptake. This is confirmed in a study by Rasmussen et al. in a study of students in Denmark that found an “inverse association between school connectedness and adolescent smoking.”¹²⁰ Similar associations were reported in a recently published study of 5,092 students in 24 Scottish schools. Henderson et al. found that culture differences between schools provide a powerful explanation of between school differences in adolescent smoking prevalence.¹²¹ The “social environment of schools, in particular the quality of teacher-pupil relationships, pupils’ attitude to school and the school’s focus on caring and inclusiveness, can influence both boys’ and girls’ smoking.” The effect of school culture and academic performance on smoking is also reported in the LLSS previously discussed.

Finally, there is the important association between individual coping skills and smoking uptake. A large amount of research has linked deficits in coping skills with tobacco use. This is particularly true of self-esteem. Clayton found that low self-esteem, for example, was related to smoking uptake in boys, though not in girls.¹²² A study by Allen et al. reported that adolescent male smokers had significant problems in coping with social situations, being more lonely and shy than nonsmokers.¹²³ Abrams, writing about the importance of understanding the role of stress in substance use, observes that “to understand the context of the transition from initiation to dependence [in smoking], a model should include the broad domains of stress in adolescence – the massive disequilibrium of the pubertal transition from the neurohormonal, mood, self-image, sexuality, cognitive, familial, social, school, neighbourhood, cultural and societal perspectives.”¹²⁴ While some attention has been directed to improving coping skills as a way to prevent adolescent smoking, little thought has been given to the root causes of such deficits. The advantage of

the social determinants approach is that it seeks to locate these in such factors as socio-economic status, school performance, and family relationships.

Indeed, as Edwards et al. wrote “there is no present research evidence which can support their deployment (school-based education, public education, warning labels, and advertising restrictions) as lead policy choices or justify expenditure of major resources”¹²⁵ unless such programs are placed in the wider context and address the risk factors identified by the social determinants.

Consequently, the social determinants of health approach to youth smoking prevention has become increasingly popular. In 1998, the Canadian Government, through its National Forum on Health, identified several policies based on the determinants approach to prevent youth smoking.¹²⁶ These included: fostering positive, healthy home environments; decreasing socioeconomic disparities and inequities among youth; keeping youth in school; addressing literacy concerns; and ensuring access to healthy sport and recreational activities for youth.

Again, it is noted, first, how specifically these policies connect with what the determinants of health approach identifies as the major risk factors for adolescent smoking and, second, the policy menu *does not* include tobacco advertising as a risk factor for adolescent smoking initiation. Most recently, the social determinants of health approach has been adopted by the WHO as the basis for its health promotion activities, including tobacco control.

The validity of these findings is further enhanced by the fact that even those studies which report associations between tobacco advertising and youth smoking report significantly stronger associations between the risk factors identified in these other studies and smoking than between advertising and adolescent smoking. For example, Henriksen et al.¹²⁷ report a barely significant OR of 1.5 between exposure to retail tobacco advertising and displays and smoking. This compares with an OR of 3.1 for having at least one friend who is a smoker and 3.4 for risk-taking propensities above the mean. Indeed, even the recent UK tobacco control strategy accepted the validity of the social determinants approach.

Given that neither the nature of the product argument nor the right of use argument can support the abrogation of tobacco trademark rights envisioned by plain packaging, the only remaining defense of plain packaging under intellectual property law is by demonstrating that plain packaging mandates are “necessary” to protect public health. To demonstrate such necessity, advocates of plain packaging must show that tobacco advertising, of which tobacco packaging is allegedly one form, initiates and increases tobacco consumption. The weight of the evidence, however, as we have seen from econometric studies of advertising and consumption, from recall and recognition studies of tobacco advertising, and from the effects of tobacco advertising bans, fails to demonstrate a causal connection between tobacco advertising and smoking initiation and consumption.

IV.

THE EFFICACY OF PLAIN PACKAGING

The only remaining means by which champions of plain packaging can show a public health necessity is through demonstrating that 1) tobacco packaging as opposed to tobacco advertising in general causes smoking, increases consumption, or inhibits quitting, and 2) plain packaging can prevent or reduce these effects.

Before examining the individual studies cited as evidence of plain packaging as a necessary public health measure, we first set out several methodological issues which occur throughout the research on plain packaging. These methodological issues are in many instances so substantial that they undermine any credibility that the studies may claim in providing evidence of a connection between smoking and plain packaging.

A. Measurement

A basic requirement of science is its ability to warrant that its measurements (data in the case of social science research) are accurate. If a scientific report cannot warrant the accuracy of its data,

then it cannot warrant the accuracy of its conclusions. The literature about plain packaging is full of measurements that cannot be warranted as accurate since, for instance, they are based on the unverified self-reports of subjects, particularly about smoking status, or probabilistic estimates of subjects' future beliefs and actions.

Self-reports are subject to a number of accuracy problems. For instance, self-reported data may be inaccurate because of certain situational factors associated with the social desirability of the behavior, such as smoking, being studied. The research literature notes that self-reports are plagued by social desirability bias where subjects report what they believe the interviewer wishes to hear or the socially preferred option rather than what is actually the case. This is particularly likely to occur when the purpose of the research or the research sponsor are known to the subject. (As is the case in the Environics research on packaging and tobacco warnings. The subjects were told that Health Canada was the research sponsor.)

Luepker et al.¹²⁸ found that “reported quitting by telephone was an unstable category because of relapse and misreporting with 35 percent of self-described quitters in the telephone interview admitting to being smokers in a face-to-face interview.”

Self-reported data is also often inaccurate because of the cognitive processes that underlie the survey process. Research has found that at least four different cognitive processes are involved in answering survey questions, including comprehension of the question, retrieval of the required information, decision-making as to whether the retrieved information matches the question, and, finally, providing the response. Errors can occur at each stage in this process, as well as through unconscious rationalization and outright deception. Some studies have shown that the likelihood of untruthful responses rises with the degree of threat posed by the question.

As Brener et al.¹²⁹ observe: “It has been hypothesized that error potentially arises at each of these stages, which in turn contributes to validity problems...[B]ecause the specific cognitive operations employed in responding to a question may differ depending on such factors as the length of the reference period and the type of response required...validity can vary from question to question.”

In short, a subject's self-reported data then, assuming that it is not self-consciously deceptive, is always at least twice removed from an objective and accurate report in that they can only report what they remember seeing, doing, believing, and what they think they saw, did, or believed, both of which can be different from what they in fact they did see, do, or believe. As Agostinelli and Grube note, "People are notoriously inaccurate in making attributions for the causes of their behavior."¹³⁰ Yet, an extraordinarily large amount of the plain packaging research literature is in fact based on taking those self-attributions at face value. That this undermines the conclusions of much of the research on plain packaging is accepted by even an advocate of such packaging, Goldberg, who notes that the influence of packaging on smoking "cannot be validly determined by research that is dependent on asking consumers questions about what they think or what they might do if all cigarettes were sold in the same plain and generic packages."¹³¹

Corrective estimation techniques can address some of these issues of measurement accuracy, but it is not clear the studies examined here have used them.

B. Alternative Explanations & Confounding Variables

None of the plain packaging studies consider other explanations for the results that they report. The research literature on smoking initiation generally suggests that smoking, like other adolescent instances of risk-taking, is the result of several causes. The plain packaging literature, however, ignores these alternative explanations and instead considers only tobacco packaging and to some extent branding, as causes of smoking. In particular there is no mention of individual subject characteristics, widely recognized in the literature as risk-factors for smoking, in any of these studies. Because these alternative explanations with their variables are not included in these studies, and because they are not controlled for using established regression methods, the studies cannot reliably claim that it is tobacco packaging that is the genuine "cause" of smoking.

Again, most studies of plain packaging examine the relationships between plain packaging and awareness of health messages, awareness of brands, and sometimes, awareness of brand image. But these same studies fail to provide any evidence that these variables

lead to youth smoking uptake or indeed prevalence and consumption in general. Without this sort of evidence it is impossible to conclude that these variables are connected to youth smoking or that plain packaging would reduce it.

C. Causal Direction

The empirical studies supporting plain packaging assume that the direction of causality is unidirectional, from exposure to tobacco packaging and branding to interest in smoking and smoking uptake. No empirical or theoretical evidence, however, supports this assumption. Adolescents who are interested in and considering smoking can be assumed to have a smoking preference that would lead to their interest in particular tobacco brands. This smoking preference could have been formed prior to and indeed independently of any contact with tobacco packaging.

Discovering an association between a favorite tobacco brand or package and smoking or remembering tobacco packages and subsequently becoming a smoker does not demonstrate that the one caused the other. Variables can have a high degree of correlation, such as between remembering tobacco packages and being a smoker, without proving that there is a causal relationship between them. There are a variety of ways in which this problem – endogeneity – can be corrected, but there is no evidence that these studies have applied them.

D. Validity

Several of the plain packaging studies do not report whether their results are statistically significant, making them essentially worthless as scientific exercises since it is impossible to determine the likelihood of error. Moreover, in most of the studies that do report statistical significance, the relative risk estimates are modest, calling into question the confidence that one can place in the findings. For instance, in epidemiological studies, risk estimates below two are routinely considered unreliable.

E. Research Techniques

The plain packaging studies examined below use a variety of research techniques to collect data. These include traditional surveys,

focus groups, experiments involving recognition and recall (also used for studies on tobacco advertising), and techniques designed to elicit consumer preferences, such as conjoint analysis in which subjects evaluate alternatives on a rating scale. All of these techniques have significant limitations deriving from the intrinsically subjective nature of their queries, limitations which can undermine the strength of their findings. These limitations are rarely acknowledged or discussed in the plain packaging research.

For instance, much of the plain packaging research has been done with focus groups, which suffer from a variety of problems. For one thing, most focus groups are not sufficiently large to be properly representative and thus their findings cannot be reliably generalized. For another thing, the results of focus groups can be manipulated depending on the types of questions asked, how they are asked, even the order of their asking. Focus group subjects are also often subject to peer influence and social desirability bias.

F. The Wrong Question

Invariably the plain packaging studies fail to address the only pertinent policy question, namely, how an environment with only plain packaged cigarettes would prevent and reduce smoking. Instead, they project changes in smoking behavior based on a comparison between present traditional cigarette packages and plain packages. This results in obvious conclusions, such as plain packages are less attractive to smokers and nonsmokers than traditional tobacco packages. While this may be true, it says nothing about whether or how unattractive plain packages will prevent or reduce smoking when they are the only cigarette packages available. Because of this defect, these studies fail to address the central policy question at issue.

G. Falsifiability

Genuinely scientific hypotheses are open to empirical validation and falsification. This is the basis of the scientific method and is what distinguishes scientific claims from rhetoric or dogma. A hypothesis or claim that cannot, at least in principle, be falsified is a dogma, not a scientific finding.

There are elements of the case for plain packaging that violate this basic requirement of the scientific method. One of these is the claim

that the tobacco industry uses cigarette package designs to target children to begin smoking. This is a central assumption, either implicit or explicit in virtually every articulation of the case for plain packaging. If it is a scientific claim, then it can be empirically confirmed in a variety of ways, and the claim is either maintained or abandoned on the basis of the empirical evidence. On the other hand, if it is a dogmatic or rhetorical claim, then the claim is maintained irrespective of the evidence that is produced in its support.

In one of the plain packaging studies, discussed below, Di Franza et al., the researchers examine internal tobacco industry documents on package design in an attempt to “determine to what extent cigarette packages are designed to target children.” Notice, the research hypothesis is that such packages do target children and the task is simply to determine to what extent they do so. Contrary to their assumption and indeed the assumption of all advocates of plain packaging that the tobacco industry does use cigarette packages to “target children,” the researchers conclude that “We can find no evidence in the documents that we were able to locate, to indicate that cigarette manufacturers target children with their package designs.”

However, rather than concluding that their hypothesis about cigarette packages and children was incorrect, as would be the case if it were a scientific thesis, the researchers refuse to change their position and proceed to suggest a series of policy recommendations that assume that plain packaging is necessary because packages target children and lead them to smoke.

This suggests that the case for plain packaging is advanced on the basis of ideology and not science, since it is not influenced by empirical findings, and that the studies purporting to show its connection with smoking are closer to advocacy than careful social science policy research.

With these methodological problems common to the plain packaging research in mind we turn now to a chronological examination of the individual studies.

H. The Evidence

- **S. Blotnick, *Untitled and Unpublished Study of Smokers' Reactions to Generically Packaged Marlboro Cigarettes*; FORBES MAGAZINE – “Here’s one tough cowboy” (1987)**

This untitled study is routinely cited as evidence that plain packaging will be perceived as unattractive and reduce smoking. The study is listed in plain packaging literature summaries and cited in plain packaging research as JA Trachtenberg “Here’s One Tough Cowboy,” but Trachtenberg is the editor of the *Forbes* magazine marketing column, not the author of the study. The study’s author is Scully Blotnick. The Trachtenberg article *summarizes* Blotnick’s research but provides no information on its design, methodology, or complete results, or indeed even its title. The research is apparently unpublished and is currently unavailable. Here is what Trachtenberg writes about the Blotnick study:

Scully Blotnick, a *Forbes* columnist and market researcher, recently conducted a study (1546 individuals, 930 American, 616 European, median age: 33; median income: \$36,000) of cigarette smokers to learn why they preferred Marlboro. Blotnick reports that Americans tended to express their preference in terms of product quality: “Two representative replies: from a corporate lawyer (male), 35, “They’re stronger than Camels, which I also tried, and Winstons, which have a smell I don’t like.” A 42 year-old entrepreneur (male) in the electronics field: “When I inhale them, they make my lungs feel fuller than with any other cigarette.”

But Blotnick thinks that this talk of product difference is a rationalization; it is the image that attracts most of the customers. He says “The proof is that when we offered them Marlboros at half price – in a generic brown boxes – only 21% were interested, even though we assured them that each package was fresh, had been sealed at the factory and was identical [except for the packaging] to what they normally bought at their local tobacconist – or cigarette machine. How to account for the difference? Simple. Smokers put their cigarette in and out of their pockets 20-25 times a day. The package makes a statement. The consumer is expressing how he wants to be seen by others.”

There are several significant problems with the Blotnick “study.” The first is that there appears to be no existing copy of the study. It was never published and we have only Trachtenberg’s summary, such as it is. There is no other research record with data or anything else; simply a one-sentence summary in a magazine.

Obviously, without the study and its design, methodology, and results, these results do not provide scientific evidence of anything. For instance, we know nothing about the representativeness of the sample or its potential for bias. We know nothing about the questions that were asked or how the offer of generic cigarettes was made.

Second, there is substantial doubt as to whether this study or indeed others by Blotnick were ever carried out. *Forbes* dismissed Blotnick in July 1987 after, according to the *New York Times*, “research experts not only challenged Mr. Blotnick’s methodology and findings,” but also “whether he engaged in any significant research.”¹³² These experts included Barbara Buick a professor of psychology at the Claremont Graduate School and Eleanor Singer, president of the American Association for Public Opinion Research. Indeed, the publishers of Blotnick’s books confirmed that they did not examine Blotnick’s research, have it peer-reviewed, or confirmed.¹³³

So, not only is there no existing copy of the research, and not only is there nothing except this brief journalistic report of “results,” there are significant doubts, given Blotnick’s dismissal by *Forbes*, that the research ever existed. By the normal standards of social science research, the Blotnick study should not be cited, let alone claimed to provide proof of the efficacy of plain packaging.

Finally, even if Blotnick did perform such research, even if it were methodologically sound, and if the results were those he claims in his one sentence summary, Blotnick’s study is not about what smoking behavior would be like if Marlboro cigarettes were only available in plain packaging, which is the relevant factor in considering plain packaging as a policy. Blotnick did not ask his Marlboro smokers the key question: would you continue to smoke Marlboro if it were only available in generic packs? In short, the Blotnick “study” tell us nothing about smoking initiation, prevalence, consumption, or quitting in a plain pack world.

➤ **M. Laugesen, *Tobacco Promotion Through Product Packaging*, New Zealand Toxic Substances Board (1989)**

This report by the New Zealand Toxic Substance Board was conveyed to the New Zealand Minister of Health in September 1989 along with the recommendation that all tobacco products “should be plain, that is a white package with black printing, no other colors being permitted either in printing or on the packet itself. No logo or logotype permitted in any form.”

The report lists a variety of reasons why plain packaging is necessary. It argues that, “Plain packets may have their most important effect in decreasing the attractiveness of tobacco product to young people.” Package design, it claims, “is meant to enhance sales.” Plain packaging will “reduce the promotional function of packaging.” More crucially, plain packaging will prevent young experimental smokers from becoming regular smokers. This is because, “Removing the brand imagery on the pack... would presumably mean that fewer young experimental smokers would progress to become regular daily smokers. More teenage regular smokers might reasonably be expected to quit before becoming seriously addicted.” The report also claims that without brand associations on the package “the smoker should then find it easier to give weight to generic anti-tobacco health messages.”

All of these claims have subsequently come to represent the essence of the case for plain packaging. What is notable in this second piece of plain packaging *evidence*, is not a single piece of evidence is adduced in support of any of them. Despite the fact that this is a government report, it is entirely evidence-free. There is no evidence that packaging plays a role in experimental smokers becoming daily smokers, or that attractive packaging leads to smoking, or that making all packaging plain will prevent or reduce smoking. Indeed, even if packaging is meant to enhance sales (no evidence is provided for this claim, either), enhancing sales is different from recruiting new smokers. In effect, the clear evidence linking tobacco packaging with beginning or increased smoking, failing to quit smoking, or ignoring health warnings is nowhere evident.

In effect, at its very inception, the case for plain packaging fails to present any scientific evidence as opposed to rhetorical assertions in

support of its claims that in and because of a completely plain packaging environment, smoking behavior will be different.

- **Carr-Gregg and Gray, *'Generic' Packaging – A Possible Solution to the Marketing of Tobacco to Young People*, MED. J. OF AUSTRALIA (1990)**

This study asserts that “cleverly designed and enticing packaging” promotes tobacco and that it should not be allowed if other forms of tobacco promotion such as advertising have been prohibited. It claims that tobacco packaging is a form of advertising and that this advertising, along with the ability of the tobacco industry to use packages to circumvent advertising restrictions through, for example, product placements, would be eliminated by plain packaging. Further, plain packaging, would, it is claimed, make “government health warnings...more visible: there would be significantly less ‘clutter’ and less scope for the tobacco industry to disguise the health message by package design and color schemes.”

The article is a piece of advocacy which clearly breaches the objectivity requirements of social science research.¹³⁴ It provides not a single piece of evidence for any of its claims. The study provides no scientific support for plain packaging.

- **Beede et al., *The Promotional Impact of Cigarette Packaging: A Study of Adolescent Responses to Cigarette Plain Packs*, NEW ZEALAND FAMILY PHYSICIAN (1990)**
- **Beede and Lawson, *Brand Image Attraction: The Promotional Impact of Cigarette Packaging*, NEW ZEALAND FAMILY PHYSICIAN (1991)**

These two studies are based on the same data and will be discussed together. Based on focus group discussions, the study reports that cigarette packaging “communicates information to current and potential users” and thus promotes brand images which are associated in turn with smoker profiles. The studies claim that as adolescents are exposed to cigarettes their attention is “first drawn towards brand image cues.” This means that recall of health warning

information is less likely to be perceived, retained, or recalled. Plain packaged cigarettes significantly improved the subjects' ability to recall the health warning. Plain packaged cigarettes were also unconnected with any specific brand image when compared with traditionally packaged cigarettes. Moreover, subjects found plain packaged cigarettes to be "dull and boring" and believed that young people would find them unattractive, which would "lessen curiosity about smoking."

These studies suffer from numerous weaknesses. First, the data collection is unreliable. The methodology violates recognized codes of professional practice with respect to social science research.¹³⁵ Focus groups are generally used only to provide qualitative data, but in this research they were used to provide quantitative findings. Moreover, the moderators for the focus groups sessions were involved in the study and had the opportunity to influence the direction of the focus groups. The moderators clearly were not objective. This is particularly evident in the fact that before the data was collected the moderators conducted a twenty minute discussion.

Second, the results are entirely predictable, namely that the focus group participants found that plain packaged cigarettes had a vaguer smoker image than traditionally packaged cigarettes. This result could be expected, given the difference between plain packaged and traditionally packaged cigarettes, prior to the study.

Third, from these predictable results the researchers draw a completely unsupported conclusion, namely that "brand images which are perceived to be similar with a person's self-image is [sic] more likely to be evaluated positively and serve to induce brand trial."

There is nothing in the research design or results which justify this conclusion. Indeed, to draw such a conclusion based on the results presented is another instance of how the research violates accepted professional standards.

None of the results suggests that brand images similar to one's self-image induces "brand trial." More crucially, even if this were to be the case, there is a significant difference between smoking initiation and smoking a particular cigarette brand: the two are not the same. So at the very most, even allowing that the data supported the

inference, these results would show that cigarette packages led to brand trial, not smoking trial.

Fourth, there is no support for the study's implicit conclusion that since with plain packages "respondents' abilities to recall health warning information was significantly improved," this would result in a change in smoking behavior.

Finally, the only support for any claim about the ability of plain packaging to change smoking behavior, particularly with respect to young people, comes from the opinions expressed by the focus group participants. It should be noted that the reliability of the opinions of these participants about smoking uptake are open to question given that 89 percent of the participants were non-smokers. The study reports that the participants found plain packages "dull and boring," but this is not the same as not wishing to smoke cigarettes from these packages. Even more crucially, it is not the same as not wishing to smoke cigarettes from these packages when they are the only cigarettes available.

In short, these two studies provide no reliable scientific evidence that branded cigarettes lead to smoking initiation in young people or that plain packaged cigarettes will prevent smoking initiation.

➤ **Beede et al., *The Effects of Plain Packages on the Perception of Cigarette Health Warnings*, PUBLIC HEALTH (1992)**

This study uses the same data from focus groups in eight New Zealand secondary schools used in the previous Beede et al. studies. It was designed to determine the effects of plain packaging on the attention to health messages by comparing how well respondents remembered the warnings on plain packaged cigarettes compared with regular cigarettes. The study involved both New Zealand cigarettes packages and U.S. packs. In their conclusion the authors report that there was a statistically significant greater recall of the warning on plain packaged cigarettes than on regular packs. They write that the policy implications of their findings "suggest that presentation of cigarettes in plain packs would increase the probable retention and impact of health warnings messages."

This study provides no reliable scientific evidence that plain packaging will improve the effectiveness of the health warnings on tobacco packages.

First, the methodology of the study is flawed in that the discussion, along with researcher involvement might well have corrupted the results. The researcher's presence and bias could have influenced the participants' recall, and this might also have been subject to social desirability bias.

Second, it is also not clear that the sample is representative. There is no discussion as to how the schools of the students were chosen for the study nor any evidence that they constitute a representative sample.

Third, in contravention of accepted research norms, the researchers' conclusion misrepresents the study's results. The authors claim that the warning on a plain pack had a statistically higher recall rate than the warning on the branded pack. The study's results, however, show that this is true only with the American packs and not with the packs from New Zealand. When compared with New Zealand cigarettes, the health warnings on plain packs had no statistically significant effect on respondent recall. In effect, the plain packaging did not increase the salience of the warnings on New Zealand cigarettes.

Again, the policy conclusion, against the accepted standards of social science research, is not completely supported by the study data since the plain packaging had no effect on warning recall in relation to New Zealand domestic cigarettes.

Fourth, the researchers claim that with plain packaging a greater proportion of available health warning information can be retained, and consequently, the health warnings achieved a greater impact. The study, however, provides no evidence of this greater impact since the impact was not measured. The authors once again make a claim that is not supported by the data.

Only a behavioral study which investigates the impact of higher recalled warnings on smoking initiation and consumption could validate the claim that the greater the degree of warning retention, the greater the impact of the warning. Moreover, there is experimental

evidence that suggests that a greater retention of health warning information does *not* guarantee changes in behavior.

Fifth, there is no evidence provided in the study of an association, let alone a causal connection between young people beginning to smoke and their recall of health warnings on tobacco packages. Nor is there any evidence provided in the study of an association between smoking initiation and being able to recall tobacco brands.

Sixth, once again the essential question of interest – will recall rates of health warnings be affected when all cigarettes are sold in plain packaging – is not addressed.

Seventh, as we shall see below, the Canadian expert panel report (*When Packages Can't Speak*) presents results which contradict these findings. In that study, respondents reported that they were well aware of current package warnings and that “most people don't care if there is a warning there, if they are going to smoke, they are going to smoke.” As the panel itself concluded after examining the respondents' replies, “The evidence regarding recall, recognition, awareness and knowledge dimensions suggest that plain and generic packaging would lead to lowered recall, recognition and knowledge of brands, but may not have significant effects with respect to the recall and recognition of health warning messages.”

Eighth, the study's claims about plain packaging and warning recall are also contradicted by Rootman and Flay (see below) who report that plain packaging did not affect the recall of health warnings by Canadian adolescents.

Ninth, empirical evidence from Canada following the introduction of large graphic health warnings occupying 50% of the tobacco package contradicts the authors' claim that health warnings with greater salience affect smoking behavior. According to Health Canada's Wave studies there was no statistically significant decline in the number of adolescents who believed that smoking was not a health problem, there was no statistically significant change in the number of adult smokers who look at the warnings several times a day, and there was an increase in the number of both smokers and nonsmokers who never look at or read the warnings.

Tenth, in another study of the effectiveness of more salient health warnings, as advocated by the authors, Koval et al.¹³⁶ find that a large

majority of their respondents were “skeptical that stronger warnings would encourage others their age to quit.” Many noted in the comment section of the study that “labels would not deter them or any teenager from smoking.”

- **Centre for Behavioral Research in Cancer, *Health Warnings and Contents Labeling*, Anti-Cancer Council of Victoria (1992)**
- **Centre for Behavioral Research in Cancer, *Public Approval of Proposed Tobacco Pack Labeling and Other Modifications*, Anti-Cancer Council of Victoria (1992)**

These studies were prepared for the Tobacco Task Force of the Ministerial Council on Drug Strategy in Australia. Though containing thirteen studies, our comments are for the most part limited to papers dealing with plain packaging, particularly paper 13 Adolescents’ reactions to cigarette packs modified to increase extent and impact of health warnings.

Paper 13 reports the results of interviews with 66 people between the ages of 12 and 20, recruited in Melbourne. The participants divided into groups and shown four tobacco packages: a modified Peter Jackson pack with a larger health warning and information about tar, nicotine, and carbon monoxide. Packs 2-4 were Peter Jackson, Marlboro, and Benson and Hedges, but standardized in appearance with all distinctive trade dress removed. The name and contents of the pack were printed in black on a beige background. Following presentation of the packs, the various groups engaged in a moderated discussion which was recorded. The data from these discussions is qualitative: there is no quantitative analysis of the responses to the interviewer’s questions.

There are several problems with this study which render it of no evidentiary value.

First, the methodology of the study is questionable given that the subjects were shown the tobacco packages in the same order to every group. The research literature has shown that the factors such as the order in which materials are presented can influence the responses that are obtained.

Second, the sample size is small and no effort was made to ensure that it was representative. The results are thus not generalizable.

Third, the results of the study are mixed. There is no proper analysis of the data and the report's findings are reported entirely as qualitative statements. Packs 2-4 elicited "surprise, interest, amusement and disbelief." Other participants described the packs as boring, cheap, and unattractive. Roughly a third of the participants approved of the changes, with the two-thirds either disapproving or neutral. Based on these responses it is difficult to conclude that there was general support for the plain packs.

Fourth, the study did not address the key question of the behavior of smokers or those contemplating smoking if only these packages were available. In effect, the policy question of interest is unanswered.

Fifth, despite the fact that the study did not address the key policy question, the authors nonetheless conclude that the changes in package design were positive and demonstrated the success of plain packaging. They write that "The responses of the present sample demonstrate the success of the plain packaging in achieving this objective... these results suggest that the use of plain packaging would be an important additional strategy to reduce the positive images associated with smoking." From this conclusion, the report goes on to make a variety of recommendations about changing cigarette packaging to plain packaging.

Despite this conclusion and the subsequent recommendations, there is nothing in the data that provides scientific evidence for plain packaging. The conclusion, based on favorable responses from one-third of the subjects, that plain packaging would "reduce the positive images associated with smoking" does not show that plain packaging will prevent or reduce smoking. Indeed, there is no evidence in the study that links a reduction in the positive images associated with smoking with the prevention or reduction of smoking.

Paper 11 reports the results of a telephone survey of 508 smokers and ex-smokers who were asked whether they wished to have more information on cigarette packages about the effect of smoking on health. Slightly less than half said they would like more. Those who did not want more were asked a follow-up question: "If it could be shown that providing more information on cigarette packets would

lead to fewer young people taking up smoking, would you then approve or disapprove of such a measure?” Eighty-eight percent approved of such a measure. The subjects were then asked, “Would you approve or disapprove of rules to make cigarette packs less colorful and attractive?” Those who did not agree were asked “If it could be shown that less colorful cigarette packs would lead to fewer young people taking up smoking, would you then approve or disapprove?” (Approval rate was 87 percent).

This is a particularly egregious example of research failing to meet the accepted standards of social science inquiry in that it relies on bias and manipulation to obtain the desired result by asking a leading question. The “overwhelming support” is only obtained by posing an untrue hypothetical question – about less colorful packages leading to less smoking (for which no evidence was adduced). Support for plain packaging is substantial only after the subjects are provided with false information.

The same sort of manipulative questioning is found in the second study on public approval of proposed tobacco modifications. In this study subjects were shown pictures of modified packages, with one portraying packages that were essentially all the same – plain packaging. When asked whether they supported such changes, slightly less than half agreed. Those who did not support the change were told “Modifications to cigarette packs are being considered because research has shown that they would discourage children from smoking.” After receiving this information, people’s support for plain packaging increased substantially. Again, the research question is an untrue hypothetical to which the “right” response is guaranteed by two manipulations: one the untrue claim that research has shown that plain packaging would discourage smoking, two the untrue claim that it would discourage “children” from smoking. Who, after all, could object to a policy measure that “research” had shown would prevent children from smoking. The manipulative character of this question on plain packaging is even more apparent when one considers that elsewhere in its research reports and questions the CBRC consistently refers to young people, not children. Here the word “children,” with all of its manipulative emotional quality, is used instead.

In effect there is no scientific evidence in either of these reports that supports the plain packaging of cigarettes as a measure which could prevent smoking initiation or reduce smoking.

➤ **JR D’Avernas and MK Foster, *Effects of Plain Cigarette Packaging Among Youth*, University of Toronto Centre for Health Promotion (1993)**

This report concludes that its findings provide “strong support for public policy to legislate plain packaging, as part of a comprehensive program to reduce tobacco use.” It bases this conclusion on the assumption that “plain packaging makes the package, therefore the product, less interesting in its own right.”

The report is divided into two parts, with one part summarizing a series of interviews with 27 “marketing experts and researcher.” No criteria is provided for the determination of what constitutes expert or researcher status or how these individuals were recruited. The other part of the study reports on 20 focus groups involving a total of 129 Canadian adolescents aged from 12-17 who were asked questions about whether they would prefer branded cigarettes or plain packaged cigarettes.

The study is plagued by several problems, all of which suggest that it does not provide compelling evidence that plain packaging will affect youth smoking initiation, prevalence, consumption, or relapse.

First, the sample size is very small, with only 32 nonsmokers.

Second, there is no evidence that the sample is representative of Canadian young people, smokers or nonsmokers. The study attempted to have a 1:1 ratio of smokers and non-smokers, but instead the ratio was 3:1. Of the presumed nonsmokers, 16 in fact turned out to be smokers.

Third, the participants were able to deduce, quite easily, the purpose of the study since in most of the activities they were asked to compare generic and branded cigarette packages. Moreover, some parents told their children what the study was about, but data from these subjects was not excluded. The more likely subjects are to guess about the nature of the research in which they are participating, the more likely they are to be influenced in their responses in terms of providing the “correct” answer that the researcher desires. This obviously biases the results.

Fourth, though the report is obviously based on qualitative data, the authors treat their results as quantitative, presenting percentages

and T-tests. This is fundamentally dishonest since it implies that the sample is both large enough and representative enough to provide results that can be generalized. Yet, as we observed above, this is not the case.

Fifth, the questions put to the subjects failed to include the key question of whether in an environment in which cigarettes were available only in plain packaging, this change in packaging would make a difference to smoking, uptake, consumption, prevalence, or cessation.

Sixth, the researchers believe that because plain packaging makes cigarettes less attractive it will change smoking behavior. Yet the study does not provide any data which supports this belief inasmuch as the subjects provided information about their smoking decisions only in the context of a *choice* between regular cigarette packs and plain packs.

Seventh, the subjects were asked questions not about what they would do but instead about what they thought *other* people their age would do. The assumption in this line of questioning is that there is some correlation between a subject's perception of what someone might do in the future and what in fact that person might actually do. Yet there is no evidence in the study that such an assumption is either reasonable or indeed exists.

Eighth, the researchers' thesis about the importance of plain packaging was invalidated by the fact that when the subjects were given a list of five things, including plain packaging, and asked what they thought would be the most effective way to reduce youth smoking, only eight percent choose plain packaging.

Ninth, the data provided no evidence from any of the responses that plain packaging would reduce youth smoking initiation, the most important policy question.

Tenth, the differences in packaging had no effect on the recall of brand names, undermining one of the central assumptions of the study and major claims about the effect of plain packaging.

Finally, the only behavioral finding of the study undermines the central research hypothesis of the study. The 16- and 17-year old smokers in the study were offered a reward for their participation.

Some were offered traditionally branded cigarettes and others were offered “plain” packages. The researchers’ hypothesis was that “if cigarettes in plain packages are less appealing to youth, we would expect fewer people in the ‘plain packs payment’ condition to choose cigarettes as opposed to those in the “brand packs payment condition.” This hypothesis is central to the claim that because plain packaged cigarettes are less appealing to youth they would be less likely to smoke them.

The results of the reward selection are striking: “No significant difference was found, although for males the results were opposite in direction to those expected. That is, more males chose the plain packaged cigarettes as their payment option than did males offered brand packaged cigarettes.” Clearly, the plain packs were *not* less appealing as hypothesized by the researchers.

While the researchers seem to be at a loss to explain these results, the research literature on smoking uptake consistently notes rebelliousness and risk-taking as strong predictors of smoking uptake. Numerous studies on adolescent smoking have examined reactance among young smokers as a likely consequence of increased tobacco control measures. Consequently, the reaction of the smokers in choosing a product they were meant to scorn is quite predictable.

Despite the authors’ claim that this study provides “strong” support for plain packaging, it in fact provides no compelling scientific evidence which shows that plain packaging will prevent smoking initiation, reduce smoking or prevent smoking relapse. Indeed, its one behavioral experiment clearly contradicts its key claim that plain packaged cigarettes will be less attractive.

➤ **European Union, *Labeling of Tobacco Products in the European Union*, Bureau for Action on Smoking Prevention (1994)**

This report devotes a chapter (Chapter 8) to plain packaging. It describes plain packaging as the “most effective health warning.” Three reasons are advanced in support of plain packaging: that such packaging would make the health warnings more visible; that such packaging would make the product less appealing; and that such packaging would “receive wide public support.” The only evidence

advanced in support of these claims is reports by Beede and Lawson (1992), Beede and Lawson (1991), and the report from the Centre for Behavioral Research in Cancer in 1992. As we have seen, all of these studies are significantly flawed and provide no evidence that plain packaging will prevent/reduce youth uptake, smoking prevalence or consumption, or smoking relapse. There is no evidence advanced to support the implicit claim that more visible health warnings will change smoking behavior or that less appealing packaging, in a market with no other packaging, will reduce smoking.

In effect, this report adds no scientific evidence in support of plain packaging.

- **Rootman and B. Flay, *A Study on Youth Smoking: Plain Packaging, Health Warnings, Event Marketing and Price Reductions*, University of Toronto, University of Illinois, York University, Ontario Tobacco Research Unit (1995)**

This report is the second part of the D'Avernas and Foster University of Toronto Centre for Health Promotion study. It provides data from a classroom survey of 2,132 (complete surveys numbered 1,559) Ontario, Canada students aged 12-14 in 1994. The report claims that its results are “generalisable to the Ontario population of Grade 7 and 9 students.” These students were selected for the study “because they are most likely to be influenced by cigarette packaging,” as well as by the fact that it is at “this age range that many are contemplating smoking, or experimenting.”

The study claims the following: “Believability of the health warning is enhanced by plain packaging;” “Plain packs make the health warnings easier to see;” “Plain packs are ‘more boring’ and ‘uglier’ than regular packs;” and “The evidence is strong that plain packaging of cigarettes would reduce the positive imagery associated with smoking particular brands for many young people.”

There are several significant problems with these claims. First, given that the ten-page study provides no information about how the subjects were chosen or even the distribution between smokers and nonsmokers, it is difficult to accept that the results are generalizable, reliable, or valid. Nor is it at all clear that the methodology is objective.

Second, there is no evidence in the study that the believability of the health warning in relation to plain packaging was even studied. Instead, students were asked a different question, “Which package makes the health warning look more serious?” While seriousness might have a relationship with believability, it is not a legitimate proxy for it. Similarly, there is no evidence in the study that making the cigarette warnings easier to see had any effect on smoking. Indeed, the evidence from the study suggests that the students had a very high recall of the current warnings on tobacco products, as the authors note that “warnings are prominent and remembered by four out of every five Ontario students in Grade 7 and 9.” Ninety-six percent of respondents replied that “Smoking is addictive,” while 92 percent agreed that “Tobacco smoke can be harmful to the health of non-smokers.”

Third, it is not at all clear that the findings that plain packs are “more boring” or “ugly” are in any way related to smoking uptake, consumption, or quitting given the responses to the questions about the affect of plain packaging on starting and continuing to smoke. The crucial question is whether, if only boring or ugly packs are available, students will continue to smoke. The survey evidence indicates that they would. Hence the question of boring or ugly is beside the point.

Fourth, on the most crucial measure, the effect of plain packaging on youth smoking, if all cigarettes were sold in plain packages, 67 percent of grade seven students thought that young people would either smoke the same or more; 80 percent of grade nine students thought that young people would either smoke the same or more; 86 percent of light smokers thought that young people would either smoke the same or more; and 96 percent of daily smokers thought that young people would either smoke the same or more.

Fifth, the survey asked about the potential effect of plain packaging on the likelihood of young non-smokers becoming smokers. Sixty percent of Grade 7 students reported that plain packaging would either result in no change in likelihood of starting to smoke or more likelihood, while 68 percent of Grade 9 students reported that plain packaging would either result in no change or more likelihood of starting to smoke. Ninety percent of daily smokers reported that plain packaging would either result in no change or likelihood or more likelihood of starting to smoke.

Sixth, the study reports data about the reasons for students' brand choices, data that calls into question one of the key assumptions about plain packaging. When the students were asked why they smoke their brand, 58 percent responded because they like the taste, followed by almost 20 percent who said because families or friends smoked that brand. Students did not identify any characteristics associated with the packaging of the brand as a reason for choosing that brand.

Seventh, the study presents no results that suggest that the students associate positive imagery with a particular brand as opposed to cigarettes in traditional packages in general. The survey asked about which package, regular or plain, has "cigarettes that cool kids would smoke?" This is not a question about brands or the positive imagery associated with a particular brand at all. In a world of all plain packages, cool and not so cool kids would all smoke cigarettes in similar packages.

Eighth, aside from the already considerable problems associated with qualitative research, this report suffers from some additional problems. Though we are assured that the results are generalizable, there is no summary of the study's methodology – for example, why the survey was given where it was and how these schools ensure that the results are representative of the entire population. Most importantly, it fails to provide complete data on any question, instead relying on selective reports of percentages reporting one response as opposed to another response. Indeed, it fails to even supply the questions that made up the survey.

- **D. Northrup and J. Pollard, *Plain Packaging of Cigarettes, Event Marketing to Advertise Smoking and Other Tobacco Issues: A Survey of Grade Seven and Grade Nine Ontario Students*, Institute for Social Research York University (1995)**

This study is a much fuller report on the same data from Ontario Grade 7 and 9 students referenced in the Rootman and Flay study analyzed above. Indeed, the overall research project was designed by the same group of researchers. The differences in presentation, however, are significant. Whereas the Rootman and Flay study consists of 10 pages and provides a minimum of information about

design and methodology, this study provides a substantial amount of information. More importantly, where the Rootman and Flay study simply reported percentages on a few selected measures of comparison, this study reports on the full range of questions and responses. One might wonder whether the difference derives from the fact that one study comes from a health promotion center that is publicly committed to plain packaging, whilst the other study comes from an independent institute for social research with no position on plain packaging.

Several of the findings of this study are relevant to the plain packaging debate. First, while it is contended that tobacco packages serve as tobacco advertisements, and such advertisements are one, if not the principal, reason for smoking uptake, it is instructive that when smokers are asked why they smoke, or why they started to smoke, they almost never mention advertising. For example, this study reports that the major reasons given by grade 7 and 9 Ontario students for smoking are because “they like it,” it makes them “feel good,” and it helps them to “relax.” No students cite advertising as a reason for starting to smoke or smoking. These results, which undermine the case for plain packaging, are not reported by Rootman and Flay.

Second, given the contention that tobacco packaging reinforces brand imagery, which in turn is entirely created by advertising, it is interesting to note that for these young people, smoking a particular brand has everything to do with taste or friend and family preferences. For example, 58 percent of du Maurier smokers smoked because they like the taste while roughly 20 percent smoked the brand because friends and family did. Moreover, the students understood that the packages that the cigarettes came in, whether branded or plain pack, made no difference to the taste (69 percent said there would be no difference in taste in the plain packages.) Thus, if young smokers are making branded decisions primarily on taste, and they know that plain packaging will make no difference to taste, it is hard to see how plain packaging will affect their smoking behavior in an environment where only plain packs exist.

Third, when asked the key question about the efficacy of plain packs – which package would turn people like you off smoking? – 49 percent said that there would be no difference between plain packs and regular packs, 59 percent of light smokers said that there would

be no difference between plain packs and regular packs, and 66 percent of daily smokers said that there would be no difference between plain packs and regular packs.

Fourth, when asked to consider whether, if all cigarettes were sold in plain packs, young people would smoke more, less, or the same, 67 percent of grade 7 students said more or the same, 80 percent of grade 9 students said more or the same, and 96 percent of daily smokers said more or the same.

Fifth, when asked about the potential effect of plain packaging on the likelihood of young people their age who are not smokers starting to smoke, 60 percent of grade 7 students said that it would not make any difference or make it more likely, 68 percent of grade 9 students reported the same, and 90 percent of daily smokers said it would not make any difference or make it more likely.

Sixth, the study reported a significant degree of reactance among smokers toward the introduction of plain packages. Ten percent of daily smokers reported that they would smoke *more* if plain packs were introduced. As the researchers note about this response, “It may suggest that...students who smoke on a daily basis are frustrated with tobacco policies.” When subjects were asked about the likely affect of plain packaging on young people who do not currently smoke, 11 percent of daily smokers indicated that it would make them more likely to start smoking, again suggesting a substantial degree of reactance. This finding is particularly important given the claim by advocates of plain packaging that there is no evidence that supports the concern that “children may be encouraged to take up smoking if plain packages were introduced.”

➤ **M. Goldberg et al., *When Packages Can't Speak: Possible Impacts of Plain and Generic Packaging of Tobacco Products*, Health Canada (1995)**

This study undertaken for Health Canada was designed to assess the potential affect of plain packaging on: smoking initiation; the recognition and recall of health warnings; and smoking cessation.

It is the largest plain packaging study to date and involved five individual studies, including a national survey, a word image survey, a

visual image experiment, a recall and recognition experiment and a conjoint experiment. On the basis of these studies the researchers conclude that plain packaging “would be important and would have perceived utility for encouraging teen and adult smokers to stop smoking and for discouraging non-smoking teens from starting to smoke.”

The study’s claims and conclusions are based in large measure on its theory about the relationship between purchasing branded cigarette packages and smoking uptake.

Four aspects of the survey are particularly important.

First, it reports that adolescents do not “have well-developed images connecting brands with types of people and lifestyles.” It is thus difficult to understand how brands can function as they are meant to in the panel’s model of smoking uptake where brands are chosen because they fulfill a “desired personality” for the potential smoker. If prospective smokers do not identify specific brands with specific lifestyles, it would be unusual if smokers could match them with their aspired lifestyle or personality.

Second, the survey respondents failed to support the panel’s claims about packaging and promotion as initiators of adolescent smoking. As the Summary and Interpretation notes, “They see the uptake process as being unaffected by promotion or packaging, as primarily a matter of being seen as a smoker or not. Peer situation, and parental acceptance or rejection are more important in the uptake situation.” In other words, the panel’s own qualitative study refutes the primary assumption of the panel that tobacco promotion generally and packaging specifically promotes smoking uptake, and by extension, that plain packaging will reduce uptake.

Third, the responses from the survey subjects confirmed that trial smokers have little connection with either brand or packaging. As the panel notes about these responses, “This means that the package will not have any major effect on the decision(s) to smoke or not to smoke.” This finding once again undermines the thesis of the report that smoking uptake is affected by tobacco packaging.

Fourth, when asked what factors lead them to start smoking, survey respondents reported those factors commonly flagged in the research literature about adolescent smoking, including “peer

pressure, expressing individualism, making statements about self in relation to parents or authority.” Not only did they fail to provide top of mind responses about tobacco packaging, but the factors provided are unconnected with tobacco packaging. For example, Canadian studies have found that over 65 percent of adolescents smoke the best-selling brand, so it would be difficult to suggest that choosing this brand would have a connection with “expressing individualism.”

Finally, the survey respondents provide no support for the claim that plain packages would aid smoking cessation as they indicated that, “Plain packaging would not stop kids from starting or stopping” to smoke. Many referenced tobacco prices as more important than packaging and many indicated that, “if all packages were the same, it wouldn’t matter, people who smoke will still smoke them.” Sixty-three percent of adolescents surveyed said that they would not be greatly bothered by plain packages while 46 percent indicated that it would not change the number of their peers who take up smoking. Indeed, the panel reports that “5.6 percent said making cigarette packages less colorful would work best (in discouraging smoking). Further almost half (44.9) reported that making cigarette packages less colorful would be the least successful way to help keep young people from smoking.”

In addition to the survey results, the findings of the conjoint experiment are also particularly relevant to the study’s key question. The conjoint analysis was employed to explore what affects plain packaging might have on smoking initiation when compared with other features of tobacco including package type, brand, price, and peer influence. The analysis found that for both adolescents and adults, price was the most important predictor of initiation and of smoking cessation. The type of packaging was as important as brand in smoking initiation and quitting. The study concludes from these results that plain packaging will to some “unknown degree, encourage non-smokers not to start smoking and smokers to stop smoking,” but there is no evidence presented as to why this should be the case. Moreover the claim about the importance of packaging in the initial smoking decision is contradicted by the results of the national survey. Finally, the authors undermine their own conclusion by noting that “the extent of this influence [of plain packaging] cannot be validly determined by research that is dependent on asking questions about what they think or what they might do if all cigarettes sold in the same generic packages.”

The expert panel report, whose findings are based on the largest number of subjects of any plain packaging research, provides little evidence in support of the key public health benefits advanced as justification for plain packaging. Instead, the report contradicts the central claims of the plain packaging case in that it found: 1) cigarette packaging does not affect the smoking uptake stage of adolescent smoking and 2) “the package will not have any major affect on the decision(s) to smoke or not to smoke.” These findings compliment what is known about how many cigarettes have in fact been sold during the Twentieth Century. As Professor Power observed in commenting on the panel report, “For a considerable part of this century, plain packaging was common. Cigarettes were often transferred to more or less elegant cigarette cases, and the panel reports that teens often repackage to avoid their possession of cigarettes being detected. Neither process has been reported as reducing smoking.”¹³⁷ Successful cigarette brands such as Life Guard (Brown and Williamson, 1935) and No Name (Brown and Williamson, 1950), for example, closely resembled the proposed features of plain packaging, with a starkly plain background and nothing more than the name of the brand on the package.

➤ **Cunningham and Kyle, *The Case for Plain Packaging*, TOBACCO CONTROL (1995)**

Cunningham and Kyle claim that the “weight of evidence on numerous fronts clearly indicates that plain packaging can be expected to result in a decrease in tobacco consumption,” particularly in terms of smoking initiation. However, there is no evidence in the study that sustains this claim and the authors misrepresent the conclusions of one piece of research which they cite.

First, the authors cite four studies which they claim “provide evidence that plain packaging would likely reduce tobacco use.” We have examined all of these studies – Trachtenberg, Beede, and Lawson (1991); the Centre for Behaviourial Research Studies (1992); and the D’Avernas and Foster study from the University of Toronto (1993). As we have seen, all of these studies are severely flawed and none of them provide scientific evidence that plain packaging will “reduce tobacco use.” The Trachtenberg study is misreported, as it is actually by Blotnick. (The authors claim that it is an American study.

In fact, it supposedly involved U.S. and European subjects.) There is considerable doubt that it was ever carried out.

Second, the authors claim that the “process of smoking initiation itself suggests a valuable role for plain packaging” in that it can “help interrupt or prolong this process.” The study provides no empirical evidence or indeed any argument to substantiate this claim. Nor does it cite any other empirical evidence that shows that plain packaging can interrupt or prolong the process of smoking initiation.

Third, the authors claim that Beede and Lawson found “that recall rates of both health warnings and tar and nicotine content were significantly higher for plain packs than for branded packages.” However, as we have seen, this misrepresents the findings of Beede and Lawson. Beede and Lawson found that only with U.S. packs was there a statistically higher recall rate on the plain package compared with the branded package. Compared with New Zealand cigarettes, the health warnings on plain packs had no statistically significant effect on respondent recall. For these products, plain packaging did not increase the salience of warnings.

➤ **Madill-Marshall et al., *Emerging Research on U.S. and Canadian Policies Toward Cigarette and Anti-Smoking Advertising and Product Packaging: Effects on Youths and Adults*, ADVANCES IN CONSUMER RESEARCH (1996)**

This “study” consists of a one page summary of research involving 1,200 Canadian adolescents who were either smokers or “interested in smoking.” The study involved a Visual Image study which explored whether brands fit different types of smokers and a Semantic Image study which asked subjects to rate teens who smoked various cigarette brands on such characteristics as cool/uncool. The authors claim that, “To the extent that youths smoke cigarettes to define and enhance their self-image, the expectation would be that the rate of teen smoking would be reduced if plain packaging were the rule.”

Given the material provided, it is impossible to evaluate this study in terms of design and methodology. Without this material it is impossible to determine whether this study provides any support for the claims about plain packaging. The study provides no evidence that youths smoke cigarettes to “define and enhance their self-image” nor

do they provide any evidence that shows the linkage between smoking cigarettes, defining self image, plain packaging and not smoking at all or smoking fewer cigarettes.

➤ **Goldberg et al., *The Effect of Plain Packaging on Response to Health Warnings*, AM. J. OF PUB. HEALTH (1999)**

This study is a one page report that examines the effect that plain packages might have on increasing the salience of health warnings. The study involved 401 Canadian teenagers aged 14-17 who were either active smokers or contemplating smoking during the next twelve months. Students were randomly exposed to one of three of the current Canadian tobacco health warnings. Half of the students were randomly assigned to see one of the health warnings on a plain tobacco package, with the other half seeing the warning on a regular package. The image of the package was projected on a computer monitor for four seconds. After being exposed, the subjects were asked to recall the warning on the tobacco package. Two of the three warnings that the subjects saw had higher levels of recall on the plain packages than on the existing packages. From this, the authors conclude that “warnings on plain white packages may be more effective at getting attention and enhancing recall than warnings on regular packages.”

Like the other qualitative studies of plain packaging, this study is unable to warrant that its result is representative, reliable, or generalizable.

First, there is no data provided on the numbers of smokers and nonsmokers, or of the differing responses of smokers and nonsmokers. Given that part of the alleged advantage of plain packaging is in discouraging smoking uptake or encouraging cessation this is a curious omission.

Second, the survey was limited to one shopping mall in Vancouver, Canada. There is no evidence that this location or its patrons are representative. The study thus has the potential for selection bias in its sample.

Third, the technique – one four second exposure to the health warning – may be insufficient to produce useful responses.

Fourth, as with the other recall studies, there is no behavioral component. The researchers infer from the fact that there was greater recall of warnings on one form of packaging that they were more effective at “getting attention.” But even this conclusion is hedged in that we are told that “warnings on plain white packages *may* [emphasis added] be more effective.” Whether they were more effective in terms of preventing smoking or discouraging smoking is not even addressed in the study design.

Fifth, the results of the study were decidedly mixed. Recall levels for the warning “Smoking can kill you” were higher for the warning on plain packaging and the difference was statistically significant. Recall levels for the warning “Cigarettes are addictive” were not statistically significant between the plain packaging and the regular packaging. Recall levels for the warning “Tobacco smoke causes fatal lung disease in nonsmokers” were higher for the warning on regular packages and the difference was statistically significant. Given these mixed results, this study does not provide compelling evidence that plain packaging improves the recall of health warnings on tobacco packages.

Sixth, there is no evidence in this study that supports the implicit assumption that there is a link between youth smoking initiation and recall of health warnings. Without this link, the findings, whatever their statistical significance, do not support the claim that plain packaging will reduce youth smoking initiation.

Seventh, there is no evidence in this study that shows that even the statistically significant difference in recall rates for the one warning on plain packaging will be true when all cigarettes are sold in plain packaging.

Eighth, the findings are contradicted by the results of the expert panel, as discussed above, as well as the results of the Health Canada Wave studies for the graphic warnings introduced in 2001. The introduction of these warnings provided an experimental test of the claims that enhanced salience of health warnings improves attention to the warnings and changes smoking behavior. As noted above, the graphic health warnings did neither of these in Canada. Also, as Wakefield et al. reported, exposing adolescents to tobacco advertising and displays did not unfavorably alter their already high appreciation of the risks of tobacco use. The findings are also contradicted by

Rootman and Flay's finding that Canadian adolescents' recall of the health warning was not statistically different on plain packs from regular packs.

Ninth, the implicit assumption about the relationship between health warnings and tobacco packages, unsupported by validated empirical evidence, that certain features, which are never properly specified, diminish the effectiveness of the warnings, rests on a further assumption that health warnings on tobacco packages change smoking behavior. As we have seen, there is little evidence that this is in fact the case. There is also evidence that suggests why it is likely not to be the case. For such warnings to change smoking behavior, they must increase adolescents' risk perceptions. But Kip Viscusi of Harvard University has shown in a number of studies that adolescent smokers already overestimate the risks of smoking substantially, in terms of risk of premature death, years of life lost, and risk of death from lung cancer.¹³⁸ In other words, it is improbable to expect that these perceived risks of smoking will be increased regardless of what types of warning or packaging adolescents are exposed to.

➤ **Wakefield and Letcher, *My Pack is Cuter Than Your Pack*, TOBACCO CONTROL (2002)**

This article alleges that cigarette packs function as marketing tools "in the face of tobacco advertising bans." The authors argue that changes in cigarette packaging are "clearly part of an effort to encourage selected target groups of smokers to pay greater attention to their pack." Further they claim that research by Katz and Lavack¹³⁹ lends support to the notion that these unusual pack images may act as clever marketing techniques to entice new consumers to try cigarettes and encourage existing smokers to switch brands.

There are two problems with this research, both of which completely disqualify it from providing any support for plain packaging, and one of which raises significant concerns about the ethics of the authors.

First, it is universally conceded that packaging, whether for tobacco products or other consumer goods, is a key component in building brand loyalty and in encouraging brand trial. From this it does not follow that packaging is instrumental in facilitating product

trial. The authors acknowledge that changes to the pack are “clearly part of an effort to encourage selected targeted groups of *smokers* to pay greater attention to their pack.” [emphasis added] In other words, the authors themselves acknowledge the role of packaging not in initiating consumption but in focusing on existing smokers for purposes of brand marketing. This undermines the conclusion of the article which suggests changes to health warnings and introducing plain packaging.

Second, the authors’ claim that Katz’s and Lavack’s research provides support for the assertion that unusual pack images may work to entice new customers misrepresents this research. First, Katz and Lavack’s research is about is about tobacco-related bar promotions and is based on tobacco industry documents. Katz and Lavack do not discuss tobacco packaging at all, let alone “unusual pack images.” Second, the Katz and Lavack study does not provide any evidence that tobacco marketing in bars is an attempt to initiate smoking. Third, they specifically state that the industry considers bar promotions to “be extremely worthwhile vehicles for enhancing brand image.” They also note that the tobacco industry documents reviewed in their study “speak only of the potential to generate trial from competitive brand adult smokers.”

In other words there is *nothing* in Katz and Lavack that “lends support” to Wakefield and Letcher’s claim that unusual pack images are an attempt to “entice new consumers to try cigarettes.”

➤ **Wakefield et al., *The Cigarette Pack as Image: New Evidence from Tobacco Industry Documents*, TOBACCO CONTROL (2002)**

Wakefield et al. purport to provide documentary evidence about the influence of the tobacco package as an “advertising medium.” Despite this claim, they concede that tobacco packages act to influence not smoking but brand decisions when they write that, “What roles do color, pack size, and pack construction...play in influencing potential consumers...to select one brand over another?” This fact significantly undermines the claim that cigarette packaging serves to initiate smoking. Even more tellingly, Wakefield et al. fail to provide any documentary or other evidence that demonstrates how

branded packages encourage smoking initiation. Indeed, they concede this failure by repeating the claim in the hypothetical, writing that, “If their design characteristics make them more attractive to teenage smokers.” This, of course, is the claim advanced at the beginning of the study, but also the one for which no internal industry documents provided support.

➤ **Di Franza et al., *Cigarette Package Design: Opportunities for Disease Prevention*, TOBACCO INDUCED DISEASES (2002)**

This study examines the extent to which tobacco packages “target children.” It is based on an examination and analysis of industry documents. Based on this examination, the authors advance a series of policy recommendations, concluding that, “The design of cigarette packages is central to the tobacco companies’ efforts to promote tobacco use. If the goal is to discourage tobacco use, the package design should be eliminated as a source of positive imagery.”

This study is another instance of plain packaging research that violates the accepted norms of social science inquiry in that its conclusions are not founded on its data. Based on their extensive review of industry documents relating to cigarette pack design the authors conclude that, “We found no evidence in the documents that we were able to locate, to indicate that cigarette manufacturers target children with their package designs.” In other words, the hypothesis, at the center of calls for plain packaging, that cigarette packages help to initiate tobacco use among young people, is unsupported. Indeed, this was the objective of the study “To learn how cigarette packages are designed and to determine to what extent cigarette packages are designed to target children.” Notice, it is not *if* packages are designed to target children, but “to what extent” they are designed to do so.

The authors then go on to note that their failure to find evidence “does not represent proof that such targeting does not occur.” No, of course it does not since it is impossible to prove a negative. Advocates of plain packaging, however, have repeatedly claimed that the tobacco industry conspires to use its packages not for attracting smokers to a brand but rather for attracting nonsmokers to smoke. One way to definitely establish or refute this claim would be to examine industry

marketing documents which have been released as the result of legal settlements as this study has done. Now, when such an examination shows no evidence that the tobacco industry targets “children with their package designs,” instead of concluding that this refutes the claim, the authors claim that it does not “represent proof that such targeting does not occur.”

Such a statement demonstrates that the case for plain packaging is not scientific. For a proposition to be scientific there must in principle be some way in which it can be shown to be untrue. But there is no way in which the claim that the industry targets children with package designs can be shown to be untrue. Rather than science, the case for plain packaging is nothing more than advocacy attempting to cloak itself in a veneer of science.

Despite the fact that their research hypothesis has not been proven, the authors proceed to develop a series of arguments in favor of plain packaging. They do this by claiming that tobacco packages “conjure up enticing and reassuring imagery.” But they offer no evidence that such imagery leads to smoking uptake, increases in prevalence or consumption or impedes cessation.

They cite the evidence from Beede and Lawson and the Centre for Behavioural Research in Cancer claiming that “the potential impact on adolescents of requirements for generic packaging have been evaluated” without reporting what this research found and without noting how these studies fail to provide any reliable scientific support for plain packaging.

They claim that Beede and Lawson show that there is a greater recall and attention to warnings when plain packaging is used, a misrepresentation of the Beede and Lawson research as we have seen. They then claim, again without any empirical evidence, that “the goal in designing a generic pack should not be to design an ugly pack.” Even if this claim were supported by some evidence, which it is not, it contradicts one of the key advantages advanced by proponents of plain packaging, namely that is unattractive or to put it bluntly ugly, and in being unattractive makes smoking unattractive.

This study then contradicts the central claim of plain packaging advocates, namely, that tobacco packaging is designed to appeal to children. The authors find no tobacco industry evidence on package

design to support this claim. Further in rejecting their own empirical findings the authors reveal themselves as dogmatists and the plain packaging enterprise as advocacy rather than science. This is reinforced by their misrepresentation of the Beede and Lawson findings. Finally, they propose a series of policy recommendations that are not supported by any compelling empirical evidence about plain packaging.¹⁴⁰

➤ **Hastings et al., *The Plain Truth about Tobacco Packaging*, TOBACCO CONTROL (2008)**

This article claims that, “This lethal product,” tobacco “should be stripped of its enticing camouflage by mandating plain packaging.” The authors advance several reasons for this: “It is abundantly clear that young people are driven into smoking by branding and that liveried packs play an active role in this process;” and the “pack livery” of tobacco brands “acts as a spoiler, distracting attention from the health warning”; Plain packs make the product and its perceived consumer less fashionable and attractive.”

The authors offer no original research in support of these two claims, but instead rely on other studies about plain packaging which we have reviewed, none of which provide compelling scientific evidence that plain packaging will prevent smoking initiation, reduce prevalence or consumption or encourage smoking cessation. A few additional observations:

First, the claim that it is “abundantly clear” that young people are “driven into smoking by branding” is anything but clear and it is certainly not *abundantly* clear. Indeed, the authors provide not a single piece of evidence that branding drives young people to begin smoking, or that branded tobacco packs drive young people into smoking. As we have seen, the evidence about plain packaging examined elsewhere in this submission noticeably fails to establish these claims.

Second, the evidence cited in support of the claim that branded tobacco packages distract attention from the health warning includes Cunningham and Kyle, along with Goldberg, Beede et al., and the Environics Research Group report (*see infra*). We have seen above that none of these studies provide reliable and statistically valid

evidence that tobacco packaging distracts attention from the health warning. The fact that there might be a higher recall rate of warnings on plain packages can be explained by a number of things including the novelty effect of the packages. It does not follow from the fact that there was a higher recall of warnings with plain packages that traditional packages distract attention from the health warning.

Third, the authors cite a number of the studies already examined, including Madill-Marshall, Rootman, and D'Avernas and Foster in support of their claim that plain packaging make the product and its perceived consumer appear less fashionable and attractive. As we have seen, all of these studies are flawed. More importantly, none of them provides evidence that making tobacco and its consumers appear less fashionable and attractive will prevent or reduce smoking initiation, prevalence, and consumption or increase cessation. None of them provides evidence, nor do these authors, of a causal link between any smoking behavior and tobacco appearing or its consumers appearing fashionable or attractive.

- **Enviro-nics Research Group, *Consumer Research on the Size of Health Warning Messages: Quantitative Study of Canadian Youth*, Health Canada (2008)**
- **Enviro-nics Research Group, *Consumer Research on the Size of Health Warnings Messages: Quantitative Study of Canadian Adult Smokers*, Health Canada (2008)**

Health Canada commissioned these studies to evaluate the effectiveness of warnings on tobacco products. One study was done with young people (1000 aged 12-18, smokers and non-smokers) and the other with adults (1000, all currently smokers). The two studies do not directly examine the key policy question of the effect of plain packaging on smoking initiation or behavior, but instead examines subjects' reactions to plain packs, as well as reporting public opinions about such packaging.

In the youth study, the subjects were shown examples of branded and plain packaged cigarettes and then questioned about brand recall in an interview. The study used sixteen branded packs and eight plain packs with each respondent seeing six packages. The study asked subjects to compare plain packaged cigarettes with branded cigarettes.

Unfortunately, the study design renders this study uninformative in answering the key policy questions around plain packaging. This is because it asked subjects to compare plain packs against regular packs in terms of brand recall which is an artificial situation that will not exist in a plain pack environment. The study cannot provide any data about how the subjects would rate plain if it were the only packaging available and more crucially, what their smoking behavior would be if the plain packs were the only packages available. Reporting on subjects' impression of plain packs in a branded environment provides no information about their utility in terms of preventing initiation, reducing prevalence of consumption or assisting cessation in a universal plain pack market.

Moreover, in a violation of research conventions, subjects were told who the research sponsor was: Health Canada. This was more than likely to have created a social desirability bias in responses.

Again, the data shows that a higher percentage of subjects (82%) recalled the brand name on the plain pack compared with the branded pack (71%). Given that the point of plain packaging is to diminish brand image, attributes, and power, and to break the connection between the brand and the package, it is difficult to see how enhancing brand recall with plain packaging serves this purpose.

Further, when asked how the current health warning could be made more effective, the top reported responses were "increase size" "change the pictures," "change messages" and provide "more detailed information." Move to the warning to a plain packaging format was not a top of mind response, undermining the claim that warnings would be more effective on plain packaging. The claim that warnings would be more effective on plain packages is also called into question by the fact that more subjects recalled the brand name on plain pack than on branded packs.

Finally, the remainder of the plain packaging findings in this study are about the subjects' opinions about which pack- branded or plain would be more effective in informing about the health risks of smoking and encouraging reduction in tobacco use. These findings are compromised by the fact that respondents knew who the sponsor of the study was, a corrupting influence, and by the fact that they do not report actual or intended behavior on the part of the subjects, only their opinion about public behavior. These opinions are thus useless in

providing any empirical scientific evidence about the probable consequences of plain packaging.

In the adult study the same design was used as with the youth study. Again, the experimental results related to plain packaging and brand recall. The study is thus subject to the same problems. For instance, subjects were informed that Health Canada was the sponsor of the research. The study fails to ask subjects about the effect of plain packaging if all cigarettes were available only in that packaging. The study found that brand name recall rate was higher with plain packages (95% versus 90%) with branded packages, again a result that seems not to support the object of plain packaging.

➤ **Freeman et al., *The Case for the Plain Packaging of Tobacco Products*, ADDICTION (2008)**

This “study” is a curious piece of research, for while it concludes that, “Plain packaging of all tobacco products would remove a key remaining means for the industry to promote its products,” it provides no original research in support of this conclusion. Moreover, it seriously misrepresents some of the positions of the tobacco industry.

For example, Freeman et al. claim that, “Unique among industries, the tobacco industry claims that it has no interest in attracting new customers,” whereas the industry’s position is that it has no interest in and does not market its products to *non*-adult customers. The two positions are quite different. Moreover, the industry’s position is not at all unique in mature industries whose products are already well known, since in these industries most advertisements are directed at target audiences who already use the product in question: the advertisement tries simply to interest the consumer in an alternative brand of a product they already use.¹⁴¹ Thus, the individual competitors in the industry are very interested in attracting new customers where new customer is defined as a smoker of another brand.

Again, Freeman et al. claim that a book (see above) sponsored by the industry on the plain packaging issue that included analyses of the issue written by seven academics was fraudulent, as the “majority of the content” was written by the tobacco industry law firm, Shook,

Hardy, and Bacon.¹⁴² This extraordinary claim of academic dishonesty is unsubstantiated by the evidence cited.

Even more extraordinary is the fact that the article offers no evidence that tobacco packaging promotes cigarette smoking as opposed to brand choice. Providing no original evidence of its own, the article instead relies solely on the seriously flawed research examined above: *When Packages Can't Speak*, Beede and Lawson, Rootman and Flay, Goldberg et al., and the Centre for Health Promotion. Arguing that the Canadian study, *When Packages Can't Speak*, “remains the most comprehensive review of the probable effects of plain packaging,” the study ignores the key empirical data that the Canadian study reports, namely data which shows that: brands have little role in smoking uptake, cigarette packaging does not affect smoking initiation, and the type of cigarette packaging will not have any major effect on the decision to smoke or not to smoke.

A second piece of evidence about the unimportance of tobacco packages for smoking initiation and consumption comes from the recently introduced graphic health warnings. Part of the justification for such warnings is that their size, position, and content would serve to diminish the advertising effect of tobacco packages, and thus reduce both smoking initiation and consumption. Writing about the use of warnings to neutralize package advertising, Canadian anti-tobacco activist Garfield Mahood notes that:

All tobacco advertising, sponsorship and point-of purchase promotion relates ultimately to the color and graphics or trade dress of the package...It is a legitimate health goal for governments to use large warnings to draw attention to the messages and increase knowledge of risks. If the size of such messages coincidentally reduces the industry's ability to use the remainder of the package for the deception that is implicit in the alluring packaging, public health will benefit.¹⁴³

The introduction of graphic warnings on tobacco packages serves then as a test of whether those packages do in fact advertise smoking. One would expect that the new packages with the graphic warnings and severely reduced advertising would result in less smoking initiation and reduced prevalence and consumption. The empirical evidence, however, does not show this to be the case. For example, after the introduction of the new graphic warnings on tobacco

packages, Canada commissioned a national survey to examine the effects of the warnings on smoking behavior.¹⁴⁴ The study found that when compared with the previous tobacco packages, the new reduced advertising packages were not associated with a statistically significant decline in adolescent consumption, a statistically significant increase in the number of adolescents who attempted to quit smoking, a statistically significant change in adult smoking prevalence or consumption, or a statistically significant increase in the percentage of adult smokers who tried to quit smoking. Similar findings are reported by Gospodinov and Irvine.¹⁴⁵ Compared with the previous advertising friendly packages, the new packages were not associated with a statistically significant decline in either smoking prevalence or consumption in either adolescent or adults.

➤ **Scheffels, *A Difference that Makes a Difference: Young Adult Smoker's Accounts of Cigarette Brands and Package Design*, TOBACCO CONTROL (2008)**

This study reports findings on interviews conducted in focus group of 21 smokers aged 18-23 in Norway in 2003. The 21 subjects were asked their views about cigarette brands and package designs. The study is severely flawed and does not provide any scientific evidence of relevance to plain packaging.

First, the interviews are reported only selectively and qualitatively: there is no quantitative data. The questions asked of subjects are not provided either and there is no report as to how the interviews were structured. We discussed earlier the problems to which such focus group research is prone. In this case the researcher conducted the focus groups himself which raises the substantial possibility of bias given that he knew the purpose of the research.

Second, the number of subjects is small and there is no evidence that they are representative. The answers provided are thus not generalizable. Indeed, the author concedes this by noting that “the findings presented in this study are of an exploratory nature.”

Third, in violation of social science research protocols, the researcher draws conclusions which do not follow from the data. The study does not provide quantitative findings yet the author concludes that “the findings from this study suggest that a regulation of cigarette

packaging may be an important policy element. If all brands were packed in generic packages, the effect of the package as a communication and promotional device would be significantly reduced.” This conclusion is unwarranted in light of the study. The only support for the conclusion is the Cunningham and Kyle study, which itself presents no original empirical research and is nothing more than a piece of advocacy. Moreover, the study presents no scientific evidence which shows that cigarette packages act as a promotional device in terms of smoking initiation as opposed to promoting brand choice by smokers,

- **Moodie et al., *Tobacco Marketing Awareness on Youth Smoking Susceptibility and Perceived Prevalence Before and After an Advertising Ban*, EUROPEAN J. OF PUB. HEALTH (2008)**

This study is cited in support of plain packaging even though its data does not address the issue. However, in their discussion section, the authors assert that the fact that UK young people have an awareness of tobacco marketing is sufficient justification for plain packaging. This conclusion is not supported by any of the evidence in the study. The study provides no empirical data which shows that plain packaging would have any effect on young people’s awareness of tobacco marketing or on their smoking behavior. The authors’ claim is therefore nothing more than speculation.

- **Moodie and Hastings, *Making the Pack the Hero, Tobacco Industry Response to Marketing Restrictions in the UK: Findings from a Long-term Audit*, INT’L J. OF MENTAL HEALTH AND ADDICTION (2009)**

This study used a panel of UK smokers and information from the trade press to gather information about tobacco marketing in the UK from 2002-2009. The panel consisted of 20 adult smokers who “participated in an audit of tobacco promotions and purchases” through self-completion diaries. The authors assert that tobacco “packaging is used...To stimulate interest in all tobacco categories...through innovation.” They claim that the “use of image and innovation based packaging has increased from 2005 onwards” in

the UK. They further suggest that pack design and innovation “may be an industry tactic to undermine health warnings” and that the “only consistent and effective policy response is to mandate generic packaging.”

The study suffers from several defects. First, self-completion diaries are subject to a number of problems, most notably comprehensiveness and accuracy. There is no indication in the study that there was any effort to control for these problems.

Second and more seriously, this study consists entirely of a series of assertions about tobacco packaging innovation, none of which is evidenced and none of which is shown to be connected with smoking initiation, prevalence and consumption or cessation, let alone with plain packaging. For instance, the claim that tobacco packaging is designed to “stimulate interest” in tobacco products does not provide any proof that packaging stimulates trial or increased consumption or indeed functions in any way other than to attract smokers to a particular brand.

Again, the study provides no scientific evidence that pack design and innovation “may be an industry tactic to undermine health warnings” and no evidence that even if this were to be the case that pack design and innovation do undermine health warnings.

The conclusion of the study that the “only consistent and effective policy response is to mandate generic packaging,” appears from nowhere: is not based on any empirical evidence. It is completely unsupported by anything in the study and is a matter of unevidenced opinion, rather than carefully established science.

➤ **Moodie and Hastings, *Plain Packaging: A Time for Action*, EUROPEAN J. OF PUBLIC HEALTH (2009)**

This article claims that plain packaging “cannot come too soon” inasmuch as it is necessary to remove the promotional appeal of the package and prevent health warnings from “being undermined.” It asserts that the “attractive or innovative packaging aimed at adults will inevitably be seen by youngsters.”

Once again, this is simply a piece of advocacy with no supporting empirical backing for any of its claims. There is no evidence, for instance, that tobacco packaging is designed to attract new smokers or that it undermines health warnings. Indeed, as we have seen with health warnings, there has been no empirical evidence in any of these studies that this claim is true. Indeed, the one piece of evidence cited in support of the claim that packaging is a factor in smoking initiation – a study of industry marketing documents by Cummings et al. – says nothing of the kind. Moodie and Hastings write that “the industry has vehemently maintained that packaging does not factor in smoking initiation among youth, although industry document analyses contradict these claims.” However, there is no evidence in Cummings et al examination of industry documents that establishes that tobacco packaging is used by the industry to initiate smoking. This claim that Cummings et al provides support for this assertion is entirely contrived by Moodie and Hastings.

As for the author’s claim that Hammond et al. “confirms that plain packs...reduce the attractiveness of cigarettes for young people,” that is issue is addressed below.

➤ **Elliott and Shanahan, *Evaluation of the Effectiveness of the Graphic Health Warnings on Tobacco Product Packaging*, Prepared for the Australian Government Department of Health and Ageing (2009)**

This is a research report on the effectiveness of graphic health warnings in Australia. It consists of a literature review; a series of 28 semi-structured interviews with “key informants from organizations with an interest in tobacco control;” 24 group discussions with smokers, ex-smokers, and non-smokers; and a nationwide telephone survey of 1304 randomly selected Australians aged 15 and over. The survey was designed to collect information on the subjects’ smoking behaviors and their views regarding health warning messages. The study touches on plain packaging only briefly by asking subjects how strongly they agree or disagree with this statement:

I think that cigarettes should be sold in plain (generic) packs, specifying only brand name and government information such as health warnings and information to assist smokers to quit.

Several problems with this approach are evident.

First, the survey does not use as its point of reference the date in which graphic health warnings were introduced in Australia, March 1, 2006, but instead 2000. It thus covers the period from 2000-2008. In this sense it violates several of the more obvious conventions of social science research. For instance, by including a period before the introduction of graphic health warnings, it cannot warrant that its findings are attributable to the period in which graphic health warnings were in force, let alone attributable to the graphic health warnings themselves. The data may have been influenced by any number of things from 2000 until March 1, 2006.

Second, the accepted conventions of social science research specify that opinion questions be as clear and unambiguous as possible in order that valid conclusions may be drawn from the data. The question on plain packaging violates this convention by not clearly specifying what plain packaging is. It is assumed that the respondent in a telephone interview will understand from the brief definition what such a package looks like in relation to a regular cigarette package. The respondent must therefore not only answer the question but attempt to determine what the question means- a process and ambiguity which renders the opinions obtained suspect.

Third, the data does not measure actual or intended behavior with respect to smoking and plain packaging, it simply reports public opinion about plain packs. Because of this it provides no empirical evidence about the effect of plain packaging on smoking initiation, prevalence, consumption, or cessation.

➤ **Hammond et al., *Cigarette Pack Design and Perceptions of Risk Among UK Adults and Youth*, EUROPEAN J. OF PUBLIC HEALTH (2009)**

The study is an examination of UK consumer perceptions of currently available cigarette packages and plain packages. The study claims that the “primary role of tobacco packaging is to promote brand appeal.” The central aspect of this branded packaging is to promote the “perception that some cigarettes are less hazardous than others through descriptors such as light, mild, and low tar. Inasmuch as these descriptors have been banned in the EU, there is evidence that

the tobacco industry has turned to other means to continue to promote these false beliefs – through, for instance, the use of brand imagery and color on tobacco packages.

In order to test these claims, the study examined perceptions of leading cigarette brands in the UK among both youth and adult smokers. Subjects were asked about perceived differences in terms of taste, tar level, health risk, attractiveness, and ease of quitting based on looking at various pictures of cigarette packs, including plain packages with color and brand imagery removed.

Subjects were all recruited from a panel managed by YouGov. Adults who smoked one cigarette in the past month were eligible. Adults with children under 18 were asked by email whether those young people could participate. Participants completed a fifteen minute online survey about their opinions about various brands, between June and August 2008. 516 adult smokers and 806 youth aged 11-17 participated in the survey.

Participants were asked to compare pairs of cigarette packs on the five measures of taste, tar delivery, health risk, attractiveness, and ease of quitting for smokers and for youth the brand they would choose if trying smoking.

The authors claim that adult and youth were significantly more likely to rate packs with terms like smooth, silver, and gold as lower tar, lower health risk and easier to quit or favored brand if one were to try smoking. Plain packs “significantly” reduced false beliefs about health risks and ease of quitting and were rated as less attractive and appealing to youth. The authors conclude that, “Removing colors from packs as well as terms such as smooth, gold and silver would significantly reduce false beliefs.”

This research study has significant problems in terms of methodology and its findings do not provide support for plain packaging. Indeed, the study, as with so much of the plain pack research, does not address the key policy question of how will smoking, particularly youth smoking, change when all cigarettes are sold in plain packaging. As with so many of these studies, the detailed findings are often at variance with the conclusions advanced.

First, there is no evidence that the participants in this study are representative of UK smokers or nonsmokers or indeed of the fact that

the respondent completed the survey without the help of others. Young people, for instance, may have been influenced by their parents.

Second, surveys such as this are subject to measurement error due to the fact that a variety of factors can influence and thus distort the answers that are provided. For instance, the social desirability of certain positions on smoking may have influenced answers, particularly with respect to the speculative questions about plain packaging. There are commonly employed estimation techniques that correct for these sorts of biases, but it is not clear that such corrective techniques were used in this study.

Third, the authors provide no theoretical framework that explains why their explanation is the correct one. The crucial question – why smokers continue to believe that certain cigarette brands have less risk even after the removal of descriptors such as light and mild – has a number of possible answers. The most obvious one is that the descriptors have not been removed very long and smokers continue to identify certain characteristics with their usual brand even in the absence of the descriptor.

This is certainly an equally plausible explanation to the one offered by the authors, that color and words such as smooth convey the same sense as light and mild. Thus, even if the findings about smokers' perceptions were to be correct, they can be accounted for in an equally compelling fashion by an alternative explanation. If the researchers had asked subjects about their usual brand choices, this alternative explanation could have been tested.

Fourth, when the results are compared on a brand-by-brand basis, there are significant differences, differences which suggest that verbal descriptors are significant at most for only certain brands. For example, with Marlboro, 65% of adults thought that Marlboro Gold delivers less tar than Marlboro Red. But for Lambert and Butler Gold vs. Lambert and Butler King Size, 43% of adults thought there was no difference in tar between the two as compared with 42% who believed that Lambert and Butler Gold delivers less tar. 58% of adults thought there was no difference in health risk between Lambert and Butler Gold and Lambert and Butler King Size. Again, as between Mayfair Smooth vs. Mayfair without smooth, 55% of adults said there was no

difference in health risk and the difference in those reporting less tar was marginal.

The youth results also tend not to confirm the researcher's claims. For instance, 65% said there was no difference between Marlboro Gold and Marlboro Red in terms of health risk, while 60% reported that Marlboro Red delivered less tar than Marlboro Gold. With Lambert and Butler Gold and King Size, 47% of youth thought that there was no difference between the two in terms of delivering less tar, with 57% finding no difference in terms of lower health risk. For Silk Cut Silver vs. Silk Cut Purple, 58% of youth found no difference in terms of tar and 63% no difference in terms of lower health risk. For Mayfair smooth vs. Mayfair minus smooth, 51% of youth found no difference in terms of health risk.

The individual results in terms of verbal descriptors/colors are striking. Of the eight pairs of cigarette brands displayed, the largest percentage of respondents reported no difference in terms of lower health risk with five pairs for adults and six pairs for youth. In over 50% of the pairs the supposedly misleading verbal descriptor/color – which plain packaging would fix – did not result in significant differences in terms of beliefs about lower health risks. Since the main claim of the study was that verbal descriptors/colors lead to false beliefs about the health risks of various brands and thus justify plain packaging, these results about verbal descriptors significantly undermine this claim.

Fifth, the differences between the usual package and plain package with respect to health risks, tar levels, and attractiveness also fail to confirm the researcher's claims. For example, in comparison 12 between Lambert and Butler King Size and Lambert and Butler plain pack with brown background, 68% of adults said there was no difference in terms of tar, 75% found no difference in terms of reduced health risk, and 49% found no difference in terms of attractiveness. In comparison 13 between Lambert and Butler King Size and Lambert and Butler plain pack with white background, 70% of adults said there was no difference in terms of tar, 77% no difference in terms of health risk, and 48% no difference in terms of attractiveness. In comparison 12, 61% of youth smokers found no difference in tar and 67% no difference in health risk. In comparison 13, 65% found no difference in tar and 69% no difference in health risk.

Comparing Mayfair King Size with a white plain pack and Mayfair King Size without such a pack, 68% of adults found no difference in tar, 75% no difference in health risk and 47% no difference in attractiveness. Comparing the same two packages, 66% of youth found no difference in terms of tar, 71% in terms of health risk, and 43% in terms of attractiveness. In the four plain pack comparisons, a majority of adults and youth found no difference between the regular and plain pack in terms of tar and health risks. These results show that in terms of perceptions held by adults and youth about tar levels, health risks, and, with the exception of one brand, attractiveness, the majority of respondents did not find significant differences between the regular packages and the plain packages.

Finally, as with most studies of plain packaging, this study fails to provide any evidence that plain packaging would result in fewer people starting to smoke, continued smoking, or increased quitting in an environment that only contained cigarettes in plain packages. Instead, the study focuses on hypothetical situations in which respondents report what they think or will likely do, as opposed to what they in fact do. Social scientists routinely caution that there is an enormous difference between what people report they believe and might do, and what they in fact do.

CONCLUSION

The current international intellectual property regime does not allow for properly registered trademarks of long use to be suppressed except where it can be shown by the most exacting standards of scientific evidence that 1) the use of the trademark, as opposed to the product itself, presents a substantial danger to public health, and 2) there is compelling scientific evidence that the restriction of the trademark is not just the only way of dealing with the danger to public health, but will in fact work. With that as an analytical backdrop, we have examined the three arguments advanced in favor of allowing tobacco trademarks to be suppressed by plain packaging. We have found that neither the nature of the product argument nor the right of use argument offered a compelling reason for the abrogation of tobacco trademark rights. Most crucially, we have found, after examining all of the empirical evidence on plain packaging supporting

the public health argument, that none of this evidence comes close to demonstrating that plain packaging is “necessary,” as required by TRIPS, to protect public health. Those industries whose trademarks may be next on the target list of international health activists can use the arguments and analysis this Monograph has provided not only to push back against the current threat to tobacco trademarks, but also defend against the inevitable assault on their intellectual property.

ENDNOTES

INTRODUCTION

¹House of Commons Public Bill Committee debate, Ottawa, June 25, 2009.

SECTION I

²Rachel Pannet *Australia Takes Aim at Tobacco Packaging*, WALL ST. J., Apr. 29, 2010.

³*Strategies to Reduce the Harmful Use of Alcohol: Draft Global Strategy*, 63rd World Health Assembly, World Health Organization, A63/13 (Mar. 25, 2010), available at http://apps.who.int/gb/ebwha/pdf_files/WHA63/A63_13-en.pdf.

⁴Patrick Barta and Christina Passariello, *Global Liquor Makers Fight Graphic Labels in Thailand*, WALL ST. J., Sept. 17, 2010 at B1.

⁵*EC-Protection of Trademarks and Geographical Indications for Agricultural Products and Foodstuffs, Panel Decision, USA v EC*, WTO document, WT/DS174R, 15 Mar. 2005 para 7.664.

⁶J. Katz and R. Dearden *Plain packaging and international trade treaties* in J. Luik, Ed PLAIN PACKAGING AND THE MARKETING OF CIGARETTES.

⁷Quoted in Kluwer THE TRIPS REGIME OF TRADEMARKS AND DESIGNS: 133 (2006).

⁸*Id.* at 116.

SECTION II

⁹I. Shapiro, *Treating cigarettes as an exception to the trade rules*, SAIS REVIEW, 22: 87-96 (2002).

¹⁰D. Zeigler, *International trade agreements challenge tobacco and alcohol control policies*, DRUG AND ALCOHOL REV., 25: 567-579 (2002).

¹¹Shaffer et al., *International trade agreements: a threat to tobacco control policy*, TOBACCO CONTROL, 14: 19-25 (2005).

¹²*The World Trade Organization and Human Rights* FIDH Position Paper (2001).

¹³Kingston, *Trademark registration is not a right*, J. OF MACROMARKETING, 26: 17-26 (2006).

¹⁴Cass, *Liberty and Property: Human Rights and the Protection of Intellectual Property* WLF Critical Legal Issues WORKING PAPER Series, No 161 (2009).

¹⁵World Health Organization and the World Trade Organization, *WTO Agreements and Public Health: A Joint Study by the WHO and the WTO Secretariat* (2002).

¹⁶*Supra* note 14

¹⁷A. Mitchell, *Australia's move to the plain packaging of cigarettes and its WTO compatibility*, ASIAN J. OF WTO AND INT'L HEALTH LAW AND POLICY, 5: 409-410 (2010).

¹⁸B. McGrady, *TRIPs and trademarks; the case of tobacco*, WORLD TRADE REV., 3: 53-82 (2004).

¹⁹Bernitz, *Logo licensing of tobacco products – can it be prohibited?*, EUROPEAN INTELLECTUAL PROPERTY REV., 4: 137-139 (1990).

²⁰Kur, *The right to use one's own trade mark: A self-evident issue or a new concept in German, European, and international trade mark law?*, EUROPEAN INTELLECTUAL PROPERTY REV., 4: 198-203 (1996).

²¹Bernitz, *supra* note 19, at 139.

²²*United Drug Co. v Rectanus Co.* 248 U.S. 90, 97 (1918).

²³M. Castren, *Tobacco advertising and trade mark law in Finland*, EUROPEAN INTELLECTUAL PROPERTY REV., 2: 87-90 (1995).

²⁴G. Bodenhausen *Pariser Verbandsvereinbarung zum Schutz des Gewerblichen Eigentums*, Cologne: 13 (1971).

²⁵*Supra* note 6.

²⁶*Supra* note 21.

²⁷*USA v EC, EC Protection of Trademarks and Geographical Indications for Agricultural Products and Foodstuffs*, WT/DS174R, 15 Mar. 2005: 664.

SECTION III

²⁸*Supra* note 20.

²⁹The Conference of the Parties to the WHO FCTC Guidelines for Implementation of Article 11 of the WHO Framework Convention on Tobacco Control on Packaging and Labeling of Tobacco Products Decision FCTC COP, Nov. 3, 2008.

³⁰WTO AGREEMENTS AND PUBLIC HEALTH: A JOINT STUDY BY THE WHO AND THE WTO SECRETARIAT (2002).

³¹C. Lovato et al., *Impact of Tobacco Advertising and Promotion on Increasing Adolescent Smoking Behaviors*, Cochrane Database of Systematic Reviews, Issue 3 (2004).

³²*U.S. v Philip Morris*, 396 F.3d 1190 (D.C. Cir. 2005).

³³WHO Report on the Global Tobacco Epidemic, 2008: The MPOWER package. Geneva: World Health Organization (2008).

³⁴Federal Trade Commission Cigarette Sales and Marketing Report (2004), available at <http://www.ftc.gov/reports/tobacco/2007cigarette2004-2005.pdf>.

³⁵S. Dickerson and J. Dorsett, *Advertising and alcohol consumption in the UK*, INT'L J. OF ADVERTISING, 23: 149-171 (2004).

³⁶J. Nelson, *Cigarette advertising regulation: a meta-analysis*, INT'L REV. OF LAW AND ECON., 26: 195-226 (2006).

³⁷R.L. Schmalensee, *ON THE ECONOMICS OF ADVERTISING*, Amsterdam: North Holland (1972); J.L. Hamilton, *Advertising, the health scare, and the cigarette advertising ban*, *REV. OF ECON. AND STATISTICS*, 54: 401–11. (1972); B.H. Baltagi and D. Levin, *Estimating dynamic demand for cigarettes using panel data: the effects of bootlegging, taxation, and advertising reconsidered*, *REV. OF ECON. AND STATISTICS*, 68(1), 148B55 (1986); B.J. Seldon, and K. Doroodian, *A simultaneous model of cigarette advertising: effects on demand and industry response to public policy*, *REV. OF ECON. AND STATISTICS*, 71, 673B7 (1989); John E. Calfee, *The Historical Significance of Joe Camel*, *J. OF PUB. POLICY & MARKETING* (Oct. 1, 2000); E.T. Fugii, *The demand for cigarettes: Further empirical evidence and its implication for public policy*, *APPLIED ECON.* 12: 479-489 (1980); William J. McGuire, *An Information-Processing Model of Advertising Effectiveness*, paper presented at the Behavioral and Management Science in Marketing Symposium, University of Chicago, June 29-July 1, 1969; J. Friedman, *OLIGOPOLY THEORY*, Cambridge University Press (1983); L. Thomas, *Advertising in consumer goods industries: durability, economies of scale, and heterogeneity*, *JN. OF LAW AND ECON.*, 32: 163-193 (1989).

³⁸B.J. Seldon and K. Doroodian, *A Simultaneous Model of Cigarette Advertising: Effects on Demand and Industry Response to Public Policy*, *REV. OF ECON. AND STATISTICS*, 71: 673-77 (Nov. 1989).

³⁹B.J. Seldon and K. Doroodian, *Advertising and Cigarette Consumption*, *EASTERN ECON. J.*, 17: 359-66 (July-Sept. 1991).

⁴⁰W. McGuire, *An Integrative Model of Advertising Effectiveness* in Harry C. Davis and Alvin Silk (eds.) *BEHAVIOR AND MANAGEMENT SCIENCE IN ADVERTISING* (New York: Ronald Press, 1978).

⁴¹*Supra* note 37.

⁴²J. Nelson, *Alcohol advertising and advertising bans: A survey of research methods, results and policy implications* in My Baye and J. Nelson Eds., *ADVANCES IN APPLIED MICROECONOMICS*, Vol. 10, Advertising and Differentiated Products Elsevier Amsterdam, 239-295 (2001).

⁴³J.A. Bishop and J.H. Yoo, *Health scare, excise taxes and advertising ban in the cigarette demand and supply*, *SOUTHERN ECON. J.* 52: 402-411 (1985).

⁴⁴G. Wilcox, *Cigarette brand advertising and consumption in the United States: 1949-1985*, *J. OF ADVERTISING RESEARCH* 31: 61-67 (1991).

⁴⁵G. Wilcox, M. Tharpe, and K. Yang, *Cigarette advertising and consumption in South Korea, 1988-1992*, *INT'L J. OF ADV.*, 13: 333-346 (1994).

⁴⁶*Id.*

⁴⁷S. Witt and C. Pass, *The effects of health warnings and advertising on the demand for cigarettes*, *SCOTTISH J. OF POL. ECON.*, 28: 86-91 (1981); T. McGuinness and K. Cowling, *Advertising and the aggregate demand for cigarettes*, *EUR. ECON. REV.*, 6: 311-328 (1975); M. Radfar, *The effect of advertising on total consumption of cigarettes in the UK*, *EUR. ECON. REV.*, 29: 225-231 (1985).

⁴⁸M. Duffy, *Advertising and the consumption of tobacco and alcoholic drinks: system-wide analysis*, *SCOTTISH J. OF POL. ECON.*, 38: 369-385 (1991); M. Duffy, *Advertising and cigarette demand in the United Kingdom*, Working Paper, No. 9408 (Manchester School of Management 1994); M. Duffy, *Advertising in demand systems for alcoholic drinks and tobacco: A comparative study*, *J. OF POLITICAL MODELING*, 557-577 (1995).

⁴⁹*Advertising and cigarette demand in the United Kingdom*, *supra* note 48.

- ⁵⁰B. Seldon and R. Boyd, *The stability of cigarette demand*, APPLIED ECON., 23: 319-326 (1991).
- ⁵¹J. Luik, *The 'Smee Report' as a contribution to the tobacco advertising debate*, INT'L J. OF ADVERTISING, 15:1 (1996).
- ⁵²M. Duffy, *Econometric studies of advertising, advertising restrictions and cigarette demand: a survey*, INT'L J. OF ADVERTISING, 15: 1-23 (1996).
- ⁵³M. Duffy, *Advertising and good, drink and tobacco consumption in the United Kingdom: A dynamic system*, AGRICULTURAL ECON., 28: 51-70 (2003).
- ⁵⁴S. Cameron, *Dynamic Models of Smoking Behaviours: A Reassessment of U.S.*, Times Series Evidence Working Paper University of Bradford (1997).
- ⁵⁵C. Gallet, *The effect of the 1991 advertising ban on behaviour in the cigarette industry*, MANAGERIAL AND DECISION ECON., 20: 299-303 (1999).
- ⁵⁶C. Gallet and A. List, *Cigarette demand: A meta-analysis of elasticities*, HEALTH ECON., 12: 821-835 (2003).
- ⁵⁷S. Cameron, *Estimation of the demand for cigarettes: A review of the literature*, ECON. ISSUES, 3: 51-72 (1998).
- ⁵⁸K. Lancaster and A. Lancaster, *The economics of tobacco advertising: spending, demand and the effects of bans*, INT'L J. OF ADVERTISING, 22: 41-65 (2003).
- ⁵⁹*Supra* Note 36.
- ⁶⁰*Supra* note 30.

⁶¹J. Heckman et al., *An assessment of causal inference in smoking initiation research and a framework for future research*, ECONOMIC INQUIRY, 46: 37-44 (2008).

⁶²*Id.*

⁶³R. Luepker et al., *Validity of telephone surveys in assessing cigarette smoking in young adults*, AM. J. OF PUBLIC HEALTH, 79(2):202–204 (Feb.1989).

⁶⁴N. Brener et al., *Assessment of factors affecting the validity of self-reported health-risk behavior among adolescents: evidence from the scientific literature*, J. OF ADOLESCENT HEALTH, 33: 436-457 (2003).

⁶⁵G. Agostinelli and J. Grube, *Tobacco counter-advertising: A review of the literature and a conceptual model for understanding effects*, J. OF HEALTH COMMUNICATION, 8: 107-127 (2003).

⁶⁶J. Nelson, *What is learned from longitudinal studies of advertising and youth drinking and smoking? A critical assessment*, INT'L J. OF ENV'T'L RESEARCH AND PUBLIC HEALTH, 7: 870-926 (2010)

⁶⁷*Supra* note 61.

⁶⁸J. Luik, *IDEOLOGY MASKED AS SCIENTIFIC TRUTH*, Washington Legal Foundation Monograph (2006), available at http://www.wlf.org/publishing/publication_detail.asp?id=1796.

⁶⁹D. Backe and S. Kommer, *Die werbung and die kinder*," MEDIEN UND DRIZIEGUNG, 41: 228-234 (1997).

⁷⁰B. Young et al., *The young child's understanding of advocacy communication* in I. Quintanilla and R. Luna Eds., *The Proceedings of the 22nd Annual colloquium of IAREP*, 2: 761-778 (1997).

⁷¹M. Nava and O. Nava, *Discriminating or duped: young people as consumers of advertising*, ART MAGAZINE OF CULTURAL STUDIES, 1: 51-71 (1990).

⁷²D. Buckingham, *AFTER THE DEATH OF CHILDHOOD: GROWING UP IN THE AGE OF ELECTRONIC MEDIA* (Polity Press London 2000).

⁷³J. Nail, *THE TRUTH ABOUT TEENS AND ADVERTISING* (Forrester Research, Cambridge, MA 2005).

⁷⁴*Supra* note 30.

⁷⁵J. Sargent et al., *Exposure to cigarette promotions and smoking uptake in adolescents: evidence of a dose-response relation*, *TOBACCO CONTROL*, 163-168 (2000).

⁷⁶W. Choi, A. Farkas, B. Rosbrook, et al., *Does advertising promote smokeless tobacco use among adolescent boys? Evidence from California*, *TOBACCO CONTROL*, 4 (suppl 1): S57-S63 (1994).

⁷⁷M. Siegel and Beiner, L., *Evaluating the impact of statewide anti-tobacco campaigns: the Massachusetts and California tobacco control programs*, *J. OF SOCIAL ISSUES*, 53: 147-168 (1997).

⁷⁸J. Pierce, *Does Tobacco Advertising Target Young People to Start Smoking? Evidence From California*, *JAMA*, 266: 3154-3158 (1991).

⁷⁹J.L. Hamilton, *Advertising, the health scare, and the cigarette advertising ban*, *REV. OF ECON. AND STATISTICS*, 54: 401-11. (1972); L. Schneider, B. Klein, and K.M. Murphy, *Government regulation of cigarette health information*, *J. OF LAW & ECON.* 24: 575-612 (1981); J.A. Bishop and J.H. Yoo, *Health scare, excise taxes and advertising ban in the cigarette demand and supply*, *SOUTHERN ECON. J.* 52: 402-411 (1985); B. Baltagi and D. Levin, *Estimating dynamic demand for cigarettes using panel data: The effects of bootlegging, taxation, and advertising reconsidered*, *REV. ECON. STAT.* 68: 148-155 (1986); R. McAuliffe, *The FTC and the Effectiveness of Cigarette Advertising Regulations*, *J. OF PUB. POLICY AND MARKETING*, 7: 49-64 (1988); B.J. Seldon, and K. Doroodian, K., *A Simultaneous Model of Cigarette Advertising: Effects on Demand and Industry Response to Public Policy*, *REV. OF ECON. AND STATISTICS*, 71: 673-77 (Nov. 1989); B. Seldon and R. Boyd, *The stability of cigarette demand*, *APPLIED ECON.*, 23: 319-326 (1991); G. Franke, *U.S. Cigarette Demand, 1961-*

1990: *Econometric Issues, Evidence, and Implications*, J. OF BUS. RESEARCH 30: 33-41 (1994); C. Gallet, *The Effect of the 1971 Advertising Ban on Behavior in the Cigarette Industry*, MANAGERIAL AND DECISION ECONOMICS 20: 299-303 (1999); J. Nelson, *Cigarette advertising regulation: a meta-analysis*, INT'L REV. OF LAW AND ECON., 26: 195-226 (2006).

⁸⁰J. Hamilton, *The Effect of Cigarette Advertising Bans on Cigarette Consumption*, Proceedings from the Third World Conference on Smoking and Health. Washington, D.C.: U.S. Department of Health, Education, and Welfare, 829-839 (1977); A. Atkinson and J. Skegg, *Anti-smoking publicity and the demand for tobacco in the U. K.*, The Manchester School of Economic and Social Studies, 41: 265-282 (1973); L. Johnson, *Advertising and the aggregate demand for cigarettes*, AUSTRALIA INT'L J. OF ADVERTISING, 5: 45-58 (1986); P. McLeod, *Advertising Bans, Tobacco and Cigarette Consumption*, ECONOMICS LETTERS, 20: 391-6 (1986); B. Valdes, *Cigarette Consumption in Spain: Empirical Evidence and Implications for Public Health Policy*, APPLIED ECON., Taylor and Francis Journals, 25(2):149-56 (Feb. 1993).

⁸¹*Supra* note 52.

⁸²H. Saffer and F. Chaloupka, *The Effect of Tobacco Advertising Bans On Tobacco Consumption*, J. OF HEALTH ECON., 19 (6) (2000).

⁸³*Supra* note 57.

⁸⁴J. Nelson, *Cigarette Demand, Structural Change, and Advertising Bans: International Evidence, 1970-1995*, CONTRIBUTIONS TO ECON. ANALYSIS & POLICY, 2: 1, Art. 10 (2003).

⁸⁵J. Nelson, *Youth Smoking Prevalence in Developing Countries: Effect of Advertising Bans*, APPLIED ECON. LETTERS, 10(13): 805-811 (Oct. 2003).

⁸⁶F. Pampel, *National Income, inequality and global patterns of tobacco use*, SOCIAL FORCES, 86: 455-466 (2007).

⁸⁷World Health Organization, available at <http://www.who.int/tobacco/surveillance/gyts/en/index.html>.

⁸⁸Capella et al., *The effect of cigarette advertising bans on consumption*, J. OF ADVERTISING, 37: 7-18 (2008).

⁸⁹P. Kraft and T. Svendsen, *Tobacco use among young adults in Norway, 1973–95: has the decrease leveled out?*, TOBACCO CONTROL, 6: 27–32 (1997).

⁹⁰Global Link Global Tobacco Control “World Health,” 2003.

⁹¹Rahkonen et al., *Relationship between educational status, gender and smoking in Finland, 1978–1992*, HEALTH PROMOT INT, 10:115-20 (1995).

⁹²See J. Di Franza et al., *Tobacco promotion and the initiation of tobacco use: assessing the evidence for causality*, PEDIATRICS, 117: 1237-1248 (2006), which relies on this criterion to conclude that tobacco advertising initiates tobacco use.

⁹³*Goddard Report* HMSO: London 1990.

⁹⁴K. Conrad et al., *Why Children Start Smoking Cigarettes: Predictors of Onset*, BRITISH JOURNAL OF ADDICTION, 87: 1711-1723 (1992).

⁹⁵K. Smith and M. Stutts, *Factors that Influence Adolescents to Smoke*, J. OF CONSUMER AFFAIRS, 33: 321-357 (1999).

⁹⁶*Supra* note 51.

⁹⁷B. Lloyd and K. Lucas *Smoking in Adolescence: Images and Identities* London: Department of Health (1998).

⁹⁸R. Jessor et al., *Protective Factors in Adolescent Problem Behavior: Moderator Effects and Developmental Change*, DEVELOPMENTAL PSYCHOLOGY, 31: 923-933 (1995).

⁹⁹P. Fralick and Br. Hyndman, *Determinants of Health: Children and Youth National Forum on Health*, Ottawa 1998, Youth Substance Abuse and the Determinants of Health, at 318.

¹⁰⁰B. Borland and J. Rudolph, *Relative effects of low socio-economic status, parental smoking and poor scholastic performance on smoking among high school students*, SOCIAL SCIENCE AND MEDICINE, 9: 27-30 (1975).

¹⁰¹W. Stanton et al., *Sociodemographic characteristics of adolescent smokers*, INT'L J. OF ADDICTIONS, 29: 913-925 (1994).

¹⁰²M. Davy, *Socio-economic inequalities in smoking: an examination of generational trends in Great Britain*, NAT'L STATISTICS Q. (Summer 2007).

¹⁰³H. Graham and G. Der, *Influences on women's smoking status*, EUROPEAN J. OF PUBLIC HEALTH, 9: 137-141 (1998).

¹⁰⁴H. Graham et al., *Pathways of disadvantage and smoking careers: evidence and policy implications*, J. OF EPIDEMIOLOGY AND COMMUNITY HEALTH, 60: 7-12 (2006).

¹⁰⁵See
<http://www.roycastle.org/content/LeftNavigation/Research11/TobaccoControlResearch/TheLiverpoolLongitudinalStudyonSmoking.aspx>.

¹⁰⁶A. Glendinning et al., *Social class and adolescent smoking behavior*, SOCIAL SCIENCE MEDICINE, 38: 1449-60 (1994).

¹⁰⁷B. Jefferis et al., *Effects of childhood socio-economic circumstances on persistent smoking*, AM. J. OF PUBLIC HEALTH, 94: 270-285 (2004); Jefferis et al., *Level of cigarette consumption and socioeconomic circumstances in adolescence: how do they affect cigarette smoking*, ADDICTION, 98: 1765-1772 (2003).

¹⁰⁸A. Kokkevi et al., *Psychosocial correlates of substance use in adolescence: A Cross-national study in six European countries*, DRUG AND ALCOHOL DEPENDENCE, 86: 67-74 (2006).

¹⁰⁹T. Bjarnason et al., *Family structure and adolescent cigarette smoking in eleven European countries*, ADDICTION, 98: 815-824 (2003).

¹¹⁰P. Miller, *Family structure, personality, drinking, smoking and illicit drug use: a study of UK teenagers*, DRUG AND ALCOHOL DEPENDENCE, 45: 121-129 (1997).

¹¹¹P. Miller and M. Plant, *The family, peer influences and substance use: findings from a study of UK teenagers*, J. OF SUBSTANCE USE, 8: 19-26 (2003).

¹¹²K. Anderson, *Young People and Alcohol, Drugs and Tobacco* WHO Regional Publications European Series, No 66, WHO: Copenhagen (1995).

¹¹³E. Van Roosmalen and S. McDaniel, *Peer group influences a factor in smoking behavior of adolescents*, ADOLESCENCE, 24: 801-806 (1989).

¹¹⁴H. Connop and A. King, *Adolescent Smoking Initiation and Maintenance: Report of a Pilot Study of School Smoking Zones* Queen's University: Kingston Canada (1989).

¹¹⁵This theme is explored most recently in P. Basham and J. Luik, *OUTCASTS: THE OBESE AND OTHER VICTIMS OF DENORMALISATION*, Democracy Institute: London (2009).

¹¹⁶P. Miller and M. Plant, *Drinking, smoking and illicit drug use among 15 and 16 year olds in the United Kingdom*, BRITISH MEDICAL J., 313: 394-397 (1996).

¹¹⁷A. Bryant et al., *Understanding the links among school misbehavior, academic achievement and cigarette use: A national panel study of adolescents*, PREVENTION SCIENCE, 1: 71-87 (2000).

¹¹⁸T. Hu et al., *Teenage smoking, attempt to quit and school performance*, AM. J. OF PUBLIC HEALTH, 88: 930-943 (1998).

¹¹⁹B. Jefferis, *Effects of childhood socioeconomic circumstances on persistent smoking*, AM. J. OF PUBLIC HEALTH, 94: 279-285 (2004).

¹²⁰M. Rasmussen et al., *School connectedness and daily smoking among boys and girls: the influence of parental smoking norms*, EUROPEAN J. OF PUBLIC HEALTH, 15: 607-612 (2005).

¹²¹M. Henderson et al., *What explains between-school differences in rates of smoking?*, BMC PUBLIC HEALTH, 8: 218 (2008).

¹²²S. Clayton, *Gender differences in psychosocial determinants of adolescent smoking*, J. OF SCHOOL HEALTH, 61: 115-120 (1991).

¹²³G. Allen et al., *Gender differences in selected psychosocial characteristics of adolescent smokers and nonsmokers*, HEALTH VALUES, 18: 34-39 (1994).

¹²⁴D. Abrams, *Transdisciplinary paradigms for tobacco prevention research*, NICOTINE AND TOBACCO RESEARCH, 1: 15-23 (1999).

¹²⁵Edwards et al., ALCOHOL POLICY AND THE PUBLIC GOOD (Oxford, 1994).

¹²⁶P. Fralick, *supra* note 99.

¹²⁷L. Henriksen et al., *A longitudinal study of exposure to retail cigarette advertising and smoking initiation*, PEDIATRICS, 126 (2): 232-38 (2010).

¹²⁸R. Luepker et al., *supra* note 63.

¹²⁹N. Brener et al., *supra* note 64.

¹³⁰G. Agostinelli and J. Grube, *supra* note 65.

¹³¹Goldberg et al., *When Packages Can't Speak; Possible Impacts of Plain and Generic Packaging of Tobacco Products* Health Canada (1995).

SECTION IV

¹³²Alex Jones, *Forbes Column Ended as Research is Doubted*, N.Y. TIMES, July 21, 1987.

¹³³*Id.*

¹³⁴See, e.g., Declaration on professional ethics of the International Statistical Institute, available at <http://isi-web.org/about/declarationprofessionalethics-2010uk>.

¹³⁵See American Association for Public Opinion Research Code of Professional Ethics and Practices and The Market Research Society Code of Conduct, available at <http://www.aapor.org//AM/Template.cfm?Section=Home&WebsiteKey=3190f801-a49c-44b9-a5d4-383c0c197d84>.

¹³⁶Koval et al., *The potential effectiveness of warning labels on cigarette packages: the perceptions of young adult Canadians*, CANADIAN J. OF PUBLIC HEALTH, 96: 353-356 (2005).

¹³⁷R. Power, *Plain packs, smoking initiation and consumption*, in J. Luik *PLAIN PACKAGING AND THE MARKETING OF CIGARETTES*: 69-70 (1998).

¹³⁸K. Viscusi, *Public Perception of Smoking Risks* in C. Jeanrenaud and N. Sogeuil, eds *VALUING THE COST OF SMOKING*, Kluwer: Boston (1999).

¹³⁹Katz and Lavack, *Tobacco related bar promotions: insights from tobacco industry documents*, TOBACCO CONTROL (2002).

¹⁴⁰It should be noted that the authors rely on the Trachtenberg article, as well.

¹⁴¹M. Schudson, *Symbols and Smokers: Advertising, health messages and public policy*, in R. Rabin and S. Sugarman, eds, *SMOKING POLICY: LAW, POLITICS AND CULTURE*, Oxford University Press: Oxford (1993).

¹⁴²The book in question is J. Luik, *Plain Packaging and the Marketing of Cigarettes*, *supra* note 77

¹⁴³G. Mahood, *Canada's Tobacco Package Label or Warning System: "Telling the Truth" about tobacco product risks*, WHO: Geneva 2003.

¹⁴⁴Environics Research Group *Wave Studies of Consumer Behavior and Attitudes to Smoking*, Ottawa, Canada 2001-2002.

¹⁴⁵*Global health warnings on tobacco packaging: evidence from the Canadian experiment*, TOPICS IN ECONOMIC ANALYSIS AND POLICY 4 (2004).