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Tobacco and Cannabis: The Evolution of Pertinent Rules and Regulations and Subsequent Financial Ramifications

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TOBACCO & CANNABIS: THE EVOLUTION OF PERTINENT RULES & REGULATIONS AND SUBSEQUENT FINANCIAL RAMIFICATIONS

by

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I would like to dedicate my thesis to all family members who encouraged me to apply to the Honors College and acted as my cheerleaders throughout the entire process.

Peter Avisto

Virginia Avisto

Harrison Avisto

Gingia Yerger

Swan Yerger

Patricia Avisto

Uno Avisto

ABSTRACT

PALMER AVISTO: Tobacco & Cannabis: The Evolution of Pertinent Rules & Regulations and Subsequent Financial Ramifications

(Under the direction of Dr. Bonnie Van Ness)

My thesis will discuss the evolution of the regulations surrounding tobacco and cannabis and the subsequent financial ramifications later posed on pertaining companies and the industries themselves. I will also briefly discuss the evolution of tobacco advertisements and the introduction of e-cigarettes into the tobacco market. Concerning newly legalized cannabis stores, I will discuss the struggle to acquire financial tools, the state-Federal disagreement, and proposed solutions to those issues. Both having been deemed “public enemy number one,” I will compare marijuana and tobacco regarding health effects, profitability after new laws, and their overall economic profitability for the country.

I researched and summarized all pertinent regulations for the two industries and analyzed the available annual reports for the major tobacco companies. The marijuana industry is relatively new, and thus I used figures given in recent articles on the industry. I discovered the tobacco industry evolved from zero regulation to becoming one of the most regulated industries in America. On the other hand, the marijuana industry has gone from being illegal to slowly gaining legality on certain state levels. It is currently fighting for acknowledgement by the Federal government as a legal business, and pushing for government regulation of the industry. Originally, regulations and laws imposed on the tobacco industry did not affect the tobacco companies in terms of sales, net earnings, or

stock prices. However, the Master Settlement Agreement of 1998 greatly affected the tobacco industry, and the effects turned out to be long-term. Financial ramifications followed with every additional passing act; however, the industry created a new product out of the bad publicity and financial effects – electronic cigarettes. That product was so successful it became its own industry. The marijuana industry is still pushing for Federal approval and thus, it is still struggling on the financial level in terms of obtaining necessary financial tools. In conclusion, I propose the marijuana industry be granted legality, medicinally, on the Federal level replacing the tobacco industry as an economic force for the United States.

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LIST OF ABBREVIATIONS

CBD	cannabidiol
CDC	Centers for Disease Control and Prevention
DHEW	Department of Health, Education, and Welfare
DPA	Drug Policy Alliance
E-Cig	Electronic Cigarettes
FCC	Federal Communications Commission
FDA	Food and Drug Administration
Fed	The Federal Reserve
FTC	Federal Trade Commission
NIDA	National Institute on Drug Abuse
NIH	National Institutes of Health
TFCCU	the Fourth Corner Credit Union
THC	tetrahydrocannabinol

Introduction: Tobacco, E-Cigarettes, and Cannabis

Tobacco is a commodity of the utmost importance to the United State's economy. The amount of money tobacco companies contribute in taxes to the U.S. government – currently, billion of dollars – make the industry both politically and economically vital. The number of smokers in the United States and in the world has reached "epidemic proportions" and a lack of regulations is to blame (Agule and Hooper, 2009). "Over the past few decades, "Big Tobacco" has spread its tentacles across the developing world with devastating results" (Agule and Hooper, 2009). "The global incidence of smoking has increased" and its effects have spread worldwide – "leading to an equally rapid increase in the incidence of smoking-induced morbidity and mortality" (Agule and Hooper, 2009). Tobacco companies are so powerful that the industry as a whole avoided regulation almost entirely due to the companies' campaign contributions, ties to politicians, and monetary impact on the Federal government. However, the discovery linking cigarettes to diseases such as lung cancer and heart disease threatened this seemingly untouchable industry and instigated a push for regulations. These regulations resulted in financial ramifications consisting of decreased sales and earnings, a master settlement requiring yearly crippling payments on behalf of involved tobacco companies, and a loss of control over the industry. Surprisingly, a result of these stringent laws was a new product: electronic cigarettes. ("Legislation," 2012 & "History of Tobacco Regulation*")

Electronic cigarettes represent the safer alternative to cigarettes and the tobacco industry's answer to health concerns and bad publicity. What started as product segmentation quickly grew into its own industry with hundreds of brands and projected sales in the billions (Mangan, 2013). Having been introduced in 2008, there are hardly any concrete findings that deem electronic cigarettes hazardous to one's health. Regulations are in the proposal phase, research is still being done, and data is still being collected. All the while the tobacco companies continue to profit from their deadly products.

On the other hand, the emerging marijuana industry profits from a product with the potential to treat and cure disease. Marijuana was an illegal drug a year ago, primarily used recreationally as a way to get "high", and occasionally used to curb nausea for desperate medical patients. Now, the drug is sweeping the country in what CNN calls the "Green Rush." With cannabis so prevalent in today's society, people need to educate themselves on what it is, what effect it has, and what is legal versus what isn't. Marijuana has been one of the most regulated drugs in the country and is slowly moving towards becoming a federally supported legal industry. Having been classified as a schedule I controlled substance since 1970, everything from manufacturing to distribution of this drug has been and is still regulated. The problems in this industry lie in the financials. The all-cash characteristic is the driving force behind the challenges facing the cannabis market. Supplemental challenges are the lack of available banking and credit as well as excessive taxes. These issues all stem from the state-Federal disagreement on legalization of this substance. State governments have made certain uses of medicinal and recreational marijuana legal, but the Federal government still refuses to acknowledge a distinction between that of medicinal and recreational marijuana. (CNN: “Weed: A Dr. Sanjay Gupta Investigation,” 2013)

While tobacco kills almost half a million people a year and has avoided regulations almost entirely until recently, the marijuana industry is struggling for legality on the Federal level – hindering its ability to grow and prosper. The tobacco industry needs more regulation and the marijuana industry needs less. One industry kills millions while the other has the potential to save a currently-indeterminable amount of lives. It is my proposal that the marijuana industry replace the tobacco industry as an economic and political force and drive tobacco out of its devastating reign.

Chapter 1: Tobacco

History of Tobacco and Regulations

A commodity "that will kill 500 million of the 6 billion people living today" is simultaneously serving as a much needed economic force for our country (Warner, 2002). That commodity is tobacco: "public health enemy number one." A commodity that brings in hundreds of billions of dollars in sales and tax revenue worldwide can hardly be shoved aside. But, at what cost is America willing to let the tobacco industry fund part of our economy? Tobacco remains the leading preventative cause of death in America, yet has not once been prohibited, illegal, or banned in the United States ("History of Tobacco Regulation*"). Somewhat loose regulations in terms of quantity, quality, and advertising in addition to an excise tax are the extent to which tobacco has been controlled for the majority of its existence ("History of Tobacco Regulation*"). In fact, the only major law surrounding tobacco prohibits the sale of tobacco products to minors. It is evident that "[t]obacco products are not regulated in a way that is consistent with their adverse effects on health and their addictiveness" (Benowitz and Heningfield, 1995). It wasn't until 1964 that any sort of regulatory means were proposed for the tobacco industry; fighting for any such control over the commodity proved to be difficult to obtain due to the intertwining of politics and the industry. Tobacco started as a crop sustaining one colony's economy but within a few centuries, has morphed into a worldwide phenomenon partially sustaining an entire country's economy (Jacobs, 1995)

Tobacco not only rapidly evolved in terms of its uses and monetary producing capabilities but also in terms of its popularity, availability, and abundance. The tobacco companies possessed so much control of their industry that any government or governing agency was prevented from gaining any control whatsoever for decades – if not centuries. Each proposed regulation was met with "serious Congressional debate" because it "provided [such] a substantial source of revenue to the state and Federal governments of the United States" that people in the highest positions in the tobacco industry viewed the government as a partner and not a governing body ("History of Tobacco Regulation*). David E. R. Dangoor, Executive Vice President of Philip Morris International, was quoted saying, "We have the best partners in the world: the governments. In a lot of countries, it's incredibly important to the whole welfare state that we sell our products to collect taxes" (Jacobs, 1995).

Tobacco started as a cash crop in America's first colony, Jamestown, Virginia, in 1612 and immediately became the colony's main source of revenue. The crop's potential use as a stimulant became apparent in the 1800's when many began chewing and smoking the plant's leaves. Cigarettes were commercially made in 1865 and became a widespread phenomenon by 1881 with James Bonsack's invention of the cigarette-making machine. Production began at 120,000 cigarettes a day, which evolved into 10 million cigarettes the first year, resulting in production of one billion cigarettes within five years. The rapid growth and success of cigarette production resulted in the formation of the American Tobacco Company, and by the early 1900's tobacco defined its own industry with multiple competitors and numerous brands. Cigarette production reached an astounding 300 billion a year by 1944, but a looming report about the dangers associated with cigarette smoking would prove to be the first obstacle for this growing industry. (Jacobs, 1995)

The first scientific study relaying findings claiming cigarettes are hazardous to one's health was published in 1939 ("History of Tobacco Regulation*"). The study provided evidence linking cigarettes to lung cancer – suggesting that the nicotine and tar in cigarettes cause cancer – but it wasn't until 1964 that any regulations were passed in response to these findings. The Surgeon General released the first government report linking smoking to lung cancer and heart disease in 1964. Subsequently, the Federal Trade Commission (FTC) accused the tobacco industry of deceptive advertising and urged the industry to show responsibility by warning the public about health hazards associated with smoking. The consensus among the FTC was that all packaging should state the amount of tar and nicotine present in each cigarette's smoke in addition to displaying "Caution: Cigarette 'Smoking is Dangerous to Health. It May Cause Death from Cancer and Other Diseases." The tobacco industry fought back – seeking Congress' help in prohibiting any government or government agency from requiring a label on cigarette advertisements. A three-year prohibition of such advertisement labels was granted, but the 1965 Federal Cigarette Labeling and Advertising Act was passed including a weakened label and fewer requirements than initially proposed. The Act required the tobacco industry to display "Caution: Cigarette Smoking May be Hazardous to Your Health" on every pack of cigarettes and required the Department of Health, Education, and Welfare (DHEW) to test the tar and nicotine content associated with cigarette smoke and publish the findings for the public. Publishing the nicotine and tar content being in a study instead of displaying the information on individual cigarette packs meant less public awareness regarding the extent of nicotine exposure. The Federal Trade Commission found the seemingly lax regulations of the 1965 Act to be ineffective. Hundreds of millions of dollars continued to be poured into advertising for cigarettes each year, and hundreds of billions of dollars continued to be spent by consumers purchasing tobacco products. ("History of Tobacco Regulation*" & "Legislation," 2012)

While the newly required cautionary label proved to be ineffective in changing smoking habits, perhaps regulations focusing on television and radio advertisements would prove more successful. The Federal Communications Commission is an agency tasked with ensuring that the public's best interest is in mind with each public airway advertisement. "Cigarette advertisers had become the single largest product advertisers on television accounting for about eight percent of television advertising time" causing a lot of the Commission's focus to be on cigarette advertisements (qtd. in "History of Tobacco Regulation*"). An abundance of cigarette advertisements were being aired, but commercials showcasing the health effects of such products weren't even created yet. This led the Public Health Service to create anti-smoking commercials to avoid such one-sided airways. The Federal Trade Commission subsequently suggested legislation banning cigarette advertisements altogether from airways. At the least it was thought that such advertisements should be restricted to certain hours and programs, the public should be further educated on the health hazards, and less hazardous tobacco products should be researched. Richard Nixon signed The Public Health Cigarette Smoking Act of 1969 on April 1, 1970, which effectively banned cigarette advertisements on both television and radio at midnight on January 1, 1971 (“Legislation,” 2012). In addition, a new required package warning label was to read: “Warning: The Surgeon General Has Determined That Cigarette Smoking is Dangerous to Your Health.” However, with the ban of cigarette commercials came a temporary prevention of any anti-smoking ads. By 1973 little cigar advertisements were banned on television and radio and by 1986 the same was true for smokeless tobacco products. In 1984, the Comprehensive Smoking Education Act that required a rotation of four cautionary labels on cigarette packs was passed in the hopes of increasing public awareness of the health effects associated with smoking cigarettes. The Act also required the cigarette industry to provide a confidential list of ingredients added to U.S. cigarettes. A similar act with a different focus was passed in 1986: the Comprehensive Smokeless Tobacco Health Education Act. It required the rotation of three cautionary labels on smokeless tobacco packages, prohibited advertisements as previously mentioned, and required the health hazards associated with smokeless tobacco to be made public. In addition, a confidential list of additives and nicotine content in smokeless tobacco products was to be provided. The 1980’s also brought about a movement to minimize smoking in public places – on federal, state, and local levels – making it illegal to smoke in public buildings and restaurants in many cities. By 1988 a movement to make airlines completely smoke-free began, and in 1992, laws prohibiting the sale and distribution of tobacco products to minors were put in effect. In 2000 airlines successfully became completely smoke-free. (“History of Tobacco Regulation*” & “Legislation,” 2012)

No government agency had previously been given authority over the tobacco industry due to its classification as neither food nor drug and its exclusion by three separate laws from being defined as a “controlled substance,” “consumer product,” or “hazardous substance.” June 2009 changed that and signified the passing of the Family Smoking Prevention and Tobacco Control Act under Obama’s administration. Previously exempt from regulation all together, standards for tobacco products were now being established. The Family Smoking Prevention and Tobacco Control Act of 2009, while still subject to litigation, gives the Food and Drug Administration (FDA) the authority to regulate the manufacture, distribution, and marketing of tobacco products; requires large text warning labels for smokeless tobacco, requires tobacco companies to research and publish all effects of tobacco use, bans the sale of intriguing fruity-flavored cigarettes; and lastly, requires FDA approval of any new tobacco products. Even more recently, the 2010 Prevent All Cigarette Trafficking (PACT) Act proposes the prohibition of mailing cigarettes and smokeless tobacco through the U.S. Postal Service. Cigarette and tobacco manufacturing is finally becoming one of the most highly regulated industries in America. (“Legislation,” 2012)

While tobacco companies claim to fight for “liberty rights of consumers to purchase their products without regulation,” it is clear that regulation of such a product is necessary (Agule and Hooper, 2009). While Benowitz and Heningfield (1995) view prohibition as unlikely, they advocate for restrictions on the amount of tar and nicotine in tobacco products as future regulations. Such regulations could prove beneficial to all; cigarette smoke would prove to be less hazardous and thus, less harmful. Regulations are still being introduced and disputed, yet the tobacco industry continues to evolve and remain extremely profitable.

Major Companies and Brands

The tobacco industry has remained lucrative because profitability is largely based on brand loyalty in the industry – making the major companies and their brands an important aspect of the industry. The major players in cigarette and tobacco manufacturing are Altria Group Incorporated, formerly known as Philip Morris Companies, and Reynolds American Incorporated. With a 57.5% market share, Altria Group is comprised of the following brand names: Marlboro, Virginia Slims, Cambridge, Lark, Merit, Chesterfield, L&M, Saratoga, Nu Mark, and US Smokeless Tobacco Company. With a market share less than half that of Altria Group, 28.4%, Reynolds American is comprised of the following brand names: Camel, Salem, Winston, American Spirit, Grizzly, Kodiak, Evo Flask, Doral, Kool, and GPC. ("Cigarette and Tobacco Manufacturing in the US," 2015).

Philip Morris Companies was established in 1847 and by 1983 had become the leading manufacturer of cigarettes, a title it would keep. As the number one cigarette brand for each age group, state, and gender, Marlboro leads Philip Morris' product portfolio as well as the market and remains the company's most popular brand (Altria Group, Incorporated, 2016). However, since January, 2003 the company has been referred to as Altria Group. Today Altria Group, Inc. is the parent company of Philip Morris USA, John Middleton, Inc., U.S. Smokeless Tobacco Company, Inc., Philip Morris Capital Corporation, and even Chateau Ste. Michelle Wine Estates. With the help of these aforementioned subsidiaries, Altria Group, Incorporated is the largest tobacco company in the world.

On Altria's website, the following mission statement can be found beneath the 'About Philip Morris USA' heading (Altria Group, Incorporated (Philip Morris USA), 2016):

> *We know our products aren't for everyone. So we market them responsibly and as the preferences of our consumers and society change, we change too. Our leadership in the industry goes beyond having leading brands. It also includes how we address issues that are important to our business and to society. That means:*
>
> - *Helping Reduce Underage Tobacco Use*
> - *Supporting Cessation*
> - *Communicating about the Health Effects of our Products*
> - *Investing in Our Communities*
> - *Reducing Our Environmental Impact*

This statement seemingly addresses each controversial issue that has surrounded the tobacco industry and portrays the company as one capable of compromise, change, and ethical integrity.

Reynolds American, Incorporated, the second largest tobacco company in the United States, began as a company named Lorillard in 1760. Its subsidiaries include R.J. Reynolds Tobacco Company, Santa Fe Natural Tobacco Company, Inc., American Snuff Company, LLC, Niconovum USA, Inc., Niconovum AB, and R.J. Reynolds Vapor Company ("Cigarette and Tobacco Manufacturing in the US", 2015).

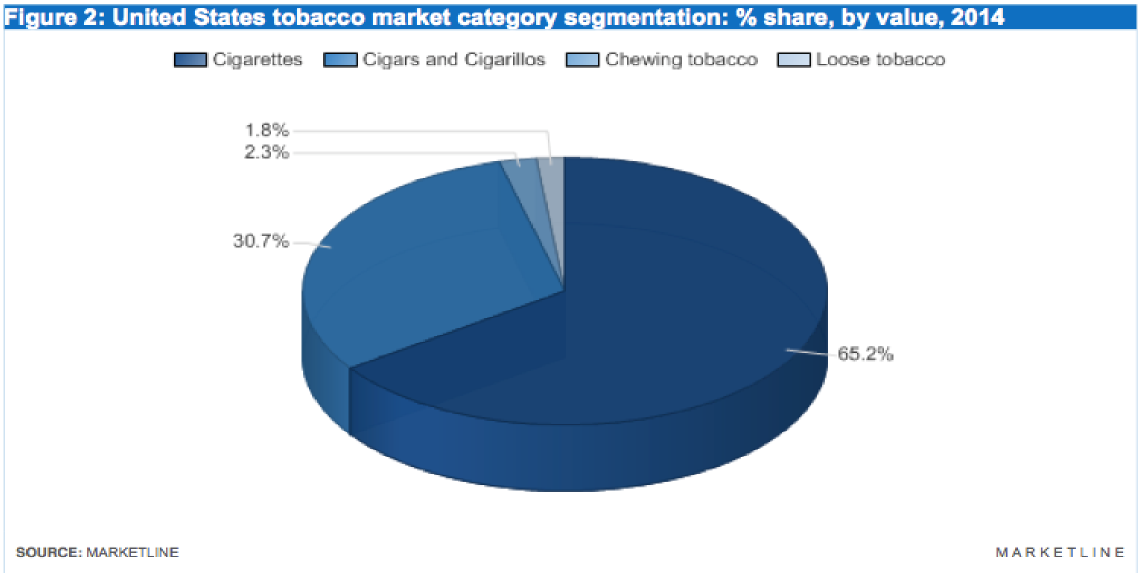
Reynolds American portrays their strategy on their webpage as follows (Reynolds American, Incorporated, 2016):

> *Reynolds American Inc. and its operating companies are leading the transformation of the tobacco industry. At each operating company, we are in a position to help resolve many of the controversial issues related to the use of tobacco. Committing ourselves to resolving these issues is the right thing to do and will ultimately advance our commercial objectives.*
>
> *We are committed to meeting society's expectations for how a tobacco company should operate, while growing our businesses — now and over the long term.*
>
> *As part of our commitment to transforming tobacco, RAI and its operating companies are focusing on three key areas of activity: Youth Tobacco Prevention, Tobacco Harm Reduction and Commercial Integrity. We believe these pillars will drive our future success.*

Similar to Philip Morris USA’s stance, Reynolds American portrays itself as a company willing to change the industry, resolve any issues, and help in the prevention or reduction of such issues like underage smoking.

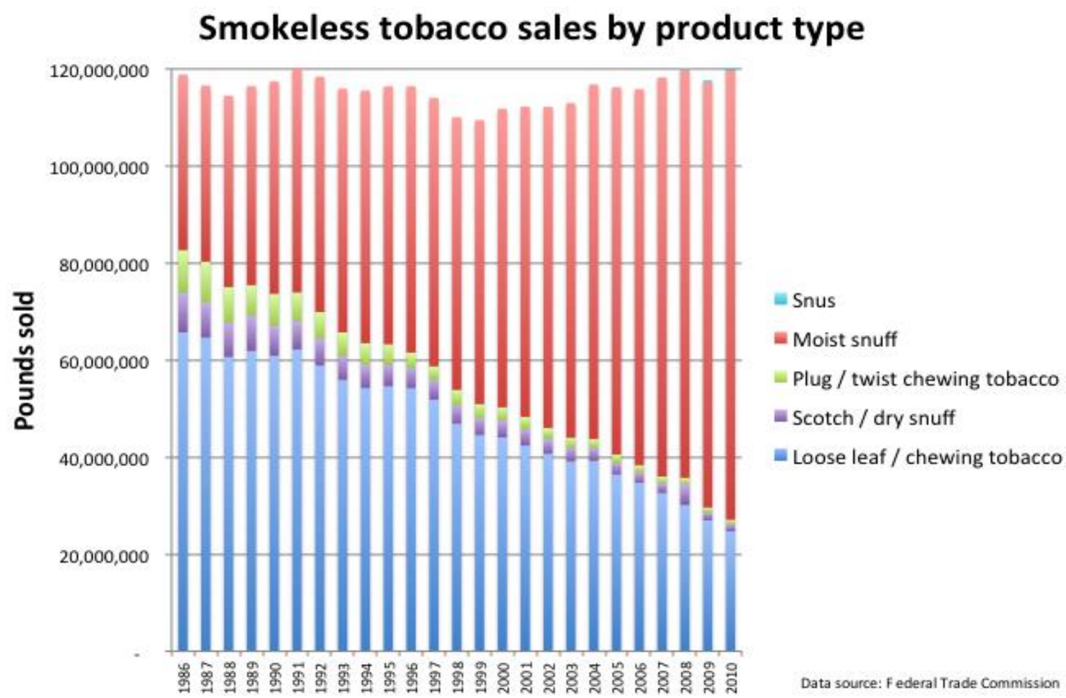
In addition to so many brands, the tobacco industry has a wide variety of products ranging from chewing tobacco to snuff to flavored cigarettes, with the most popular products being regular cigarettes, menthol cigarettes, and smokeless tobacco. Regular cigarettes represent 52.5% of the market, menthol cigarettes represent 24.7%, and smokeless tobacco represents 12.6% (“Cigarette and Tobacco Manufacturing in the US,” 2015). A broad example of the market category segmentation can be seen in the following figure representing the segmentation in 2014.

United States Tobacco Market Category Segmentation, 2014. Courtesy of Business Source Complete.



The graph showcases the market category segmentation in which cigarettes represent the majority of the market followed by smokeless tobacco; however, the percentages in the graph differ from the ones stated in the previous paragraph due to to the market being more broadly defined and two years prior to the earlier stated percentages. The following figure shows the sales and thus, popularity of smokeless tobacco products in a more specific graph.

Smokeless Tobacco Sales by Product Type, 2010. Courtesy of The Federal Trade Commission.



While cigarettes remain the most popular and profitable product in the tobacco industry, smokeless tobacco makes up a great deal of sales in the industry as seen above. Moist snuff, which is better known as "dip", is exceedingly the most profitable, followed by chewing tobacco as shown above. Altria Group along with Reynolds American make up the majority of the tobacco and cigarette manufacturing industry along with their various products stated above.

<u>Financial Effects of Regulations</u>

Tobacco has been profitable since its introduction into North America as a cash crop. The costs associated with growing the crop are so low – allowing for increased profitability (Jacobs, 1995). However, health issues and subsequent regulations had financial ramifications for the tobacco industry. To analyze the financial ramifications posed on the tobacco industry by the introduction of each new regulation, I downloaded the available Annual Reports for Philip Morris, Altria Group, and Reynolds American from MergentArchives.

1939: Cigarettes Linked to Lung Cancer Study

While 1939 represents the year that the health effects associated with cigarettes were first published, it did not prove to be a year that affected tobacco companies selling the product in question: cigarettes. Philip Morris' net income increased. Reporting a net income of $6,551,296.76 in 1939, the company's income increased to $7,435,766.07 the year following the published study, 1940. The Philip Morris 1939 Annual Report had no mention of the study. It simply stated the company's desire for its shareholders and customers to try its newly introduced products. RJ Reynolds had no available Annual Reports, and Reynolds American was not yet founded. (Philip Morris Annual Report, 1940)

1964: Surgeon General's Report

The 1964 Annual Report for Philip Morris did however mention the Surgeon General's Report in its "Review of the Year":

> *1964 was a critical year for the cigarette industry and for Philip Morris. Both the industry and Philip Morris met this challenge well. Although domestic cigarette consumption dropped with the release of the Report of the Surgeon General's Advisory Committee in the first quarter of 1964, there was a gradual improvement during the balance of the year.*

> *Philip Morris cigarette sales improved sufficiently in the latter half of 1964 to produce an absolute gain in domestic sales and production over 1963.*

The Surgeon General's report did, in fact, result in financial ramifications for Philip Morris consisting of decreased cigarette consumption and sales, but the company recovered before the end of year deeming the effects as only temporary. Philip Morris recorded net earnings at $22,614,000 for that year – an increase of $562,000 from the previous year. How could this be? Well, Philip Morris stated that this year "broadened [their advertising] through the use of magazines, newspapers, and point-of-sale promotions" (Philip Morris Annual Report, 1964). While the report was mentioned as early as page 4, Philip Morris' reaction to the Surgeon General's report and its temporary effects on the company's profits and sales were not discussed until page 16. The company takes the position that:

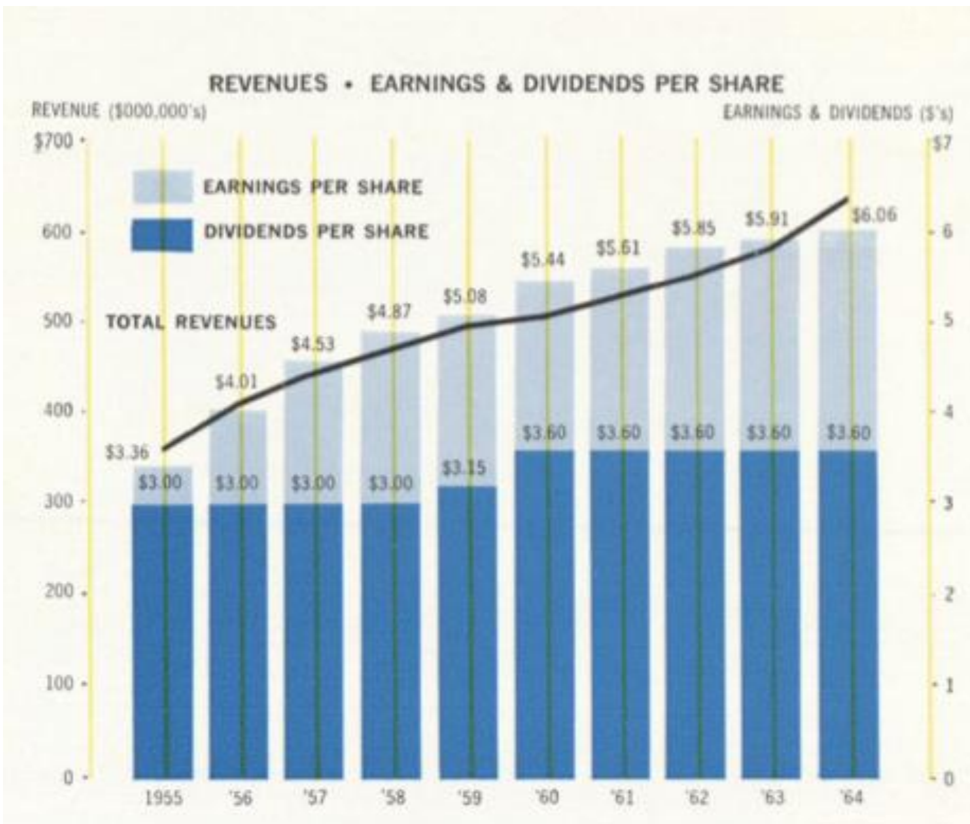
> *The problem is national in scope – clearly not local. Cigarettes are advertised nationally and sold in every state. Moreover, a great diversity of interests is involved – consumers, farmers, suppliers, processors, distributors, retailers, and Federal, state and city tax collections. Only the Congress of the United States would seem to be in a position to weigh all the factors involved.*

Essentially, Philip Morris is saying that a lot is at stake with the results of the report being published and that nothing needs to be done until Congress says so. The tobacco industry has a lot of influence over Congress as was seen when the first regulation against the industry was proposed in 1965. Philip Morris later claims in the Annual Report that responsible doctors and scientists viewed the results from the Surgeon General's report as questionable, trying to completely discount the findings.

For decades, tobacco companies did everything they could to convince smokers that cigarettes weren't killing them—insisting the jury was still out on the science despite dozens of studies that linked smoking with lung disease and cancer. As one tobacco executive famously wrote in 1969, "Doubt is our product…the best means of competing with the 'body of fact' that exists in the minds of the general public". (DeLuca, "The E-Cig Quandry")

Revenues for Philip Morris ranging from 1955 to 1964 can be seen in the figure below showcasing not only the year in question but also years leading up to the report.

1964 Revenues, Earnings Per Share, and Dividends Per Share. Courtesy of Philip Morris Annual Report, 1964.



As you can see from the time the research was published to the Surgeon General's report, Philip Morris' profits have steadily increased. RJ Reynolds had no available Annual

Reports, and Reynolds American was not yet founded. (Philip Morris Annual Report, 1964)

1965: Federal Cigarette Labeling and Advertising Act

1965 signifies the passing of the first Act against the tobacco industry with the introduction of a health-warning label on all cigarette packaging. Philip Morris reported net earnings of $26,509,000 in 1965, a large increase from the previous year of $22,614,000; the year following the Act, 1966, the company had an even larger increase in their earnings with a figure of $34,183,000 (Philip Morris Annual Report, 1965). The following quote represents what Philip Morris chose to mention in its "Review of the Year" (Philip Morris Annual Report, 1965):

> *In 1965, Philip Morris and the cigarette industry regained the ground lost in early 1964. The United States Department of Agriculture has estimated U.S. production at 561 billion cigarettes, up…4 percent, from 1964. The 1965 figure is also up 10 billion units over 1963, considered a more normal year than 1964. The industry recovery was retarted by the large number of major increases in state taxes which sharply advanced the cost of smoking to the consumer.*
>
> *Philip Morris Incorporated experienced another record year in sales with a 9.8 percent increase over 1964, about the same rate of gain as we showed in 1964 over 1963. Consolidated operating revenues were $704,544,000 vs. $641,439,000 in 1964. The increase of $63,105,000 was the largest in our history. These sales gains were accomplished without the benefit of any new acquisitions and reflect progress in almost all areas of our world-wide operations.*

Increasing sales and production and a record year are what the company chose to showcase. Neither the 1965 nor the1966 Annual Report mentioned the Federal Cigarette Labeling and Advertising Act. RJ Reynolds had no available Annual Reports, and Reynolds American was not yet founded. (Philip Morris Annual Report, 1965)

<u>1970: Public Health Cigarette Smoking Act</u>

Net earnings grew at an even more increasing rate in 1970 and 1971 after the Public Health Cigarette Smoking Act was passed with earnings of $77,498,000 and 101,498,000 respectively. Marlboro remained the number one brand in the U.S. and sales saw no detrimental effect from the Act's passage. The 1970 "Review of the Year" for Philip Morris stated (Philip Morris Annual Report, 1970),

> *The keystone of our operations is still the tobacco business in the United States and worldwide, with Marlboro clearly the fastest-growing major brand on a world basis, and the flagship of our tobacco brand structure.*

The Annual Report hinted at recent regulations later on saying,

> *Despite attacks upon it from various governmental and other sources, the cigarette industry shows remarkable strength and vitality. In the United States, the industry, after experiencing small declines in unit sales in both 1968 and 1969, reversed the trend in 1970…We feel this reversal is particularly encouraging in view of the anti-cigarette propaganda and rising retail prices, due mainly to state tax increases.*

It appears that the tobacco company views the recent regulations as mere propaganda and somehow manages to raises its sales and net earnings in the year regulations are passed. It is not until the second page of the “Review of the Year” that the company addressed the regulations saying (Philip Morris Annual Report, 1970),

> *The question of smoking and health obviously commanded a great deal of attention from the industry. On April 1, 1970, the “Public Health Cigarettes Smoking Act of 1969” was signed into law; its purpose is to inform the public that cigarettes may be hazardous to their health. This act banned cigarette advertising on radio and television after January 1, 1971, and prescribed a new revised caution notice on cigarette packages.*
>
> *The ban on radio and television cigarette advertising went into effect as this letter is being written. Obviously, it is too early to determine its immediate effects on the business. However, our experience in selling cigarettes in the United States before the advent of television, and the important market penetration we have been able to make in many international markets without the use of electronic media, leaves us optimistic about our ability to continue to market our products successfully in the United States.*
>
> *In another interaction with the government, eight cigarette manufacturers volunteered to disclose “tar” and nicotine figures in advertising...and nicotine information will appear soon in our advertisements.*

The company’s response is optimism. The company also states (Philip Morris Annual Report, 1970),

> *In 1967, the FCC ruled that cigarette smoking was a controversial subject, hence broadcasters were obligated to devote without charge a portion of their time to anti-cigarette commercials. In the last year alone, it is estimated that $75 million*

worth of these anti-cigarette messages were broadcast free. When faced with cigarette commercials going off the air, the FCC issued on December 15, 1970, a new ruling that broadcasters no longer have a definite obligation to carry free anti-smoking messages but are expected to do so in the time they devote to matters of public concern. At the same time, the FCC ruling indicates that broadcasters are now free to decide whether the issue of smoking and health is no longer controversial and whether they should allow the industry to answer attacks upon it. Philip Morris and other tobacco manufacturers are appealing in the Federal Court stating that any broadcaster who presents anti-cigarette material has a clear obligation to present the contrary point of view.

This statement is in direct response to the Act in question, and their response this time is to appeal based on the reasoning that made anti-cigarette advertisements possible in the first place. Philip Morris made it clear that the tobacco industry puts more funds into research on smoking and its subsequent health effects than any of the appointed government agencies tasked with such research combined. Tobacco companies have gone so far as to challenge the American Cancer Society and their findings in public. Not only that – Philip Morris claims,

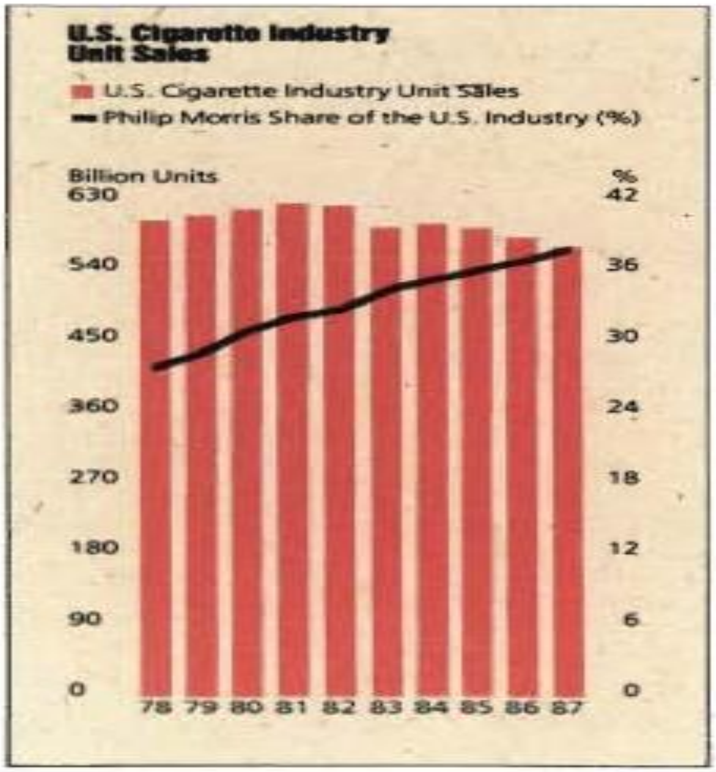
Because we are serious and responsible people, we welcome all serious and responsible opportunities to cooperate with the government and other agencies in the field of smoking and health. We would like to recall that we cooperated with the Federal Trade Commission in setting up its "tar" and nicotine testing laboratories…Your Chairman first volunteered, on behalf of the industry, to take *television and radio commercials off the air. The tobacco industry volunteered to put "tar" and nicotine values in advertising.*

But if Philip Morris had volunteered such things mentioned above, why did the industry spend so much time fighting the Acts? RJ Reynolds had no available Annual Reports, and Reynolds American was not yet founded. (Philip Morris Annual Report, 1970)

<u>1984: Comprehensive Smoking Education Act and 1986: Smokeless Tobacco Advertising Ban</u>

Philip Morris recorded net earnings of $889,000,000 in 1984 and a staggering $1,478,000,000 in 1986. With earnings now in the billions, it is clear that the tobacco industry does not need advertisements to make and grow sales. The following graph shows the Cigarette Industry Unit Sales from 1978 to 1987.

(1978-1987) U.S. Cigarette Industry Unit Sales. Courtesy of Philip Morris Annual Report, 1987.



Once again the charts show growth for not only Philip Morris but also the industry as a whole. While 1986 represents a very small victory in terms of regulation in that only smokeless tobacco advertising was affected, it represents a year with more regulation for the tobacco industry and a little less control for the tobacco companies. (Philip Morris Annual Report, 1987)

<u>1992: Prohibition of Sale of Tobacco Products to Minors</u>

This year marked the largest victory to date for a movement to regulate the tobacco industry. It was now illegal for anyone under the age of 18 to purchase tobacco products. Philip Morris recorded the effects of this law as a 14.8% drop in operating revenues and a 45.8% drop in operating revenue in the following year, 1993 (Philip

Morris Annual Report, 1993). This law clearly had a huge impact on the industry. Philip Morris took a stance of optimism again:

> *We are optimistic that renewed domestic cigarette profit growth is achievable, and we have based on our 1994 programs on the resumption of a brand focus in the market. At the same time, we have demonstrated the determination to protect our brand franchises, and that determination remains firm (Philip Morris Annual Report, 1993).*

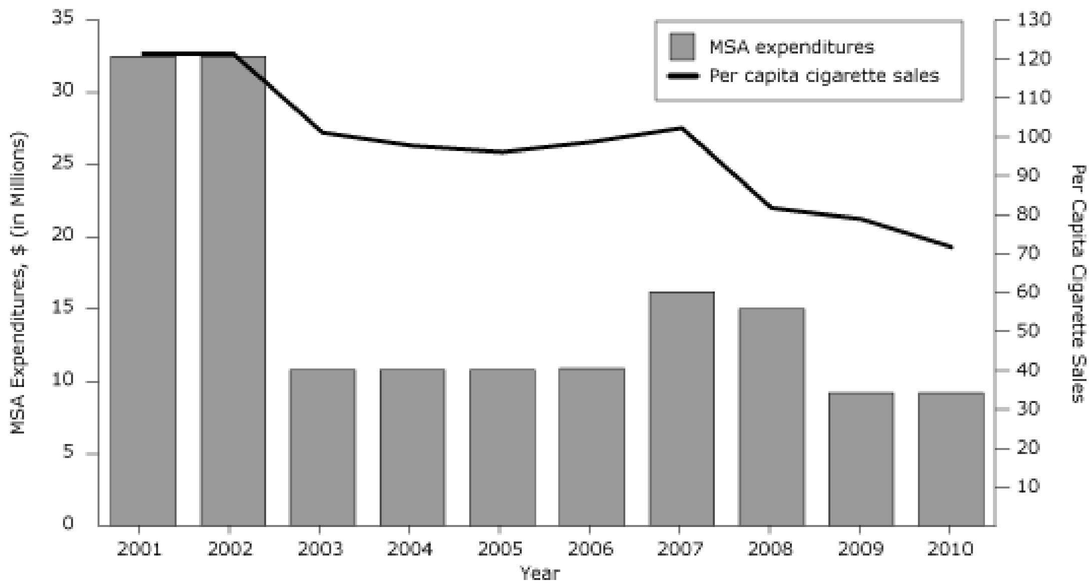
1998: Master Settlement Agreement (MSA)

"Unprecedented in its scope and complexity" the 1998 Master Settlement Agreement (MSA) represents the extreme legal action taken against major players of the tobacco industry (Philip Morris Annual Report, 1998). A $206 billion settlement was agreed upon with the four largest tobacco companies for the purpose of imposing "financial penalties in the form of annual payments to [46] states and restrictions on behavior" (Sloan, Mathews, and Trogdon, 2004). These annual payments served as "compensation for past losses stemming from treatment of tobacco related diseases through their Medicaid programs" (Sloan, Mathews, and Trogdon, 2004). Who was left out of this compensation? The federal government and patients themselves with diseases stemming from tobacco. The sum to be paid was based on annual tobacco sales, which relinquished the shareholders of Philip Morris, RJ Reynolds, Lorillard, and Brown & Williamson from any monetary responsibility. In addition, limitations were placed on advertising, internal documents were to be made available to the public, and cigarette brand names were banned from being used on any other products.

The second page of Philip Morris' 1998 Annual Report stated a key event as the "nationwide settlement of claims by state attorneys general against the U.S. tobacco industry." But Philip Morris did not view this year as one of punishment. Instead the company claimed 1998 to be a year in which the company took "actions to resolve serious societal issues concerning tobacco" (Philip Morris Annual Report, 1998). However, for the first time the company's net earnings decreased. The company reported net earnings of $5,372,000,000 for 1998, but net earnings for 1997 had been $6,310,000,000, which is quite a significant decrease – $938,000,000 (Philip Morris Annual Report, 1998).

RJ Reynolds has an Annual Report in this monumental year for the tobacco industry. The company stated that, while the settlement represents "an enormous threat to the business," "the company is certain that resolution of this litigation is ultimately in the best interests of the company and the shareholders because Reynolds will be able to operate the tobacco business in a more stable and predictable environment" (RJ Reynolds Annual Report, 1998). RJ Reynolds, while part of Nabisco at this point in time, reported a loss of earnings of $577,000,000 in 1998 with their previous earnings of 1997 being a gain of $402,000,000 (RJ Reynolds Annual Report, 1998). In terms of the Reynolds International sector of the company, the lawsuit brought a loss of 10% of sales for the 1998. As Philip Morris put it, this settlement posed a "bitter pill to swallow" and the effects were huge at least in the short-term (Philip Morris Annual Report, 1998). Domestic demand declined, which meant companies were seeking exports to replace this lack in sales – just one of the now seemingly many financial ramifications. The following figure showcases the monetary amount each year due to the settlement agreement and the subsequent effect on cigarette sales from 2001 until 2010 in Indiana.

MSA Expenditures and Per Capita Cigarette Sales (2001-2010). Courtesy of Centers for Disease Control and Prevention, 2012.



As you can see the expenditures decreased through the years due to decreasing sales because the amounts were dependent upon annual sales. Per capita cigarette sales did not recover to 2001 and 2002 levels, showing the extreme effect the lawsuit had and continued to have. While this graph showcases only Indiana, it is indicative of all other states. (Philip Morris Annual Report, 1998 & RJ Reynolds Annual Report, 1998)

<u>2000: Smoking Illegal on Airlines</u>

Philip Morris reported an increase in net earnings to $8,510,000,000 in 2000 from $7,675,000,000 in the previous year for the company as a whole (Philip Morris Annual Report, 2000). But in looking at the Tobacco sector of the company, the domestic operating companies' income increased from $4,865,000,000 to $5,350,000,000 while international operating companies revenue decreased from $27,506,000,000 to

$26,374,000,0000. For the first time performance was reported as “robust” instead of record-breaking, and the letter to the shareholders stressed strategies rather than bragged about the year’s progress on all fronts. The effects of the settlement and regulations were becoming long-term and lasting. Addressing societal concerns was now to become a regular part of the Annual Report for Philip Morris. With the Annual Report now featuring a section titled “Addressing Societal Concerns”, Philip Morris brought “good acts” to the attention of shareholders and the public. The 2000 “Addressing Societal Concerns” stated (Philip Morris Annual Report, 2000):

- *We continued our $100-million-a-year commitment to help prevent youth smoking, including funding for advertising, education, community action and access prevention.*
- *We articulated our support for tough but reasonable regulation of cigarettes in the U.S. by the Food and Drug Administration.*
- *We support legislation that would prohibit smoking in certain venues, such as those predominantly catering to children…*

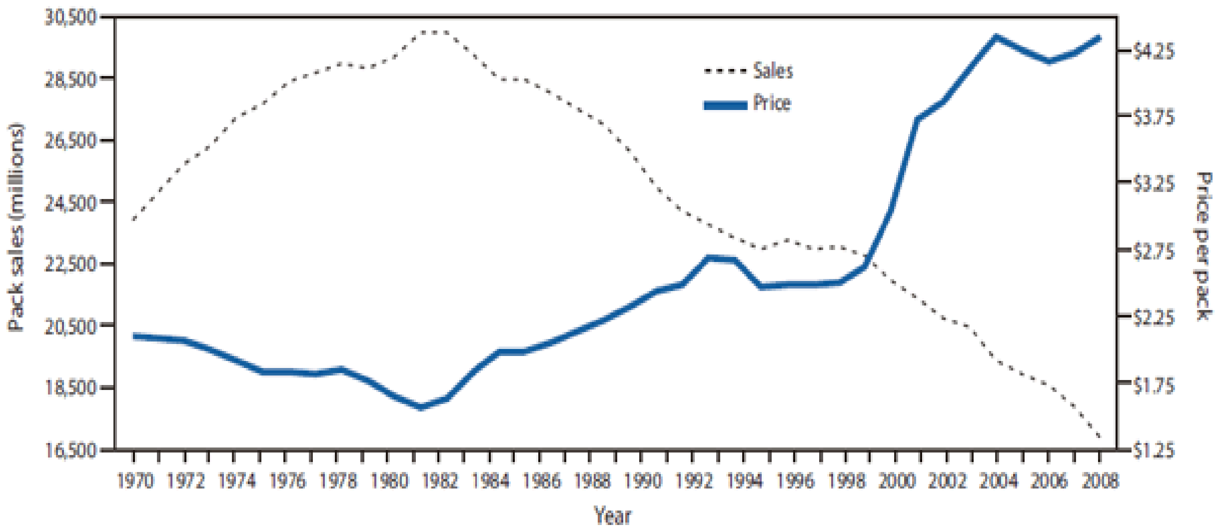
Philip Morris is advocating its “do good” acts while showcasing what the company was doing for the consumer. They made public their effort to spend millions in keeping children away from their products while also making the customers aware of “comfortable” environments in which to smoke. RJ Reynolds reported a decline in net income as a result of operations from $2,343,000,000 to $1,827,000,000 in 2000 (RJ Reynolds Annual Report, 2000). (Philip Morris Annual Report, 2000 & RJ Reynolds Annual Report, 2000)

2009: Family Smoking Prevention and Tobacco Control Act and 2010: Prevent All Cigarettes Trafficking Act

The newly formed Reynolds American reported a decline in income in 2009 showing the effectiveness of the 2009 Act under Obama's administration, despite continuing litigation. Reported net income for 2009 was $962,000,000 while the previous year had been $1,338,000,000 (Reynolds American 10-K, 2010). Net income increased a little in 2010 to $1,113,000,000 but the company still had not recovered to its pre-Act income in 2008. Altria Group (previously, Philip Morris) also reported declining revenue. The company's overall net revenue decreased from $24,363,000,000 in 2010 to $23,800,000,000 in 2011. Specifically, the cigarette segment of the company had decreasing revenues from $21,631,000,000 in 2010 to $21,403,000,000 in 2011 (Altria Group Annual Report, 2011). Smokeless products and Cigars increased, but only ever so slightly. These two back-to-back acts, the Family Smoking Prevention and Tobacco Control Act and Prevent All Cigarettes Trafficking Act, proved quite effective in affecting the two largest tobacco companies in the United States.

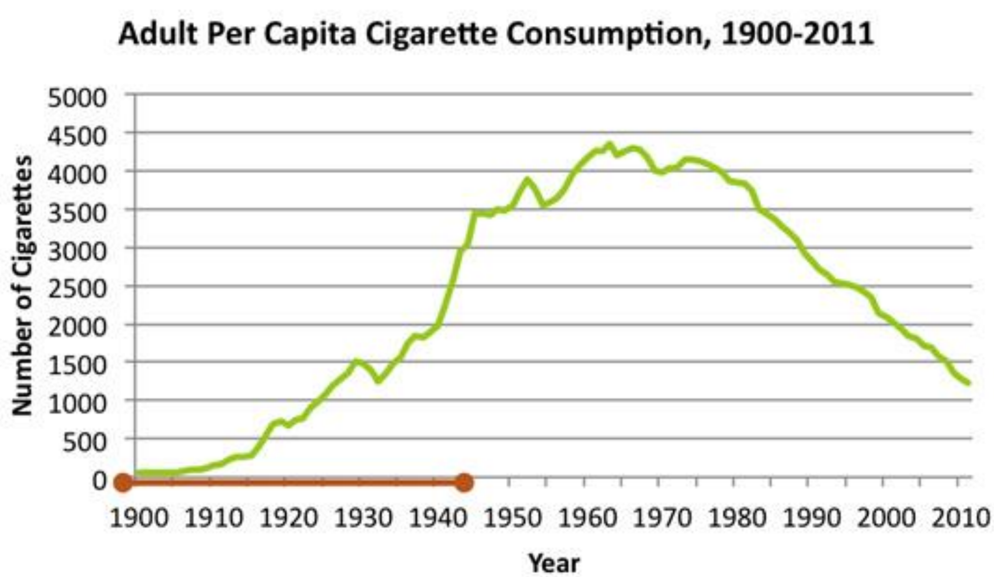
Each year had previously marked a record level of sales and revenue for Philip Morris or the tobacco industry, in general. It seemed no movement to regulate the industry proved effective in the slightest. That was until 1992. Annual Reports went from showcasing record performances to commenting on a solid year and continual optimism for the industry and soon-to-be implemented strategies. Sales and revenues were lower. Tobacco companies reported losses. The financial ramifications posed by the regulations and laws proved to be crippling to the industry. The following figure showcases the cigarette sales and average price per pack in the United States from 1970 to 2008.

Cigarette Sales and Average Price per Pack in the U.S. (1970-2008). Courtesy of Centers for Disease Control and Prevention, 2008.



Sales decreased immensely starting around the early 1980's while pricing per pack began increasing – signs of an industry in trouble. The following figure represents the subsequent effects these regulations posed on adult cigarette consumption from 1900 to 2010.

Adult Per Capita Cigarette Consumption, (1900-2011). Courtesy of Emory University.



As you can see cigarette consumption began in the early 1900's, somewhat steadily increased until the mid-1960's, and rapidly declined until 2010, which is when the figure ends. (Altria Group Annual Report, 2011 & Reynolds American 10-K, 2010)

Marketing and Advertisements

The parabola-like trend in cigarette consumption and thus, tobacco sales, is in response to evolving regulations as well as the marketing and advertisement of tobacco products. Tobacco advertising has evolved immensely over the past century in terms of the intended target audiences, messages, and mediums; arguably, it is now and has been one of the most highly regulated forms of marketing. While advertisements initially appeared to depict smoking as fashionable and modern and even targeted the youth, modern-day advertisements are extremely simplistic and exist more often than not in the form of anti-smoking ads and commercials. Television and radio stations were estimated to lose about $220 million a year, 7.5% of their total advertising revenues, with the 1970 Act banning all cigarette commercials, but that gave tobacco companies more and more to spend on advertisements in magazines, billboards, etc. (qtd. in "History of Tobacco Regulations*").

The tobacco industry "has asserted that its marketing efforts are not aimed at creating new demand but rather at increasing brand market share, [but] internal industry documents contribute to the evidence refuting this claim" ("Influence of Tobacco Marketing on Smoking Behavior"). "Psychological needs" associated with adolescents "such as popularity; peer acceptance; gender identity; rebelliousness; sensation seeking; risk taking; having fun; and alleviating stress, anxiety, and depression" were targeted in ads ("Influence of Tobacco Marketing on Smoking Behavior"). Even programs primarily watched by children and teenagers like The Flintstones were targeted to showcase tobacco advertisements. A 1973 R.J. Reynolds planning memorandum stated, “[i]f our Company is to survive and prosper over the long term, we must get our share of the youth market” (“Influence of Tobacco Marketing on Smoking Behavior”). Industry documents show that companies “developed brand images to appeal specifically to youth” and suggest “that the tobacco industry cooperated with manufacturers of candy cigarettes…to appeal to children” (“Influence of Tobacco Marketing on Smoking Behavior”). Advertisements portrayed masculine men and feminine women leading kids to associate such masculinity and femininity with smoking. In addition, kids regarded cigarettes as rebellious. The National Cancer Institute’s ‘Influence of Tobacco Marketing on Smoking Behavior’ article showcases a study where 3,536 children aging from 12 to 17 from California were asked what tobacco advertisements conveyed to them, and the majority (over 60% of each age group) “claimed smoking would help them feel comfortable in social situations”. While the following advertisement doesn’t specifically show youth at a party, it does show a social situation in which cigarettes are present.

1976 Benson and Hedges Advertisement. Courtesy of Rutgers School of Public Health: Trinkets and Trash, 1976.

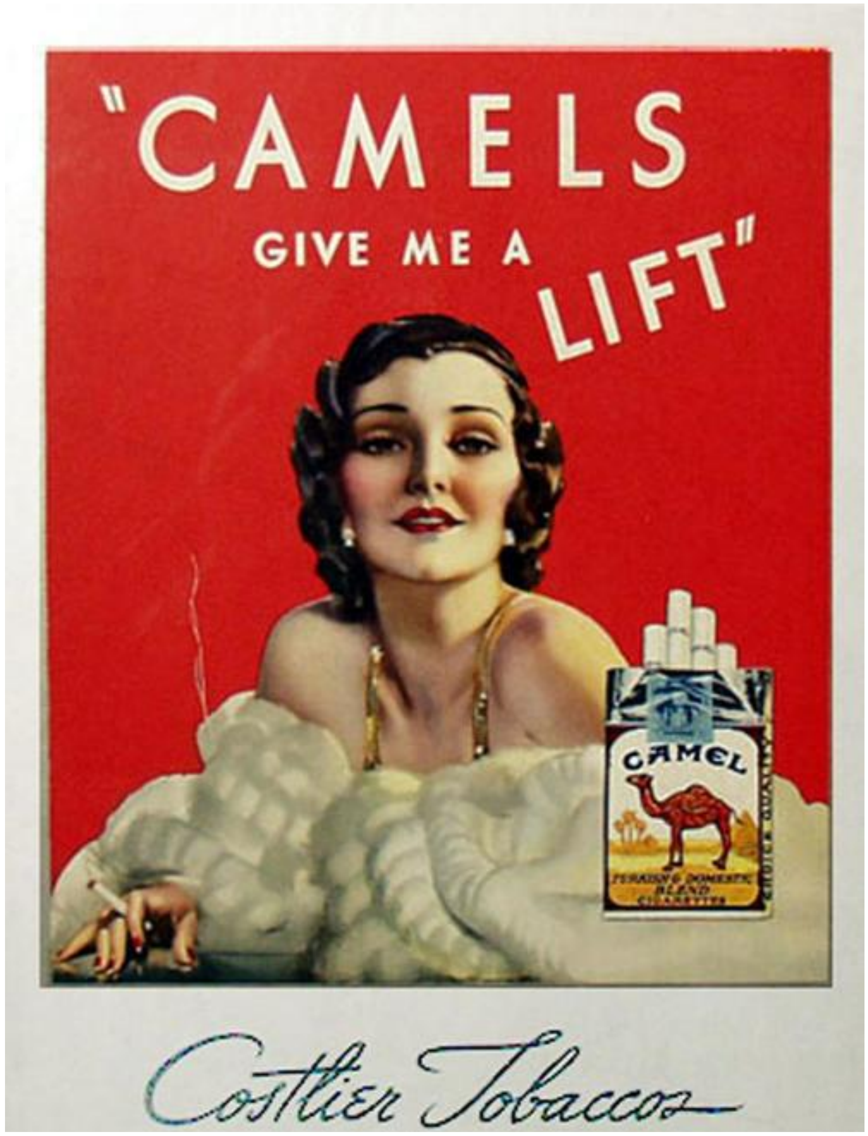
This ad hints that at popular parties people are smoking, and the two holding cigarettes appear to be having the most fun. Any child could draw the conclusion that perhaps they are having so much fun because they are smoking and the cigarette helped them feel more comfortable in a social situation.

As mentioned above, earlier advertisements in the1900's showcasing tobacco and cigarettes aimed to portray smoking as glamorous and sexy. "R.J. Reynolds documents indicate that the intent of the Joe Camel campaign was to convey that the Camel Smoker was a successful ladies' man" and would "get girls" ("Influence of Tobacco Marketing on Smoking Behavior”). Essentially, the company wanted their product to be associated with a way to get a girl’s attention while appearing sexy like the following Camel ad.

Camel Advertisement. Courtesy of Flickr.

A “hunky” man, who looks like the kind of masculine, cool guy any male would want to resemble, has this seemingly beautiful and skinny blonde laughing and holding on to him. A 1988 document explaining a Camel ad sets the scene for a male smoking a Camel cigarette to connect with the target audience’s main focus: women – described as “[b]eautiful, desirable, the kind of females who you wouldn’t care if they’d never read Julia Childs” (“Influence of Tobacco Marketing on Smoking Behavior”). The next ad showcases the glamorous portrayal of smoking.

1936 Camel Advertisement. Courtesy of Rutgers School of Public Health: Trinkets and Trash.



This woman, dressed in diamonds and what appears to be a fur coat, is claiming that smoking gave her a "lift" – improved her life and perhaps her looks. Another beautiful woman stars in the following KOOL advertisement.

KOOL Advertisement. Courtesy of Mad Men Art: Vintage Ad Art Collection.

Here a beautiful and fashionably dressed blonde smokes a cigarette while smiling. She is the epitome of beauty and money; adorned with diamonds and in what appears to be a silk gown – a woman any female would probably love to resemble. The ad hints that anyone can look as beautiful and as wealthy as she with a KOOL cigarette in hand.

Beautiful women and handsome men were not the only features of cigarette advertisements. Celebrities also represented tobacco brands.

1930's Chesterfield Advertisement. Courtesy of Forgotten History Blog.

Here Ronald Reagan, an attractive male actor at this time, claims to be buying cigarettes as Christmas presents for all of his friends while smoking one himself. This ad associates smoking with fame, power, and prestige. What appears more powerful than a man in a nicely tailored suit sitting behind a desk with antique books to his side? In the words of Banzhaf, the "Ralph Nader of the tobacco industry", this depicts smoking as "socially acceptable and desirable, manly, and a necessary part of a rich full life" ("History of

Tobacco Regulation*"). It was not known at this point in time that Ronald Reagan would become President of the United States, yet this ad still exudes power. One could argue that if someone who smoked cigarettes and even posed on cigarette ads could later become President, tobacco can't be that bad for you. But that is far from the truth.

These advertisements all have one thing in common and that is that the "information provided for cigarettes is at best misleading and at worst seems to benefit the tobacco industry in its marketing efforts" (Benowitz and Heningfield, 1995). The following advertisement explicitly claims that Camel cigarettes do not cause throat irritation.

1951 Camel Advertisement. Courtesy of Rutgers School of Public Health: Trinkets and Trash.

While this ad was marketed before the Surgeon General’s report, research proving such harmful effects had been published twelve years prior.

Cigarette advertisements now showcase simplistic displays of the company’s logo, and advertisements themselves are uncommon. The following ad represents the more simplistic advertisements of cigarettes.

2007 Camel Advertisement. Courtesy of Michael Sebastian’s “Advertising Age”, 2007.

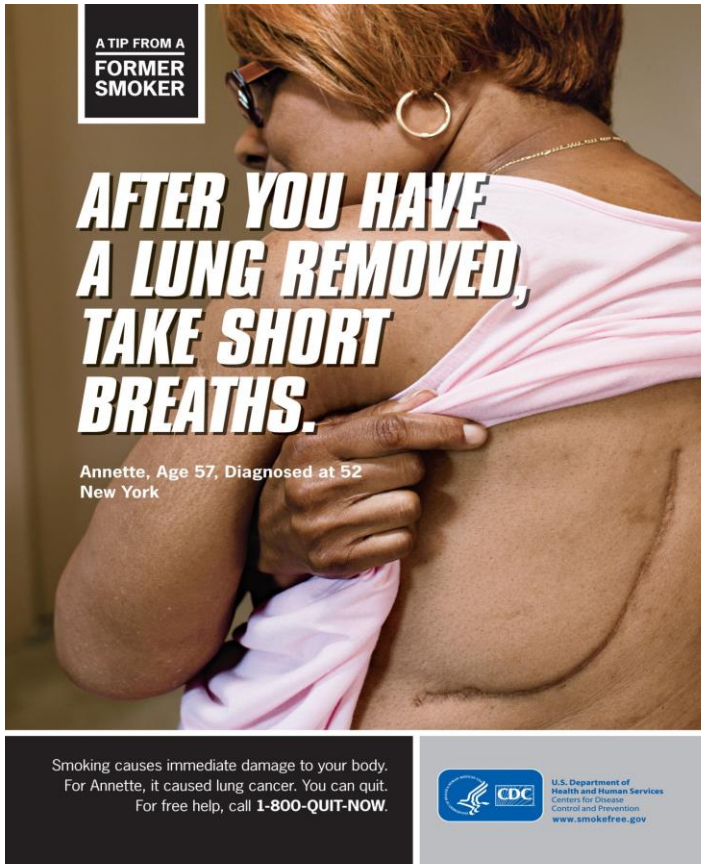
There is no false portrayal of cigarettes making one popular, fun, etc., in modern cigarette ads, but that has not stopped anti-smoking ads from being more prevalent than ever in television, magazines, and even websites. The following are examples of some of the less graphic anti-smoking advertisements.

Anti-Smoking Advertisement. Courtesy of Ellen Tordesillas Personal Blog.

Anti-Smoking Advertisements. Courtesy of Huffington Post, UK.

The Centers for Disease Control and Prevention launched its federal education campaign against smoking five years ago sparking the anti-smoking commercials. The series of ads the campaign funded and produced are “Tips From Former Smokers,” and each commercial showcases someone’s personal story, consequences, and immense regret stemming from ever smoking their first cigarette. In a PBS News Hour segment called “Why these anti-smoking TV ads are working,” the government claims that around 400,000 smokers have quit smoking, and millions are in the process of trying to quit all due to these ads. The government has the figures to back it up. The number of calls into smoking cessation lines each time one of the commercials airs in addition to the number of people trying to quit at any given time when the ads are being aired versus when they aren’t were analyzed. The Director of the CDC, Dr. Thomas Frieden, says, “for every $400 spent on these ads, someone’s life is prolonged for a year, and for every $3,000 spent on these ads, a life is saved” (Brown, 2016). These commercials literally show the health problems smoking has caused average Americans to live with and suffer through. Former smokers in these commercials can be seen speaking with raspy voices, showing gruesome scars from surgeries, hooked up to feeding tubes, and even unable to speak or smile because they have no teeth. To describe these ads as emotional would be an understatement. The following is a still image from one such commercial. (Brown, 2016)

Anti-Smoking Advertisement: "Tips From Former Smokers". Courtesy of Centers for Disease Control and Prevention, 2012.



That is Annette – just one of the former smokers helping to stop people from smoking. She was diagnosed with lung cancer, and her commercial aired in 2012. Another former smoker featured on these commercials is named Bill. Bill's ad shows him at age 40 explaining that smoking had made his pre-existing diabetes worse and had resulted in kidney failure, blindness in one eye, and a leg amputation due to poor circulation. The most heart wrenching consequence of Bill's smoking will forever be his death at age 42 from heart disease – not even two full years after filming commercials for this campaign. It is enough to bring tears to your eyes just explaining these commercials and real-life effects of smoking, yet 40 million Americans still smoke. But the 400,000 who have stopped due to these ads represent a victory worth celebrating. ("Tips From Former Smokers")

Plain Packaging

Big Tobacco has expressed the belief that no one under the age of 18 should be allowed to smoke – "we don't want their money." The tobacco company "just hopes that as many as possible will light up their very first cigarette one minute after their 18th birthday" (Chapman, 2012). Countries, like Australia, attempting to stop eighteen year olds from buying into a life long addiction to nicotine, have adopted plain packaging laws.

Australia has passed a plain packaging law for cigarettes, upsetting companies like Philip Morris International. Since 1991, Australia has banned the sale of smokeless chewing tobacco, but the introduction of the plain packaging of cigarettes caused a reaction. Chapman (2012) states, "Big Tobacco now needs to get a grip and get used to it: its deadly addictive products are being treated as such, and the world is no longer their ashtray". What effect is the plain packaging law having on sales, tobacco stock prices, and the health of Australians? "Price, smoking restrictions, pack warnings, advertising and promotion bans and large public awareness campaigns all both individually and in concert have depressed demand." While a drop in demand has occurred, the plain packaging law cannot be given full responsibility. However, the law helped in escalating the decline. Demand in Australia has been decreasing since the 1960's with the increasing awareness of tobacco's horrible health effects – a movement Chapman calls a "widespread denormalisation of smoking" (2012).

What is seen as a matter of health and public safety to communities and those with an ‘anti-smoking’ mindset, companies like Philip Morris see as dollar signs. Plain packaging targets the next generation – the children. Adults who have been smoking for years possess a loyalty to their brand of choice and an addiction not easily given up. Cigarette ads our parents and grandparents were subject to often portrayed a beautiful woman smoking in a tight dress with intended messages like ‘smoking is glamorous’ and ‘beautiful women smoke.’ But now imagine seeing a pack of cigarettes with a real photo of a charred lung. Smoking is not so glamorous or appealing anymore.

Examples of Plain Packaging. Courtesy of Healthy Central Florida.

Plain Packaging Advertisement. Courtesy of World Health Organization.

Who wouldn't think twice about smoking if they had to look at these images with every reach for a cigarette? With plain packaging, brand names are still displayed. "The Australian government is not banning cigarettes" – just brand advertising (Chapman, 2012). Brand loyalty can still exist and tobacco companies can still be somewhat profitable with existing, older customers. But the premise behind this law targets the younger generation in the hopes of stopping them from ever having this addiction or even seeing these "'full of highly carcinogenic products' dressed up in beautiful, attractive packs" (Chapman, 2012). America need to step up and implement this plain packaging strategy.

Health Effects

"The association between smoking and disease has been well known for over half a century. Tobacco is a risk factor for six of the eight leading causes of death; it causes at least 10 different kinds of cancers; it is implicated in the development of a number of serious respiratory and cardiovascular diseases" (Agule and Hooper, 2009). In addition, it "also causes a range of chronic diseases that place substantial strains on healthcare resources" (Agule and Hooper, 2009). The effects of smoking cigarettes have been researched since 1939 and it is still fact that smoking causes lung cancer as well as heart disease and emphysema. "Unless the prevalence of smoking falls substantially, 0.5 billion of the world's present population will die prematurely from disease caused by tobacco" (Benowitz and Heningfield, 1995). Despite the numerous regulations requiring cautionary labels and required research into cigarette smoke, there is still a lack of meaningful information regarding proper "serving sizes" for cigarettes, chewing tobacco, snuff, and cigars. How much nicotine is in one cigarette? One pinch of dip? A couple puffs of a cigar? The use of tobacco products results in an addiction to nicotine, which has been proven to exhibit certain effects and mechanisms similar to that of cocaine that affect dopamine transmitters (Benowitz and Heningfield, 1995). Exposure to nicotine also results in changes in the body's structure associated with the development of tolerance and dependence (Benowitz and Heningfield, 1995). In addition to the nicotine, 4,000 other chemicals are absorbed when smoking cigarettes or using tobacco products. Tobacco is a deadly crop, product, and industry, and that is a fact.

As of 2014 about one-fourth of the male population (18.8%) and 14.8% of the female population were classified as smokers. 76.8% of those smokers smoke every single day. An astounding 480,000 Americans die each year as a result of smoking, with more than 41,000 of these deaths from exposure to secondhand smoke ("Tips From Former Smokers: Cigarette Smoking in the United States," 2015). More than 16 million Americans are living with a disease caused by smoking ("Smoking & Tobacco Use: Fast Facts"). $170 billion are spent each year for direct medical costs due to smoking related premature deaths in America. Smoking-related illnesses also cost the U.S. $156 billion in lost productivity. 80% of adult smokers begin smoking before the age of 18 ("Timeline Infographic," 2015). Each day, more than 3,200 people younger than 18 years of age smoke their first cigarette; each day, an estimated 2,100 youth and young adults who have been occasional smokers become daily cigarette smokers ("Smoking &Tobacco Use: Fast Facts"). 167 kids try their first cigarette every HOUR ("Timeline Infographic," 2015). The tobacco industry has ruined enough lives. ("Tips From Former Smokers: Cigarette Smoking in the United States," 2015)

Benefits

Cigarettes bring in significant revenues for the government – both on the state and Federal level – which has been the case for decades, if not centuries. But what do the governments do with these billions of dollars? Tax revenues paid to the Federal government are put towards three things: mandatory spending, discretionary spending, and interest on the country's current debt. Mandatory spending involves government services and programs that everyday Americans rely on such as Medicare, Social Security, unemployment, etc. and represents ⅔ of the total Federal budget. Discretionary spending involves money for the Pentagon, programs for the military, programs geared towards disadvantaged schools and low-income families, and scientific research through the National Institutes of Health (NIH). In 2015, $2.45 trillion (64.63%) of the budget was used on mandatory spending, $1.1 trillion (29.34%) was used on discretionary spending, and lastly, $229.15 billion (6.03%) was used to pay the debt interest payments ("Federal Revenue: Where Does the Money Go," 2015). ("Federal Revenue: Where Does the Money Go," 2015)

Tax revenues from the tobacco industry can fall into two categories: corporate income taxes and excise taxes. In 2015, corporate income taxes represented 10.76% of the Federal budget, and excise taxes represented 4.99% of the budget ("Federal Revenue: Where Does the Money Go," 2015). With a combined 15.75% ($598.5 billion) of the budget representing those two categories of taxes, the tobacco industry is partially responsible for a large sum of money that goes towards these vital programs. The tobacco industry contributed $15.5 billion in taxes last year and with that, it can be calculated that the tobacco industry contributes about 2.60% of the corporate and excise taxes each year.

While a small percentage in retrospect, the industry's taxes clearly have a huge impact on the Federal budget and government spending. ("Federal Revenue: Where Does the Money Go," 2015)

While the tax money itself may come from a deadly product, these revenues are going towards vital programs that without the tobacco industry's $15.5 billion dollars a year, the government would have to look elsewhere to make up the lost revenue. The tobacco industry indirectly funds programs like the State Children's Health Insurance Program (SCHIP): a program that provides funding to states for health insurance for low-income families unable to qualify for Medicare. The industry indirectly helps keep programs like Social Security and Medicare running in addition to keeping transportation as a significant part of the budget. Ironically, the tobacco industry indirectly and directly helps fund programs geared towards cessation and preventing youth from smoking. Furthermore, while unrelated to the Federal budget per say, the tobacco industry provides tons of employment opportunities. The industry has many downfalls in the consequences its products bring, but employment, the economy, state governments, the Federal government, and America itself all benefit from the tobacco industry. If only its products weren't so deadly (May, 2011 & "Federal Revenue: Where Does the Money Go," 2015)

Chapter 2: E-Cigarettes

Health Effects

While not explicitly a financial ramification, electronic cigarettes came about as a result of the changing regulations and the increased awareness of the health effects surrounding the tobacco industry. One such harmful health effect is secondhand smoke and with that, engineers saw an opportunity for a new product – a tobacco product without the nuisance of smoke. An electronic-cigarette (or e-cigarette) is a battery-operated, smoke-free source of nicotine and has been in circulation for a few years now – having been introduced in March 2008. Advertised as safer, this product aimed to answer the concerns that have been revolving around cigarettes and their hazardous smoke. Last year, sales stemming from this product alone were estimated at $1.7 billion, transforming this product into its own industry (Mangan, 2013). (NIDA: “DrugFacts: Electronic Cigarettes (e-Cigarettes),” 2015)

While tobacco companies claim this product is safer, e-cigarettes are by no means safe. E-cigs mimic cigarettes in that they deliver nicotine, along with other chemicals, with each “puff”, but instead of smoke, they produce a vapor. Each e-cigarette consists of a cartridge, heating device, and power source. The cartridge contains the nicotine, other chemicals, and flavoring while the heating device acts as the vaporizer, all powered via a battery. While insufficient information exists on what the exact effects of smoking e-cigs are, a few facts can be stated on the matter. Electronic cigarettes still contain nicotine and harmful chemicals associated with cigarettes. The National Institute on Drug Abuse (NIDA) has expressed that “testing of some e-cigarette products found the vapor to contain known carcinogens and toxic chemicals (such as formaldehyde and acetaldehyde).” In addition, there is the fear that in refilling cartridges there is the potential to expose oneself to dangerous levels of nicotine (NIDA” “DrugFacts: Electronic Cigarettes (e-Cigarettes),” 2015). “The federal government has been clear in its messaging: a stringent regulatory framework is needed to regulate the marketing and sale of e-cigarettes”, but as of now, the FDA has no final ruling on this alternative product (Morton). “U.S. Surgeon General, Vivek Murthy, said health officials are “in desperate need of clarity” on electronic cigarettes to help guide policies”, and that was in February of 2015 (DeLuca).

Financials

There are over 250 brands associated with e-cigarettes now; it is clear that the product and thus, industry, are booming (NIDA: “DrugFacts: Electronic Cigarettes (e-Cigarettes),” 2015). Advertisements for e-cigs propose the new product as an alternative to not only smoking but quitting as well. Advertised as safer, it has given people a false sense of a healthy alternative. Uninformed, devoted ex-smokers “rely on them to get their nicotine fix while avoiding the harmful side effects of tobacco smoke” or so they think (DeLuca). While healthier, the long-term health effects of this product are still unknown, and some of the dangerous chemicals in cigarettes are present in e-cigs. It may have far fewer hazardous chemicals than combustible cigarettes but by no means can be termed “benign” (DeLuca). Using e-cigs “has the same short-term effects on the lungs as smoking tobacco cigarettes” (Raloff, 2014). “Online message boards are full of testimonials by hardcore smokers who have sucked on Marlboros or Camels for decades, only to finally quit with the help of e-cigs,” but simultaneously “teens and young adults—many of whom have never taken a drag on a combustible cigarette—are “vaping” just for kicks” (DeLuca). E-cigs are “increasingly popular among adolescents” and even though “they contain nicotine derived from tobacco, they are not yet subject to regulation as tobacco products, including the requirement that purchasers be a certain age” (NIDA: “DrugFacts: Electronic Cigarettes (e-Cigarettes),” 2015). Such a lack of regulations can’t last for long. The following represent advertisements for the product.

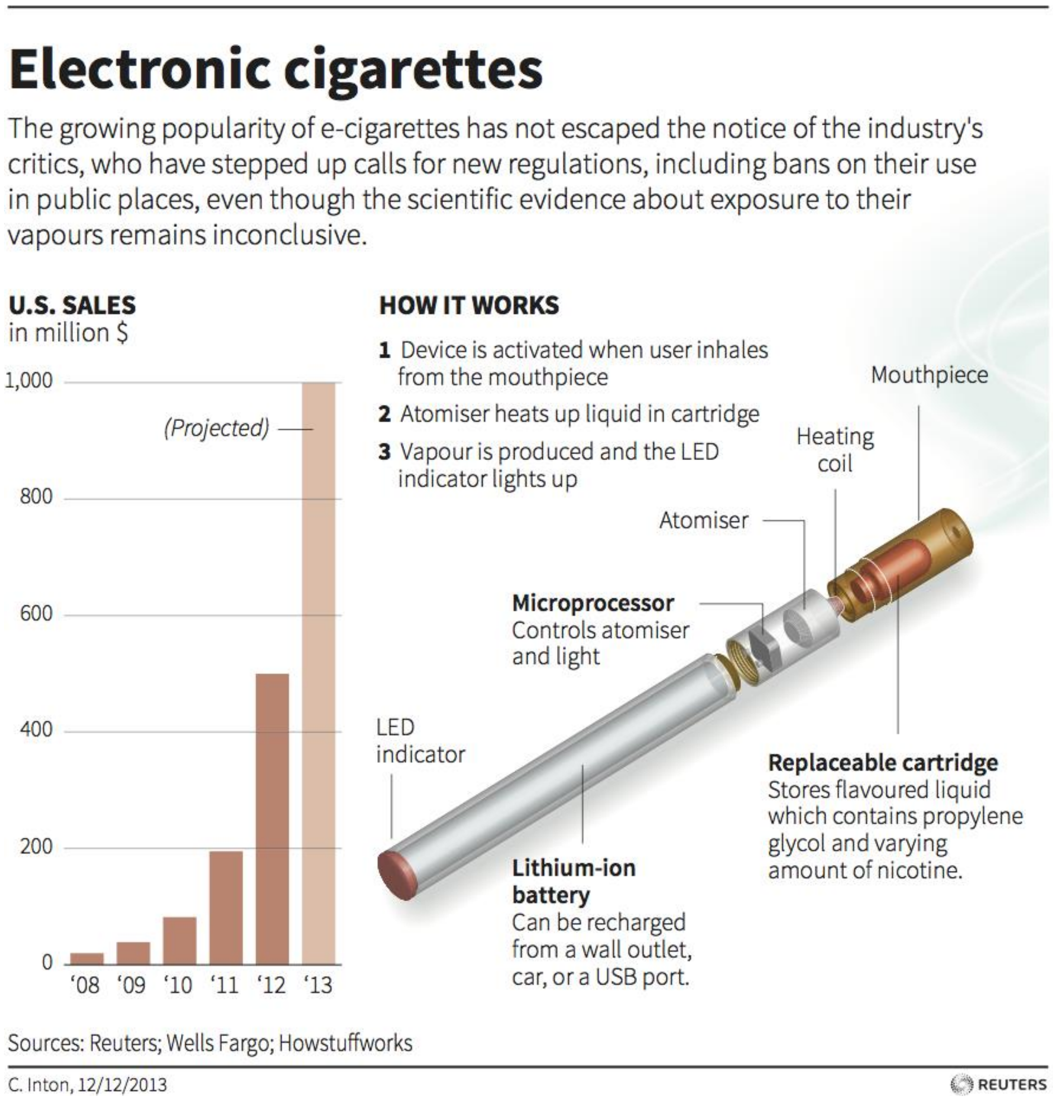
E-Cigarette Advertisement. Courtesy of Daily Mail.

E-Cigarette Advertisements. Courtesy of Jamie Thompson "E-Cigarette Advertisements".

The first ad showcases that the product is advertised as not only a healthier but also a safer alternative, which can be misleading. That advertisement was actually banned for suggesting e-cigs are a health product. The bottom two advertisements showcase the marketing technique suggesting electronic-cigarettes as an alternative to quitting altogether.

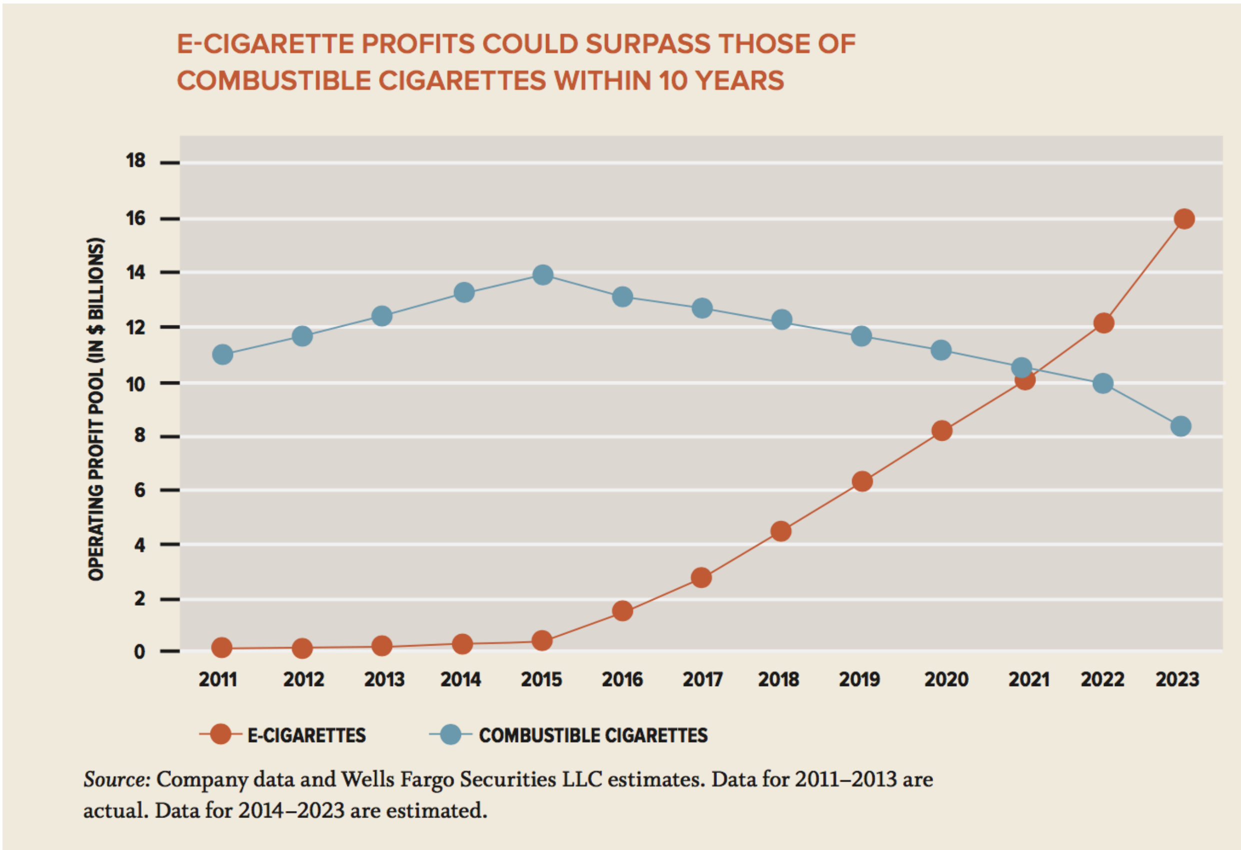
In terms of financials, the following image not only explains the electronic cigarette itself but also shows sales from 2008 to projected sales in 2013.

Electronic Cigarettes: U.S. Sales and How They Work. Courtesy of Thomson Reuters "Electronic Cigarettes", 2013.



While the health effects of this product are still unknown, so is the success of the product. However, e-cigs are projected to be extremely profitable and have been extremely successful thus far. Sales grew from non-existent to over $1 billion in a matter of about five or six years as shown in the graph to the left of the above graphic. The following graph shows its projected success.

E-Cigarette vs. Combustible Cigarettes Projected Profits. Courtesy of Alexander DeLuca's "The E-Cig Quandry", 2014.



The product is sky rocketing in comparison to "combustible cigarettes" among younger generations already proving to be almost equally as successful. It should be the hope of all that the long-term effects of this product are minute due to its extreme popularity in an era where everyone knows the deadly consequences of cigarettes.

Chapter 3: Cannabis

History of the Rules and Regulations

While tobacco has been viewed as public health enemy number one for almost a century, a new public health enemy has emerged in the eyes of many – cannabis. Better known as “marijuana”, this drug first became a “public enemy” in 1930 when Henry Anslinger, the United States’ first drug czar, deemed it so. Fearing what the drug had the potential to do, Anslinger “almost single-handedly… outlaw[ed] marijuana” with the passing of the Marijuana Tax Act of 1937; this Tax Act effectively criminalized marijuana, requiring anyone with authorized use of marijuana to pay a substantial excise tax (Gray, 1998). However, the marijuana Tax Act was later ruled unconstitutional, and a new law was passed. The Controlled Substances Act, which established cannabis as a “schedule I controlled substance”, became the new statute concerning the legality of cannabis (as well as all other drugs) in 1970. Defined by the DEA, the government regards schedule I drugs as having no accepted medicinal value in addition to having a high potential for abuse, and thus, regulates the manufacture, importation, possession, use, and distribution of such drugs. With cannabis being such a drug, any and all activities involving it became illegal. (CNN: “Weed: A Dr. Sanjay Gupta Investigation,” 2013)

A great deal changed regarding the legality of cannabis in June 2015, which signified the legalization of marijuana use, primarily medicinal, in 23 states and Washington, D.C. – note the Federal law did not change. States with legal medicinal marijuana include Alaska, Arizona, California, Colorado, Connecticut, Delaware, Hawaii, Illinois, Maine, Maryland, Massachusetts, Michigan, Minnesota, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont, and Washington. Currently, the use of recreational marijuana is legal only in Alaska, Colorado, Oregon, Washington, and the District of Columbia (Rowley, 2015).

With legalization being granted by individual state governments, each state has specific laws concerning marijuana – medicinal or recreational – and what aspects of growing, selling, and using (smoking) are legal. While 27 states still mimic the 1970 Federal law's classification of marijuana, some of those states have ruled in favor of the decriminalization of recreational marijuana. As defined on the FindLaw webpage, "decriminalization" – not to be confused with legalization – refers to "a state [that] has amended its laws to make certain acts criminal, but no longer subject to prosecution." For instance, D.C. Initiative 71 allows residents use of up to two ounces of cannabis and possession and cultivation of up to six marijuana plants, only three of which can be mature, all on private property. But they may not purchase or sell cannabis, smoke or consume the drug in public places, or operate a vehicle under the influence. It is a bit confusing because while you may possess marijuana, you are prohibited from buying or selling it; thus, you can only obtain the drug through a homegrown plant. Residents in decriminalized states need to be sure to know the exact extent of the law. The following map titled "The United States of Marijuana" shows which states have granted full legalization, legalization of medicinal marijuana, the decriminalization of recreational marijuana, and those still in favor of prohibition. The states that have ruled in favor of decriminalization are shown with brown shading.

The United States of Marijuana: A Map of States Showcasing those with Legalization of Recreational Marijuana, Medicinal Marijuana, Decriminalization, and Prohibition. Courtesy of Medical Marijuana News, 2015.

As you can see, we still have a ways to go before a unified legalization of some form of marijuana exists, but the decriminalization movement is actually unifying Republicans and Democrats from a financial standpoint – the cost of cannabis-related incarceration. Unity between the states and Federal government is the next step. (Rowley, 2015 & "Initiative 71 and DC's Marijuana Laws: Questions and Answers")

With all that was accomplished in just the last year it is hardly unreasonable to think the Federal government will eventually change the Federal Law. Medicinal marijuana is now legal in almost half of the country's states and D.C., recreational marijuana is now legal in four states, and a bank specifically created for the pot industry has been created and just needs Federal approval. The industry wants regulation, and "banks wanted clear and comprehensive guidelines on how to do business with the legal marijuana industry" (Kovaleski, 2014). So much progress has been made, but the future of the industry lies in the hands of the Federal government. Despite changing state laws, the Federal law has remained the same since 1970, in which The Controlled Substances Act classified Marijuana as a schedule I drug. With almost half of the states in the country now disagreeing with Federal law, one has to wonder what it will take to change the law on the Federal level. (Rowley, 2015)

A great deal changed regarding the legality of cannabis in 2015 when 23 states passed laws making some form of marijuana legal – specifically, marijuana for medicinal use only became legal in 19 of the 23 states. Jump forward to the present and the issues surrounding cannabis now involve which activities are legal in each state, the differing laws on State and Federal levels, and the lack of financial resources available to legal marijuana businesses. The laws have evolved, and yet the Federal government remains firm on their 1970 ruling. The financial ramifications that have come about due to these recent laws are creating confusion among the states and the country itself. What is legal on the state level is still regarded as illegal on the Federal level. Marijuana, medicinal or recreational, cannot cross state lines, which means families in need of the medicinal form of the drug to have to uproot their lives and move. Referred to as "medicinal marijuana refugees", over 100 families are affected by the restrictions placed by state lines. The Federal government does not agree with state governments' recent revolutionary regulations causing inconsistency throughout the country. However, "the most urgent problem" in the marijuana industry lies with what banks are refusing to do (Flatow, 2014). Banks are denying legal marijuana businesses access to bank accounts and financial tools for fear of going against the Federal Reserve, which essentially forces the marijuana industry to be classified as an all cash businesses. (Rowley, 2015 & Flatow, 2014)

All Cash Business

The marijuana business has been booming, raking in millions of dollars in sales per month since legalization swept through 23 states (Pyke, 2015). However, many factors are preventing this industry from continuing to grow – "what many may consider the most urgent problem" being the inaccessibility to standard financial tools that growing businesses need on a Federal level (Flatow, 2014). These tools include checking accounts, business lines of credit, wire transfers, etc. The marijuana business has immense potential to be prosperous for all involved – including owners, states, and even the Federal Government – but has been forced to be categorized as an “all cash” business. (Pyke, 2015)

This all cash aspect of the business is a problem that goes beyond just inconveniencing customers and storeowners with having to carry such large sums of cash on their person. These dispensaries, growers, and producers are forced to, not only pay their staff in cash, but all of their bills, utilities, mortgages, and even taxes as well. And most of these payments must be made in person. Such bills are amounting to tens of thousands of dollars at a time, and employees are being tasked and burdened with carrying said amounts of cash on their person. In 2014, “marijuana-specific tax revenue in Colorado [alone] hit $70 million” as reported by Time (Rowley, 2015). These businesses are clearly dealing with an abundance of cash and on a daily basis. In the U.S. “sales from legal marijuana hit $2.7 billion last year”, 2014, such that if marijuana were fully legalized in all 50 states and D.C., “the U.S. marijuana retail market could top $35 billion in revenue by 2020” (Rowley, 2015). On a smaller scale, any given transaction can range from $60-$800 or more for a couple weeks’ supply of marijuana at a time depending on intended use and frequency of use. For instance, a child with Dravet syndrome, who desperately needs a continual supply of medicinal marijuana, requires $2000 worth of marijuana each month (CNN: “Weed: A Dr. Sanjay Gupta Investigation,” 2013)**.** On the other hand, recreational marijuana per transaction can range from “$60 in some markets to more than $100 in others” as a starting price (Olson, 2015). Not only are customers inconveniently carrying hundreds of dollars in cash with each visit to a dispensary, but also the dispensary employees are handling transactions of this amount frequently throughout the day. Even U.S. Attorney Eric Holder “made clear that he considers cash-only marijuana businesses a public safety concern (Flatow, 2014). (Rowley, 2015 & Flatow, 2014)

Keep in mind medical marijuana is the form dominating the market as only four states have legalized recreational forms. With that being said, these customers don't really have the option to forego endangering themselves by carrying so much cash to buy marijuana. Their disease or condition requires it. One solution for customers has been the installation of ATMs in the majority of dispensaries. However, ATMs are but a temporary solution (if that) due to the fact that the "business owners often have to use their own cash in the machines in case law enforcement authorities conduct a raid and seize the money" (Kovaleski, 2014). The businesses that are somehow able to secure a bank account or have owners willing to use their own personal accounts can obtain cashless ATMs, which transfer money directly to one of the aforementioned accounts via a customer's debit card.

The owner of Mountain Medicine, a Denver marijuana edibles manufacturer, shared the threats that surround this all cash business (Pyke, 2015). Jaime Lewis, the owner, expressed that robbery is a constant threat, leading to daily strategic planning. Most marijuana businesses operate solely in daylight hours, rotate pay schedules and pickups, and employ the "buddy system" when someone must go to their car. The what-seems-so-simple task of driving to drop off utility and tax payments has become this 'never-ending shell game of different cars, different routes, different dates, and different times' (Kovaleski, 2014). (Pyke, 2015)

Specifically, in terms of the financing of dispensaries, the seemingly most stressful and concerning issue to marijuana businesses owners (and ultimately, the government) is that of taxes. Each all-cash tax payment “impedes the state’s ability to collect taxes” and “undermines industry growth” (Pyke, 2015). Dispensaries are paying two to three times more taxes than necessary, are not even receiving tax refunds, and are unwillingly foregoing tax deductions. Tax deductions are allotted to small businesses in order to foster growth and are unattainable to these small start-up dispensaries. The lack of tax deductions and abundance of required taxes on behalf of these dispensaries are hindering the growing capability of the industry. These businesses are paying taxes in the hopes that the federal government will finally recognize the legitimacy of dispensaries (and their money) and thus, issue deserved tax refunds in the future – all in order to avoid an audit. The whole chore of paying taxes has become surrounded by “If, then” statements and scenarios. “If the dispensaries pay their taxes as they are legally obligated to do, then they will eventually receive tax refunds.” “If they don’t pay their taxes, then they risk an audit”. “If the dispensaries pay their taxes, they could become financially insecure”. And so on. All these businesses want is “to be taxed like any other business” (Pyke, 2015). Paying such substantial taxes continues to hurt businesses in this industry due to the sheer amount of capital owed to the government. A simple solution lies in a common financial tool: a line of credit. But taking out a line of credit is an action unavailable to any business in the marijuana industry. A line of credit could go a long way in helping these businesses survive the dispute between the state and Federal government and the “temporary mistreatment at the hands of the tax code” (Pyke, 2015). (Pyke, 2015)

Banking, Credit Unions, The Federal Reserve

"Banking is the most urgent issue facing the legal cannabis industry today," said Aaron Smith, executive director of the National Cannabis Industry Association in Washington, D.C. (Kovaleski, 2014 "So much money floating around outside the banking system is not safe, and it is not in anyone's interest; Federal law needs to be harmonized with state laws" (Kovaleski, 2014). So, why are banks refusing to accept business from marijuana-related businesses? As mentioned earlier, marijuana is legal on certain state levels, but is still illegal on the Federal level. The possession, cultivation, and distribution of marijuana remains illegal in the eyes of the Federal Government, and banks are fearful of prosecution or potential repercussions of large fines. Federally, 'transporting or transmitting funds known to have derived from the distribution of marijuana' is "considered illegal money laundering" (Flatow, 2014 & NBC Associated Press: "Between Pot and a Hard Place," 2015). With that being said, NBC has relayed that the Fed will not arrest those accepting cash from such businesses but state and local banks "by no means" have the authority to put tainted money into circulation. The Federal Reserve has expressed that its stance on accepting cash from marijuana-related businesses will only change with that of the Federal Law. This banking issue is "one of the final barriers to marijuana acceptance" (NBC Associated Press: "Between Pot and a Hard Place," 2015). Richard Hunt, President and CEO of the Consumer Bankers Association, explains what needs to happen to cross this (final) barrier (Flatow, 2014):

> *"First, Congress must change federal law which bans the sale and distribution of marijuana. Then all federal regulators must provide clear and*

> *precise guidance. Until then, the nation's 7,000 banks will be highly reluctant to participate in this this new type of "commerce."*

With the Fed being the central banking system of the country it only makes sense for them to follow the Federal government's lead, but their mimicking stance is keeping the industry at a standstill. (Kovaleski, 2014)

Progress on the banking front of the industry seems to take one step forward and three steps back. "State banking officials had approved a charter for the first-ever pot industry bank, a long awaited credit union called The Fourth Corner Credit Union (TFCCU)" but instead of taking deposits, TFCCU is currently "suing a pair of federal bodies that have denied it the administrative approval it needs to operate (Pyke, 2015). These lawsuits could take years and TFCCU still needs approval, specifically from the Fed. This back-and-forth battle is one full of confusion and mixed signals. Under the President of the United State's authority, the Treasury and Obama's administration issued guidelines on banking with the pot industry one year ago, and the credit union mentioned above – based on those very guidelines – was denied Federal approval the following year (Barajas and Yost, 2014). (Hughes, 2014 & Barajas and Yost, 2014)

Fed up with this never-ending battle, "[i]t is not unusual for a legitimate marijuana business to go through a half-dozen bank accounts in a few years" according to Aaron Smith (Kovaleski, 2014). And just as daily transactions and drop offs involve strategic planning, depositing money from marijuana-related business and avoiding bankers' scrutiny is no different. The employees or owners attempting to start or keep bank accounts must avoid suspicious activity reports by ensuring to deposit less than $10,000 at a time, not too frequently, and odor-free of marijuana. They may even go so far as to deposit only during a certain time of the day with specific branches or even bankers. “Leaders in the marijuana trade point out that giving accounts to businesses would allow for more transparency and meticulous regulation and would help ensure that jurisdictions receive the taxes they are entitled to” (Kovaleski, 2014).

The Federal Government, the Federal Reserve, and banks all have to manage their images, their ideals, and their stances on this issue. If the Fed were to allow cash from marijuana-related businesses to be brought into circulation while the Federal Government upheld its stance that marijuana is illegal, our country would appear to be in disarray. But it already appears to be in a bit of disorder on this issue with differences from state to state and from state to federal government. The ball is in the Federal government’s court now.

Medicinal Marijuana

A federally regulated marijuana industry would not only boost our economy but also help save lives and control side effects associated with certain diseases like cancers. One of the controversies surrounding marijuana is the fact that the government refuses to acknowledge its medicinal use and benefits, as is customary for all Schedule I classified drugs. So, I will argue that marijuana does, in fact, have proven medicinal properties as supported by CNN’s three-part documentary “Weed” with Dr. Sanjay Gupta, a neurosurgeon and CNN’s Emmy-winning chief medical correspondent. (CNN: “Weed: A Dr. Sanjay Gupta Investigation,” 2013)

The chemical makeup of marijuana is composed of two parts: THC and CBD. Tetrahydrocannabinol or “THC” represents the psychoactive “high” part, and

Cannabidiol or “CBD” represents the chemical that quiets excessive activity in the brain. Dr. Staci Gruber, Director of McLean Hospital’s Brain Imaging Center, used high tech imaging to study the brain while test subjects smoked marijuana. She found that upon first inhaling the smoke from marijuana, receptors throughout the brain – attributed to pleasure, memory, learning, coordination, sense of time and space, appetite, etc. – respond. A release of dopamine follows, giving an overall “feel good” sensation, which is really a reduction in inhibitory function. Inhibitory neurotransmitters keep a balanced mood, so less inhibition leads to relaxation and less worry. The CBD represents the medicinal part of the Cannabis plant and thus, strains high in CBD are primarily used for medicinal marijuana. In some cases the THC is diluted as much as possible or even removed completely. (Bradford, 2015 & CNN: “Weed: A Dr. Sanjay Gupta Investigation,” 2013)

So, what are the temporary and long-term effects? Carl Hart, a neuroscientist at Columbia, researched the cognitive effects of marijuana and found that the pre-frontal cortex is the most affected part of the brain. This part of the brain is responsible for planning, thinking, and coordinating behaviors. However, Hart’s research concluded these effects to be temporary. Disruptions in memory and inhibitory control and slower cognitive functioning lasted the length of the “high,” much like the effects of alcohol last the length of time someone is “drunk.” To showcase temporary effects, a novice weed user and habitual smoker were asked to drive a car while high. The novice user, someone who smokes occasionally on weekends, had trouble driving and was clearly impaired, but the habitual user drove normally. Potential temporary but bad side effects can include panic attacks, disorganized thinking, disorientation, and paranoia. (CNN: “Weed: A Dr. Sanjay Gupta Investigation,” 2013)

In terms of long-term effects testing was done on those who had smoked “early,” prior to the age of 16, and those who smoked “later onset,” after the age of 17. Those who smoked prior to 16 showed impaired “white matter” responsible for helping the brain communicate. Such impairment results in being slower at tasks, lower IQs, higher risks of stroke, and increased incidents of psychotic disorders. According to the National Institutes of Health (“DrugFacts: Marijuana,” 2016),

a study showed that people who started smoking marijuana heavily in their teens and had an ongoing cannabis use disorder lost an average of eight IQ points between the ages 13 and 38. The lost mental abilities did not fully return in those who quit marijuana as adults. Those who started smoking marijuana as adults did not show notable IQ declines.

These results, while not conclusive, are concerning but easily solved with regulation and laws prohibiting sale and distribution of marijuana to minors.

Dr. Stacy Gruber and Dr. Amelia Taylor examined the brain of someone who had been smoking marijuana everyday for 3 months and found no change in brain activity and no evidence of impairments in the brain. Only 9% of all marijuana users are dependent compared to 23% of heroin users, 17% of cocaine users, and 15% of those who drink alcohol. It is in fact safer than alcohol. “While there are fatal accidental prescription drug overdoses (every 19 minutes), there are virtually no fatal marijuana doses” (CNN: “Weed: A Dr. Sanjay Gupta Investigation,” 2013)

What is hurting the industry and some of society's overall outlook is marijuana's presence in the black market. The only United States facility legally allowed to grow and research marijuana rests on Ole Miss' very campus in Oxford, MS. This research, known as the "Marijuana Potency Project," consists of analyzing the weed confiscated from drug busts in order to track and control the quality. Modern "street" weed currently has potent THC levels as high as 36%, which can be very dangerous and produce negative effects like psychosis. The average THC potency is 13% currently, which is a lot less than 36%, but is still quite an increase from 1972 levels, which were less than one percent. If the government were to regulate marijuana THC levels would not be a problem. THC content would be controlled and a maximum legal potency would be determined. But as long as the drug remains on the black market, dangerous levels of THC will continue to be consumed and the medicinal miracles marijuana could perform will be put on hold. (CNN: "Weed: A Dr. Sanjay Gupta Investigation," 2013)

In CNN's documentary, "Weed," Dr. Sanjay Gupta introduced the United States to a few patients who claim to be alive solely because of marijuana. A family from Colorado has a daughter, Charlotte, with Dravet syndrome. This syndrome is similar to epilepsy and Charlotte was having about 300 uncontrollable seizures a week; that is essentially 2 seizures an hour leaving Charlotte with inability to talk or move. Charlotte's mom had found a case where a child with a similar syndrome had "smoked" weed and could go days without seizures. So, as a last resort to save Charlotte's life, her parents decided to obtain medicinal marijuana for their now five-year-old daughter. To clarify, Charlotte was not smoking the marijuana. Her mother used a syringe to squirt the CBD component of the medicinal marijuana under Charlotte's tongue. Charlotte was down to one seizure a week and one year later, she is seen eating, talking, walking, horseback riding, and even biking. Another little girl affected by constant seizures was given the CBD oil and her seizures decreased from 75 a day to just 10. (CNN: "Weed: A Dr. Sanjay Gupta Investigation," 2013)

Another example of marijuana as a "lifeline" rests with a nineteen year old by the name of Chaz Moore. Chaz has a rare and extremely painful diaphragm disorder where he speaks in what can be described as hiccups. Once again as a last resort Chaz sought out medicinal marijuana and upon smoking, his "hiccups" stop within five minutes and his speech is completely normal and pain-free. These attacks would happen 40 times a day, and now Chaz can stop them almost instantly. Chaz had previously been on deadly daily muscle relaxants like valium and morphine and Chaz's dad strongly believes that marijuana "saved [his] son's life" and that his "quality of life is 1000 times better than when on pharmaceuticals". (CNN: "Weed: A Dr. Sanjay Gupta Investigation," 2013)

Research suggests and even proves that marijuana also helps in treating PTSD, Crohn's disease, pain, loss of appetite, Parkinson's disease, patients recovering from a stroke, and potentially, cancer. Patients with PTSD state that marijuana suppresses dream recall and brings their focus to the present. Patients with sickle cell anemia report feeling pain free because of marijuana and its ability to dull pain receptors. Israel, the medical marijuana research capital of the world, now prescribes weed as treatment and allows patients to smoke inside the hospital.

Marijuana is both used both recreationally and medicinally, as a "lifestyle versus [as] lifeline," and now both legally and illegally. The drug does in fact have medicinal properties and thus, should at the least be stripped of its classification as a Schedule I drug. The medical miracles that are being attributed to this drug should be reason enough. Decades ago it was a legitimate medication prescribed by doctors and dispensed by pharmacies. Nowadays, medicinal marijuana is used as a last resort for families in hopes of saving their child's life but what if it could be a primary option? Regulations are already in place for medicinal marijuana, which require the approval of two doctors. "A growing body of research suggests that marijuana may replace alcohol or hard drugs in many people's lives. Other recent studies suggest that looser restrictions on weed decrease traffic fatalities and even the suicide rate" (Graham, 2014). According to the CDC, about "88,000 people die every year in the US from excessive alcohol use" in addition to the 480,000 who die from tobacco-related illnesses each year (Graham, 2014). To eliminate those statistics and replace with a seemingly harmless drug seems like a great trade off, and any potential harmful effects of weed can seemingly be solved through regulation. (CNN: "Weed: A Dr. Sanjay Gupta Investigation," 2013)

Conclusion: Cannabis as a Source of Economic

It is the consensus among those in the marijuana business that "with a state regulated system this industry can be favorable for the economy" and be pulled "out of the black market" (Pyke, 2015). The industry consists of multi-million-dollar-per-month pot economies that reached $2.7 billion in sales in just 2014 alone (Pyke, 2015). With billions of dollars already being earned in profits each year and the potential for that money to be circulated into the United States' economy and banks, the marijuana industry is more than enticing.

Warner (2002) seems to think that the huge amount of economic productivity and jobs funded by tobacco can be switched to another industry simply through a switching cost. The industry worth replacing the tobacco industry is the marijuana industry. "Production, distribution, and consumption mark the three distinct phases of any major industry" (Caputo and Ostrom, 1994). The tobacco industry involves farming, product manufacture, distribution, and sales. The marijuana industry involves growing, harvesting, manufacturing, distribution, and sales. The tobacco industry consists of numerous companies, copious brands, a range of products, and tons of employment. If the marijuana industry were to be granted Federal approval, brands could easily be developed. Each dispensary already has its own clever name and unique strains. Franchises could easily be created, providing Americans with necessary employment. So many parallels can be drawn from the tobacco industry to the marijuana industry in terms of the potential for employment, power, success, and economy-boosting potential. The marijuana industry has everything the tobacco industry has without the harmful nicotine and potential for lung cancer in their products. Some are skeptical of marijuana and think it might have the ability to cause cancer as well, but until those studies exist, marijuana is a much better alternative to tobacco. Each strain of marijuana has a different high; each bud has a different benefit; each leaf has a different ailment (CNN: "Weed: A Dr. Sanjay Gupta Investigation," 2013). There in lies the marijuana industry's market segmentation. Not to mention the numerous paraphernalia products like bowls, "one-hitters", bongs, and pipes. Alternatives to smoking the plant's dried leaves (buds) already exist in edibles and oils with potential for growth. Marijuana as a regulated prescription drug could be the next big thing.

Current regulations make it "easier to get tobacco products, which cause dependence and disease, than to obtain potentially lifesaving drugs" – such lifesaving drugs medicinal marijuana has the potential to produce (Benowitz and Heningfield, 1995). Marijuana has the potential to be an alternative to not only cigarettes but also to deadly, addictive pharmaceuticals. As Rowley states, "legalization of recreational [and medicinal] marijuana gives rise to a whole new economy surrounding the sale of cannabis, oils, lotions, edibles, and paraphernalia". One impediment to simply switching from tobacco to another industry is the number of people addicted to nicotine. Luckily, smoking cessation is possible and there are many available products to help. My great grandfather overcame his nicotine addiction by replacing each urge to smoke with a lifesaver mint – pretty ironic. Regardless, the marijuana industry needs to be granted full legalization for our economy and for the health of existing marijuana users. I believe that this industry has the potential to put the tobacco industry on the back burner, decrease the number of cases of lung cancer per year, and give our economy a much-needed boost.

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