

Sin Tax Law: Its Effects to the Smokers' Consumption Patterns in an Urban Location

Christopher U. Bantog

Bayawan National High School, Bayawan City Division (Department of Education), Philippines

Abstract— Implemented in January 2013, Republic Act No. 10351 also known as Sin Tax Reform Law 2012, aims to (1) raise revenues and (b) discouraged the consumption of the tobacco products and alcohol beverages. The study aimed to determine how this law affects the smokers' consumption patterns in the urban location of Bayawan City, Negros Oriental, Philippines. The respondents' consumption patterns regarding the product brand, quantity bought, the frequency of use and cigarette spending, the price and cross elasticity of demand after the implementation of the Sin Tax law were the data used. The study used correlational research design method to measure the degree of association between consumption as the price changes. The survey was conducted to 393 respondents who were households' breadwinners who were cigarette consumers. Findings revealed that the majority retained their product brand but decreased the quantity capacity to buy, and others change to a cheaper and substitute items and the majority did not increase their allocation which leads to a decline on quantity consumed and only a few increases their spending to cope up with their consumption. The study concluded that the move of the government to increase the price by Republic Act No. 10351 on cigarette products affects the consumption patterns of the consumers in the urban location of Bayawan City, Philippines.

Keywords— Economics, Sin Tax Law, Effects, Consumers' Consumption Patterns, Price and Cross Elasticity of Demand, Correlational Research Design, Philippines

I. INTRODUCTION

Smoking causes millions of deaths worldwide. The World Health Organization (WHO) in an article published in 2011 has reported that almost six million people die from tobacco use. The said report further disclosed that tobacco is expected to kill 7.5 million people worldwide by 2020, accounting to 10 percent of all deaths. These are then telling indications that smoking causes an estimated 71 percent of lung cancers, 42 percent of chronic respiratory disease, and almost 10 percent of cardiovascular disease.

Addressing the foregoing scenario, the WHO strongly recommends strategies to reduce tobacco use that include tax increases, distributing information about the health risks of smoking, restrictions on smoking in public places and workplaces, and comprehensive bans on tobacco advertising, promotion and sponsorship.

In the Philippines, deaths related to what WHO has pointed out are evident because ten Filipinos die every hour from cancer, stroke, lung and heart diseases caused by smoking while the country loses nearly Php 500 billion annually from healthcare costs and productivity (Department of Health-DOH, Philippines GATS Country Report 2010). Additionally, the DOH asserts that the Philippines has an estimated 17.3 million tobacco consumers, the most number of smokers in Southeast Asia.

This high consumption rate is seen as a result, among others, of the very low cigarette prices in the country. This has basically shown the strong evidence of the approval of the House Bill 5727 into Republic Act 10351 also known as Sin Tax Reform Law 2012. Macaraig (2012) asserted that the amendment of the existing excise tax law on tobacco and alcoholic products is the only revenue measure that the Aquino administration has certified as urgent to date. In principle, the excise tax on sin products is imposed for purposes of (a) raising revenues and (b) discouraging the consumption of the tobacco products and alcoholic beverages. It is argued that higher excise taxes on tobacco will "induce some smokers to quit, reduce consumption of continuing smokers, and prevent others from starting" (Sunley 2009).

Another point presented by Snowdon (2012) taken from Adam Smith Institute states that it is frequently claimed that consumers of "unhealthy" products place an excessive burden on public services--healthcare, in particular----and that this justifies additional taxation in order to (a) reduce consumption of the sinful product and (b) reimburse the state for the extra money it is forced to spend. But this is not true. There is ample evidence that, on average, smokers and the obese are less of a "drain on public services" than nonsmokers and the slim because they spend fewer years withdrawing pensions, prescriptions, nursing home provision and other benefits. Their lifetime healthcare costs are usually lower than those who lead healthy lives.

Presently, the City of Bayawan, Province of Negros Oriental classified as a third class city with seven (7) urban and twenty-one (21) rural barangays is found to have constituents who are identified as heavy smokers especially those who live in the urban barangays of Banga, Boyco, Poblacion, Suba, Tinago, Ubos and Villareal. This scenario has prompted the members of the local council to support the Republic Act 9211: "The Tobacco Control Act of 2003" and have them passed Ordinance Number 31, Series of 2012 also known as "Smoke Free Bayawan Ordinance".

These sin goods have put millions of lives at risk and worst to death giving a reasonable task for the government to implement measures that aim to discourage the public from trying and being addicted to cigarette products.

It is for these reasons that the present study is advanced with the main purpose of finding out whether the move of the government of passing this law mandating for an increase of excise taxes could lead to a decline in cigarette consumption. This study tries to determine if excise tax price increases influence to the buying decision of the consuming public. If significant influence exists, then the results of the present undertaking hope to aid in the current flow of legislations introducing other measures to discourage the consuming public from buying these sin goods specifically the cigarette products.

Research Methodology

This study made use of the explanatory correlation design research method. The researcher formulated a survey questionnaire used in gathering data from the respondents.

The study was conducted in the seven urban “barangays” of Bayawan City, namely: Banga, Boyco, Poblacion, Suba, Tinago, Ubos and Villareal and concentrated to affected segment which are the households’ breadwinners who are cigarette consumers or in the event that the breadwinner is not a smoker then any or other members of the household were chosen as long as they have the source of income and they are living in the urban “barangays” of Bayawan City.

There are One Thousand Nine Hundred Sixty-Three (1,963) total number of households who are known cigarette smokers in the urban barangays of Bayawan City and only Three Hundred Ninety-Three (393, 20% of the population) were selected to be the respondents of the study. The researcher used the stratified sampling where the distribution of sampling units is proportionate to the total number of units in each barangay. The bigger the population, the more sample units are drawn. Fishbowl sampling technique is then applied in the selection of the respondents, who will then be interviewed; number is being assigned to each household-smokers identified by the barangay and the total number to be picked will depend on the number required by each barangay. The researcher made sure that the respondents answered the instrument voluntarily with their will to be interviewed. Those households who refused are no longer part of the study.

Results

Below are the effects of Sin Tax Law to the consumption patterns of the respondents in terms of the product brand, quantity bought, frequency of use and budget allocation.

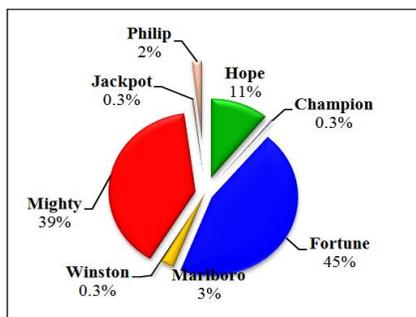


Fig. 1: The specific brand of cigarette that the respondents are patronizing before 2013 (n=393)

As shown, the most patronized brand of cigarette that the households’ breadwinners are consuming is Fortune, Mighty and Hope before 2013 prior to the implementation of the law. The least patronized were Jackpot, Champion and Winston.

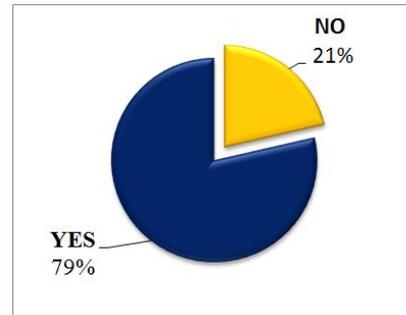


Fig. 2: The Distribution of Respondents’ Loyalty on Specific Cigarette Brand (n= 393).

Figure 2 reveals that majority of the respondents are still using the same cigarette brand despite the price increase of the product. This further implies that price does not really affect brand preference of the respondents.

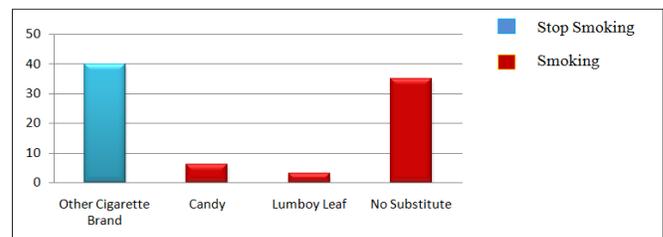


Fig. 2.1: The Distribution of Respondents on the Choice of Cigarette Substitute (n= 84)

Figure 2.1 indicates the respondents’ choice of cigarette substitute in the event that price increases. Based from the respondents’ responses, there are those (10.18%) who have shifted to a cheaper cigarette brand like mighty, marvels and jackpot. While other respondents (11.20%) have decided to stop smoking and used candies and tobacco leaf as substitute and others totally quit smoking with no substitute.

TABLE I: THE NUMBER OF STICKS OF CIGARETTES CONSUMED PER DAY UPON THE IMPLEMENTATION OF THE SIN TAX LAW (N= 393).

Number of sticks a day	Before (f)	After (f)	% Change
0	0	44	
1- 5 sticks	15	113	
6-10 sticks	100	211	
Sub-total	115	368	220
11-15 sticks	237	15	
16-20 sticks	41	10	
Sub-total	278	25	-91
Total	393	393	

Table 1 depicts the number of sticks of cigarettes consumed upon the implementation of the Sin tax Law. As shown in the table above the number of smokers who consumed from zero (0) – 10 sticks of cigarettes a day have risen significantly

generating a percentage change in 220. Comparing this to 11-20 sticks of cigarette a day resulted to -91 percentage change on the number of smokers.

TABLE II: THE POSSIBLE CAUSES THAT INFLUENCE THE QUANTITY OF CIGARETTE CONSUMED BY THE RESPONDENTS PER DAY; (N= 393)

Measures	Mean	Verbal Description	Standard Deviation	Verbal Description
Increase of Price	4.61	Greatest Extent	0.89	Homogeneous
Accessibility of Product Outlet	3.99	Greater Extent	0.98	Homogeneous
Income	4.73	Greatest Extent	0.78	Homogeneous
Influence of Information and Education Campaign	1.64	Least Extent	0.86	Homogeneous
Health reasons	3.09	Moderate Extent	0.95	Homogeneous
Availability of substitute goods	1.69	Least Extent	0.83	Homogeneous

Legend:
 1.0-1.8 Least Extent
 1.81-2.60 Lesser Extent
 2.61-3.40 Moderate Extent
 3.41-4.20 Greater Extent
 4.21-5.0 Greatest Extent

Table 2 presents the possible causes that influence the quantity of cigarette consumed per day at the time that the Law was implemented. The increase of price and income are two factors that greatly influence the quantity consumed followed by the accessibility of product outlet. Other factor identified with moderate influence is the health reasons of the respondents. Hence, the information and education campaign regarding the effects of smoking as well as the availability of substitute goods has a least influence as to the quantity consumed by the respondents per day.

On the greater consumption number of sticks of cigarette, 5-6 and 7-8 has the percentage change of 67 and 0 respectively. It is because there are respondents who continuously have consumed the same and even more sticks as they are willing to pay even on the increase of price. This market segment is not affected by the increase of price as they have capacity to pay.

TABLE III: THE NUMBER OF STICKS OF CIGARETTE CONSUMED PER HOUR UPON THE IMPLEMENTATION OF THE SIN TAX LAW (N= 393)

Number of Sticks per Hour	Before (f)	After (f)	% Change
0 Stop Smoking	0	44	
1-2 sticks	375	335	-11
3-4 sticks	11	3	-73
5-6 sticks	6	10	67
7-8 sticks	1	1	0
Total	393	393	

Table 3 shows the number of sticks of cigarette consumed per hour upon the implementation of the law. This further explains the quantity (number of smokers) on the per hour consumption looking into the frequency of use.

As shown, there are 11.2% (44) of the household smokers who stop smoking. Upon implementation of the law, there are -11 percentage change on the number of smokers who consumed 1-2 sticks of cigarette per hour which means that the number of smokers who consumed 1-2 sticks before the implementation is greater than at the time that the price increase. Another is the 3-4 sticks of cigarette per hour have -73 percentage change on the quantity (number of smokers) as the price changes. Therefore, the 1-2 and 3-4 sticks of cigarette per hour incur reduction on the number of sticks consumed by the smokers.

TABLE IV: THE AMOUNT OF MONEY SPENT FOR CIGARETTE PURCHASE PER DAY UPON THE IMPLEMENTATION OF THE SIN TAX LAW (N= 393)

Amount Spent (PhP)	Before (f)	After (f)	% Change
0 Stop Smoking	0	44	
1.00-30.00	384	307	-20
31.00-60.00	6	38	533
61.00-90.00	3	4	33
Total	393	393	

Table 4, presents the amount of money spent for cigarette purchase upon the implementation of the law. There are smokers (44) who stop smoking upon the increase of price; The percentage change of -20 to the number of smokers who spent PhP 1.00-30.00 which means that there are respondents who reduce their cigarette spending as price increases.

Hence, there are smokers who increase their spending to PhP 31.00- 60.00 and PhP 61.00- 90.00 that brought to percentage change of 533 and 33 respectively. This manifest that there are respondents who increase their spending as price increases.

The Respondents’ Price Elasticity of Demand upon the Implementation of the Sin Tax Law

A telling indication discloses that one of the very reasons of implementing the Sin Tax law is to discourage the buying public from patronizing and later on quit from consuming sin goods especially smoking.

In order to come up a comprehensive analysis as to how quantity demanded is affected by the increase of price, the Price Elasticity of Demand is applied where it measures the responsiveness of the percentage of quantity demanded to the percentage change in price.

The price elasticity of demand may be classified as elastic, inelastic, unit elastic, perfectly elastic or perfectly inelastic. This concept can be expressed as:

$$Ed = (\% \Delta \text{ in } Qd) / (\% \Delta \text{ in } P)$$

As presented in Figure 1, Fortune is the most preferred cigarette brand of the respondents. The same finding was revealed by the Philippine Global Adult Tobacco Survey (GATS) in the year 2009. And for the purposes in looking into the demand elasticity, the data gathered of the said brand then is used in analyzing the effect of the increase in price.

TABLE V: THE NUMBER OF STICKS OF FORTUNE CONSUMED UPON THE INCREASE OF PRICE:

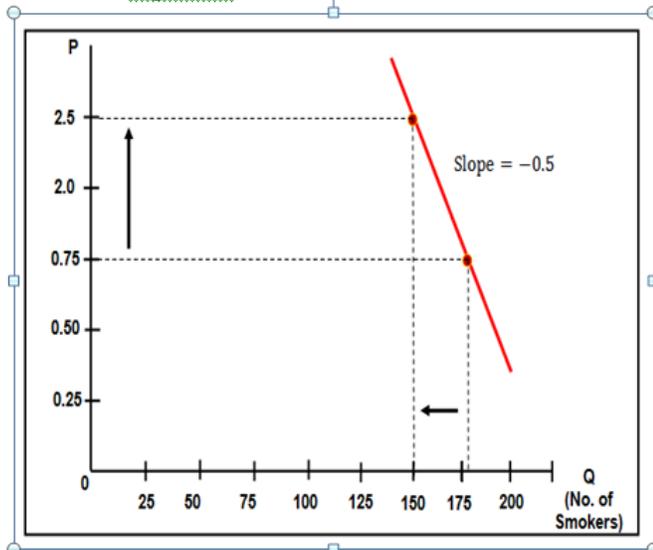
Fortune			
Number of sticks	Before	After	% change
	0.75	2.5	
0	0	17	
1- 5 sticks	3	40	
6-10 sticks	48	80	
Sub-total	51	137	169
11-15 sticks	106	8	
16-20 sticks	16	5	
21-25 sticks	3	0	
Sub-total	125	13	-89.6
Total	176	150	

As presented in Table 5, the price of fortune is 0.75 per stick before the implementation of the law and as of October 2015, the retail selling price per stick of the same cigarette brand increase to Php2.50. Because of the increase in price, the number of sticks from zero (0) consumption to 10 sticks of fortune has 169 percentage change in the number of smokers. Comparing the data, from 11-25 sticks of fortune resulted to -89.6 percentage change in the number of smokers. Data imply that as the price increases the consumers did not all quit from smoking rather they merely reduced the number of sticks consumed, ceteris paribus.

The figures implies that 0-10 sticks of fortune consumed is directly proportional to price but from 11- 25 sticks of fortune consumed is inversely proportional to price.

Figure 3 shows a graphical presentation of the demand curve for Fortune Cigarette:

Figure 3. Demand Curve for Fortune



In relation to the data presented, there is a difference of 26 on the number of smokers who are consuming fortune from 176 (before) dropped to 150 (upon the implementation). Below is table 10 that shows the distribution of where these smokers went into as the price increases:

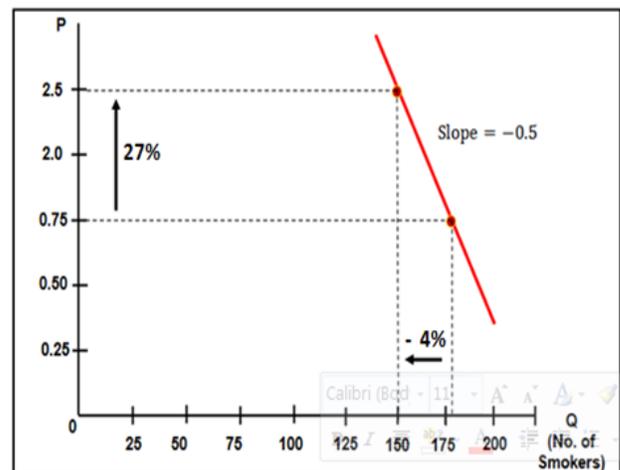
TABLE VI: THE DISTRIBUTION OF FORTUNE SMOKERS ON THEIR CHOICE OF SUBSTITUTE (N= 26).

Number of sticks	Jackpot	Maxx	Lumboy	No Substitute
0	0	4	2	9
1- 5 sticks	4	0	0	0
6-10 sticks	6	0	0	0
11-15 sticks	0	0	0	0
16-20 sticks	1	0	0	0
Sub-total	11	4	2	9
Grand Total	26			

The table speaks only of the fortune smokers before who shift to other goods like to jackpot which said to be a cheaper cigarette brand; others consumed maxx (candy) and use “lumboy” leaf and others no substitute at all. No substitute refers to fortune smokers before who did not use or consume anything in lieu with the cigarette product. This further implies that there are smokers who adjusted their consumption pattern in terms of product brand and shift to cheaper goods like jackpot (11), while others quit consuming manufactured cigarette they consume maxx (4) and “lumboy” leaf (2) which is free from the area since there are trees available in the place and others under no substitute (9) simply decided to quit from smoking.

Applying the Price Elasticity of Demand formula, the percentage change in quantity (number of fortune smokers) is -0.04 and the percentage change in price is 0.27 which results to coefficient elasticity of 0.15 (absolute value).

Figure 11. Price Elasticity of Demand for Fortune



The elasticity coefficient is 0.15 (absolute value); this is an inelastic demand which means that the quantity demanded changes proportionately less than price changes.

Snow don (2012) argued that taxing goods which are price inelastic, especially those which are addictive, is far more likely to impoverish consumers than it turns them into abstainers. On the same study, he continually discussed that there is evidence that tobacco/ cigarette taxes are now so high and their

continuing increase will yield diminishing returns. Such levies are better seen as stealth taxes than sin taxes.

The Respondents' Cross Elasticity of Demand upon the Implementation of the Sin Tax Law

Aside from price elasticity, it is also important to determine what happens to demand for one good to changes in the price of another good. Cross Elasticity of Demand is defined as the percentage change in the quantity demanded of one good divided by the percentage change in the price of another good. This notion can be expressed as:

$$[E_c]^{\wedge} = (\% \Delta \text{ in Qd of one good}) / (\% \Delta \text{ in P of another good})$$

This concept is often used to determine whether two goods are substitutes or complements.

In the gathered data, there are respondents who change their cigarette brand to a cheaper brand like jackpot, maxx (candy) and "lumboy leaf" instead of using cigarette products. To determine whether jackpot, maxx and "lumboy" leaf are substitute or complement products of fortune, the cross elasticity of demand is used to measure the level of responsiveness.

As measured, the percentage change in quantity (number of smokers) of Jackpot is 0.5 and the percentage change in price of fortune is 0.27 which results to elasticity coefficient of 1.85. The theory of cross elasticity says that when coefficient is greater than zero then it is a substitute good. Therefore, jackpot is a substitute product of fortune.

In the case of Maxx (candy) and Fortune, the same formula is used. This result shows that the percentage change in quantity (number of smokers) of maxx is 0.5 and the percentage change in price of maxx is 0.27 which means that the coefficient elasticity is 1.85; still maxx is a substitute product of fortune cigarette.

Another is the "lumboy" leaf, one of the products being consumed by the respondents in lieu with the cigarette. To measure the responsiveness, the cross elasticity of demand formula is applied. This entails that the percentage change in quantity (number of smokers) of "lumboy" leaf is 0.5 and the percentage change in price of fortune is 0.27 which results to 1.85 elasticity coefficient which means that "lumboy" leaf is also a substitute good for fortune.

This further implies that cheaper cigarette brand like jackpot, maxx and "lumboy" leaf are substitute products of fortune cigarette.

Discussion

According to the results, the implementation of the increase of cigarette prices as mandated by the Sin Tax Reform Law 2012 in the urban location in the Philippines does not affect as to the cigarette brand patronized by the consumers for the reason that Fortune remains to be the most preferred cigarette brand. Philippine Global Adult Tobacco Survey (PGATS, 2009) likewise confirms this result. Hence, because of the increase of price there are those who have shifted to a cheaper brand like mighty, marvels and jackpot while other respondents (have decided to stop smoking and used candies and tobacco leaf as substitute and others totally quit smoking with no substitute. This finding is parallel to the argument made

by Sunley (2009) that higher excise taxes on tobacco will induce some smokers to quit, reduce consumption of continuing smokers and will prevent others from starting.

The results clearly show that there is a significant decrease of frequency of use per sticks and quantity bought and consumed per hour and per day. This further reveals that respondents continuously consumed cigarette despite the increase of price, *ceteris paribus*. The same finding was revealed by the National Youth Commission (NYC) along with other survey companies saying that the number of smokers' decreases consumption once cigarette prices increase. The increase of price greatly affects the quantity consumed of the smokers. The National Youth Commission, along with other survey companies released results predicting that the number of smokers' decreases consumption once cigarette prices increase. Sin Tax Law is considered as a tool that would discourage smoking (Lojo, 2013). In the same token, results show that accessibility of product outlets has a greater extent in influencing the quantity of cigarettes consumed by the respondents. This support the economic theory, when a price for a good goes up, more producers will be willing to supply it, but fewer purchasers will be willing to buy it. At the same time, when the price for a good goes down, more purchasers will buy it, but fewer purchasers will be willing to make it. Thus, the tax does both: the end price of the good ends up artificially high so that few people buy it, but the actual money which goes to the seller is held artificially low, so that fewer producers enter the market (Sin taxes, 2012). Siahpush et al. (2006) as cited in Bravin (2015) state that on the individual level, people with low socioeconomic status tend to have a lower awareness of the negative health effects of smoking. It is presented by Chao et al. (2015) that a "social policy to reduce social pressures to smoking and support interventions to enhance resilience to the pressure targeting the vulnerable population (in this study, women) would be a more effective strategy in combating the tobacco epidemic and closing the health gap. Additionally, the cigarette allocation and spending of the respondents is also affected in which there are consumers who reduce their cigarette spending as the price increase. However, there are also cigarette buyers who increase their spending as the price increases.

In order to come up with a comprehensive analysis as to how quantity demanded is affected by the increase of price, the Price and Cross Elasticity of Demand are applied where it measures the responsiveness of the percentage of quantity demanded to the percentage change in price. The figures shows that 0-10 sticks of fortune consumed is directly proportional to price but from 11- 25 sticks of fortune consumed is inversely proportional to price. Data imply that as the price increases the consumers did not all quit from smoking rather they merely reduced the number of sticks consumed, *ceteris paribus*. The Price Elasticity of Demand of is 0.15 (absolute value) which means that this is an elastic demand telling that the quantity demanded changes proportionately less than price changes. The Cross Elasticity of Demand are 1.85 (Jackpot), 1.85 (Maxx) and 1.85 (Blackberry leaf) which means that these items are substitute goods of Fortune cigarette brand.

Conclusions

Based on the results of the data gathered, the researcher therefore conclude that the move of the government to increase the price by virtue of Republic Act No. 10351 or the Sin Tax Law specifically on cigarette products affects the consumption patterns of the consumers in the urban location of Bayawan City. It is because of the changes (increase) of price that leads to a significant decrease of quantity consumed per day and frequency of use per hour. Aside from that, it is also because of this that brought to some consumer to quit from consuming cigarette and to shift to other cheaper and substitute goods.

II. RECOMMENDATIONS

As shown from the findings and conclusions, the following are hereby proposed: (1)The City Health Officer may initiate a dialogue with the Chief Executive Officer of locality to assess the implementation rate of success of Ordinance No. 31, Series of 2012. (2) The legislators and local government officials may sponsor an ordinance for the strict implementation of RA 9211 (Tobacco Regulation Act of 2003) and No Smoking Ordinance specifically on the penalties to be imposed for negligence of the task force to apprehend violators. (3) An additional tax or payment for the authority to sell cigarette to all retailers could be imposed in order that only accredited (who has authority to sell) retailers are permitted to sell cigarette and those who will be selling without the necessary authority may be penalized. (4) The legislators and the local government units can draw out plans and programs that will further regulate the public from consuming cigarette products such as *Stopping Smoking Program*, *“Kinabuhi Ampingan, Sigarilyo Undangon” Radio Program*, *“Dalagan sa maayong dalan...aron ang pagpanigarilyo malikayan” Fun Run and Smoke-Free Recognition Day*.

ACKNOWLEDGMENT

The researcher would like to express his appreciation and sincere gratitude to all the people who, in one way or another, have contributed to the completion of this study special mention to Dr. Ester V. Tan for sharing her expertise as consultant in the making of this study; To Dr. Craig Refugio, Dr. Ralph Cardeno, Dr. Albert Albina and Dr. Liza J. Caballero for sharing their expertise unselfishly in the conduct of this research as well as for giving their valuable suggestions for strengthening the direction of this study.

REFERENCES

- [1] Abbot, D., “Shadow Public Health Minister calls for fresh drive on reducing smoking with focus onpregnantwomen”, <http://www.dianeabbott.org.uk/news/press/news.aspx?p=102732>.
- [2] Azagba, S. & Sharaf, M., “Cigarette taxes and smoking participation: evidence from recent tax increases in Canada”, *International Journal of Research and Public Health*,8, 2011;p.1584;DeCicca, P.et.al, “Putting Out the Fires: Will Higher Taxes Reduce the Onset of Youth Smoking”, *Journal of Political Economy*, 110 (1), February 2002; pp.144-69. <https://doi.org/10.1086/324386>

- [3] Barendregt, M. A. et al., “ The health care costs of smoking”, *New England Journal of Medicine*, 337, 1997; pp.1052-57. <https://doi.org/10.1056/NEJM199710093371506>
- [4] Bravin, Julia I., Eduardo I. Bunge, Benjamin Evare, Robert E. Wickham, Eliseo J. Perez- Stable and Ricardo f. Munoz (2015). *Socio-economic Predictors of Smoking Cessation in a Worldwide Online Smoking Cessation Trial*. *Internet Interventions*, 2, 410-418... <https://doi.org/10.1016/j.invent.2015.10.001>
- [5] Chao, Dingding., Hideki Hashimoto and Naoki Kondo (2015). *Dynamic Impact of Social Stratification and Social Influence on Smoking Prevalence by gender: An agent- based Model*, *Social Science and Medicine*, 147, 280-287 <https://doi.org/10.1016/j.socscimed.2015.08.041>
- [6] Collins, D., & Lapsley, H., “ The costs of tobacco, alcohol and illicit drug abuse to Australian society in 2004/ 05”, *Commonwealth of Australia*, 2008 p. 11, p.64.
- [7] Cummings, J., “Obesity and Unhealthy Consumption: The Public- Policy Case for Placing a Federal Sin Tax on Sugary Beverages”, *Seattle University Law Review*, 34, 2010; p.281.
- [8] Gallus, Silvano., Raya Muttarak, Jose M. Martinez- Sanchez, Piergiorgio Zuccaro, Paolo Colombo and Carlo La Vecchia (2010). *Smoking Prevalence and Smoking Attributable Mortality in Italy*. *Preventive Medicine*, 52, 434-438. <https://doi.org/10.1016/j.ypmed.2011.03.011>
- [9] Gruber, J., “Smoking’s: Internalities”, *Regulation*, Winter 2002-2003; pp.52-57.
- [10] Ibid., see also Sylvain, S., “The effects of excise tax on cigarette consumption: a divergence in the behavior of youth and adults”, *Michigan Journal of Business*, 1 (2), 2008,pp.87-109.
- [11] Lojo, M. (2013). In review: *Sin Tax law*. Retrieved October 10, 2014 from <http://thelasallian.com/2013/01/10/in-review-sin-tax-law/>.
- [12] Nash, R., & Featherstone, H., “Cough up: Balancing tobacco income and costs to society”, *Policy Exchange*, March 2010; p. 16.
- [13] O’Donoghue, T., & Rabin, M., “Optimal Sin taxes”, *Journal of Public Economics*, 90 (10-11), Nov.2008; pp.1825-49. <https://doi.org/10.1016/j.ypmed.2011.03.011>
- [14] Rampell, C., “For cash-strapped states, sin is sure lucrative”, *New York Times*, 17 April 2010.
- [15] Sloan, F. et al, *The Price of Smoking*, The MIT Press, 2004; p.75- 76
- [16] Snowdown, Christopher., “The Wages of Sin Taxes”, *Adam Smith Institute*, 2012.
- [17] Tramacere, Irene., Silvano Gallus, Piergiorgio Zuccaro, Raolo Colombo, Silvia Rossi, Paolo Boffetta and Carlo La Vecchia (2009). *Socio-Demographic Variation in Smoking Habits*. *Preventive Medicine*, 48, 213-217. <https://doi.org/10.1016/j.ypmed.2008.12.014>



CHRISTOPHER U. BANTOG was born in Tondo, Manila on March 29, 1991. He graduated his Master in Business Administration (MBA) from Negros Oriental State University Main Campus 1, Dumaguete City and earned his Bachelor of Science in Business Administration major in Management (BSBA) from Negros Oriental State University Bayawan-Sta. Catalina Campus.

Mr. Bantog is a licensed Real Estate Broker, a licensed Real Estate Appraiser, a Licensed Professional Teacher in the Philippines. He is currently connected at Bayawan National High School, Schools Division of Bayawan City as Master Teacher II, teaching business and management courses.