

Understanding the Consumer Behavior of Smokers Through Microeconomics Theory in Islamic Perspective

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Abstract: *Smoking in microeconomics included in the Theory of Consumer Behavior. This theory discusses how the consumers allocate income between different heads and how they decide how much to consume now and how much to save for future. In turn, it bears implications for macroeconomic policies. Further, many literatures explain that smoking has a negative impact in health, norms and ethics, and economic side. In Islamic economics, the law of smoking is not explicitly and expressly mentioned by the Qur'an and Sunnah. The jurists seek its solution through ijihad. However, mostly studies which discussed about sharia issues corroborates that this activity is haraam and should be abandoned. No many studies focused on the Islamic macro-microeconomics side. Hence, in order to explain the cigarettes, smokers, and smoking activity in Islamic economics side in the future, this paper try to discuss about the smokers behavior in the microeconomics theory. Understanding the consumer behavior of smokers is difficult. But, referring to the theory of consumer behavior, smoking activity can be justified because the consumer is believed rational if they fulfill the all of axioms of preferences. The smokers behavior will try to be understood in three steps: consumer preferences, budget constraints, and consumer choices.*

Keywords: *Consumer Behavior, Smoking, Smokers, Cigarette, Microeconomics Theory*

JEL Classification: *D01, D10, D11, D12, D14*

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INTRODUCTION

The cigarette industries have provided a huge economic and social benefits for Indonesia. These industries contributed revenue for the state as well as being an economic support for some farmers. However, on the other hand, smoking is a behavior that is considered to have a negative impact on the various viewpoints. In terms of health, smoking can be harmful to health (*dllarar*) because it increases the risks potency for serious diseases such as heart disease, lung cancer, and various other health problems. In terms of the norms and ethics, smoking behavior is regarded as less ethical behavior, especially if done by certain social groups such as children and women. Furthermore, from an economic standpoint, the expenditure used to buy cigarettes tend to be large so it is a form of wasteful spending (*israf*) and a *tabdzir* activity.

Ministry of Health of Republic of Indonesia (Kemenkes, 2015) explicitly states, in addition to causing healthcare costs, it also raises the burden of social, economic, and environment, not only for active smokers, but also others. The passive smokers, especially infants and children, need to be protected their rights from impact due to exposure of cigarette smoke. Many poor families are powerless to against the smoking addiction and divert the budget of food for family as well as school fees and education of children to buy cigarettes. Smoking expenditure for the poorest households is higher than the other important expenditures, such as education, health, egg, milk, and meat. Spending on cigarettes 5 times more than the expenditure for eggs and milk, 6.5 times greater than the education expenditures, 6.5 times greater than the healthcare expenditures, and 9 times greater than spending on meat. Then, coupled with burden for the family of smoker and governments to bear the cost of illness due to tobacco-related disease and loss of productivity and livelihoods of families because of early death. As Eriksen, Mackay, Schluger, Gomeshtapeh & Drope (2015) claim that the tobacco industry has invested billions of dollars marketing new products to new people in new markets, often purporting that their sole goal is to reduce harm to their customers. However, their real aim is simply to sell more products and create more addiction, with little concern for who or what is harmed.

In current microeconomics, according to the theory of consumer behavior, smoking behaviour is not a problem due to meet the assumptions of economic rationality about preferences axioms. The theory of consumer behavior departs from four basic assumptions, namely completeness, transitivity, continuity, and the more the better.¹ The satisfaction of smoker can be explained and received by using cardinal and ordinal approaches. The curve of satisfaction of smoker can be explained also by the indifference curve where the smokers may change the combination of selections to reach the satisfaction at the same level despite limited by budget line. By the fulfillment of these assumptions of economic rationality, the smoker will have the behavior to maximize always their satisfaction with a limited budget. Finally, the behavior of smokers in the conventional microeconomics can be accepted because their responses in accordance with the requirements that must be met to consumer satisfaction, i.e must be on budget line or have to provide a combination of goods and services that are most preferred by consumers.

¹ See Pindyck & Rubinfeld (2009), Nicholson (2008), Semaoen & Kiptiyah (2013), Al Arif & Amalia (2014), Karim (2007).

LITERATURE STUDY

History and The Dangers of Smoking

Historically, Indian tribes recorded as the first user of tobacco leaves as an ingredient of suction which in some time later known as cigarette. Indian tribes smoked cigarettes for ritual purposes and treatment practices. Until the end of the 15th century, Asri (2012), Yulianti (2011), Sjahrir (2011) explain that no one else knew the tobacco plants, except Native Americans. Archaeological excavations have shown that 4,000 years ago, Indian tribes in North America have been using tobacco. In the 16th century, when the Europeans discovered the American continent, some of the European explorers also smoked and then brought tobacco to Europe as encumbrances. The Spaniards and Portuguese who brought tobacco leaves and seeds to Europe and then the Europeans also began planting the tobacco. Since that time, the habit of smoking began to appear among the European nobility. In contrast to the Indians who smoked for ritual purposes and medical practices, the people who smoke in Europe just for fun. When the traders from Spain came to Turkey in the 17th century, it was the moment for smoking as habit in Islamic countries. In that century, tobacco was sucked through the pipeline and chewed for the purpose of treatment. At the end of the 17th century, cigarettes had manufactured in the United Kingdom (UK) and increasingly popular in mainland of Europe. Eventually, smoking became a lifestyle. This habit originally owned only by men, but since 1920 women also smoked. If smoking in the early is confined to the rich, later this habit became a prevalent in all walks of life.

Referring to the Arta (2014), Kusuma, Yuwono & Wulan (2012), Siddiq (2009), Sjahrir (2009), Sitepoe (2000), cigarettes have diverse types and can be classified into several aspects. Study of Ministry of Health (Kemenkes, 2016, 2015), Adiputra (2015), Nururrahmah (2014), Asri (2012), Chotidjah (2012), Rahmadini (2010), Tirtosastro & Murdiyati (2010), Jaya (2009), Sjahrir (2009), Fauci et al. (2008), Karyadi (2003), Susanna, Hartono & Fauzan (2003), Naidoo (2002), Doll (2000), Hecht (1999) asserts that smoking is harmful to health. Cigarettes contain more than 4,000 chemicals, the chemical content of tobacco which has been identified as 2,500 components, while the cigarette smoke has 4,800 kinds of components. These substances are added so that the body can tolerate the amount of toxins contained in cigarettes. Smokers who have been addicted tend to view it as something that can be calm. Many studies indicate that smoking behavior could interfere with the throat and respiratory tract, and is sometimes associated with loss of appetite, nausea, shortness of breath, and irregular heartbeat. Smoking has the potential to cause coronary heart disease, coronary thrombosis, chronic respiratory tract, and often leads to death, including death of the fetus. Smokers big chance of getting cancer of the lungs, throat, tongue, and have abnormalities in the soft tissues of the mouth. In addition, smokers may also be affected by emphysema and bronchitis. Several studies have shown that lung cancer risk was 7.8 times greater to smokers than nonsmokers. Fertility in active and passive woman smokers may have risk for a delay in the ability of pregnant. For men, smoking also increases the risk of impotence by 50%. These data prove that using of tobacco will influence the degree of reproductive health so as affecting the quality of the future generations. In addition to the impact on health, smoking also causes facial wrinkles, stained teeth, smell breath, poor environment and can be a bad example for children and become a gateway to use illegal drugs. Not only that, smoking can also create the human characters become more selfish for smoking in public place and harming the health of others.

Next, the view that the electric cigarette as a smoking alternative that is safer than cigarettes generally, it can be denied. Study of Tanuwihardja & Susanto (2012) explains

that initially the electric cigarette marketed as a safe alternative to tobacco smoking substitute. Some results of analytic studies indicate a number of e-cigarettes containing nicotine consumption is lower, polycyclic aromatic hydrocarbons, and no tobacco. However, in 2009, the Food and Drug Association (FDA) was sponsoring the research to evaluate e-cigarettes and found that these types of cigarettes still contain tobacco specific nitrosamines are known to be toxic and carcinogenic. Recent studies comparing several electric cigarette to significantly increase the plasma levels of carbon monoxide and pulse rate of the user. That is, the available data indicate that e-cigarettes have not been proven as a safe alternative and further studies to evaluate the health effects of e-cigarettes in the long-term use.

Smoking in Islamic Perspective

In Islam, the law of smoking is not explicitly and expressly mentioned by the Qur'an and Sunnah/Hadith. Therefore, the jurists seek its solution through *ijtihad*. Decision of *Ulama Ijtima'* by The Fatwa Committee of the Council of Indonesian *Ulama* (MUI) III in 2009 agreed to the difference of views on the law of smoking, which is between *makruh* and *haraam*. *Ijtima'* of *ulama* is also decided that smoking is *haraam* if it is done in a public place or committed by children or pregnant women.

Referring to the MUI's fatwa, the basis for establishing the law of smoking is based on the QS. Al-A'raf [7]: 157,

الَّذِينَ يَتَّبِعُونَ الرَّسُولَ النَّبِيَّ الْأُمِّيَّ الَّذِي يَجِدُونَهُ مَكْتُوبًا عِنْدَهُمْ فِي
التَّورَةِ وَالْإِنْجِيلِ يَأْمُرُهُمْ بِالْمَعْرُوفِ وَيَنْهَاهُمْ عَنِ الْمُنْكَرِ وَيُحِلُّ لَهُمُ
الطَّيِّبَاتِ وَيُحَرِّمُ عَلَيْهِمُ الْخَبَائِثَ وَيَضَعُ عَنْهُمْ إِصْرَهُمْ وَالْأَغْلَالَ الَّتِي
كَانَتْ عَلَيْهِمْ فَالَّذِينَ آمَنُوا بِهِ وَعَزَّرُوهُ وَنَصَرُوهُ وَاتَّبَعُوا النُّورَ الَّذِي
أُنزِلَ مَعَهُ ۗ أُولَٰئِكَ هُمُ الْمُفْلِحُونَ ﴿١٥٧﴾

"Those who follow the Messenger, the unlettered prophet, whom they find written in what they have of the Torah and the Gospel, who enjoins upon them what is right and forbids them what is wrong and makes lawful for them the good things and prohibits for them the evil and relieves them of their burden and the shackles which were upon them. So they who have believed in him, honored him, supported him and followed the light which was sent down with him - it is those who will be the successful."

Then is QS. Al-Isra' [17]: 26-27,

وَأَاتِ ذَا الْقُرْبَىٰ حَقَّهُ وَالْمِسْكِينَ وَابْنَ السَّبِيلِ وَلَا تَبْذِرْ تَبْذِيرًا ﴿٢٦﴾
إِنَّ الْمُبْذِرِينَ كَانُوا إِخْوَانَ الشَّيْطَانِ ۗ وَكَانَ الشَّيْطَانُ لِرَبِّهِ كَفُورًا ﴿٢٧﴾

"And give the relative his right, and [also] the poor and the traveler, and do not spend wastefully. Indeed, the wasteful are brothers of the devils, and ever has Satan been to his Lord ungrateful."

Another verse in the Qur'an which became a basis that cigarettes bring damage is QS. Al Baqarah [2]: 195,

وَأَنْفِقُوا فِي سَبِيلِ اللَّهِ وَلَا تُلْقُوا بِأَيْدِيكُمْ إِلَى التَّهْلُكَةِ وَأَحْسِنُوا إِنَّ اللَّهَ يُحِبُّ الْمُحْسِنِينَ

"And spend in the way of Allah and do not throw [yourselves] with your [own] hands into destruction [by refraining]. And do good; indeed, Allah loves the doers of good".

Referring to the Hadith, the Prophet Muhammad SAW said, "There should not start giving bad impact (harm) to others, as well as him." (HR. Ibn Majah, Ad Daruquthni, Al Baihaqi and Al Hakim). From Abu Hurairah ra, that the Prophet SAW said: "Among the good of Islam a person is he leaving things that are not useful." (HR. Imam At-Tirmidhi, he said 'hasan'). From Abu Shirmah ra, that the Prophet SAW said: "Whoever do damage (mudharat) to the other a Muslim, Allah will do damage for them. Whoever complicate others, God will make it difficult for that person." (HR. Abu Dawud and At-Tirmidhi, he said 'hasan').

In jurisprudence, there are rules that used the scholars *mujtahid* (expert *ijtihad*) to help conclude and decide a law, both for the decision haram or halal some object or action. In determining the prohibition of smoking laws, there are some rules that strengthen. Rule jurisprudence used in astral conjunction *Ulama* MUI Fatwa Commission are: **First**, something or the means that led to the prohibition, it is haraam. **Second**, the cause must be eliminated mudlarat. **Third**, the determination of the law depends on the presence or absence of 'illat. Next, *ijtima'* of 'ulama MUI is also strengthened by the delegation explanation cleric from Egypt, Jordan, Yemen, and Syria that the smoking law in these countries is forbidden.

RESEARCH METHOD

According to Zarqa (2003, 1987), no clear research methodology in Islamic economics has been adopted so far. Research in the *fiqh* component of Islamic economics follows a methodology that derives from the *ushul fiqh* and from the purpose of shari'ah. Research in the economic-analysis component, on the other hand, has been developed in the West and seeks to draw upon an inductive method. Addas (2008) mentions that organized knowledge, including that of economics, is usually called 'science' and is built for achieving its objectives on some perception of rationality. The issues concerning science are epistemic and what is called the methodology of the subject e.g. economics deals with them. Methodology is the theory of theories: in the field of economics it refers to the process economists use to authenticate the knowledge about economic phenomena.

Thus, this paper is a conceptual study. Through library research approach with descriptive qualitative analysis, this paper endeavors to discuss about the smokers behavior in the frame of microeconomics theory in order to explain the cigarettes, smokers, and smoking activity in Islamic economics side in the future. Understanding the consumer behavior of smokers is difficult. But, referring to the conventional microeconomics theory of consumer behavior, smoking activity can be justified because the consumer is believed rational if they fulfill the axioms of preferences. The smokers behavior in this paper will try to be understood in three steps: consumer preferences, budget constraints, and consumer choices. Some equations and graphics will be developed also in this paper.

RESULT AND DISCUSSION

Theory of Consumer Behavior

Hence, in order to explain the cigarettes, smokers, and smoking activity in Islamic economics side in the future, this paper try to discuss about the smokers behavior in the frame of conventional microeconomics theory. According to Pindyck & Rubinfeld (2009), Nicholson (2008), the theory of consumer behavior begins with three basic assumption about peoples' preferences for one market basket² versus another. The assumption hold for most people in most situation. **First**, completeness. Preferences of smokers are assumed to be complete. By ignoring costs, smokers will be equally satisfied with either cigarettes. If cigarette A and B are any two situations, the smoker can always specify exactly one of the following three possibilities: 'A is preferred to B', 'B is preferred to A' or 'A and B are equally attractive'. Consequently, people are assumed not to be paralyzed by indecision. They completely understand and can always make up their minds about the desirability of any two alternatives. **Second**, transitivity. It means that if a consumer prefers cigarette A to cigarette B and cigarette B to cigarette C, then the consumer also prefers A to C. It is normally regarded as necessary for consumer consistency. In other hand, the individual's choices are internally consistent. **Third**, more is better than less. Cigarettes are assumed to be desirable. Consequently, smokers always prefer more of any good to less. Overall, these three assumptions form the basis of consumer theory. They do not explain consumer preferences, but they do impose a degree of rationality and reasonableness of them.

Further, the consumer behavior is best understood in three steps. **First**, consumer preferences to find a practical way to describe the reasons people might prefer one good to another. **Second**, budget constraints because consumer also consider prices. In the fact, consumer have limited incomes which restrict the quantities of goods they can buy. **Third**, consumer choices. Given their preferences and limited in comes, consumers choose to buy combinations of goods that maximize their satisfaction. These combinantion will depend on the prices of various goods.

Smoker Preferences

Given the assumptions of consumer behavior, it is possible to show that people are able to rank in order all possible situations from least desirable to most. Economists call this ranking utility. In this context, if cigarette A is preferred to cigarette B, then the utility assigned to cigarette A exceeds the utility assigned to cigarette B. If cigarette A is preferred to other thing B, then the utility assigned to A exceeds the utility assigned to other thing B.

$$U(A) > U(B) \dots\dots\dots (1)$$

Because utility measures are not unique, it makes no sense to consider how much more utility is gained from A than from B. It is also impossible to compare utilities between smokers. Then, by assuming that an individual must choose among consumption goods X_1, X_2, \dots, X_n , the individual's rankings can be shown by a utility function of the form:

$$\text{Utility} = U (X_1, X_2, \dots, X_n) \dots\dots\dots (2)$$

² Market basket is the term to refer to such a group of items. Specifically, market basket is a list with spesific quantities of one or more commodities and might contain the various item.

X_1, X_2, \dots, X_n are the quantities of each of n goods that might be consumed in a period. Figure 1 shows the indifference curve which drawn on the assumption of a diminishing marginal rate of substitution. A smokers's preferences graphically with the uses of indifference curve by representing two cigarettes, X and Y , that provide a smoker with the same level of satisfaction.

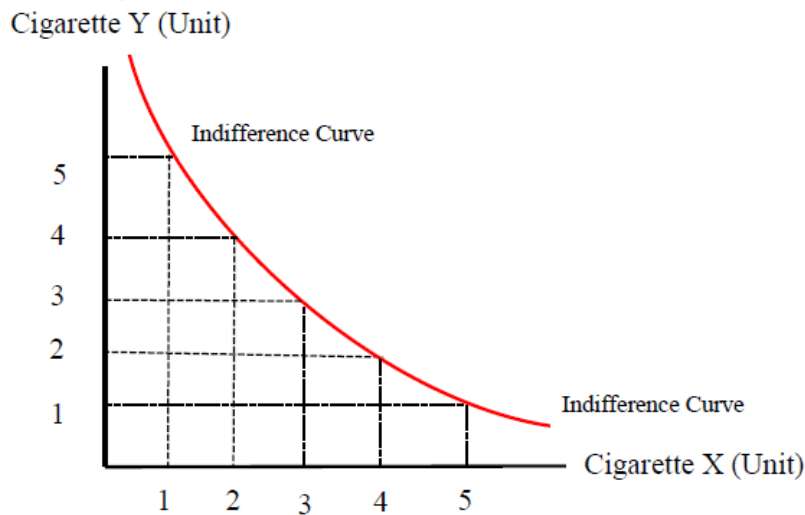


Figure 1
Utility Function between Cigarette X and Cigarette Y

If we ignore the different types or brands of cigarette and breaks into 'cigarettes' market basket, it can be illustrated in Figure 2.

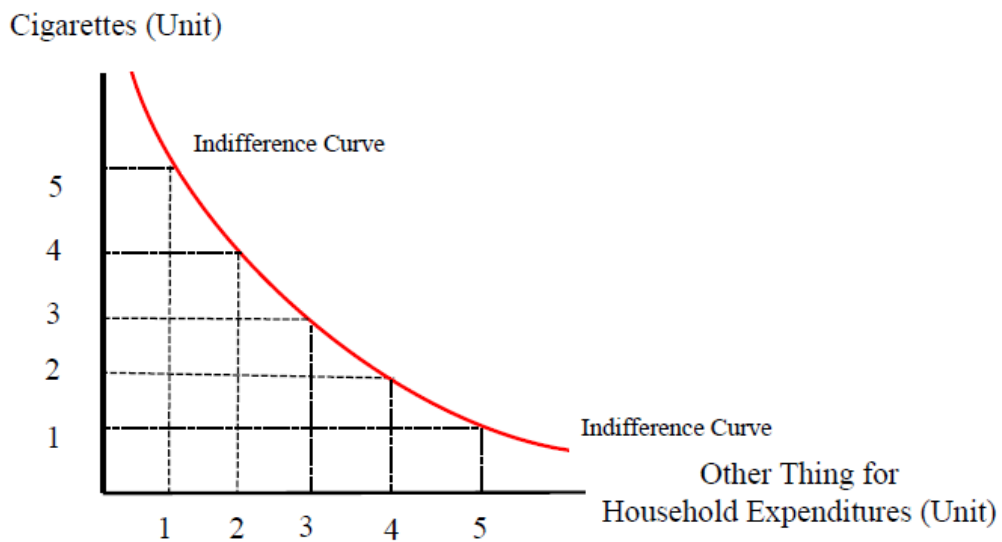


Figure 2
Utility Function between Cigarettes Expenditures and Other Thing for Household's Expenditures

If the utility of smoker receives from two goods, other thing for household's expenditures (X) and cigarettes (Y), is represented by $U(X,Y)$, the total differential of this function as:

$$dU = \frac{\partial U}{\partial x} \cdot dx + \frac{\partial U}{\partial y} \cdot dy \dots\dots\dots(3)$$

Budget Constraints

To see how a smoker face as a result of their limited incomes, there are two approaches, i.e (1) Budget Line, and (2) The Effects of Changes in Income and Prices. In **Budget Line**, to know how a budget constraints limits a smokers' choices, let's consider a situation in which smokers has a fixed amount of income (I) that can be spent on cigarette and other thing. We will denote the prices of the two goods, cigarette and other thing, P_C and P_{OT}. A fixed amount of income (I) will be illustrated in graphic by budget line. The budget line indicates all combination of cigarettes expenditures (CE) and other thing for household expenditures (OTHE) for which the total amount of money spent is equal to income. As a result, the combinations of CE and OTHE that smokers can buy will all lie on the line:

$$P_{CE} \cdot CE + P_{OTHE} \cdot OTHE = I \dots\dots\dots (4)$$

$$CE = I/P_{CE} - (P_{OTHE}/P_{CE}) \cdot OTHE \dots\dots\dots(5)$$

Figure 3 shows the budget line which describes the combination of cigarettes and other thing of household that can be purchased given the consumer's income and the prices of the cigarettes and other thing. The budget line (L), which passes through points A-B-C-D-E shows the budget associated with an income I, a price of other thing P_{OTHE}, and a price of cigarettes P_{CE}.

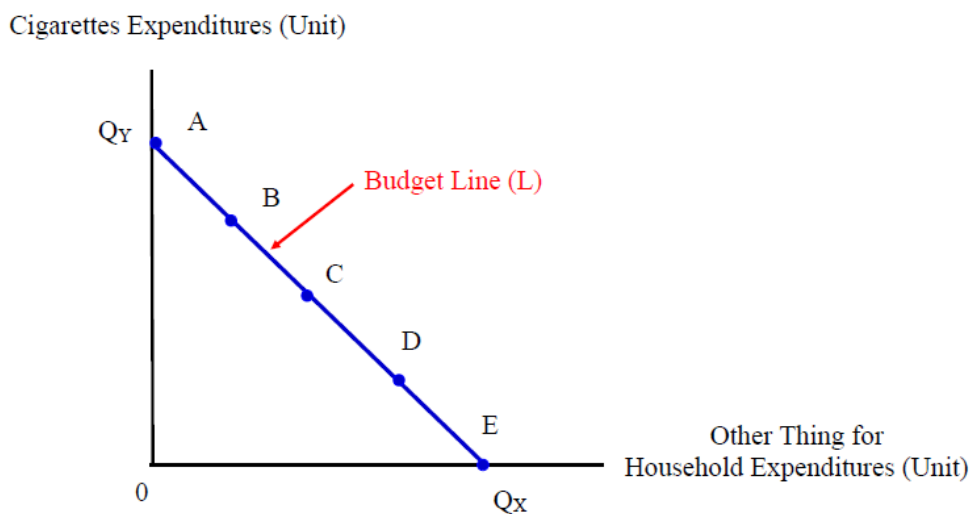


Figure 3
A Budget Line

In the **Effects of Changes in Income and Prices**, it is accomodating the change of price (P_{CE} and P_{OTHE}) and income. When the income changes and the price unchanges, Figure 4 shows the budget line L₀ move to L₁ if the income is decreasing ΔI₀₋₁. Then, L₁ will move to L₂ if the income is increasing ΔI₁₋₂.

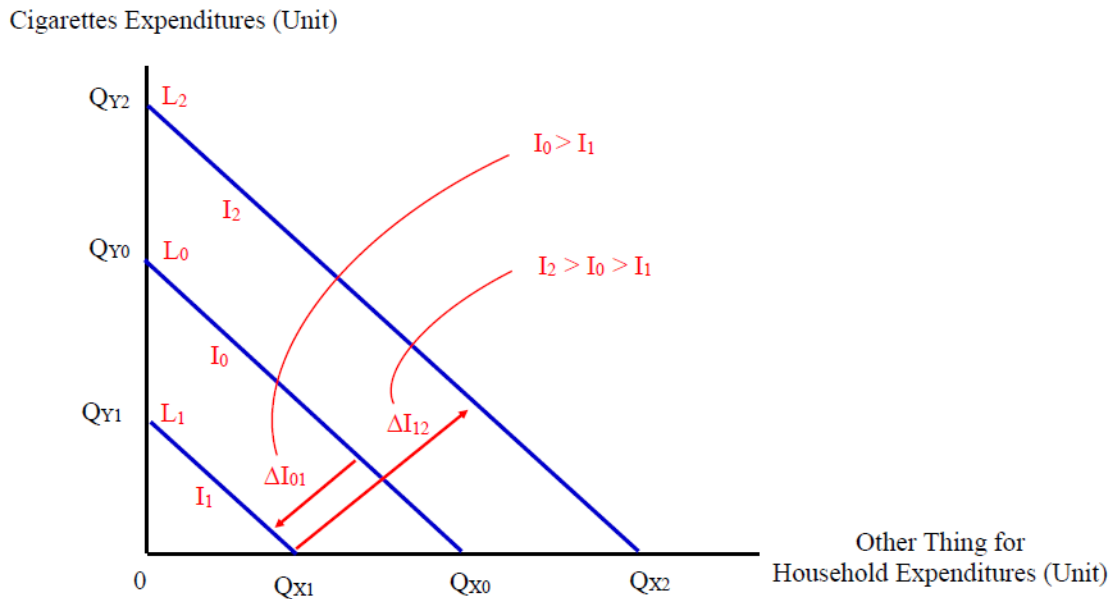


Figure 4
The Movement of Budget Line for The Change of Income

When the price changes and income unchanges, it will cause the budget line to rotate. As shown by Figure 5, when the P_{OTHE} falls from P_{OTHE}^0 to P_{OTHE}^1 , the budget line rotates outward from L_0 to L_1 . However, when the prices increases from P_{OTHE}^0 to P_{OTHE}^2 , the line rotates inward from L_0 to L_2 .

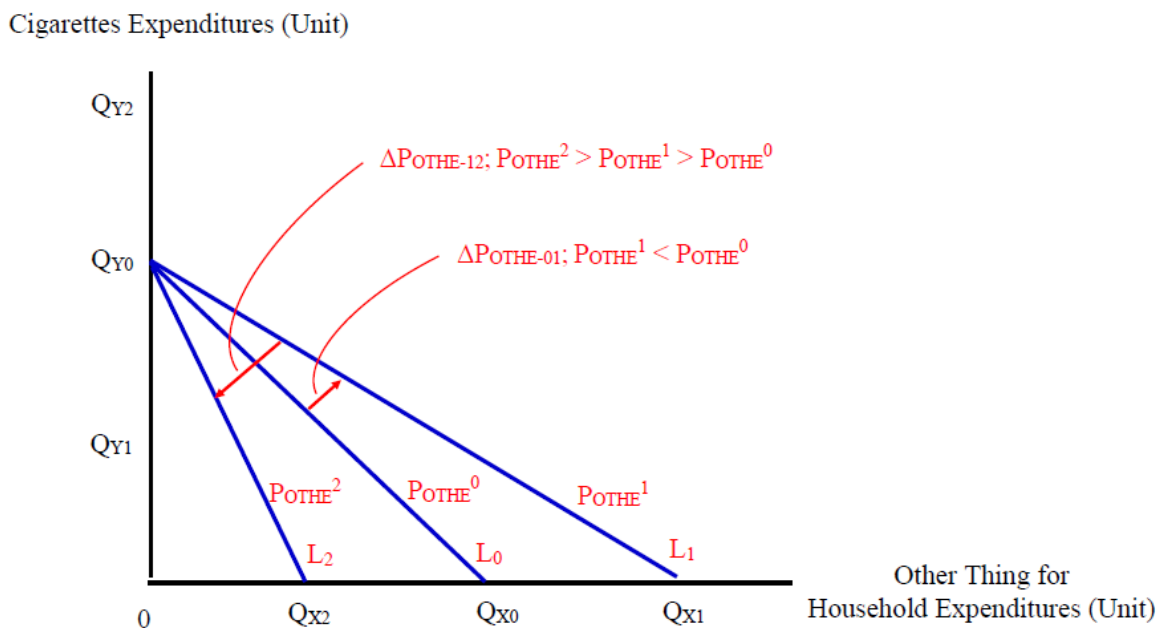


Figure 5
Effects of a Change in P_{OTHE} on the Budget Line

Then, as shown by Figure 6, when the P_{CE} changes and assuming the P_{OTHE} and income unchange, the budget line rotates outward from L_0 to L_1 when the P_{CE} falls from P_{CE}^0 to P_{CE}^1 . However, when the prices increases from P_{CE}^0 to P_{CE}^2 , the line rotates inward from L_0 to L_2 .

Cigarettes Expenditures (Unit)

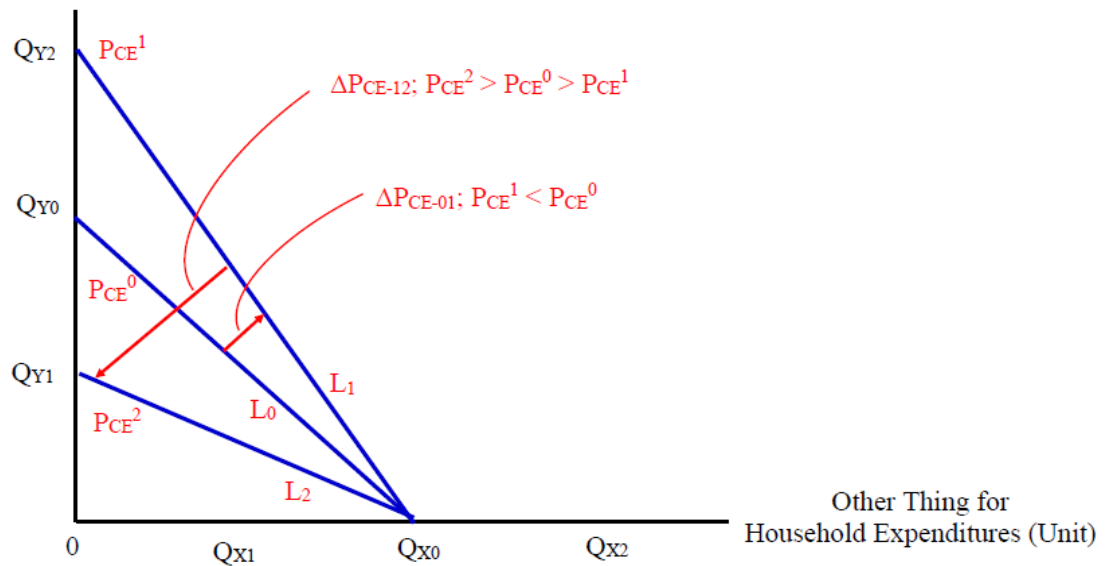


Figure 6
Effects of a Change in P_{CE} on the Budget Line

So, what happen if the prices of both cigarettes and other thing of household change? And how if the prices of both cigarettes and other thing of household and also the income double? It can happen in an inflationary economy because every prices have doubled. This paper will not discuss about it more detail.

Consumer Choices

Given preferences and budget constraints, be assumed that smokers make their choice in a rational way. They will choose cigarettes to maximize the satisfaction they can reach, given the limited budget available. The maximizing market basket must satisfy two conditions: (1) It must be located on the budget line and, (2) It must give the smoker the most preferred combination of cigarette and other thing of household expenditures. These two condition reduce the problem of maximizing smokers satisfaction.

In our two market basket, cigarettes and other thing of household, the solution can graphically illustrate. Figure 7 shows how the problem is solved. There are three indifference curves which describe a smoker's preference for cigarette and other thing household. The satisfaction of smoker in the outer curve is the greatest. In other hand, U_3 is greater than U_2 and U_1 , U_2 is greater than U_1 . Smokers maximize their satisfaction by choosing market basket A. At this point, the budget line and indifference curve U_2 can be reached. There is no higher level satisfaction. Market basket B on indifference curve U_1 is not the most preferred choice because redistribution of income in which more is spent on other thing of household and less on cigarettes may increase the smoker's satisfaction. In market basket C on indifference curve U_3 , smokers actually will have the highest satisfaction. Unfortunately, they cannot be bought with the available income. Consequently, market basket A maximizes the smokers's satisfaction.

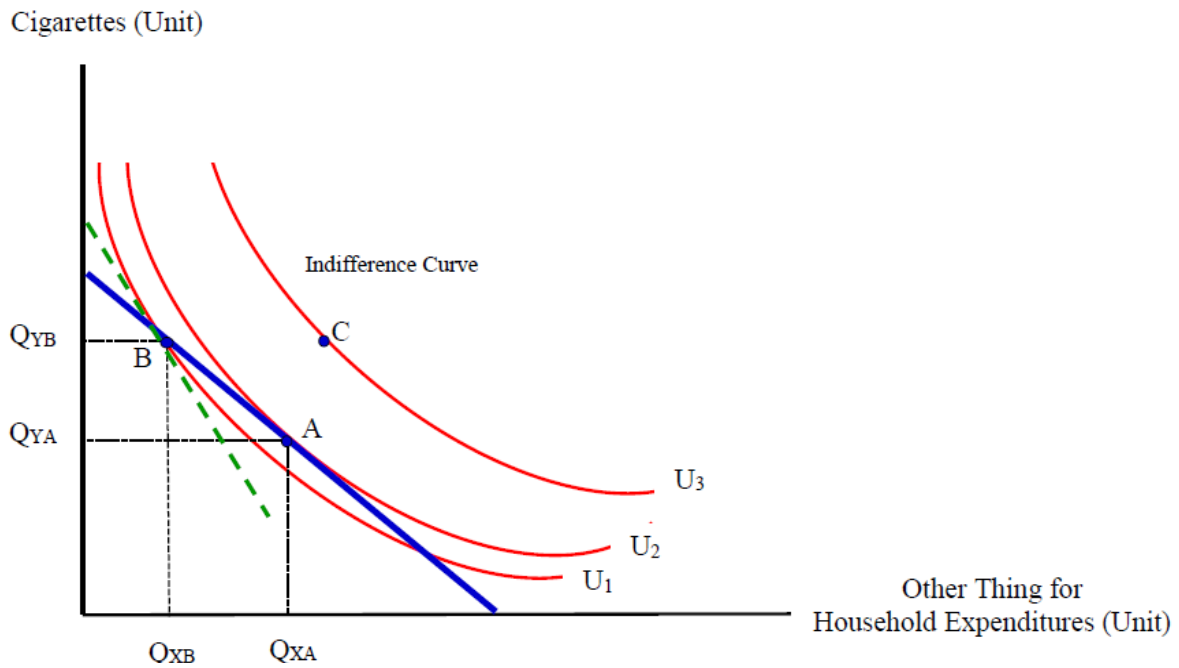


Figure 7
Maximizing Smoker Satisfaction

Finally, the basket which maximizes satisfaction must lie on the highest indifference curve that touches the budget line. In this frame of theory, smokers in rationally will choose the point of tangency between indifference curve and budget line. In addition, the slope of the budget line will exactly equal to the slope of the indifference curve.

The last but not the least, in Islamic perspective, the rationality of conventional microeconomic theory cannot be taken for granted. In Islam, Al Qur'an and As-Sunnah are the first and foremost sources of law, then followed by derivative legal sources that must be obeyed in developing a theory of science, including theory of consumer behavior. Because of that, in the Islamic economics, the process of research in the aspect of epistemology demanded the Al Qur'an and As-Sunnah as the main references and the first in discovering the truth guide to develop a theory. Musari & Simanjuntak (2015) mention the true is actually relative, then the effort of the thought process to produce the correct knowledge is also different. Each way of thinking has what is referred to as criteria, variable, paradigm, and the source of knowledge.

CONCLUSION

Conventional microeconomics, and also Islamic microeconomic in the future, are constructed using a wide variety of mathematical techniques and graphics. The main goal of this paper is to introduce the most important models that economists use to explain the behavior of consumers, which the smokers as an object in this paper. These models are central to understand the smokers behavior. Therefore, it is essential to develop such models through the basic framework from the complexities of the real world of smokers through rather simple models that capture the behavior.

Absolutely, understanding the consumer behavior of smokers is difficult. Even though they know the consequences that endanger their own health and also the others, they persist to continue smoking. It is important to learn because smokers generally are male and become the backbone of the family which should be able to meet the needs of households with a limited budget. According to the conventional microeconomic theory

of consumer behavior, smoking activity can be justified because the consumer is believed rational if they fulfill the axioms of preferences. Economist may understand the smokers behavior in three steps: consumer preferences, budget constraints, and consumer choices. However, in Islamic perspective, there are Al Qur'an and As-Sunnah as sources of knowledge which limits the freedom of the human mind in behaving and making decisions. The rationality of behavior that justified by economic theory can be defeated if it is contrary to Islamic law.

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