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# “Sin taxes”: Do they have the power to drive the intended economic behaviour?

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## Chapter 1 Introduction

### *BACKGROUND AND IMPORTANCE OF STUDY*

This research deals with the subject of "sin" taxes in the Republic of South Africa. "Sin" tax is a specific excise tax that is applied on products considered to be "sinful" such as tobacco and alcohol products (Philip, 1995:462). The purpose for this tax is to assist government in collecting enough revenue to promote public health policy (Budget Review 2002: 68). It is argued that indulging in such "sinful" products causes a host of social ills which the government has to directly grapple with such as road accidents, health issues and so forth. These problems tend to exert financial strain on the government, hence, the need to tax such products to raise revenue to finance the anticipated arising negative externalities and also attempt to contain the spread of the problem (consuming such products) in our society.

The purpose of the study is to explore if the use of excise duties on alcohol does help reduce the level of alcohol drinking and assist consumers in acting responsibly towards the use of alcohol. The study also intends to establish if the government is able to generate a lot of income from beer taxes. This is the primary purpose for imposing "sin" taxes.

Excise taxes on alcohol have been increasing since 2000 as indicated in table 3 in the annexure. The tax rate has been increasing by an average of 8.5% annually. The excise has been successful in boosting revenue for the state. What we are not sure of is if the tax has been able to reduce or discourage the behaviour of consumers towards drinking.
The research, therefore, primarily aims to validate if excise tax on Malt beer is, indeed, working as it should and helping to discourage beer drinking in general.

The analysis and assessment of the research data will help in describing broadly the picture of "sin" taxes in South Africa. The data will be used to describe the current trend of "sin" taxes, the size of the tax revenue collected from beer taxes, and its contribution to overall revenue and GDP in South Africa. The picture the study wants to draw is an understanding of whether beer is able to raise the required revenue for government and is also discouraging people from drinking. There is a need to discover if "sin" taxes are powerful enough to influence consumer behaviour.

The research will make recommendations around the effectiveness of using "sin" taxes as an instrument for influencing consumer behaviour. Also the study will look at whether this tool is having an impact on the target audience. Are there any significant declines in beer drinking year after year after increasing the excise beer tax rate?

## *PROBLEM STATEMENT*

"Is consumer taxation the correct solution to discourage alcohol drinking?"

Government wants to discourage the use of harmful products in society such as alcohol drinking (SARS, 2009:1). Alcohol drinking is associated with health "costs" which government has to eventually deal with. There is, therefore, a need for government to design excise duties because 'specific excise tax proposals contribute to the efficacy of public health policy by raising the taxes on tobacco products and alcoholic beverages' (Budget Review, 2002:68). The excise will help correctly price these products that cause these "costs". The assumption is that if beer gets expensive then people will be discouraged from buying. The actual tax rate has been increasing as shown in table 3. What is not quite clear is what has been the reaction of consumers to the increasing beer prices over the years. Has it helped to reduce drinking? Have beer taxes been successful in raising enough revenue to help finance government health initiatives as intended?

## *RESEARCH OBJECTIVES*

The purpose of the research is to establish the reasons for justifying "sin" taxes and to investigate if "sin" taxes have the power to achieve what they are intended for: raise considerable government revenue to pursue public health policy and to negatively influence consumer behaviour. Also we seek to understand if there is a causal relationship between "sin" tax and the consumption of alcohol in South Africa.

## *RESEARCH QUESTIONS*

The research seeks to address the following questions:

a) What are the reasons for justifying "sin" taxes in South Africa?
b) How much do "sin" taxes contribute to overall government revenue in South Africa?

c) Are “sin” taxes the correct tool to help discourage the use of alcohol in South Africa?

The first question will be answered by the literature review and also personal opinions expressed in the research interviews. The sources for the literature review are general economic theory and also government publications namely the Budget Review (2002). To obtain public opinion personal interviews will be conducted as part of the study. The second question will be answered from analysing economic data published by National Treasury (series of budget reviews) data on beer taxes collected over the stipulated time period (2000-2005). The third question is really the focus of the research. This is the question that performs the test if excise duties are a good and effective instrument is in discouraging the consumption of alcohol. To answer this question the study will make reference to national economic indicators provided by National Treasury data and also analyse data generated from personal interviews from tavern owners in Daveyton and selected individuals from Standard Bank and National Treasury. The questionnaire seeks to obtain personal opinions only.

## *SIGNIFICANCE OF THE STUDY*

The significance of the study it to discover if “sin” taxes policy is working as it should. Also it is to explore if it is worthwhile for the government to pursue the use of such a policy with the intention to discourage drinking. It is also important to understand if beer taxes are generating a significant income for government to help pursue health initiatives.

## *LIMITATIONS OF THE STUDY*

Taxation is a phenomenon that happens in the formal market only. This means that the research data is mostly limited to data collected from legally registered business entities. The research will not touch upon what is happening in the informal liquor market, which means that we are not going to investigate the consequences of excise taxes in promoting the informal market. If there is, for instance, a decline in consumption due to heavy excise taxes on malt beer we are not able to tell if that consumption has been shifted to the informal market or not.

Convenience sampling (Neuman, 2006:220) was used for the questionnaire. This means that this is a non-probability sample and the sample is not representative at all. The accuracy of

the data collected is reliant on the interviewees being honest in their responses. To mitigate this problem the questions being asked did not touch on sensitive issues so this should mitigate data distortions.

# Chapter 2 LITERATURE REVIEW

## *Introduction*

The literature review section will address a range of theoretical economic issues relating to taxation such as taxation policy and revenue, factors that impact on revenue, principles of taxation, methods of collecting tax revenue, and the objectives of taxes. The literature review will look at best practice and what it means to the issue at hand such as the characteristics required of a tax system in order for it to be able to raise enough and sustainable revenue. The ability to be able to raise revenue in a sustainable manner for any economic situation really hinges on whether the product is price elastic or price inelastic (John, 1994:71). Price elasticity is a very important economic concept and will be address later in the chapter.

## *Background on Excise Taxation Policy*

Taxation is an area of public finance that deals with revenue creation (Campbell & Stanley, 1990:6410). Excise duties form part of that process of raising revenue for government. Therefore the excise must be a good revenue raiser and be sustainable. Government creates and distributes goods and services to the public through a series of policies such as excise taxation policy. The policy would then be responsible for specifying which sources of revenue are going to be targeted and who is going to be affected in the process. Government would then make use of state institutions to implement these decisions such as SARS in South Africa. In this case of beer excise duties government wants to levy a price on beer items sold to make beer more expensive. The customs and excise duties Act 91 of 1964 lays down the foundation for implementing this kind of tax. The Act prescribes that the following products will be affected: fuels, tobacco, malt beer, sorghum beer, fortified wines, spirits, and ad valorem products. It is on this basis that “sin” taxes are formulated and levied in South Africa.

### *Defining Excise duties*

Taxation in general is a form of making compulsory payments to government (Philip, 1995:462). There are two forms of taxes, namely, direct and indirect taxes. Excise taxes are indirect taxes levied on specific goods and services (Philip, 1995:462) only. It is a form of taxing consumer expenditure (Smit and Dams et al, 1996:339). Excise duties are levied on a select list of goods and services usually on disfavoured product. Excise duties on alcohol and cigarettes are referred to as "sin taxes" (Philip, 1995:462). Campbell and Stanley (1990:189) describes excise duties as indirect business taxes because the firms involved in producing the products just treat excise duties as costs of production.

Some excise duties can be shifted to the consumer and some cannot. The ability to pass excise duties on to the consumer is dependent on the price elasticity of the product (Campbell & Stanley, 1990:123). If there is serious likelihood that the consumers might go for substitute goods and cause a market decline in sales then the seller is more than likely to bear all of the excise duty. Otherwise, the full excise is passed on to the consumer. This is the case with alcohol. All of the excise duty is passed to the consumer.

An excise has the capability to destroy the industry it applies to. However, if the state makes a calculated approach in using modest prices (as is the case in South Africa) there tends to be little effect on sales (Campbell and Stanley, 1990:123). This is the strategic approach the South African authorities have taken over the years as evidenced in the data in table 3 from budget review from National Treasury. The data indicate that as at 2005 the tax rate was 57 cents charged on a bottle of alcohol. Between 2000 and 2005 it has been increasing on average by 8.5%. At this rate the tax is hardly noticeable to the consumer. As a matter of fact most consumer taxes are hidden from the consumer which makes them very difficult to understand and the taxpayer is often not able to calculate it himself.

There are many categories of "sin" taxes in South Africa such as malt beer, sorghum beer, fortified wine, tobacco and so forth (Budget Review, 2002:82). Each of these taxes is for a specific purpose. For example, the primary reasons for excise on malt beer are to raise revenue to finance public health programs associated with drinking and, secondly, to try and discourage consumers from drinking.

The excise imposed tends to shift the price of beer up by the same amount. It is, therefore, hypothesised that an increase in the penalty (excise rate) will lead to a reduction in the consumption level even though this theory is heavily dependent on the price elasticity of the product in question. The above hypothesis leads us to define "sin" tax as a government instrument used to drive or influence consumer behaviour. This definition is partly informed by the law of demand which says that there is a direct negative relation between the price of a product and the quantity demanded (Smit, Dams, et al, 1996:176).

### *Revenue and Price Elasticity of Demand*

Taxation is about revenue generation for the government and so it is very important for us to understand what revenue is and how it is calculated. Revenue is defined as the total earnings received from level of sales of a product (John, 1994:202). It is derived as a function of price and quantity sold as follows (John, 1994:72):

***TR = Price X Quantity*, where TR = Total Revenue**.

It is important to take note that the same formula applies in calculating tax revenue received from excise duties since an excise duty is applied on a unit sold not on the total value of the product like VAT (Campbell & Stanley, 1990:440). We can see that there is a direct relationship between revenue and price and quantity. For example, if the quantity goes up so will revenue ceteris paribus. The same is true for the price ceteris paribus. It is this relationship that gets impacted when you introduce the concept of price elasticity of demand. This concept is a very important in economic theory.

Campbell and Stanley (1990) argue that the state pays a lot of attention on the elasticity of demand when selecting goods and services to levy an excise on. Since revenue is directly related to the price and quantity sold, so is the tax revenue collected. Therefore it stands to reason that if the excise were to cause a decline in quantity demanded, then the revenue generated would also decline. Hence, it makes sense for legislature to target products that are price inelastic when choosing what excise to levy such as liquor and cigarettes.

How does price elasticity affect revenue collected? John (1994:68) defines elasticity as a measure of responsiveness of quantity demanded to a change in the price of the good. Specifically this is a ratio (PE) that measures the size of the change in quantity demanded to

the size of the change that caused it (price). The resulting ratio can either be unitary (PE = 1) measuring a proportionate change to the determinant, or it can be less than 1 (PE < 1) measuring inelastic demand meaning as price changes there is a smaller change in quantity demanded or it can be greater than one (PE > 1) causing a larger change in quantity demand as the price changes (John, 1994:71). These are the three levels of elasticities: unitary, elastic and inelastic.

The concept of elasticity tells us that if the product is highly price elastic (PE > 1) then a small change in price will affect the quantity demanded by a huge amount. If the price goes up the quantity demanded will decline by a huge amount. Applying the revenue formula to this situation will result in reduced revenue received. The inverse also applies. This is significant knowledge because it implies that when legislature designs excise tax policy they have to bring elasticity into consideration. They have to target products that are price inelastic such as beer (Campbell & Stanley, 1990:440) because the increase in price will have a bigger effect on total revenue.

Some products will be highly price elastic and others will be highly price inelastic. Generally consumer products can be partitioned into these two economic categories. Products affected by "sin" taxes (alcohol and cigarettes) generally fall under price inelastic goods. This means that any change in the tax rate is expected to significantly bring in more revenue for the government. This implies that there will be no significant change in consumer behaviour and legislature expects this kind of consumer behaviour. Therefore we can say that "sin" tax is not about changing consumer behaviour but it is about raising money for government.

Why does price elasticity of demand vary from one good to another? The answer to this question lies in the determinants of elasticity. Price elasticity is highly influenced by availability of substitute goods, proportion of income spent on the good, and time period (John, 1994:71).

a) **Availability of Substitutes**

   This is a very important determinant. 'The more substitutes there are, the greater will be price elasticity of demand' (John, 1994:71). The elastic behaviour happens simply because people will be able to switch to other substitutes if the price rises and becomes very expensive. In the case of beer there are no many

close and good substitutes, hence, the price of the product become highly inelastic. The inelasticity in price becomes an opportunity for government to keep increasing the tax rate without destroying the industry completely and eliminating the revenue it receives from this product.

**b) The proportion of income spent on the good**

If the proportion of income spent on the good is small then people are not forced to cut consumption when its price rises. This would normally be the case with beer consumption. It is not expected that people will spent a significant portion of their income on alcohol, hence, the product become price inelastic. So if the price changes by a small portion as is the case currently (Table 3), then people are not forced to reconsider their consumption of alcohol. To force people to cut down on beer drinking the price shock would have to be too much for them to bear. For example, double the current price of the good. The data on table 3 indicate that as at 2005 the tax rate is 57 cents per item sold and is increasing at an average of 8 cents per year. 57 cents, for instance, does not constitute a big price difference that is too difficult for consumers to accept.

**c) The Time Period**

The price elasticity is also dependent on the time period people take to adjust to the price change to adjust their consumptions and seek other alternatives. If the period is long then the good becomes price elastic else it becomes inelastic. In the case of beer people adjust very easily because the tax rate is very small and increases marginally.

The determinants of price elasticity contribute very important economic knowledge to legislature. The legislature uses such knowledge when designing the tax policy (Campbell & Stanley, 1990:440). The availability of such knowledge leads us to believe that government is expecting no changes in consumption and the behaviour of consumers towards drinking. The “sinners” are being punished with the full knowledge that they are not likely to be discouraged from drinking.

It is, therefore, difficult to understand the full intent of the state when it comes to justifying “sin” taxes. It becomes unclear if government merely uses “sin’ taxes as a cow cash to generate revenue or whether government wants to discourage drinkers from consuming

alcohol? If the goal is merely to raise revenue without addressing behaviour then using "sin" taxes policy makes a lot of sense. However, if the goal includes addressing the behaviour of consumers then "sin" tax, as an instrument change consumer behaviour, cannot achieve the second goal. Targeting a price inelastic product is hardly the correct way to discourage its consumption. Making minute price changes does not help incentivise consumers to stop drinking.

Basing our decision on the concept of price inelasticity, which affects beer, "sin" tax cannot have the power to influence consumers to stop drinking or even at least influence them to make the right decisions because consumption is not solely dependent on the price. There are other factors that come into play such as elasticity of demand which is heavily influenced by availability of close substitutes to beer, the psychological ability of the consumers to make adjustments to price changes in a short space of time, and the fact that beer drinking does not constitute a large portion of their income expenditure. In addition this is a very addictive habit which leads to consumers being indifferent to any minor price changes.

### *Principles of Revenue Generation for Government*

As mentioned in economic theory (Philip) taxation is about the business of making people make payments to the government. Therefore, the taxation process needs to happen within a clearly defined environment. This means that there are patterns and practices that must be followed to promote the good use of the system such as benefit principle and ability-to-pay principle (Clark and Wilson, 1997:539). These patterns become the industry norm that must be followed. These two principles form the rules of a good tax framework.

The framework also must explain the techniques that must be used to implement the given rules. Currently the techniques for collecting tax revenue fall under two main categories, namely, direct and indirect taxes (John, 1994:373). Direct taxes are levied on either income or wealth. Indirect taxes are levied on goods and services. These form the main sources of income for government and are currently the favoured environment in which government operates to collect revenue.

Taxes are necessary and we need them in the economy. However, there seems to be little agreement over who should be paying taxes and how much each of us should be paying

(Clark and Wilson, 1997:539). To get around such issues we can structure the tax system by using these two basic principles mentioned above and then design policies around them.

### The Benefit Principle of Taxation

The key question to ask is: who should pay the tax? One way to decide who should pay the tax is to use the benefit principle of taxation (Clark and Wilson, 1997:539). This principle states that those who benefit the most from the tax spending should pay for the benefits they receive. For example, if drinkers benefit most from the health policy associated with drinking then the provision of such a policy should be financed by those who frequently utilize it. Hence, the state applies excise duty on malt beer products because they are directly involved in fixing the problems caused by drinking and only the people that drink are affected by the excise tax.

However, this principle does not always work out perfectly in all cases. Sometimes it is difficult to separate those who benefit against those who do not benefit from the good. For example, this principle does not work well in cases of public goods such as public health systems. Everyone is capable of benefiting from a public health system whether they drink or not. Since there is no easy way to easily identify drinkers and reserve such health services strictly for drinkers makes this principle flawed in a way. This then brings us to the second principle.

### The Ability-to-Pay Principle of Taxation

This concept prescribes that those who can best afford to pay should pay most of the taxes (Clark and Wilson, 1997:540). This concept talks to the issue of equitable distribution of income in society. This means that those who are wealthy should be targeted to pay more because they will not notice the few extra rands of income taken away from them. For the poor (less wealthy) every extra rand counts to them and has more value as opposed to the well-off. The significance of this point is that "sin" affect the poor more and as a result work against the principle of equitable distribution of income.

"Sin" taxes are mostly regressive in nature. A tax is said to be regressive 'if the amount of the tax as a percentage of income falls as income rises' (John, 1995:476). The less wealthy are obviously not able to pay as much tax as the rich folk in society. The fact that "sin" taxes tend to fall within the category of price inelastic products, which means that whether or not

you increase the price of the beer there is always little impact on the quantity demanded for the product, aggravates the situation for the poor. Therefore, this kind of excise tax will always impact mostly people from lower income because they will not alter much their consumption pattern.

"Sin" taxes do not follow the above principles of revenue generation for government. As a result the justification to create beer taxes becomes questionable to us as the public. It is viewed as some form of discrimination.

### *Techniques for Collecting Tax Revenue*

As explained earlier on that taxation is a way of making payments to government there have to be ways of transferring these payments. Specifying the techniques helps to create an accountable and transparent tax system that clearly states how government revenue will receive its revenue. Currently there are two major categories for implementing these payments: direct and indirect taxes (Philip, 1995:462). The composition of tax revenue is derived basically from these two broad categories. We will discuss the composition of these two major tax categories.

### Direct Taxes

'Direct taxes are levied on income or wealth of individuals and organisations such as companies' (Philip, 1995:462). They comprise personal income tax, company tax and estate tax. Personal income tax is levied on the taxable income of individuals. This form of tax forms the single largest source of revenue in South Africa (Philip, 1995:463).

### Indirect Taxes

'Indirect taxes are levied on goods and services and are usually paid by those who consume those goods and services' (Philip, 1995:462). They comprise VAT, custom duties and excise duties. Excise taxes are selective taxes which are levied on specific goods only. Excise taxes levied on tobacco and alcohol is referred to as "sin taxes" (Philip, 1995:462). Philip (1995) argues that "sin taxes" are regressive by nature. Indirect taxes are collected via a middle person. They are dependent on the consumers actually buying the beer products.

These forms of taxation are hidden from the consumer which makes them less transparent and difficult for the consumer to always know or calculate how much they are paying to the

government. This tends to interfere with consumer accountability in terms of making the correct consumer decisions regarding the products that are affected by these taxes. If you cannot quantify it then you cannot manage it. This is especially true for the tax on beer because it is actually embedded in the price of the product the consumer often is not aware of the tax. Besides the tax rate is so small it is almost unnoticeable. Therefore, it leads us to believe that "sin" tax may not be used effectively to drive the correct consumer behaviour.

### *Government Goals relating to taxes*

The intentions and objectives of government require financial resources and ability to carry them out. One of the ways to obtain government finance is through taxes. Smit and Dams et al (1996) inform us that 'taxes are the most important source of income for any government'. Taxes are levied for a variety of reasons such as financing government expenditure, stabilising the economy during inflationary conditions (Smit & Dams et al, 1996:336), driving the desired consumer behaviour and so on.

There are many forms of taxation such as personal income tax, property tax, and general consumer taxes (Smit & Dams et al, 1996:338). Each tax is meant for a specific reason and purpose. According to Smit and Dams et al (1996) the primary purpose of consumer taxation is to collect income for government. Excise duty is a type of consumer tax and has been a source of income for government for many years. According to SARS (2009) the primary function for this tax is to raise income for government and also influence the behaviour of consumers against harmful products. Let us discuss these reasons below.

**a) Raise Revenue for Government**

Taxes are fiscal by nature which means that they are collected in order to provide government with a sustainable source of income. Government needs to create and provide public goods and services which are financed via tax revenue. For example, the government needs to provide public goods such as national defence, sound legal system and law enforcement agents, education, infrastructure and public health programs. In the case of "sin" taxes the government needs to provide public health programmes that are associated with drinking (Budget Review, 2002:68). The people that drink and subsequently create such problems, as anticipated by government, are the ones that have to

provide the revenue to finance the needed health programs. Hence, the term "sin" taxes.

These taxes are hidden from the consumer and often he is not aware of the tax. This makes the tax a suitable source of income for government. Consumers are not able to calculate how much they are paying. The tax is levied against a product which is addictive and is also regarded an acceptable form of social entertainment, so it is a certain way of collecting easy income for the state.

Factors affecting revenue include the price of the beer, the availability of substitutes, time and the psychological importance of the beer to the consumer. All these factors play a role in determining the elasticity of demand for beer. We know that there no close legal substitutes to beer, so this contributes to beer being price inelastic. Therefore, consumers do not have much choice against increased tax rates except to be unresponsive to price changes. So any increase in the tax rate will have little effect on the quantity consumed. As a result of all this we can hypothesize as the tax rate increases there will be no significant change in quantity demanded. That is, we expect to see an increase in revenue and no decline in level of sales.

The excise must satisfy the main reason why taxes are levied in the first place – to provide a valuable source of income for government. We are expecting that excise duties are going to play this role for government.

**b) Influence Consumer Behaviour**

Another function for taxation is to try and influence the behaviour of consumers. For example, government may want to encourage "good" consumption habits and discourage "bad" consumption behaviour against harmful products. Government can relax or completely remove a levy on a product or just place a levy on a product depending on the behaviour it wants to promote. In the case of "sin" taxes (excise on beer) it wants to discourage the consumption of this product in society. Therefore government imposes a levy on malt beer thereby making the product more expensive to purchase. Hopefully this will trigger a behaviour that will lead to a reduction in quantity demanded of the product. It is

assumed that consumers will be rational and follow the law of demand as prescribed in economic theory. The law of demand states that there is an inverse relationship between the price and the quantity consumers will buy of the product (Clark and Wilson, 1997:128). For example, as the price of a good falls consumers will demand more of it. The inverse is also true. The excise on beer inflates the price of beer and this is meant to force a decline in the quantity demanded.

There are two problems with this objective and they are: the tax is invisible to consumers and the product it is being levied on is price inelastic. If the tax is hidden to the consumer and he is not able to easily calculate how much he is paying, then how can he make rational economic decision against consuming the product? You need to know the size of the tax to be able to manage it and make informed decisions.

Secondly, the absence of close and legal substitutes makes it difficult to discourage consumers from drinking. The net effect is that consumers are going to be unresponsive to price changes. Therefore, this instrument is not likely to fulfil the purpose of influencing consumers against drinking. Again we hypothesize that this instrument is ineffective in driving the correct consumer behaviour. This simply means that any increases in the "sin" tax rate will have little impact on the quantity demanded of malt beer and consumer attitudes are going to remain the same.

**c) Correct Negative Externalities**

Clark and Wilson (1997) argue that sometimes the market system experiences failure, that is, the market does not function as well as it is expected to. These market failures are a result of direct or indirect economic activities. For example, the production of alcohol has other unintended problems in society such as road accidents; violate crimes, health issues which the government eventually has to deal with. These problems cause a negative cost borne by government and society at large – known as a negative externality. Therefore, the government needs to slap an excise duty on the producers of malt beer to make it more expensive to buy and as a result curb or correct the market failures in society.

The problem with this is that the nature of the tax allows producers to completely pass it on to the consumer. Whatever government does the incidence always falls on the consumer. There is no incentive for the producer to cut down on the production of alcohol. Besides the product is highly price inelastic and the producers are aware that so long as government keeps making minute price changes, which they shift to the consumer, there will be not any significant decline in quantity demanded. The revenue will not be hugely impacted as a result and economic activity will continue as usual.

This goal as well cannot be achieved by using "sin" tax as an instrument. Therefore this leaves us with only one reason why the tax exists and that is to raise income for government only. It would appear that this tax is good only for this reason and is being used just for that.

### *Conclusion*

The literature review indicates that taxes are a means of raising government revenue. Hence, any tax initiative must meet this requirement at least. Secondly we have learnt that levying a tax has the potential to hurt the industry that produces that good, so taking a modest approach to prices helps to protect that industry as is the case with beer tax in South Africa. In 2000 the excise charged was 38 cents per unit. It increased to about 57 cents in 2005. If you increase the tax by a small margin it tends not to affect the level of sales in a big way. Thirdly we have learnt that elasticity of demand plays a huge role in deciding what products are to be levied with an excise. Government tends to select those products that are price inelastic because consumers are not going to respond negatively to demand. Therefore these types of products become a good target and sustainable source of revenue for the government. Fourthly the literature indicates that excise duty mostly affect consumers because they can be shifted by the producer to the consumer. They are almost always hidden to the consumers and thereby making it difficult to make rational economic decisions about them. Lastly the literature reviews indicates that availability of close substitutes plays a role in affecting elasticity of demand. If there are no suitable substitutes the demand tends to be inelastic. All these factors allude to the fact that applying excise duties on beer cannot be the right instrument for driving consumer behaviour. This tool is only suitable for collecting income for government.

# Chapter 3 Methodology

## *Research Population*

There are two populations for this study. The first population is defined as all economic entities that participated in the tax process in South Africa between 2000 and 2005. This includes companies and individuals who contributed to tax revenue. The tax records are published in the budget reviews by National Treasury.

The second population is convenience sample comprising tavern owners in Daveyton and individuals at Standard Bank and National Treasury. In total they were 12 subjects: 7 tavern owners, 4 individuals at Standard Bank and 1 subject at Treasury.

## *Procedure for Data Collection*

The initial phase of the research involved a desktop study. Statistical economic data was collected from a series of National Treasury bulletins for the period 2000 to 2005. The client base involved all entities that have participated in the tax process in South Africa over this period. These records contained aggregated information and were used to interrogate the magnitude of the issue at hand. They were used to show trends and draw a picture of "sin" taxes as currently is in South Africa.

The second phase involved completing a questionnaire. Tavern owners were identified using convenience sampling and asked to conduct personal interviews. The remaining sample subjects were identified through telephonic conversations and referrals. A questionnaire was sent to them after having indicated their willingness to participate in the research process.

The main criteria for selection for the personal interviews and the electronic mail distribution method were as follows:

a) Preparedness to spare some time to answer the questions
b) Showing an interest in the topic

## *Research Instrument*

There were two specific measuring instruments, namely, secondary statistical economic data and questionnaires. The secondary data consisted of a collection of economic indicators related to the research topic for the specified time period. Specifically the

information collected was the “sin” tax rate on beer, the tax revenue collected on beer, the total tax revenue collected, the volumes of beer sales (extrapolated), and GDP values. These indicators were used to depict the magnitude and trend analysis of “sin” tax on beer.

The second instrument used questionnaires to obtain public opinions. The questionnaire consisted of 8 questions. However, some questions had sections to source interview opinions on the subject. This brought the questions to a total of 13. Each question designed to be unambiguous and as precise as possible without leading the subject towards any particular answer. Instead the questions were designed to make the subject express their opinions on the subject of “sin” tax. They were no difficulties experienced with the questionnaire. It was simple and straight forward.

### *Questionnaire Design*

The questionnaires had two sections:

a) Personal identification and entity involved with
b) Understanding and opinions on “sin” taxes

The majority of the questions in section two were close ended – yes or no type of questions. However, they also offered the interviewee the chance to express their point of view by stating reasons for the answer they selected. There was only one question that required multi-select type of answer.

The questions were aimed at getting the interviewees to express their knowledge of “sin” taxes. Field notes were taken and documented in the section for stating reasons on the answer an individual had selected. This section really used to group together common opinions to create frequencies of common opinions.

### *Pilot Study*

There was no pilot study conducted for this research. However, the questionnaire was amended to clearly state that interviewees may only pick one option per question (yes or no) after one subject had selected both options. This highlighted ambiguity in the way the questions were meant to be answered. This happened only with the questionnaires that were sent electronically. The amendment happened after the first electronic case was returned. The rest of the questionnaires were sent with this correction in place.

### *Data Collection*

The empirical aspects of the research entailed an initial collection of secondary data from a series of Budget Review bulletins published by National Treasury. These bulletins contained information on economic data for the period 2000 to 2005. The second phase of the research involved conducting personal interviews and sending an electronic questionnaire to select individuals to collect primary data. The personal interviews were conducted with 7 subjects who own taverns in Daveyton. The interviews were face-to-face with willing individuals. Following this an electronic questionnaire, via email, was sent out to individuals at Standard Bank and National Treasury. All in all 12 individuals filled out the questionnaire.

Convenience sampling was used for the questionnaire. This ensured that the opinions of both the distribution retailers and the general public were captured. The questionnaire took approximately 10 minutes to complete.

There was no pilot study that was undertaken for sourcing the primary data. However, the process of data collection was done in two phases. The first part involved doing personal interviews with tavern owners in Daveyton. This process highlighted the ability and willingness of the people to answer the survey questions. Seven tavern owners participated in the study.

There were no amendments made to the questionnaire after the initial interview process. The questionnaire was then electronically distributed to other willing candidates at Treasury and Standard Bank. After the first case at Treasury the questionnaire was amended to rectify ambiguity in picking the available options. The amendment was to clearly express that the interviewee may only choose one option not both. The rest of the questionnaires were distributed with this correction via referrals through colleagues.

### *Validity and Reliability*

Reliability and validity are critical issues in all measurement. Neuman (2006:188) says that it is almost impossible to achieve true or perfect reliability and validity in a research study. However, these are ideals any researcher should strive for. Reliability refers to how dependable are the measurements and their ability to reproduce consistent results under the same conditions or methodology. To ensure this the questions were designed to draw participants into the conversations and express knowledge and opinions on the subject. The

questions required people to validate their response to indicate some form of knowledge about the issue.

Validity refers to how well the idea “fits” with reality (Neuman, 2006:188). This talks about the ability of the instrument to measure what was intended to be measured. To ensure that each question asked was linked directly the objectives of the research and provides insight into the research questions.

### *Responses and Response Rates*

Responses to the interviews were good. Requested interviews were granted quite readily. The respondents were willing to participate after having understood that the purpose of the study was just an academic exercise. In general, the respondents were very happy to discuss the subject and more than willing to share their opinions as well.

Apart from the distribution retailers, the other respondents were contacted telephonically and had the purpose of the study explained to them. All of them returned the questionnaire with relative ease within a short space of time.

### *Methods of Analysis*

Data analysis is the complex process of making sense out of the raw collected data. Neuman (2006:458) refers to it as the process of examining the ‘empirical information to reach a conclusion based on reasoning and simplifying the complexity in the data’. The purpose of this process was to organize the collected data into a logical and meaningful manner so that it may be analysed and explained to others coherently and sensibly. This process mainly concentrated on looking for patterns in the data using some basic statistical techniques, looking for associations between variables, percentages, counts, and any other informative details to disseminate to the reader of the report. Since this a quantitative study more standardized methods to analyse the data were employed. All of the data was entered into an excel spreadsheet and analysed from there.

### *Statistical Methodology for Data Analysis*

Simple statistical techniques were employed to analyse the collected data. First the data was divided into two parts:

**a) Secondary Data**

The secondary data was entered into an excel spreadsheet and transformed into a time series data running from 2000 to 2005. These data consisted of the tax rates; tax collected on beer, volumes of alcohol sales, total tax revenue, and GDP values.

First percentage changes were done on these five columns to test the rate of change in these categories over the time period. These percentages assisted to assess the magnitude at which these indicators were changing year on year. These values give us a quick test to see if they are declining, constant or increasing trends year on year.

Secondly, indices were calculated for these five indicators to give a trend over. These indices helped to assess the change or movement of these indicators over time. These give the behaviour or pattern these are following over time. These will help assess the consumer behaviour over this time period. From these values we can assess if "sin" tax as policy instrument is working to drive the correct consumer behaviour or is effective in discouraging drinking.

Thirdly we calculated how much was the contribution made by beer tax over total revenue and GDP. These will give us the value that "sin" taxes make to government income. This will answer the question as to whether this policy instrument plays a major role in contributing towards government income. It will also assess if the contribution is sustainable or not over time. Also this will help assess if this is an effective tool of managing consumer behaviour.

Lastly I ran a correlation coefficient of the tax rate against the volume of beer sales. The statistical result helps to show if there is any association between the two variables. This statistic helps us to assess if there is a positive or a negative relation between the two. We wanted check if the one variable changes (increases in tax rate), then what happens to the volumes of alcohol being consumed. Does it increase or decrease?

**b) Primary Data from Questionnaires**

Each of the information obtained from the questionnaires was encoded and entered into an excel spreadsheet. Each questionnaire was given a respondent number so that we can uniquely identify the answers from each questionnaire.

The data was arranged such that it makes it easy to run frequencies on the given responses and percentage counts per question. For example, each answer was given a code and a value like No = 1 and Yes = 2. For each question those that gave 'no' as a response were entered into the spreadsheet with value 1 against that question. Those that answered 'yes' were given the value 2. This made it easy for us to run counts on occurrences against each question and run percentages against each response. This helped to assess the opinion of the interviewees on each question.

These responses were tabulated on frequency tables for each question. The data from the questionnaires was used to answer question 1 and 3 of the research questions.

For each question that elicited the reasons for choosing whatever opinion, those reasons were evaluated to check for common reasons. These reasons were grouped accordingly and given a code value ranging from 1 to n depending on how many different common reasons were obtained. These as well were tabulated to give frequencies to help assess what the prevalent reasons were for each question. These were separated according to 'yes' or 'no' categories of the answers chosen. The tabulation of percentages gives us the ability to be able to view the percentage of respondents that hold a particular opinion on each question. For example, percentages will help to assess if "sin" tax policy is an effective tool for discouraging drinking. From these percentages we will be able to assess if people believe there is decline in beer drinking or not.

All the questions in the questionnaires are evaluated using this format.

### *Research Question 1*

Answers to the first research question were obtained from the literature review on "sin" taxes. Also responses to question number 3 on the questionnaires provided an insight into the reasons that the general public felt were compelling ones for the existence of such a tax.

A tabulation of the answers was created to present the frequencies and percentages to quantify the responses. From these percentages we were able to see how many respondents believe a particular reason is the main reason why excise duties are used in South Africa.

### *Research Question 2*

Answers to the second research question were sourced from analysing secondary data collected from Budget Review publications at Treasury. The question tested if "sin" taxes are a good and sustainable source of government revenue. The data depicted the trend analysis of malt beer revenue as the tax rate changes over the years. Analyses on percentage contribution to total revenue and GDP were conducted to quantify the size of the contribution. These percentages help to check if the contribution is significant and if it is increasing or decreasing over time. Also I ran the same analysis against GDP values to explore the same trends and patterns.

### *Research Question 3*

This question tested if "sin" taxes on beer are an effective tool in discouraging consumers from buying beer. This question investigated what is happening to the consumption patterns of beer over the stipulated period. Again the data collected from Treasury provided a good insight into this issue. The computation of indices on beer tax presents an excellent of showing trend patterns on the values. Also a correlation coefficient gives us an indication of what type of a relationship exists between the tax rate and volumes of beer sales.

Question 4 to 7 provided insight into the prevalent opinions of the general public on consumer behaviour regarding beer drinking. Frequencies and percentages were employed to draw conclusions on the effectiveness of this particular instrument as a means of discouraging beer drinking.

### *Assumptions*

The questionnaire was simple and easy to follow. The questionnaire did not require any sensitive information from respondents. An explanation was given upfront stating the objectives of the research. Hopefully, this encouraged the respondents to answer the questions truthfully.

## Chapter 4 Case Study

### *Introduction*

This research study seeks to shed some light into the use of "sin" taxes in the South Africa context. "Sin" taxes are a form of indirect taxation levied on tobacco and alcohol products including malt beer, wine, spirits etc. They ("sin taxes") came into existence in South Africa

through the customs and excise duties Act 91 of 1964. This is the Act that prescribes these excise duties and also gives them the legal and legitimate framework in the country. SARS as a state institution is tasked with implementing the mandate the Act carries and the framework for tax collection. For the purposes of this study only the "sin" tax related to beer will be covered.

The objectives of the study are as follows. Firstly, it is to understand the reasons for "sin" taxes. Secondly, it is to give a general understanding of the magnitude and direction of "sin" taxes in South Africa for a specific period (2000-2005). Thirdly, it is to draw a picture of what the opinions of the general public are regarding this subject. That is, to test if "sin" taxes are achieving what they are intended for by government and are a good and effective way of driving consumer behaviour.

### *Reasons for "sin" taxes*

The literature review tells us the government designs "sin" taxes for two major reasons– to collect revenue for government and also discourage or reduce the consumption of beer. The consumption of beer is blamed for creating lots of health problems in society which government eventually has to deal with. These problems require a health policy to be put into place to deal with them. It, therefore, makes it necessary for government to collect revenue from the consumers of these products to finance such public programmes. This is the key reason government has for implementing excise duties on beer (Budget review, 2002).

### *Empirical Patterns of "sin" tax in South Africa*

Table 2 shows the pattern "sin" taxes have followed in South Africa between 2000 and 2005. Also it described some economic indicators that are associated with "sin" taxes.

TABLE 2 Economic Trend, Data in South Africa converted to millions, 2000-2005

| Year | Beer Tax Rate | Tax on Beer | Total Tax Revenue | GDP | Beer Sales |
|---|---|---|---|---|---|
| | **Cents** | **R million** | **R million** | **R Million** | **million** |
| 2000 | 38 | R 2.59 | R 220.33 | R 951 682.00 | 6 806 087 |
| 2001 | 40.28 | R 2.76 | R 252.30 | R 1 048 755.00 | 6 857 470 |
| 2002 | 43.57 | R 3.01 | R 282.21 | R 1 198 457.00 | 6 901 836 |
| 2003 | 47.9 | R 3.45 | R 302.51 | R 1 288 979.00 | 7 199 848 |
| 2004 | 52.24 | R 3.96 | R 354.98 | R 1 427 445.00 | 7 587 085 |
| 2005 | 57.2 | R 4.43 | R 417.33 | R 1 584 743.00 | 7 740 631 |
| MEAN | | R 3.37 | R 304.94 | R 1 250 010.17 | 7 182 159.50 |
| STDEV | | R 0.72 | R 71.54 | R 235 460.75 | 400 401 |

**Note:** * Figures extrapolated from beer tax and tax rate.

**Sources:** Department of National Treasury, Budget review, various issues; South Africa

Looking at table 2 shows that the actual tax rate has been increasing even though it is a small margin from year to year. For example, between 2000 and 2001 the tax rate increased by a mere 2.28 cents, roughly a 6% increase. The following year it increased by about 4 cents.

At the same time the actual revenue collected from beer sales has been increasing as well. It has been increasing by a small margin too. The data shows that revenue is tagging along with the increase in the excise duty. In 2000 the tax collected was bout R2, 6 million. The following year when the excise duty was increased the tax value also increased to about R2, 8 million. This is roughly R200k difference, which is not too big. However, the significant observation is that it is on an upward trend every year. In 2005 it has almost doubled having reached R4, 4 million since 2000. Therefore, the data indicates that there is no decline in drinking habits despite an increase in the tax rate.

We can correlate the above values to the actual beer sales themselves. The data in table 6 below indicates a steady increase in beer sales over the years. The beer sales have increased from 6, 8 billion in 2000 to about 7, 7 billion in 2005. Looking at the index it shows a 13.7%

increase from the base year 2000. We can conclude that there is an increasing pattern in beer drinking.

We can see that there starts to be a significant increase in 2004. In this year we see an 11.5% increase from the base year. There is a 5.38% increase from the previous year 2003.

TABLE 6 Percentage change, Index on Beer Sales

| Year | Beer Sales | Percentage Change | Index |
|---|---|---|---|
| | **Million** | **(%)** | **(%)** |
| 2000 | 6 806 087 | | 100 |
| 2001 | 6 857 470 | 0.75 | 100.75 |
| 2002 | 6 901 836 | 0.65 | 101.41 |
| 2003 | 7 199 848 | 4.32 | 105.79 |
| 2004 | 7 587 085 | 5.38 | 111.47 |
| 2005 | 7 740 631 | 2.02 | 113.73 |

**Sources**: National Treasury, Budget review

### *Industry protection by government policy*

As mention in the literature review that if the government takes a calculated approach to increasing the excise duty in small amounts it tends to protect the industry rather than cause a huge decline in market sales.

TABLE 3 Percentage change, Index of Beer Tax Rate

| Year | Beer Tax Rate | Percentage Change | Index |
|---|---|---|---|
| | **Cents** | **(%)** | **(%)** |
| 2000 | 38 | | 100 |
| 2001 | 40.28 | 6 | 106 |
| 2002 | 43.57 | 8.17 | 114.66 |
| 2003 | 47.9 | 9.94 | 126.05 |
| 2004 | 52.24 | 9.06 | 137.47 |
| 2005 | 57.2 | 9.49 | 150.53 |
| MEAN | | 8.532 | |

**Sources**: National Treasury, Budget review

The data in table 3 may indicates that government is taking a calculated approach in increasing the tax rate to protect the liquor market. It could indicate that there is a conscious decision not to drastically damage the liquor industry.

The data shows that the tax rate is on average increasing by 8.5% every year. This is very small considering that it is in cents value. This makes it easy for the consumers to ease into the new rates and bear the tax.

From looking at these figures we can assume that the government does not really want to destroy or eliminate the habit from society completely. This evidence ties up with economic theory that tells us that excise duties are nothing more a means of collecting income for government (Smit & Dams, et al, 1996:340).

This kind of an increase gives the consumers a sort of smooth transition into the new rate, almost one that they can get used to in very short space of time. It suggests some form of protection because the magnitude of the rate change is small. Perhaps if the government doubled the actual price of beer maybe the consumers would reconsider their levels of consumption?

Perhaps such a drastic move would create other challenges in the within the economy such promoting the black market? The revenue would then be transferred to the illegal market and government would lose out. So there are pros and cons to this issue.

### *The Association between Tax rate and Tax Collected*

The table below indicates that there is strong positive correlation between the tax rate and the amount of tax collected. As the tax rate increases so does the amount of tax collected. There is a 99.76% correlation between the two variables.

TABLE 8 B Correlation Coefficient between Tax rate and tax revenue collected

| Year | Tax Rate | Beer Sales |
|---|---|---|
| | **Cents** | **Million** |
| 2000 | 38 | R 2.59 |
| 2001 | 40.28 | R 2.76 |
| 2002 | 43.57 | R 3.01 |
| 2003 | 47.9 | R 3.45 |
| 2004 | 52.24 | R 3.96 |
| 2005 | 57.2 | R 4.43 |

**CORREL** 99.76209566

**Sources**: National Treasury, Budget review

## *Problems Associated with "sin" Taxes*

Taxation is an area that generally has no consensus in people's opinions, especially the area of "sin" taxes. When it comes to "sin" taxes there are two broad perspectives on the issue: "sinners" versus the "saints". The tax creates such divisions in society because it is discriminatory in its nature– it affects specific targeted goods. The "sinners" (people that drink) are usually against it and the "saints" are for it. In general, taxes take money away from people so that people are left with less money to spend. Therefore they have the potential to hurt the economy. Campbell & Stanley (1990) argue that they tend to be regressive by nature. They are also discriminatory and have ambiguous goals.

### a) Hurts the Economy

If the liquor "sin" tax may work the way it is intended to then it has the potential to damage the economy and the liquor industry because it may reduce or eliminate completely the production of the product.

TABLE 7 Percentage composition of beer tax to Total Tax, and GDP 2000-2005

| Year | Tax on Beer | Total Tax Revenue | GDP | Beer to Total Tax | Beer to GDP |
|---|---|---|---|---|---|
| | **R Milliohm** | **R Million** | **R Million** | **(%)** | **(%)** |
| 2000 | R 2.59 | R 220.33 | R 951 682 | 1.17 | 0.000272 |
| 2001 | R 2.76 | R 252.30 | R 1 048 755 | 1.09 | 0.000263 |
| 2002 | R 3.01 | R 282.21 | R 1 198 457 | 1.07 | 0.000251 |
| 2003 | R 3.45 | R 302.51 | R 1 288 979 | 1.14 | 0.000268 |
| 2004 | R 3.96 | R 354.98 | R 1 427 445 | 1.12 | 0.000278 |
| 2005 | R 4.43 | R 417.33 | R 1 584 743 | 1.06 | 0.000279 |

**Sources**: National Treasury, Budget review

The data in table 3 indicates that the government deliberately makes modest price changes to avoid damaging the liquor industry. These modest changes in price tend to have little or no effect on sales. Table 7 gives evidence to that effect. The data indicates as prices change there is no decline in the total tax collected from beer. Beer tax contributes about 1% of total revenue and it stays the same throughout the period. So it is clear that in the case of beer tax there industry has not been affected at all. This is what we expected from theory that excises are a means of collecting income.

### b) It is Regressive Tax

Table 7 shows an increasing pattern in the tax collected from beer and this indicates that there is relentless indulging in beer drinking. Certainly, a large portion of this is not coming from the rich drinking more because they tend to spend a small portion of their income on alcohol. The reason for the regressivity is that a larger portion of poor person's income is exposed more to the tax than is the case with a rich person (Campbell and Stanley, 1990:121). This means that this tax tends to affect the poor more than the wealthy. As a result of this it has the potential to encourage economic activity in the illicit market. Drinking is a social phenomenon in our society and is a very addictive habit. Government has to weight the impact the "sin" tax will have on social and addicted drinkers. Addicted drinkers will definitely go the whole hog to obtain liquor products where as social drinkers may be discouraged if the tax keeps increasing. Depending on the category (social or addicted) the tax may have serious ramifications on society such as increasing poverty.

**c) Impinges on Social Freedoms**

This is an unfair tax because it takes away the right for consumers to decide what to purchase. Should government be involved in bullying its citizens into submission? Since the liquor "sin" tax affects the poor more, does it mean that government has the right to make economic decisions on their part?

**d) It is Discriminatory**

Any good tax system should not be discriminatory and be based on so-called undesirable social behaviour. The idea is to curb irresponsible drinking in society. Question is why should responsible drinkers be impacted? There are people who have self-control and aware of the consequences of drinking, then why should they be punished?

Also why target only the consumers of the product instead of punishing both consumer and producer. The effect of the tax is eventually passed onto the consumer in the form of increased prices. The producers of the product are aware of the fact that liquor "sin" tax is price inelastic and so they can afford to shift the tax incidence to the consumer.

**e) Ambiguous Government Goals**

The intentions of the government are not quite clear when it comes to "sin" taxes. There seems to be a contradiction in the desired outcomes the government wants: is it raising revenue or discouraging drinking? Padmaja and Partha et al (2009) argue that if the primary goal is to raise revenue without concern for externalities, then an excise tax on a good with inelastic demand is good and sustainable, ceteris paribus. However, if the primary goal is to address consumer behaviour, then taxing consumption (excise taxes) is a good policy only on goods whose demand is responsive to the tax. The tax is meaningful only to people or consumers who are responsive to it.

The case study indicates that beer drinking has not declined in South Africa between 2000 and 2005. It also indicates that "sin" tax as an instrument to drive consumer

behaviour has failed to deliver. The consumers are not responsive to the yearly beer prices.

## Chapter 5 Analysis and Assessment

### *Introduction*

The results from the statistical analysis of Treasury economic data and questionnaires are presented in this chapter. The results are a combination of both quantitative and qualitative analysis. The analysis was done in the order of the research questions.

The qualitative analysis of the responses from the questionnaires relies mainly on counts and percentages presented in a tabular format. The quantitative analysis of the results relies on percentages and indices to describe the change and magnitude of the problem.

There are three research questions to be answered in this study and they will be answered in that order.

### *Q1: What are the reasons for justifying "sin" taxes in South Africa?*

The first research question seeks to gain clarity on the reasons why we have "sin" taxes in the first place. What is the aim and what is the intended outcome?

The answers to this question were obtained from both the literature review and responses from the questionnaires. There were three specific reasons why "sin" taxes are created. The reasons are as follows:

a) Raise Revenue
b) Influence Behaviour
c) Political and Health Programmes
d) Other

### Raise Revenue

The literature review supports this reason as the most important reason for levying excise duties. Smit and Dams et al (1996:340) argue that the primary aim for excise duties is to collect revenue for government. SARS (2009) also mentions this reason as it primary reason for collecting the tax. It is also stated as the main reason in the National Treasury budget reviews.

Table 10 below summarises the questionnaire responses. Seven out of the twelve respondents also believe that the tax is mainly for raising revenue for government. Over half of the respondents agree with the literature review.

TABLE 10 Frequencies for Q3 "What are the reasons for 'Sin' taxes?"

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | Revenue | 7 | 58.33 |
| 2 | Influence Behaviour | 5 | 41.67 |
| 3 | Political & Health Reasons | 2 | 16.67 |
| 4 | Other | 3 | 25 |
| **Total** | | **12** | |

**Source:** Questionnaire Data, 2010

## Influence Behaviour

Literature review from SARS argues that the tax is also used to influence consumer behaviour. The responses from questionnaires indicate almost 42% of the interviewees believe the same as well. They believe that the state desires to assist consumers in making the correct choices about drinking, hoping to discourage them from the habit.

## Political and Health Reason

Literature review as given by National Treasury budget review (2002) informs us that the tax is used to finance health initiatives for government. 17% of the respondents share the same opinion as well. Very few people believe this is the case though.

Most of the respondents shared the opinion that the revenue collected was not being used for its intended purpose. Perhaps this is exacerbated by the lack of visibility in the programmes government supports or how it uses the revenue collected from such taxes. If there was more visibility, perhaps, people would warm up to the idea of a “sin” tax. As it is the public believe that this is another reason to fill up revenue gaps.

## Other Reason

A quarter of the respondents felt there was some hidden agenda for using “sin” taxes. There is no pattern in the reasons given. Out of the three respondents who selected this category

each one had their own different opinion. The following table summarises the reasons they gave.

TABLE 16 B Q3: Grouped data for other reasons for "sin" tax

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | Correct Market Failure | 1 | 33.33 |
| 2 | Support General State Programmes | 1 | 33.33 |
| 3 | Not Clearly Explained | 1 | 33.33 |
| | | | |
| Total | | 3 | |

**Source:** Questionnaire Data, 2010

Out of the three respondents who selected 'other', one said the government created the tax because of the need to correct market failure. The respondent felt that the market prices of alcohol do not reflect the external costs that its consumption imposes on society such as additional health costs, loss of labour productivity through absenteeism etc. These costs are passed on to society at large. The imposition of "sin" taxes help to shift these costs back to the industries and consumers who cause them. Therefore, the excise duty helps to properly price these "costs". If the consumers reduce their demand for beer then they will be less beer produced because it will impact on sales which directly impact on revenue generated. Eventually this habit will be contained and the cost (externality) will disappear or at least the product will be "correctly" priced.

The second respondent who chose this option felt that the tax was used to support general state programmes. The respondent felt that the government had other initiatives that it wanted to finance and needed to collect money from somewhere. The state takes the revenue collected from beer and spends it on those other programmes which have no association with alcohol. It is basically another way to easily fill up the budget deficit as it were.

The third respondent felt the government did not properly explain why the tax is collected. There is no clear visibility on where the money is spent. I sensed a lack of trust on the proper use of government funds was the real issue here.

### *Q2: How much do "sin" taxes contribute to overall government Revenue in South Africa?*

The second research question seeks to understand the economic impact "sin" taxes have on the economic activity in terms of revenue contribution and level of GDP in South Africa.

This section draws a picture of the magnitude of liquor "sin" taxes collected in South Africa. We want to reveal the financial patterns this tax makes. The answer to this question is broken down as follows.

### Percentage contribution to Overall Revenue

This question will be answered by looking at the level of contribution excise duties make against total revenue.

Table 7 below summarises the amounts collected from beer taxes over the period. The data reveals that the tax on beer sales contributes a very small portion to overall revenue. The data reveal "sin" taxes contribute roughly 1% of total revenue collected in the country. This is more or less the same throughout the five year period. On average it contributes 1.11% to total revenue. This is almost an insignificant value.

The actual amounts collected from beer tax are in the millions. In monetary terms the size of the tax is somewhat big. In 2000 the value collected was R2, 6 million. This has grown to about R4, 4 million in 2005.

On average the tax contributes about R3, 37 million to government revenue. On average the total revenue is R307 million. The tax makes a very small contribution relative to overall tax revenue. This may be considered to be an insignificant value in monetary terms.

Compared to total revenue, averaging about R307 million per year, beer tax is small. It may be considered to be insignificant.

The data also indicates that the tax amounts collected on beer tax are increasing every year. The tax begins to pick up quite significantly after 2001. In 2003 the amount collected was R3, 01 million. This is roughly a 9.06% increase from the previous year.

It is good to also note that the total revenue in increasing in a similar direction over the same period.

TABLE 7 Percentage composition of beer tax to Total Tax, and GDP 2000-2005

| Year | Tax on Beer | Total Tax Revenue | GDP | Beer to Total Tax | Beer to GDP |
|---|---|---|---|---|---|
| | **R Million** | **R Million** | **R Million** | **(%)** | **(%)** |
| 2000 | R 2.59 | R 220.33 | R 951 682 | 1.17 | 0.000272 |
| 2001 | R 2.76 | R 252.30 | R 1 048 755 | 1.09 | 0.000263 |
| 2002 | R 3.01 | R 282.21 | R 1 198 457 | 1.07 | 0.000251 |
| 2003 | R 3.45 | R 302.51 | R 1 288 979 | 1.14 | 0.000268 |
| 2004 | R 3.96 | R 354.98 | R 1 427 445 | 1.12 | 0.000278 |
| 2005 | R 4.43 | R 417.33 | R 1 584 743 | 1.06 | 0.000279 |
| MEAN | R 3.37 | R 304.94 | R 1 250 010.17 | 1.11 | 0.0002685 |

**Sources**: National Treasury, Budget review

## Percentage Contribution to GDP

Compared to GDP on average liquor excise tax contributes an insignificant 2.71%. This is a small portion. The data reveal a declining pattern from 2000 and 2002. Thereafter we see an increasing pattern. Compared to GDP it does not contribute a considerable amount. There are other factors or items that matter in GDP composition as opposed to an excise tax on liquor.

## *Q3: Are "sin" taxes the correct tool to help discourage the use of alcohol in South Africa?*

The third and last research question seeks to understand if "sin" taxes do contribute towards discouraging people from drinking. We will analyse the economic data from National Treasury as well as the responses obtained from the research questionnaires. Questions 4 to 8 of the questionnaire were used to obtain the opinion of the general public regarding the impact this particular levy is making on beer drinkers.

## What has been consumer reaction to beer taxation?

Table 8 A summarises the level of the tax rate versus beer sales over the five year period. Clearly the data shows an upward trend in both tax rate and beer sales.

The indication is that there has been a relentless increase in the actual volumes of alcohol consumed. The data reveals that as the tax rate increases so do the volumes of alcohol consumed. At 38 cents 6, 8 billion units of beer were sold. At 40.28 cents 6, 6 billion units were sold. At 57.2 cents 7, 7 billion units were sold. The data indicates that the increase in the tax rate does not deter consumers from drinking beer.

The correlation coefficient indicates a very high positive association between the two variables of 97.8%. The correlation value predicts a strong likelihood that as you increase the tax rate and so will the level of alcohol consumed. Therefore the empirical evidence suggests there has not been any change or decline at all in consumer behaviour. In fact the opposite is true.

TABLE 8 A Correlation Coefficient between Beer and Sales Volumes

| Year | Tax Rate | Beer Sales |
|---|---|---|
| | Cents | Million |
| 2000 | 38 | 6 806 087 |
| 2001 | 40.28 | 6 857 470 |
| 2002 | 43.57 | 6 901 836 |
| 2003 | 47.9 | 7 199 848 |
| 2004 | 52.24 | 7 587 085 |
| 2005 | 57.2 | 7 740 631 |

**CORREL** 97.82149699

**Sources**: National Treasury, Budget review

## Questionnaire Results

The following section evaluated the responses received from the questionnaires.

### *Q4: Do you believe "sin" taxes contribute in discouraging consumption of alcohol?*

TABLE 11 Frequency for Q4 "Do excises on liquor discourage drinking?"

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | No | 9 | 81.82 |
| 2 | Yes | 2 | 18.18 |
| Total | | 11 | 100 |

**Source:** Questionnaire Data, 2010

Table 11 above gives a summary of the responses as to whether the tax was having the intended impact on consumers. A total of 11 people gave responses to the question. Out of the eleven responses 9 believed that the instrument was not effective in discouraging beer drinking. 81.82% answered 'no' it does not contribute to a decline in drinking. The remaining 18.18% thought that instrument had some form of impact or contribution towards discouraging drinking.

Those that disagreed gave the following reasons in support of their decision or opinion. The table below summarises the reasons given for supporting that "sin" tax does not discourage drinking.

TABLE 17 B Q4 (No): Grouped data for" Discourage Drinking"

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | Addictive | 2 | 25 |
| 2 | Entertainment | 6 | 75 |
| 3 | Indifference | 1 | 12.5 |
| 4 | LAckOfAwareness | 2 | 25 |
| 5 | TaxRateTooSmall | 1 | 12.5 |
| Total | | 8 | |

**Source:** Questionnaire Data, 2010

#### a) Addictive

25% of the respondents who gave a negative response to this question believe that imposing a “sin” on beer will not discourage drinkers because the habit is a very addictive one. Consumers are not able to apply economic reasoning to purchasing alcohol because they are addicted. Therefore, any government attempt to curb this habit through higher excise duties will not succeed.

**b) Entertainment**

75% of the respondents believe that drinking is a form of social entertainment which is highly influenced by peer pressure. Therefore the decision to drink is not based purely on financial capability to purchase the product but rather on other psychological and social reasons. People look at the habit as an acceptable culture of entertainment. So breaking the habit may not be addressed by just applying financial punitive measures.

**c) Indifference**

12.5% of the respondents believe that there is no noticeable decline in the levels of alcohol consumption due to consumer indifference. People just continue drinking regardless.

**d) Lack of Awareness**

25% of the respondents also believe that the general public lacks the necessary awareness that can empower them to make the right decision. Some drinkers are not even aware that there is an extra cost (in the form of an excise tax) associated with the habit. Even if they did most people cannot reasonably calculate how much tax they pay for engaging in the habit. This makes it difficult for people to make the correct economic and financial decisions.

**e) Tax Rate is too Small**

12.5% of the respondents believe that the current tax rate is too small to negatively influence consumer behaviour against buying beer. Currently the tax rate makes it easy for people to adjust and, hence, carry on drinking as usual after an increase. If the government really wants to discourage people from drinking then they need to make the price really unbearable (high).

### *Q5: Have you noticed a decline in general consumption levels after an increase in "sin" taxes?*

TABLE 12 Frequency for Q5 "Noticeable decline in consumption after hike in rate?"

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | No | 10 | 90.91 |
| 2 | Yes | 1 | 9.09 |
| Total | | 11 | 100 |

**Source:** Questionnaire Data, 2010

Table 12 above summarises the responses testing if there is a noticeable decline in beer drinking after the Minister of Finance announces a hike in the tax rate. A total of 11 respondents answered this question. 90.91% of the responses were not positive. There is no decline at all in beer drinking after an announcement. The primary reason for this is because of a lack of knowledge that there is a tax even associated with drinking.

On the other hand only 9.09% though that an announcement caused a decline in levels of alcohol drinking.

### *Q6: Should "sin" taxes be continued?*

TABLE 13 Frequency for Q6 "Should 'sin' taxes be continued?"

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | No | 7 | 58 |
| 2 | Yes | 5 | 42 |
| Total | | 12 | 100 |

**Source:** Questionnaire Data, 2010

Table 13 gives a summary of whether this particular excise duty should be discontinued or not.

A total of 12 respondents answered this question. 58% of the respondents thought that the tax should be discontinued. The remaining 42% maintained that it must be continued.

Those in favour of the tax being discontinued gave the followings reasons in support of their decision.

TABLE 18
C Q6 ( No)

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | Addictive | 2 | 29 |
| 3 | Promote Illegal Market | 1 | 14 |
| 4 | Disagree with usage Reason | 2 | 29 |
| 5 | Hurts Economy | 3 | 43 |
| Total | | 7 | |

**Source:** Questionnaire Data, 2010

**a) Addictive**

29% of the respondents felt that this habit is very addictive and the consumers cannot easily quit.

**b) Promote Illegal Market**

14% of the respondents believe that the tax should be discontinued because it promotes economic activity in the illegal market. Since beer drinking is such a phenomenal social behaviour if it gets too expensive to afford then consumers are going to swap their consumption with the black market. In the end the government will lose out anyway because the revenue will be transferred to the illegal market where the state has no easy control over.

**c) Disagree with Usage**

29% of the respondents disagree with how the tax revenue is being used by government. Government does not have good visibility on how the it is spending the money collected. Hence, they must stop collecting it in the first place.

**d) Hurts Economy**

43% believe that it hurts the economy. However, looking at the tax values presented in table 8 A there is no evidence to support this opinion. Firstly the product is price inelastic so any change in the price does not have a significant effect on the quantity demanded. Secondly the government has taken a cautious approach in making modest price changes to protect the industry.

Those in favour of the tax being continued gave the following reasons in support of their opinion.

TABLE 18 B Q6 ( Yes)

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | Contain Spread | 1 | 20 |
| 2 | Revenue Raiser | 3 | 60 |
| 3 | Influence Behaviour | 2 | 40 |
| 4 | Finance Programmes | 1 | 20 |
| 5 | Correct Externality | 1 | 20 |
| Total | | 5 | |

**Source:** Questionnaire Data, 2010

**a) Contains the Spread**

20% of the respondents believe that it certainly does help in containing the spread of the habit in society. If the state makes the habit more expensive to partake in then there will be fewer people drinking.

**b) Revenue Raiser**

60% felt that it should be continued because it collects good income for the government. The government needs this income for expenditure on projects so they should carry on taxing the “sinners”.

**c) Influence Behaviour**

40% felt that it should be continued because it is good to instil good behaviour in society. It beer is expensive then it will discourage people, hence, promote good consumer behaviour.

**d) Finance Programmes**

20% felt that it is good way to finance government programmes. This is similar to good revenue raiser.

**e) Correct Externality**

20% felt that this a good way of controlling the "costs" caused by drinking. These "costs" must be priced back to the consumers of the product who cause them in the first place.

### *Q7: Do you believe that imposing "sin" taxes is the right toll to discourage consumer behaviour?*

TABLE 14 Frequency for Q7 "Is this the correct tool?"

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | No | 8 | 67 |
| 2 | Yes | 4 | 33 |
| Total | | 12 | 100 |

**Source:** Questionnaire Data, 2010

Table 14 above gives a summary of whether the instrument is the correct tool for discouraging drinking.

A total of 12 respondents answered this question. 67% of the respondents felt that it is not the correct tool for discouraging drinking. The remaining 33% felt that it a good tool for discouraging drinking.

The 67% of respondents who disagreed gave the following reasons to support their decisions.

TABLE 19

C Q7 (No)

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | Require other means | 2 | 25 |
| 2 | Consumer Indifference | 3 | 37.5 |
| 3 | Lack of Awareness | 2 | 25 |
| 4 | No Knowledge of Loss | 1 | 12.5 |
| 5 | Cash Cow | 1 | 12.5 |
| 6 | Peer Pressure | 1 | 12.5 |
| 7 | Entertainment | 1 | 12.5 |
| 8 | Addictive | 2 | 25 |
| **Total** | | **8** | |

**Source:** Questionnaire Data, 2010

### a) Require Other Means

25% of the respondents felt that other means were required to encourage people to stop drinking such as imposing other legal restrictions. For example, increase age restriction to 21 years, ban the sale of liquor on Sundays, and other regulatory tools including production and circulation control.

### b) Consumer Indifference

37.5% of the respondents felt that many consumers were indifference and this makes it very difficult for government policy to change their attitudes.

### c) Lack of Awareness

25% of the respondents felt the consumers are not even aware that there are tax implications involved with drinking alcohol. The tax is hidden from the consumer.

**d) No knowledge of Loss**

12.5% of the respondents felt that the general public has no sense of the financial loss the tax causes. They are not able to properly calculate or quantify the financial loss and that gets in the way of them making the correct decisions.

**e) Cash Cow**

12.5% of respondents felt that the government has no real intention to stop the use of alcohol in society. They see this is as a good excuse to collect more money from the public.

**f) Peer Pressure**

12.5% of the respondents felt that alcohol drinking is associated with pressure and comes with a psychological contract that binds drinkers to it. So increasing the price is not the only effective way of controlling the habit.

**g) Entertainment**

12.5% of respondents felt that it is an acceptable way of entertainment in society and so imposing financial punitive measures will not work to discourage drinkers.

**h) Addictive**

25% felt that the habit is very addictive and charging expensive prices is not enough to discourage people. The government needs to do more to convince consumers that drinking is not healthy.

The 33% who agreed said so because they thought the tool was an excellent and effective way of curbing alcohol drinking.

### *Q8: What is your general view on "sin" taxes?*

TABLE 15 Frequency for Q8 "View on "sin" tax?

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | Bad | 6 | 50 |
| 2 | Good | 6 | 50 |
| Total | | 12 | 100 |

**Source:** Questionnaire Data, 2010

Table 15 summarises people's general perceptions on the tax itself. Interestingly there was a tie between those who have a positive and negative perception of the tax. 50% believed that it is good and the other 50% believed that it is generally bad.

The 50% who had a positive attitude towards the tax gave the following reasons in support of their answers.

TABLE 20 B Q8 (Good)

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | Revenue Raiser | 5 | 83.33 |
| 2 | Curb Externality | 2 | 33.33 |
| 3 | Curb Drinking | 1 | 16.67 |
| Total | 6 | | |

**Source:** Questionnaire Data, 2010

**a) Revenue Raiser**

83.33% were positive about the tax because it is an excellent way of raising revenue for government. Government needs the extra revenue it collects from drinkers to use on expenditure.

**b) Curb Externality**

33.33% of the respondents felt it is a good way to transfer the social "costs" caused by drinkers. So government needs to make drinkers pay for the "costs".

**c) Curb Drinking**

16.67% of the respondents believe that the tax actually helps in curbing alcohol drinking in general.

On the other hand the other 50% who share a negative feeling towards the tax gave the following reasons in support of their decision.

TABLE 20
C Q8 (Bad)

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | Cash Cow | 2 | 33.33 |
| 2 | Hurts Economy | 3 | 50 |
| 3 | Dont Benefit Public | 1 | 16.67 |
| 4 | Gov Misuses Funds | 1 | 16.67 |
| Total | | 6 | |

**Source:** Questionnaire Data, 2010

**a) Cash Cow**

33.33% felt that it is bad because the government is only interested in collecting cash from the public and nothing more. Government does not have the health interests of consumers when deciding on the tax.

**b) Hurts Economy**

50% felt that it hurts the economy because people will eventually stop drinking. If the people were to stop drinking completely then what will happen to the alcohol industry?

**c) Does not Benefit the Public**

16.67% felt the money collected from the tax does not benefit the public in any way. They would accept it if the government used the money to create jobs for the public or used it on something more useful for the public.

**d) Government misuses funds**

16.67% felt that the government misused the funds it collects from the public anyway.

## Chapter 6 Conclusions and Recommendations

The main findings of the research are summarised below. The aim of the research was to explore the reasons for "sin" taxes in South Africa, to draw a picture of how much "sin" taxes contributed to the economy, and to identify if "sin" taxes are an effective instrument to drive consumer behaviour against drinking. To achieve this aim three research questions were identified to help define the problem, namely:

1) What are the reasons for justifying "sin" taxes in South Africa?
2) How much do "sin" taxes contribute to overall government revenue in South Africa?
3) Are "sin" taxes the correct tool to help discourage the use of alcohol in South Africa?

To help answer these questions two pieces of data were identified, namely, secondary statistical data on economic indicators on South Africa and interviewee questionnaires to obtain public opinions on "sin" taxes. The data was used to explain and also demonstrate the magnitude of "sin" taxes in South Africa and the consumption patterns regarding beer drinking in South Africa. The main findings that emerged are summarised as follows.

### *Summary of Key Findings*

It is important to notice that the results cannot be generalised to a larger population because the population was limited to a very small number of people. Therefore the results cannot be extended outside of this sample without further research. A more detailed study would have to be conducted studying various decision patterns or criteria people use when purchasing alcohol. The research would target understanding if the final beer price,

incorporating “sin” tax levy, does play any role in influencing the decision to purchase or not purchase beer. A representative sample, using more advanced statistical techniques, would be used to make generalisations about the findings. Currently the research results serve as a way to explore and suggest possible consumer behaviour and patterns.

### *Reasons for justifying “sin” taxes*

The main reasons for “sin” taxes are summarised as follows, namely, collecting income for government and influencing consumer behaviour. The literature review and research data strongly support that raising revenue is the major reason for using “sin” taxes. The nature of the product (beer), due to it being price inelastic, naturally supports income generation as being the only plausible reason why legislature would use such a tax.

The intention to discourage consumers from drinking, therefore, becomes a secondary reason. The fact that legislature makes marginal price adjustments to the tax rate can be viewed as evidence to suggest that there is no real intention to drastically destroy or damage the liquor industry and stop the use of alcohol in society. The marginal price changes make it very easy possible for consumers to make adjustments and respond with little or no reductions in the levels of beer consumption. The product is not being made expensive enough as to force consumers to completely stop drinking. Therefore, one is lead to believe that changing consumer behaviour is not a top priority for government when designing beer “sin” taxes.

### *The contribution “sin” tax makes towards Total Revenue and GDP*

The research data indicated that beer “sin” taxes do not contribute huge amounts of revenue to total tax and GDP. The data indicate that beer “sin” tax contributes on average about 1.11% of total revenue. Relative to GDP the contribution beer “sin” tax makes is almost insignificant. It contributes on average roughly 0.0003%. These levels of contributions are very small indeed. We, therefore, conclude by saying that beer “sin” taxes are inefficient and ineffective as a tax instrument. The research data indicates that the instrument is failing to sufficiently achieve the one aim any tax instrument should aim for and that is to raise the desired government revenue. The inability to achieve this primary goal just makes the tax a bad tax. There is no further justification why the tax should be continued or supported. It has failed to prove its

potential to achieve any of the goals it aims for and, therefore, failing to live up to its theoretical foundations as suggested by the literature review.

### *The effectiveness of "sin" taxes in discouraging beer drinking*

The data indicate that "sin" tax is not an effective instrument to discourage drinking. The economic indicators in terms of beer sales and tax collected indicate that there has not been any decline in the consumption of alcohol in South Africa between the period 2000 and 2005 despite the increasing tax rate. Across all the questions asked in the survey questionnaire it came out strongly that "sin" taxes are not an effective tool of driving the correct consumer behaviour. The tool lacks the inherent power to effectively change consumer attitudes. 81.82% of respondents said that it does not discourage consumers from drinking. 67% felt that it was not the correct tool for influencing consumer behaviour.

These opinions, expressed by the questionnaire respondents, corroborate with the data on beer sales. Over the same period the data shows no decline in sales. This ties up with the literature review regarding price inelasticity. The literature review informed us that the excise duties on alcohol are price inelastic and their primary aim is to collect income for government.

Based on these results "sin" tax is not an effective tool for stopping consumers from drinking nor is it relevant in influencing consumption pattern for beer drinking. Consumers do not take "sin" tax into consideration at all when making beer purchases. In general, the state is failing to curb the use of alcohol despite the price increases it applies on the product. The state has to devise other ways of combating the spread of drinking and correcting for the externalities caused by this habit.

### *Results and Discussions*

The literature review tells us that alcohol is highly price inelastic (Campbell & Stanley, 1990:440). The data from questionnaire responses support this theory as well. 81.8% of respondents believe consumers are unresponsive at all to price changes. The data on beer sales and tax collected from beer bear evidence to this theory as well.

The data also proves that the law of demand is invalidated by price inelasticity of demand. Therefore, we conclude that a good predictor for main consumer economic behaviour is a

function of price elasticity, availability of close substitutes rather than the price of the product only. To guarantee no decline in consumer demand and revenue generated legislature heavily relies on elasticity to select the products to subject to “sin” tax.

It is observed that “sin” taxes do not conform the taxation best practice required of government. “Sin” tax does not conform to the ‘benefit principle of taxation’. The government argues that the revenue collected from beer tax is being utilized to finance health initiatives. However, in reality it is difficult to separate drinkers and non-drinkers when it comes to benefiting from public health programmes. Even if government wanted to obtain such information from patients the patient would not truthfully proffer such information. Therefore the “sinners” end up paying for the “saints” as well. It therefore makes the tax unfair and unjustified in this regard.

Secondly “sin” tax does not conform to ‘ability-to-pay principle of taxation’ because they are regressive by nature. Taxes applied on beer tend to impact the poor more than the wealthy. The wealthy do not spend a large portion of their income budget on alcohol as opposed to the poor.

Indirect taxes by nature are hidden away from the consumer unlike direct taxes. The fact that they are hidden makes it difficult for the consumer to easily calculate and understand the financial impact the consumer is subjected to. Therefore the consumer is not able to make the correct financial decisions. The net result is difficulty in deciding whether to stop drinking or not.

It is not easy to stop the spread of harmful product if you cannot punish the producer of the product. Beer taxes are completely transferable to the consumer by the producer because the producer just treats them as part of the production costs. The producer is aware of the fact that the product is price inelastic and therefore takes advantage of this. This contributes to the difficulty in government curbing the use of alcohol. To effectively control the use of alcohol other means may have to be considered that will directly impact on the producer of the product and force the producers to reduce production.

In general, the case study has identified that government is failing to curb the use of alcohol. It comes out quite strongly from the questionnaire responses that this particular tax policy (excise duties on beer) is not working to discourage consumer behaviour. Either the general public are not fully aware of the consequences associated with drinking or they are just indifferent. Currently the case study indicates no public support for "sin" taxes. This could indicate that government needs to educate the public more and create more clarity on what it spends "sin" taxes on. Perhaps that way there can be more public support for the use excise tax.

Comparing beer tax to GDP the value it contributes is almost non-existent. Beer tax contributes on average 0.00027% to GDP. This forms a very small portion of economic activity in the country. It suggests that the tax is not a good revenue raiser for the government which goes against the primary purpose of imposing any kind of tax. The questions that come to mind are: how much can government do with these small amounts? What sort of health programmes can government really support with such small values? Is the effort to collect the tax worth it at the end of the day?

We can conclude the following. Firstly that "sin" taxes do not show or present themselves as a good source of revenue. The tax amount itself, collected, is not highly affected by an increase in price. This tells us that it is not a reliable source for revenue. The observation is that "sin" tax actually generates less revenue than is expected. It is surprising that government links "sin" tax to important health programs (Budget Review, 2002:68). Is the government secretly hoping that people will not stop drinking as suggested in the research data?

The study has identified that the use of "sin" taxes as a way of driving consumer behaviour does not work effectively. A number of reasons, both theoretical and social, have been identified as the root causes that impact on the instrument. The most important ones are:

a) The product in question is highly price inelastic (Campbell & Stanley, 1990). This is probably the most important one. The research data shows evidence that a change in tax rate has no negative impact on sales in any way. Any price change does not change consumer behaviour at all.

b) The actual tax rate being levied is too small to force people to make the correct economic decisions. Consumers find it easy to adjust to prices because the “sin” tax increases by a small margin annually.

c) The product is highly addictive and highly embedded in social behaviour. This creates a psychological barrier to successfully encourage people to stop only through increased prices.

d) The tax is hidden from the consumers and it impacts on transparency and accountability. The consumer is often not aware of the tax being charged and cannot easily calculate how much he is paying. The nature of the tax makes it difficult for people to think rationally in economic terms and justify if they should or should not spend on beer.

In conclusion, the study has established that “sin” taxes are failing to achieve what they are meant to achieve and they should be discontinued. Firstly they operate outside the principles of best practice as suggested in economic theory and they are discriminatory in nature. The literature review outlined two basic principles any tax system should be based on: benefit principle and ability to pay principle. None of these principles can be guaranteed with the use of “sin” taxes. Government cannot guarantee that the revenue generated from beer tax is going to strictly benefit beer drinkers. Non drinkers may benefit from any health initiatives financed via beer taxes. Therefore, tax becomes discriminatory and unfair to beer drinkers. Why should the “sinners” be forced to possibly pay for the “saints”?

The ‘ability to pay principle’ also cannot be guaranteed because beer “sin” taxes are by nature regressive. The poor tend to expose a larger portion of their income to the tax as opposed to the wealthy. Generally, regressive taxes are not supported because they tend to go against the principles of equitable income distribution in society. A regressive tax would further widen the gap between the poor and the rich in society. This is viewed as being bad in general.

Secondly beer “sin” tax is failing to contribute significant amounts of income for government and discourage drinking. The data indicates that the tax contributes roughly 1% of total revenue. The amount collected from the tax is so small it can hardly be of real value

to the government in terms of financing any significant programmes. Therefore, it is failing to achieve its primary goals. The failure to achieve these goals renders the tool ineffective and not worthy of being used.

Thirdly the government does not have the power to control the production of alcohol simply because the tax is "shiftable" completely to the consumers by producers. So long as the producers do not bear some of the tax availability of the product cannot be prevented. To effectively control the availability of beer on the market it would make sense to also reduce its production in the first place. This means that there is a need to target the producers themselves. Measures need to be put in place to curtail alcohol production and make beer to be also supply elastic (Campbell and Stanley, 1990:441). Forcing the product to be supply elastic would make its production less lucrative for the producer and thereby force the producers to shift production resources to more profitable products. For example, government would to design a tax instrument that would make the tax incidence fall completely on the producer and not the buyer. The tax would inflate the beer price to the extent that it would negatively impact on sales. This would make production be responsive to price changes. Currently, the research data suggests that beer is supply inelastic. Price changes do not impact on levels of production because the tax is "shiftable" completely to the consumer.

In general, we can say that "sin" taxes are not enough to drive the correct consumer behaviour and curb the use of alcohol. A combination of government strategies need to be designed to counteract the fact that alcohol is price and supply inelastic. The sense of accountability and responsibility needs to be driven from consumer and supplier of the product. There is a need for shared responsibility in terms of financial punishment by government. The producer of the product would have to pay over and above the current company tax.

## Recommendations

To conclude the following recommendations have been identified.

a) Discontinue the use of beer "sin" tax.
   It is unfair and discriminatory to punish only the consumers of beer. The producer must also take financial responsibility, additional to company tax, for bringing onto

the market a product considered to undesirable and harmful to society in the first place. If government wants to play the role of making moral decisions for the consumer, surely the same role can be extended to the producer. In fact, the producer is the main culprit in this scenario and should, therefore, be forced to take more responsibility for 'cleaning up'. Otherwise the tax is unfair, unjustified and discriminatory.

b) Impose other regulatory controls to control drinking such as increasing the age restriction to 21 years and ban the sale of alcohol on Sundays. Government should play a role in making the product to be supply elastic too by using specific "unshiftable" levy on the producer. This will help create a situation of shared responsibility between consumer and producer. This may even help increase the required revenue in the short and gradually reduce the availability of the product on the market because the producer will shift resources from beer to other profitable products. It will not make good business sense to continue producing a product that does not increase company profits. Revenue is directly impacted by sales and price. A huge decline in sales reduces revenue, ceteris paribus.

c) Increase the tax rate by huge amounts to make it very difficult for consumers to afford the habit. However, this may have other economic implications such as promoting the habit in the black market. Consumers may transfer their consumption habits elsewhere. Production in the illegal market would make beer extremely difficult for government to intervene and play a role in the use of alcohol. Anyway, it is not winning in this regard currently as it is. However, it is better that the product is not freely and easily available as is the case currently.

## Chapter 7 References


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## Appendixes

### *Survey Questionnaire*

Dear Respondent

My name is Kenneth Dlamini. I am currently completing a Masters degree in Public and Development management, and am conducting research in the area of 'taxation' policy to fulfil my academic requirements and I am interested in the area of 'sin taxes'.

The questionnaire is entirely confidential and the identity of individuals will not be divulged. The results will be analysed at group level, so individuals can not be identified. Individual level is confidential.

If you would like a copy of the results you can email and request a copy at Kenneth.dlamini@standardbank.co.za.

The questionnaire should take about 30 minutes to fill in.

Date of Interview:

**SECTION A: 1 Personal Details**

**1 Name:**

| |
|---|
| |

**2 Place**

| |
|---|
| |

**SECTION B: Taxation**

**3 What do you think are the reasons for collecting "sin" taxes? (Check the ones that apply)**

| | | | |
|---|---|---|---|
| Revenue | Influence behaviour | Political & health programs | Other |

If other, please specify

| |
|---|
| |

**4 Do you believe "sin" taxes contribute in discouraging consumption of alcohol? (Check one)**

| | |
|---|---|
| Yes | No |

Please state reasons:

| |
|---|
| |

**5 Have you noticed a decline in general consumption levels after an increase in "sin" taxes? (Check one)**

| | |
|---|---|
| Yes | No |

## 6 Should "sin" taxes be continued? (Check one)

| Yes | No |
|---|---|
| | |

Please state reason(s)

| |
|---|
| |

## 7 Do you believe that imposing "sin" taxes is the right tool to discourage consumer behaviour? (Check one)

| Yes | No |
|---|---|
| | |

Please state reason(s)

| |
|---|
| |

## 8 What is your general view on "sin" taxes? (Check one)

| Good | Bad |
|---|---|
| | |

Please state reason(s)

| |
|---|
| |

## Tables

TABLE 1 Economic Data in South Africa, 2000-2005

| Year | Beer Tax Rate | Tax on Beer | Total Tax Revenue | GDP | Beer Sales |
|---|---|---|---|---|---|
| | **Cents** | **R '000** | **R '000** | **R Million** | **million** |
| 2000 | 38 | R 2 586 313.00 | R 220 334 153.00 | R 951 682.00 | 6 806 087 |
| 2001 | 40.28 | R 2 762 189.00 | R 252 298 299.00 | R 1 048 755.00 | 6 857 470 |
| 2002 | 43.57 | R 3 007 130.00 | R 282 207 654.00 | R 1 198 457.00 | 6 901 836 |
| 2003 | 47.9 | R 3 448 727.00 | R 302 507 509.00 | R 1 288 979.00 | 7 199 848 |
| 2004 | 52.24 | R 3 963 493.00 | R 354 980 266.00 | R 1 427 445.00 | 7 587 085 |
| 2005 | 57.2 | R 4 427 641.00 | R 417 333 995.00 | R 1 584 743.00 | 7 740 631 |

**Note:** * Figures extrapolated from beer tax and tax rate.

**Sources:** Department of National Treasury, Budget review, various issues; South Africa

TABLE 2 Economic Trend, Data in South Africa converted to millions, 2000-2005

| Year | Beer Tax Rate | Tax on Beer | Total Tax Revenue | GDP | Beer Sales |
|---|---|---|---|---|---|
| | **Cents** | **R million** | **R million** | **R Million** | **million** |
| 2000 | 38 | R 2.59 | R 220.33 | R 951 682.00 | 6 806 087 |
| 2001 | 40.28 | R 2.76 | R 252.30 | R 1 048 755.00 | 6 857 470 |
| 2002 | 43.57 | R 3.01 | R 282.21 | R 1 198 457.00 | 6 901 836 |
| 2003 | 47.9 | R 3.45 | R 302.51 | R 1 288 979.00 | 7 199 848 |
| 2004 | 52.24 | R 3.96 | R 354.98 | R 1 427 445.00 | 7 587 085 |
| 2005 | 57.2 | R 4.43 | R 417.33 | R 1 584 743.00 | 7 740 631 |
| MEAN | | R 3.37 | R 304.94 | R 1 250 010.17 | 7 182 159.50 |
| STDEV | | R 0.72 | R 71.54 | R 235 460.75 | 400 401 |

**Note:** * Figures extrapolated from beer tax and tax rate.

**Sources:** Department of National Treasury, Budget review, various issues; South Africa

TABLE 3 Percentage change, Index of Beer Tax Rate

| Year | Beer Tax Rate | Percentage Change | Index |
|---|---|---|---|
| | **Cents** | **(%)** | **(%)** |
| 2000 | 38 | | 100 |
| 2001 | 40.28 | 6 | 106 |
| 2002 | 43.57 | 8.17 | 114.66 |
| 2003 | 47.9 | 9.94 | 126.05 |
| 2004 | 52.24 | 9.06 | 137.47 |
| 2005 | 57.2 | 9.49 | 150.53 |
| MEAN | | 8.532 | |

**Sources**: National Treasury, Budget review

TABLE 4 Percentage change, Index of Tax on beer Sales

| Year | Tax on Beer | Percentage Change | Index |
|---|---|---|---|
| | **R '000** | **(%)** | **(%)** |
| 2000 | R 2 586 313.00 | | 100 |
| 2001 | R 2 762 189.00 | 6.8 | 106.8 |
| 2002 | R 3 007 130.00 | 8.87 | 116.27 |
| 2003 | R 3 448 727.00 | 14.68 | 133.35 |
| 2004 | R 3 963 493.00 | 14.93 | 153.25 |
| 2005 | R 4 427 641.00 | 11.71 | 171.2 |

**Sources**: National Treasury, Budget review

TABLE 5 Percentage change, Index on Total Tax

| Year | Total Tax Revenue | Percentage Change | Index |
|---|---|---|---|
| | **R '000** | **(%)** | **(%)** |
| 2000 | R 220 334 153.00 | | 100 |
| 2001 | R 252 298 299.00 | 14.51 | 114.51 |
| 2002 | R 282 207 654.00 | 11.85 | 128.08 |
| 2003 | R 302 507 509.00 | 7.19 | 137.29 |
| 2004 | R 354 980 266.00 | 17.35 | 161.11 |
| 2005 | R 417 333 995.00 | 17.57 | 189.41 |

**Sources**: National Treasury, Budget review

TABLE 6 Percentage change, Index on Beer Sales

| Year | Beer Sales | Percentage Change | Index |
|---|---|---|---|
| | **Million** | **(%)** | **(%)** |
| 2000 | 6 806 087 | | 100 |
| 2001 | 6 857 470 | 0.75 | 100.75 |
| 2002 | 6 901 836 | 0.65 | 101.41 |
| 2003 | 7 199 848 | 4.32 | 105.79 |
| 2004 | 7 587 085 | 5.38 | 111.47 |
| 2005 | 7 740 631 | 2.02 | 113.73 |

**Sources**: National Treasury, Budget review

TABLE 7 Percentage composition of beer tax to Total Tax, and GDP 2000-2005

| Year | Tax on Beer | Total Tax Revenue | GDP | Beer to Total Tax | Beer to GDP |
|---|---|---|---|---|---|
| | **R Million** | **R Million** | **R Million** | **(%)** | **(%)** |
| 2000 | R 2.59 | R 220.33 | R 951 682 | 1.17 | 0.000272 |
| 2001 | R 2.76 | R 252.30 | R 1 048 755 | 1.09 | 0.000263 |
| 2002 | R 3.01 | R 282.21 | R 1 198 457 | 1.07 | 0.000251 |
| 2003 | R 3.45 | R 302.51 | R 1 288 979 | 1.14 | 0.000268 |
| 2004 | R 3.96 | R 354.98 | R 1 427 445 | 1.12 | 0.000278 |
| 2005 | R 4.43 | R 417.33 | R 1 584 743 | 1.06 | 0.000279 |
| MEAN | R 3.37 | R 304.94 | R 1 250 010.17 | 1.11 | 0.0002685 |

**Sources**: National Treasury, Budget review

TABLE 8 A Correlation Coefficient between Beer and Sales Volumes

| **Year** | **Tax Rate** | **Beer Sales** |
|---|---|---|
| | **Cents** | **Million** |
| 2000 | 38 | 6 806 087 |
| 2001 | 40.28 | 6 857 470 |
| 2002 | 43.57 | 6 901 836 |
| 2003 | 47.9 | 7 199 848 |
| 2004 | 52.24 | 7 587 085 |
| 2005 | 57.2 | 7 740 631 |

**CORREL** 97.82149699

**Sources**: National Treasury, Budget review

TABLE 8 B Correlation Coefficient between Tax rate and tax revenue collected

| Year | Tax Rate | Beer Tax |
|---|---|---|
| | **Cents** | **Million** |
| 2000 | 38 | R 2.59 |
| 2001 | 40.28 | R 2.76 |
| 2002 | 43.57 | R 3.01 |
| 2003 | 47.9 | R 3.45 |
| 2004 | 52.24 | R 3.96 |
| 2005 | 57.2 | R 4.43 |

**CORREL** 99.76209566

**Sources**: National Treasury, Budget review

TABLE 8 C Beer Tax vs Sales

| Year | Beer Tax | Beer Sales |
|---|---|---|
| | **Million** | **Million** |
| 2000 | R 2.59 | 6 806 087 |
| 2001 | R 2.76 | 6 857 470 |
| 2002 | R 3.01 | 6 901 836 |
| 2003 | R 3.45 | 7 199 848 |
| 2004 | R 3.96 | 7 587 085 |
| 2005 | R 4.43 | 7 740 631 |

**CORREL** 98.93644354

**Sources**: National Treasury, Budget review

## Survey Results

TABLE 9 "Sin" Taxes Survey, 2010

| # | Q3a: Sin Tax Reason | Q3b: Sin Tax reason | Q3c: Sin tax reason | Q3d: Sin tax reason | Q4: Discourage Alcohol | Q5:Decline in levels | Q6:Continue Tax | Q7:Right Tool | Q8:View on tax |
|---|---|---|---|---|---|---|---|---|---|
| 1 | . | . | . | 4 | 2 | 2 | 1 | 2 | 1 |
| 2 | . | 2 | . | . | 1 | 1 | 2 | 1 | 2 |
| 3 | 1 | 2 | . | . | 1 | 1 | 1 | 1 | 1 |
| 4 | 1 | . | . | . | 1 | 1 | 1 | 1 | 1 |
| 5 | 1 | . | 3 | . | 1 | 1 | 1 | 1 | 1 |
| 6 | 1 | . | 3 | . | 1 | 1 | 2 | 2 | 2 |
| 7 | . | . | . | 4 | 1 | 1 | 1 | 1 | 2 |
| 8 | 1 | . | . | . | 1 | 1 | 1 | 1 | 1 |
| 9 | 1 | . | . | . | 1 | 1 | 1 | 1 | 1 |
| 10 | . | 2 | . | . | 2 | 1 | 2 | 2 | 2 |
| 11 | 1 | 2 | . | 4 | . | . | 2 | 2 | 2 |
| 12 | . | 2 | . | . | 1 | 1 | 2 | 1 | 2 |

**Source:** Questionnaire results, 2010

TABLE 10 Frequencies for Q3 "What are the reasons for 'Sin' taxes?"

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | Revenue | 7 | 58.33 |
| 2 | Influence Behavior | 5 | 41.67 |
| 3 | Political & Health Reasons | 2 | 16.67 |
| 4 | Other | 3 | 25 |
| **Total** | | **12** | |

**Source:** Questionnaire Data, 2010

TABLE 11 Frequency for Q4 "Do excises on liquor discourage drinking?"

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | No | 9 | 81.82 |
| 2 | Yes | 2 | 18.18 |
| Total | | 11 | 100 |

**Source:** Questionnaire Data, 2010

TABLE 12 Frequency for Q5 "Noticeable decline in consumption after hike in rate?"

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | No | 10 | 90.91 |
| 2 | Yes | 1 | 9.09 |
| Total | | 11 | 100 |

**Source:** Questionnaire Data, 2010

TABLE 13 Frequency for Q6 "Should 'sin' taxes be continued?"

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | No | 7 | 58 |
| 2 | Yes | 5 | 42 |
| Total | | 12 | 100 |

**Source:** Questionnaire Data, 2010

TABLE 14 Frequency for Q7 "Is this the correct tool?"

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | No | 8 | 67 |
| 2 | Yes | 4 | 33 |
| Total | | 12 | 100 |

**Source:** Questionnaire Data, 2010

TABLE 15 Frequency for Q8 "View on "sin" tax?

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | Bad | 6 | 50 |
| 2 | Good | 6 | 50 |
| Total | | 12 | 100 |

**Source:** Questionnaire Data, 2010

TABLE 16 A Q3 "Other Reason"

| Respondent | Other | Correct Market Failure | Support General State Programmes | Not Clearly Explained |
|---|---|---|---|---|
| 1 | 4 | | | 3 |
| 2 | . | . | . | . |
| 3 | . | . | . | . |
| 4 | . | . | . | . |
| 5 | . | . | . | . |
| 6 | . | . | . | . |
| 7 | 4 | . | 2 | . |
| 8 | . | . | . | . |
| 9 | . | . | . | . |
| 10 | . | . | . | . |
| 11 | 4 | 1 | . | . |
| 12 | . | . | . | . |
| | | | | |
| Total | 3 | 1 | 1 | 1 |

**Source:** Questionnaire Data, 2010

TABLE 16 B Q3: Grouped data for other reasons for "sin" tax

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | Correct Market Failure | 1 | 33.33 |
| 2 | Support General State Programmes | 1 | 33.33 |
| 3 | Not Clearly Explained | 1 | 33.33 |
| | | | |
| Total | | 3 | |

**Source:** Questionnaire Data, 2010

TABLE 17 A Q4: Do they discourage drinking?

| Respondent | Code | yes: See Decline | No: Addictive | No: Entertainment | No: No Decline | No:LackofTaxAwareness | No: Tax Rate Too Small |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 1 | . | . | . | . | . |
| 2 | 1 | . | 1 | 2 | | | . |
| 3 | 1 | . | . | 2 | . | . | . |
| 4 | 1 | . | . | . | 3 | 4 | . |
| 5 | 1 | . | 1 | 2 | . | . | . |
| 6 | 1 | . | . | 2 | . | . | . |
| 7 | 1 | . | . | 2 | . | . | . |
| 8 | 1 | . | . | 2 | . | . | . |
| 9 | 1 | . | . | . | . | 4 | . |
| 10 | 2 | 1 | . | . | . | . | . |
| 11 | . | . | . | . | . | . | . |
| 12 | 2 | | | | | | 5 |

TABLE 17 B Q4 (No): Grouped data for" Discourage Drinking"

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | Addictive | 2 | 25 |
| 2 | Entertainment | 6 | 75 |
| 3 | Indifference | 1 | 12.5 |
| 4 | LAckOfAwareness | 2 | 25 |
| 5 | TaxRateTooSmall | 1 | 12.5 |
| Total | | 8 | |

**Source:** Questionnaire Data, 2010

TABLE 18 A Q6: Should "sin" tax be continued?

| Respondent | Yes:Contain Spread | Yes:Revenue Raiser | Yes:Influence Beviour | Yes:Finance Programmes | Yes:Correct Extranality | No:Addictive | No:LackOfAwareness | No:Pro illegal market |
|---|---|---|---|---|---|---|---|---|
| 1 | . | . | . | . | . | . | . | . |
| 2 | . | 2 | . | . | . | . | . | . |
| 3 | . | . | . | . | . | . | . | . |
| 4 | . | . | . | . | . | . | . | . |
| 5 | . | . | . | . | . | . | . | . |
| 6 | . | . | 3 | 4 | 5 | . | . | . |
| 7 | . | . | . | . | . | 1 | . | . |
| 8 | . | . | . | . | . | . | . | 3 |
| 9 | . | . | . | . | . | 1 | . | . |
| 10 | 1 | . | . | . | . | . | . | . |
| 11 | . | 2 | 3 | . | . | . | . | . |
| 12 | . | 2 | . | . | . | . | . | . |

**Source:** Questionnaire Data, 2010

TABLE 18
B Q6 ( Yes)

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | Contain Spread | 1 | 20 |
| 2 | Revenue Raiser | 3 | 60 |
| 3 | Influence Behaviour | 2 | 40 |
| 4 | Finance Programmes | 1 | 20 |
| 5 | Correct Externality | 1 | 20 |
| Total | | 5 | |

**Source:** Questionnaire Data, 2010

TABLE 18
C Q6 ( No)

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | Addictive | 2 | 29 |
| 2 | Lack of Awareness | 0 | 0 |
| 3 | Promote Illegal Market | 1 | 14 |
| 4 | Disagree with usage Reason | 2 | 29 |
| 5 | Hurts Economy | 3 | 43 |
| Total | | 7 | |

**Source:** Questionnaire Data, 2010

TABLE 19 A Q7: Are "sin" taxes the correct tool?

| Respondent | Code | Yes:Decline After tax | Yes:Curb Irresponsible Drinking | Yes:Combine | No:Require Other Means | No:Consumer Indifference | No:Lack of Awareness | No:No Knowledge of Financial Loss | No:Cash Cow |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 1 | . | . | . | . | . | . | . |
| 2 | 1 | . | . | . | 1 | . | . | . | . |
| 3 | 1 | . | . | . | . | 2 | . | . | . |
| 4 | 1 | . | . | . | . | . | 3 | 4 | . |
| 5 | 1 | . | . | . | . | 2 | . | . | 5 |
| 6 | 2 | . | 2 | . | . | . | . | . | . |
| 7 | 1 | . | . | . | . | . | . | . | . |
| 8 | 1 | . | . | . | . | . | . | . | . |
| 9 | 1 | . | . | . | . | 2 | 3 | . | . |
| 10 | 2 | . | . | 3 | . | . | . | . | . |
| 11 | 2 | . | 2 | 3 | . | . | . | . | . |
| 12 | 1 | . | . | . | 1 | . | . | . | . |

**Source:** Questionnaire Data, 2010

TABLE 19 B Q7 (Yes)

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | Decline | 1 | 25 |
| 2 | Curb Irresponsible Drinking | 2 | 50 |
| 3 | Combine | 2 | 50 |

**Total** **4**

**Source:** Questionnaire Data, 2010

TABLE 19

C Q7 (No)

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | Require other means | 2 | 25 |
| 2 | Consumer Indifference | 3 | 37.5 |
| 3 | Lack of Awareness | 2 | 25 |
| 4 | No Knowledge of Loss | 1 | 12.5 |
| 5 | Cash Cow | 1 | 12.5 |
| 6 | Peer Pressure | 1 | 12.5 |
| 7 | Entertainment | 1 | 12.5 |
| 8 | Addictive | 2 | 25 |
| **Total** | | **8** | |

**Source:** Questionnaire Data, 2010

TABLE 20 A Q8: View on "sin" Tax

| Respondent | Code | Good:Revenue Raiser | Good:Curb Externality | Good:Curb Drinking | Bad:Cash Cow | Bad:Hurts Economy | Bad:Dont Benefit Public | Bad:Gov Misuses Funds |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | . | . | . | . | 2 | . | . |
| 2 | 2 | 1 | . | . | . | . | . | . |
| 3 | 1 | . | . | . | . | . | . | 4 |
| 4 | 1 | . | . | . | 1 | . | 3 | . |
| 5 | 1 | . | . | . | . | 2 | . | . |
| 6 | 2 | 1 | 2 | 3 | . | . | . | . |
| 7 | 2 | 1 | . | . | . | . | . | . |
| 8 | 1 | . | . | . | . | 2 | . | . |
| 9 | 1 | . | . | . | 1 | . | . | . |
| 10 | 2 | . | . | . | . | . | . | . |
| 11 | 2 | 1 | 2 | . | . | . | . | . |
| 12 | 2 | 1 | . | . | . | . | . | . |

**Source:** Questionnaire Data, 2010

TABLE 20
B Q8 (Good)

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | Revenue Raiser | 5 | 83.33 |
| 2 | Curb Externality | 2 | 33.33 |
| 3 | Curb Drinking | 1 | 16.67 |

Total 6

**Source:** Questionnaire Data, 2010

TABLE 20
C Q8 (Bad)

| Code | Value | Frequency | Percent |
|---|---|---|---|
| 1 | Cash Cow | 2 | 33.33 |
| 2 | Hurts Economy | 3 | 50 |
| 3 | Dont Benefit Public | 1 | 16.67 |
| 4 | Gov Misuses Funds | 1 | 16.67 |

Total 6

**Source:** Questionnaire Data, 2010