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BACHELOR THESIS

**The Alcohol monopoly in Sweden and the potential
hazards of privatization**

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Declaration of Authorship

The author hereby declares that he compiled this thesis independently, using only the listed resources and literature.

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Prague, July 23, 2014

Signature

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I am thankful for attending the courses of International Trade and International Finance. These particular courses have helped me to search and report the statistical data regarding exports, imports, consumption and tax levels. Microeconomic knowledge is very important, as well as Public finance and social view in this particular thesis.

Abstract

My main task is to investigate the potential consequences of privatization by relying in microeconomic concepts, theories and comparison of different models. In addition the main aim of the paper is to show that the enforcement of monopoly is the best method on how to reduce alcohol consumption and therefore alcohol-related harm. The research includes theoretical background with regards to taxation, quotas and microeconomic perspectives such as income and substitution effects. The data and theory should support the claim that privatization will decrease prices and therefore increase consumption. The theory of perfect competition will show the theory behind the potential effects of privatization. In addition the abolishment of import quota should increase the consumption as well.

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Introduction

There are different trends and systems in Europe on how to solve production, distribution, export and import of alcohol that means different countries have different solutions with regards to alcohol policy. I am going personally to Sweden often because my father and his family are Swedish. I started to research about Systembolaget, which has a strict monopoly status in Sweden, except for restaurants and bars. Bars and restaurants do have strict rules for “serving” alcohol. Strict rules are implemented to enforce legality of age, health standards and decrease in crime rates. Monopoly is an industry that has a single seller. The main state company in Sweden that holds monopoly status is called Systembolaget. The official website of Systembolaget already contains its main objective “to minimize alcohol-related problems by selling alcohol in a responsible way, without profit motive”. Furthermore “Systembolaget’s product range is actually one of the most comprehensive in the world. The prices of alcohol comparing to other countries are higher due to a high tax system. In Sweden tariffs are taxes imposed on all products that contain more than 3,5% of alcohol¹.

This research paper will investigate the potential effects of privatization of the Swedish monopoly. The role of externalities and public security plays an important role in analyzing the negative consequences of alcohol consumption on society. Externalities are the 3rd party people who don’t consume, but still get affected by the environment they are living in. It is widely emphasized that with privatization there would be higher consumption and imports of alcohol beverages.

Firstly, the paper describes the monopoly with the role of externalities, public safety and taxation and their effect on consumption. Secondly, under the retail monopoly setting I describe and show data on exports and imports of alcohol. The second half deals with different scenarios on the impact of privatization. Separately the paper describes EU and Swedish Alcohol policy, Monopolistic competition, price discrimination, Information technology and the impact of quota on consumption. Lastly, the consumption levels in link with more liberalized monopoly will be discussed.

¹ Alcohol monopoly and public health pg.6

Literature Review

I have been mainly influenced by Harold Holder's research on the potential hazards of privatizing alcohol sales. Harold Holder names different scenarios on privatization that includes the increase of opening hours, the number of grocery stores and alcohol-related harm. Harold Holder has been providing data on potential increase of consumption as a result of longer opening hours. The data have been useful because he has used them to estimate the percentage changes of such effect. Furthermore Harold Holder provides specific issues such as the effect of policy changes for vulnerable groups, advertising, outlet density. His data supported the evidence to conclude that privatization would be rather harmful than helpful. Mats Ramstedt and Nina-Katri Gustafsson are focusing on Nordic Studies and Drugs. Their aim was to provide data and evidence with regards to the increase of travellers' imports and Systembolaget's sales. The tables are clear and useful to analyze the potential consequences of abolishing the quotas and the effect on consumption. Their analysis indicated the EU pressure on abolishing quotas and travellers allowances. Their data has corresponded to the Figure 1.1, where we clearly see that the level of imports have significantly increased after 2004. They have illustrated several other factors that influence increase of consumption in Sweden. Such factors are reduction in taxes in neighboring countries, travelling habits and density. The Economist article called "loosening up" generally summarizes the effect of alcohol sales in Systembolaget when Sweden joined the EU. The European Health analyzed the effectiveness of alcohol policy. The report did not specifically analyze Swedish situation, however it dealt with policies aimed at reducing negative externality of alcohol consumption. It brought interesting aspect on how to control alcohol consumption such as better server training, school based education courses, warning labels on alcohol products, negative advertising and the overall regulation of the alcohol market. I have also been influenced by Alexandra Eriksson's scholar article that focuses on whether the taxes on alcohol should be reduced. The author states that the tax reduction has positive and negative consequences. There is no definite answer whether Sweden should reduce its taxes. Decreasing taxes would increase sales and "enhance transparency of the market". On

the other hand the author mentions the possibility of increase in alcohol-related harm as a result of reduction in taxes. There is a trade-off between reducing or increasing taxes.

All authors seem to be helpful in providing data and evidence to support the theories I have included and learned throughout the length of my studies. The authors do not specifically provide any economic theory behind the effect of privatization on alcohol. I have included theories with regards to perfect competition, quota, taxation and microeconomic models related to the effect of taxation such as substitution effects and income effects. These theories did not violate the data I found as it showed that an abolishment of quotas and a reduction in taxes would inevitable lead to higher consumption. The sophisticated method involves the analysis of monopolistic competition and it may be difficult to properly analyze such economic behavior.

Description of the monopoly model in Sweden

Monopoly considers an industry structure when there is only one firm in a market. When there is only one firm in a market, the firm is unlikely to be a price taker. The monopoly recognizes the concentration of power it has and therefore it chooses its price and output to maximize profits. It is arguable in this case safety and health standards are priority for the Swedish government and profit maximizing seems secondary. Even though profit-maximization is not the priority, we would assume that the state company would find it difficult to operate on losses. Two main products will be associated with the monopoly model. Beer and spirits are a significant portion of sales in Sweden. The approximate price of 0.5 litres of beer is 1.29 euros and the price of 0.7 litres of spirits is 21.54 euros. The tax on beer is 26% and on spirits it is 67%. The corresponding taxes seem to indicate the level of prices. In France, which does not have a monopoly has much lower prices. Firstly, the age limit 16, and in Sweden 18. Secondly, the prices for beer and spirits are 0.66 Euros and 11 Euros respectively. The taxes on beer and spirits are 9% and 33% respectively. The average annual consumption in Sweden is 5.26 and in France up to 9.5². This clearly indicates the difference in monopoly and perfect competition with regards to the difference in prices. In the monopoly setting demand at the retail level does not stimulate availability and convenience. In the free market, the number of sales outlets and availability increases when demand increases. This indicated the clear difference between the French and Swedish markets. In many cases monopolies do not have the incentive to innovate and provide new and original

² <http://news.bbc.co.uk/2/hi/europe/4459974.stm>

products. Swedish retail monopoly is an exceptional example of having the incentive to innovate. According to the official website of Systembolaget, the varieties of products are constantly evolving and changing. The monopoly pricing ensures that the products are not fully available and that the restrictions on availability reduce alcohol-related harm and other forms of negative externality.

The monopoly setting for alcohol could create negative economic outcomes as well. Monopolies can create inflation. Inflation is defined as an overall increase in prices. Systembolaget is not able to set its own prices; therefore they will raise the prices to customers. This is known as cost-push inflation. Systembolaget does not need to be subject for price fixing or negotiations as there is no other competitor that sells alcohol. For example the alcohol monopoly in Sweden is similar to other monopolies that control electricity or water utilities. The monopolies for electricity and water utilities are aimed at protecting the customer from higher prices. Similarly, Systembolaget monopoly setting is aimed at protecting the customer as well and both are controlled by the state. The only difference is that through alcohol monopoly the customer is protected from enforcement of high prices and therefore less availability. Its clear aim is to reduce negative externality through implementation of high taxation and import quotas.

The role of externalities and public safety

There are different policies in which the government could implement in order to reduce negative externality. Negative externality could be a product that poses a negative effect on the third party³. The level of alcohol consumption affects the public health and social stability. The alcohol tax is one of the instruments to regulate the consumption level. The high tax is supposed to decrease the affordability of the alcohol and therefore keep the alcohol consumption at relatively low level. There are other ways on how to control the externalities. For example, another way on how to control the externality is through the implementation of the law. Activities with external costs should be outlawed. The Swedish government enforces corrective measures through implementation of strict rules and licensing. A policy of correction adjusts activities with externalities by creating a corrective penalty. Sweden enforces such measures by having one of the highest taxes in Europe. Those measures are strictly “corrective” in taxing the negative externality. Figure A and B show that Sweden is among the countries with highest taxation.

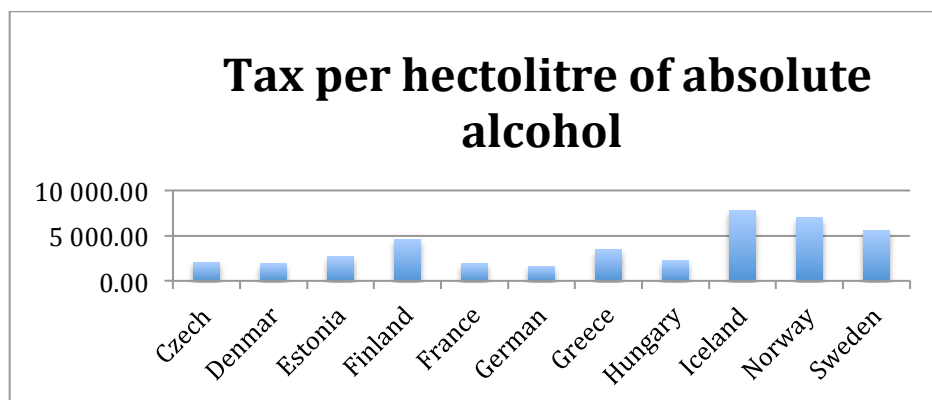
³ Economics of the Public sector, 3rd Edition, E.Stiglitz

Taxation of alcoholic beverages				
	Tax per hectolitre of absolute alcohol			
	Excise		VAT rate (%)	Small distillery rate
	National currency	USD		
Australia	6 916.00	4 437.62	10.0	No
Austria	1 000.00	1 176.96	20.0	Yes
Belgium	1 752.24	2 023.29	21.0	No
Canada	1 169.60	951.35	5.0, 12.0, 13.0 or 15.0	No
Chile	See note	-	19.0	No
Czech Republic	28 500.00	2 047.45	20.0	No
Denmark	15 000.00	1 919.56	25.0	No
Estonia	1 418.00	2 665.42	20.0	No
Finland	4 340.00	4 586.37	23.0	No
France	1 660.00	1 914.72	19.6	No
Germany	1 303.00	1 632.62	19.0	Yes
Greece	2 450.00	3 462.62	23.0	No
Hungary	289 900.00	2 231.86	27.0	Yes
Iceland	1 069 300.00	7 766.22	25.5	No
Norway	67 200.00	6 983.59	25.0	No
Sweden	50 141.00	5 625.03	25.0	No

Source: OECD, taxation of alcoholic beverages

Figure A

The graph above is taken from OECD data. The data contains up to and including 2012⁴. The excise tax is an inland tax on sale or production of sale. The Value-added Tax is a type of consumption tax whenever value is added at a stage of production and at final sale⁵. The column chart below indicates tax per hectoliter of absolute alcohol in USD dollars on the vertical axis and countries on the horizontal axis.

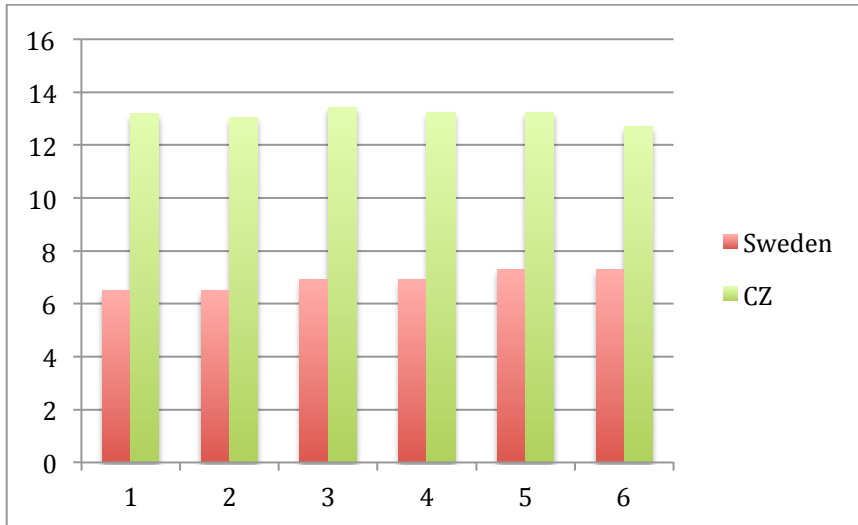


Source: World Health organization: Recorded tax per hectoliter Figure B

⁴ <http://www.oecd.org/tax/tax-policy/tax-database.htm>

⁵ Investopedia definition

Interestingly, the countries that hold monopoly status of alcohol have the highest excise tax. These countries include Norway, Iceland, Sweden and Finland. The next table below indicates the level of consumption of all alcohol beverages in Sweden and in Czech Republic⁶.



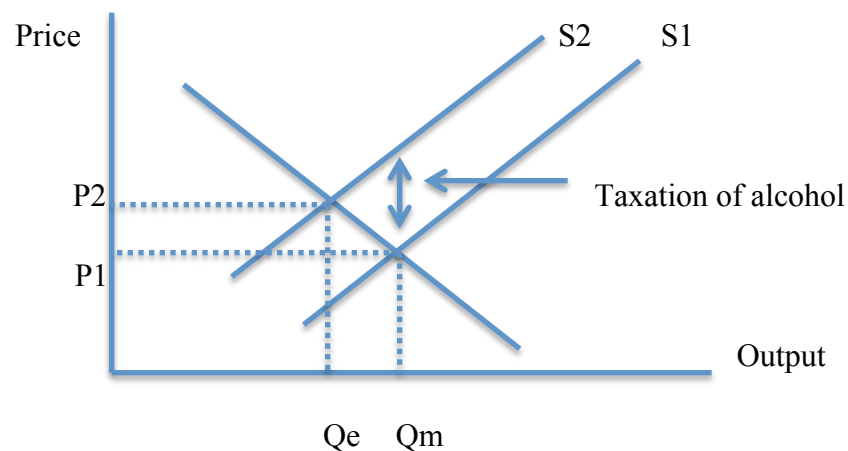
Source: World Health organization: Recorded alcohol per capita consumption, from 1990. Figure C

The chart indicates the years from 2005-2010 on horizontal axis and the recorded alcohol per capita consumption in litres of pure alcohol are indicated on the vertical axis. It is observable that the comparisons are dramatic and different. Czech Republic does not need a license to sell alcohol, but needs to have a license on production of alcohol. Czech Republic has a market-oriented or laissez fair approach to production and sales of alcohol. Swedish monopoly approach or state-controlled approach indicates that its goals of implementing relatively low consumption are achieved. Czech Republic's level of consumption is twice as high. There could be also other factors that can influence alcohol consumption level such as life quality and social stability. It is also important to indicate the increased level of consumption in Sweden. It could be estimated that the trend is constantly increasing, as we do not have the data after 2010. The increasing trend of alcohol consumption seems to indicate that there are other influential factors. Sweden is sensitive to the price changes of alcohol abroad, specifically in border countries. These countries could include Denmark, which does not have a monopoly. Distance, therefore plays a significant role in alcohol consumption. Since 2000 "Sweden has gradually increased quotas for private alcohol

⁶ <http://apps.who.int/gho/data/node.main-euro.A1025?lang=en&showonly=GISAH>

import and in 2004 it adapted the common EU rules”(Alcohol tax in Sweden, Public economics). The tax in general has a negative correlation with consumption.

The negative externality deals with increased alcohol consumption in Sweden. Alcohol consumption can caused increased number of crimes or child abuse. We will show graphically the impact of taxes when trying to limit negative externality. Centralized allocation mechanism, all decisions with regards to production and consumption are concentrated in the hands of a single agency⁷. Sweden is definitely an example of such allocation. From the public finance view, Swedish monopolization of alcohol can be seen as a process of internalization and limit the negative externality. Internalization occurs when the community collectively decides the maintenance of facilities that affects the community⁸. In such case “internalizing” has occurred on the national level. According to Per Leimar “restrictive alcohol policy measures have much support in Sweden and this support has increased in the last decade”. Swedish customers and citizens support the idea of monopoly because it has shown positive results. The collective agreement has been enforced. Bringing the alcohol production under a single management attains efficiency.



Alcohol consumption in this paper is regarded as the negative externality. The taxation of alcoholic beverages increases prices from P_1 to P_2 . It also limits the output from Q_m to Q_e . The monopoly reduces production and increases prices. This corresponds to the lower level of consumption in Sweden in relation to Czech Republic’s consumption. Tax is meant to be corrective. The monopoly is aimed at correcting externalities, rather than being profit-maximizing. The high taxes are then being redistributed to education and social security. If the taxes were not involved then price would be lower and output

⁷ Economics of the Public sector, 3rd Edition, E.Stiglitz

⁸ <http://www.env-econ.net/2012/02/internalizing-negative-externalities.html>

would be attained at Q_m (excessive production). By setting the tax, the monopoly will set the price at P_2 . Alcohol is not considered a necessity by the government. At some point, alcohol in Sweden becomes a Giffen good. A Giffen good is defined as a good for which demand increases as the price increases⁹. The small portion of high-income individuals can afford to buy more quantities of alcohol.

The Swedish government is relied upon direct regulation. Imposing restrictions and reducing inefficiencies associated with excessive production of alcohol. There are advantages to regulation. They provide greater certainty. Certainty and achievable results are present in a constant low level of consumption. Alcohol consumption as a negative externality is easier to measure than pollution for example. Alcohol consumption is measured through the sales of the monopoly, however with pollution it is harder to measure the exact level of emissions. Regulation is therefore more efficient with alcohol consumption. The data are more observable and reliable. Therefore regulation can play a significant part in limiting negative externality of alcohol consumption.

Innovation and quality plays a significant role in strengthening the support of the monopoly system in Sweden. Systembolaget is innovative through offering varieties of products. Systembolaget is constantly changing products per year and adjusts products based on consumer preferences. Systembolaget imposes stringent standards on quality. Quality of the products would outweigh the costs. The number of stores has been exponentially expanding when it was founded in 1955. There were 120 million customer visits alone in 2013¹⁰. Despite the high prices, incentives are provided by the price system.

Government is mainly responsible for its citizens and therefore information disclosure plays a significant role in controlling the consumption. In such government's role is not to require firms to disclosure their information about products because they are no other firms selling alcohol under monopoly model. Under competitive and market-approach systems, government would have to require firms to disclosure their information regarding the safety of their products. In our case government is strictly responsible for only one firm and their products. This could reduce the cost for regulation because there is only one firm to regulate in the monopoly system. Swedish citizens are showing

⁹ Investopedia definition

¹⁰ <http://www.systembolaget.se/English/Our-stores/>

sings of strong support of the monopoly system because the products are safe and have high quality.

The monopoly, exports and imports

Sweden is an open economy and a member of the European Union. Sweden is an export-oriented market economy. Timber, hydropower and iron ore constitute the resource base of an economy heavily oriented toward foreign trade. Main export partners are Germany, Norway and United States. The main aspect, however is to look at imports and exports of alcohol beverages.

Alcohol Beverages- Imports(kg/person/year)

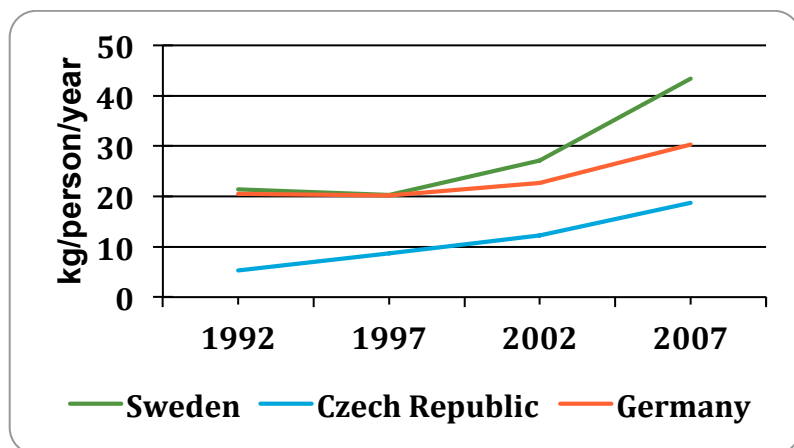
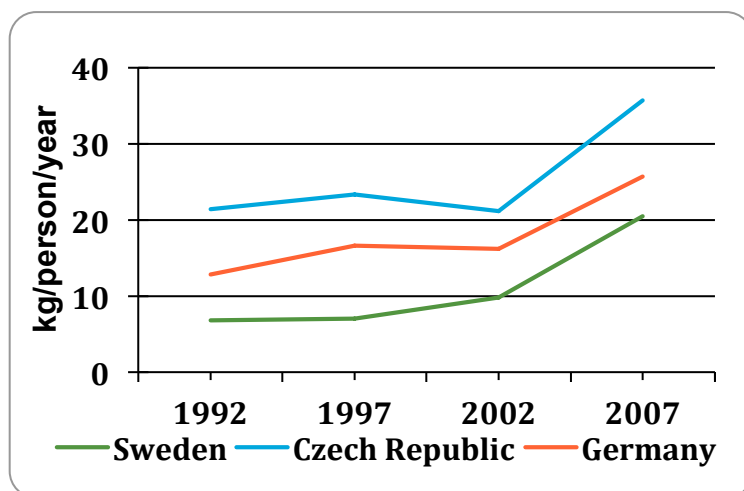


Figure 1.1

Source:Knoema:imports of alcohol beverages

Alcohol beverages-Exports(kg/person/year)



Source:Knoema:exports of alcohol beverages

Figure 1.2

Imports per person are the amount of imports, in terms of quantity, for each individual in the total population. Interestingly, after 1997, the highest amount of quantity of imports holds for Sweden. Czech Republic holds the lowest amount for alcohol imports. The data has been collected from [knoema](#)¹¹. Exports show inverse results. Czech Republic holds the highest export quantities of alcohol, whereas Sweden holds the lowest export quantities.

There are different factors influencing the growth of the export market. High Czech export of alcohol is mainly attributed to the production of beer. Czech beer ranks among the products that most successfully represent the Czech Republic on international markets. Czech beer was successfully launched in the Mexican market in 2010. Czech companies that produce liquor are competitive and the number of firms is higher than in Sweden. Czech Republic's alcohol market can be described from the microeconomic perspective as "perfectly competitive". They are not under state control and were mostly privatized after the revolution. Sweden, on the other hand has one of the lowest export market of alcohol. This is attributed by the system of alcohol, where Systembolaget does not need to compete with other firms, since there is only a monopoly market. Instead, Sweden with having the highest import suggests that Systembolaget is dependent on foreign suppliers. Swedish domestic alcohol production sector is relatively low. The increasing trend of alcohol import is due to the fact that Sweden has increased its import quotas of privately imported alcohol. In addition also allowing travellers to bring in much larger amounts of alcohol from other European Union countries¹². These changes can increase alcohol-related harm in Sweden and thus possibly the occurrence of negative externality. Since Sweden became a member of EU, greater quantities of alcohol beverages were brought in the country from abroad.

Monopoly and Pareto improvement

Swedish alcohol monopoly system is mainly based on the concept of welfare economics. It is the branch of economics that focuses on normative issues. The monopoly system proves to be Pareto improving. Pareto improvement involves an economic policy in which some individuals are better off without making anyone worse off. Monopoly limits externality and high prices are compensated for high quality. Constant low consumption levels indicate less alcohol related harm and therefore Pareto improving. Privatization would most probably lead to Pareto efficiency. Pareto

¹¹ <http://knoema.com/search?query=import%20of%20alcohol%20beverages>

¹² <http://www.ncbi.nlm.nih.gov/pubmed/20841327>

efficiency occurs that an economic policy in which no one can be better off without making anyone worse off¹³. There would be more firms selling and exporting more quantities and therefore induce increasing numbers of alcohol related harm. There would be some firms that would have to exit the market due to higher competition.

Different scenarios of privatization of alcoholic production

If Sweden was to follow privatization of alcohol outlets, it would probably increase its export market. The number of stores and companies would increase. The loosening of restrictions would stimulate the unsatisfied alcohol demand. Selling alcohol in many stores could indicate expansion and economies of scale. Economies of scale arise with increased output of a product. The greater the quantity of good produced, the lower the fixed costs¹⁴. Along with creating strong incentives that induces productivity, privatization may improve efficiency. Rather than facing lower quantities, government could collect taxes on the increasing number of privatized firms. This would induce the government to possibly collect more in revenues. Firms are more likely to increase export when and possibly achieve Czech levels of export quantities.

The potential increase of grocery stores as a consequence of privatization

Systembolaget has over 400 stores. According to Harold Holder it is estimated that the number of stores would increase substantially.

Scenario	Outlets	Consumption Increase
Retail Monopoly	400	Base for model
Specialty stores	1,256	18,9%
Grocery stores	8,000	38,5%

Source: Harold Holder

Figure 1.3

A specialty store is a shop that offers specific and specialized types of items. Its aim is to sell a particular type of product. According to Holder it is estimated that extending sales to grocery stores would substantially offset the increase in alcohol consumption. One of the major areas that would be affected by the changes in alcohol policy would be the border area. It is assumed that specialty shops and tax duty free shops are located

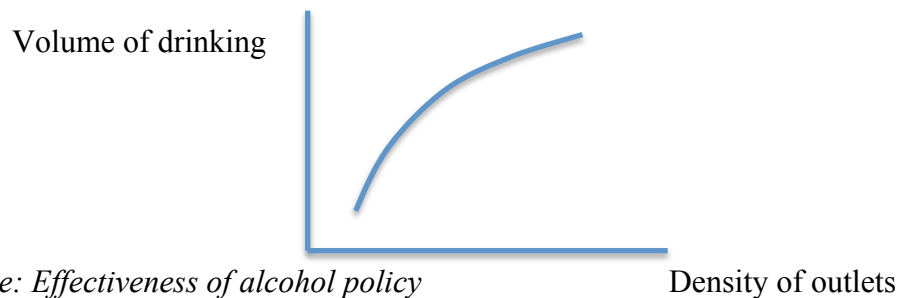
¹³ Economics of the Public sector, 3rd Edition, E.Stiglitz

¹⁴ <http://www.investopedia.com/terms/e/economiesofscale.asp>

in border area. This data clearly goes along with our model of perfect competition. The prices would decrease and the number of firms would increase. With an increase of sales in Swedish shops would offset lower demand of alcohol beverages from abroad.

Changes in density

An increase in availability is very likely to be correlated with increase density following privatization. According to Harold Holder in USA there has been heavy and frequent drinking in areas with higher density of alcohol outlets. Furthermore when medium strength beer was removed from Swedish grocery stores, hospitalizations with alcohol-related problems decrease significantly among the young group.(Effectiveness of alcohol policy). The graph below indicates the positive correlation between density and volume of drinking. The graph shows that the higher the density will lead to higher consumption and alcohol-related problems. Volume of drinking is represented on the vertical axis and density of outlets on horizontal axis.



The consequence for heavy drinkers

Heavy drinkers are mostly associated with their addiction on alcohol. It is therefore assumed that they are not very sensitive to price changes and therefore are unaffected by policy changes. Privatization may imply a substantial increase of alcohol consumption from heavy drinkers. One of the advantages of the monopoly system is the absence of a private profit motive and that enhances the denial of alcohol sales to heavy or intoxicated drinkers.¹⁵ Systembolaget has training for staff that is aimed at avoiding sales to such people.

¹⁵ Policy Effectiveness of alcohol policy, http://ec.europa.eu/health-eu/doc/alcoholineu_chap7_en.pdf

The advantages of privatization

Privatization would likely attract more business and new firm entry in the market. Firms would increase profits through increase of sales and lower prices. Competition stimulates lower prices and greater variety for the customer. According to Harold Holder “any economic opportunity for greater sales and thus profit attracts the interest of producers and retailers who consistently seek greater opportunity for sales(pg.38). Despite these advantages privatization can be beneficiary if it produces a positive outcome and externality for the society. Privatization of merit goods could imply positive consequences.¹⁶ Alcohol is however defined as a de-merit commodity and their output should be restricted as privatization would eventually lead to negative consequences for the society. Privatization would bring more pressure on regulation. It is most likely that the laws and pricing would most likely accommodate the interests of producers and retailers.

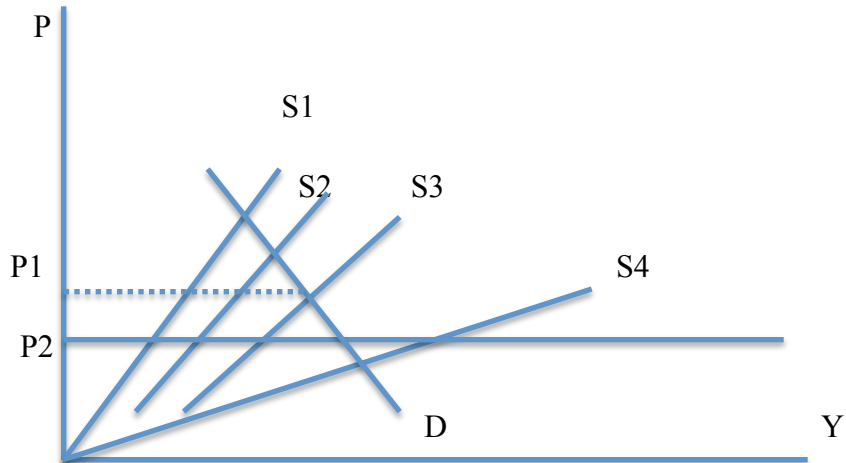
If current taxes were retained than the expected average prices would not fall. It is however expected that stores would offer discount products not currently sold by Systembolaget. A large proportion of Swedish grocery stores would sell alcohol, from 412 stores, the number of privately owned grocery stores would climb up to 8,000 stores¹⁷. Furthermore marketing and other forms of advertising would increase consumption levels. Systembolaget has marketing strategies and attracts consumers, but with perfect competition, it is expected that advertising would be more frequent on TVs, radios, newspapers and more. Age verification could be effective as in Systembolaget. At the current state, monopoly stores are better at enforcing minimum age requirements for buying alcohol. Age verification, however could be less effective than at Systembolaget. In a private licensing system, higher product sales lead to higher profits. In the perfectly competitive model, increased competition leads to lower prices and greater availability for the consumer. The model for perfect competition would go directly against the monopoly’s objective of prioritizing health and safety over profit.

In competitive industries there are no restrictions against new firms entering the industry¹⁸. In some industries, however there are barriers to entry. Specifically, such as licenses on how many firms can be in the industry. In the privatized market for alcohol, it is assumed that there would still be some regulation on the sales of alcohol, which prevents free entry to the retail liquor industry.

¹⁶ Economics of the Public sector, 3rd Edition, E.Stiglitz

¹⁷ Alcohol monopoly and Public Health (Harold Holder)

¹⁸ Microeconomics:A modern Approach, Hal R.Varian



The graph above shows the industry supply curves for each different number of firms that can be in the market. In this case there are now 4 firms in the market after the abolition of the monopoly system. The firms have identical supply curves. The total amount supplied of 2 firms are in the market is twice as much as when 1 firm is in the market. When 3 firms are in the market than it is three times as much. The horizontal line of P2 is the minimum price consistent with nonnegative profits. When positive profits are being made, the intersection of demand and the supply curves are consistent with the nonnegative profits. We see, that 3 firms are being able to operate on positive profit. If one more company enters the market, which in this case is S4 then profits are negative. The competitive industry would show that due to competition and survival in the market, the price for alcohol beverages across different stores would in the long-run decrease. This would promote increased level of consumption and alcohol- related harm and therefore the occurrence of negative externality. Some alcoholic stores would not be able to survive competition and therefore would have to exit the industry¹⁹. The total amount produced given by the supply curves will change and lead to a change in the market price. The firms that would generate positive profits could create economies of scale regarding labor and rental space. Substitution effect would take place, as increased consumption from privatized stores would reduce consumption of alcohol purchased outside of Sweden. The imports of alcohol beverages could be on the similar level as in Czech Republic according to figure 1.1.

The link between privatization and regulation means that the government shifts their focus from controlling the inputs and processes in the production of public services to controlling the performance of the firms that produce these services. Price regulation

¹⁹ Microeconomics:A modern Approach, Hal R.Varian

deals with industry sectors or firms that enjoy higher degree of market power. In this case the privatization of alcohol sector would lead to a smaller number of firms selling identical goods, meaning that their market power is evenly distributed. Direct regulation would be aimed at health and safety rather than on price. If Swedish government would want to limit the alcohol consumption during privatization, then it would need to enforce strict rules and establish a regulatory framework based on security. The cost of alcohol misuse in society would be higher than under monopoly. The government could levy for late-night license holders in order to contribute to the policing costs. The Swedish government still could ban on multi-buy promotions and a set a minimum unit pricing²⁰. Price regulation could still be implemented if the prices are continuously decreasing. Even though some measures would be adopted, under competitive framework in the alcohol sector, consumption would nevertheless increase, despite the regulatory rules. The number of people suffering from injuries or harm related to alcohol would have to be under state support. This would inevitably lead to an increase of government expenditures aimed at providing support for the victims of alcohol abuse. The regulatory costs would increase, as there would be more firms to regulate. To be effective, alcohol policy must allow an expression of voice from the civil society to counteract the trade interests that would dominate political decision-making. Under privatization, there would be an increased number of special interest groups that would lobby for the benefit of their firms²¹.

Price elasticity of demand (PED)

Furthermore the price elasticity of alcohol beverages will be investigated.

The previous studies suggest that there is a fast consumer response to the price change due to the fact that lower prices increase consumption drastically and thus alcohol becomes more vulnerable to certain groups such as youth. The price of alcohol is to be considered to be a very important factor towards safety of the citizens. In a free market the price is dependent on demand and thus the price elasticity of demand plays a huge role in determining the overall consumption. The price elasticity of demand measures the degree of change with the relation to the change of price.

The equation for price elasticity of demand is percentage change in quantity demanded / percentage change in price. According to Mr. Norstrom's report "The price elasticity

²¹ Economics of the Public sector, 3rd Edition, E.Stiglitz

for alcohol in Sweden “ The price elasticity for alcohol in Sweden between 0 and 3, meaning that alcohol beverages are sensitive for price elasticity. Mr. Thor Norstrom says: “Due to the addictive character of alcohol it is conceivable that the price effect is asymmetrical in the sense that a reduction in price yields a stronger impact than a corresponding price increase.“ (The price elasticity for alcohol in Sweden, pg.89). This indicates that a higher price will reduce quantity demanded. The government is aware of the elasticity and takes measures in order to avoid increase in consumption by using the concept of elasticity. In such case a short-term elasticity has a very quick effect in relation to the quantity demanded. It is however difficult to determine for how long it will take before the impact takes place. Assumingly the elasticity became stronger when there were more traveler’s allowances and increase number of imports between 2001 and 2004. Changes in price partially also depend on drinker’s preferences and thus foreign imports could be considered from the Swedish consumers as one of major preferences.(see Figure 1.2).**Preferences** are one of determinants of demand. The table below indicates the price elasticity of countries.

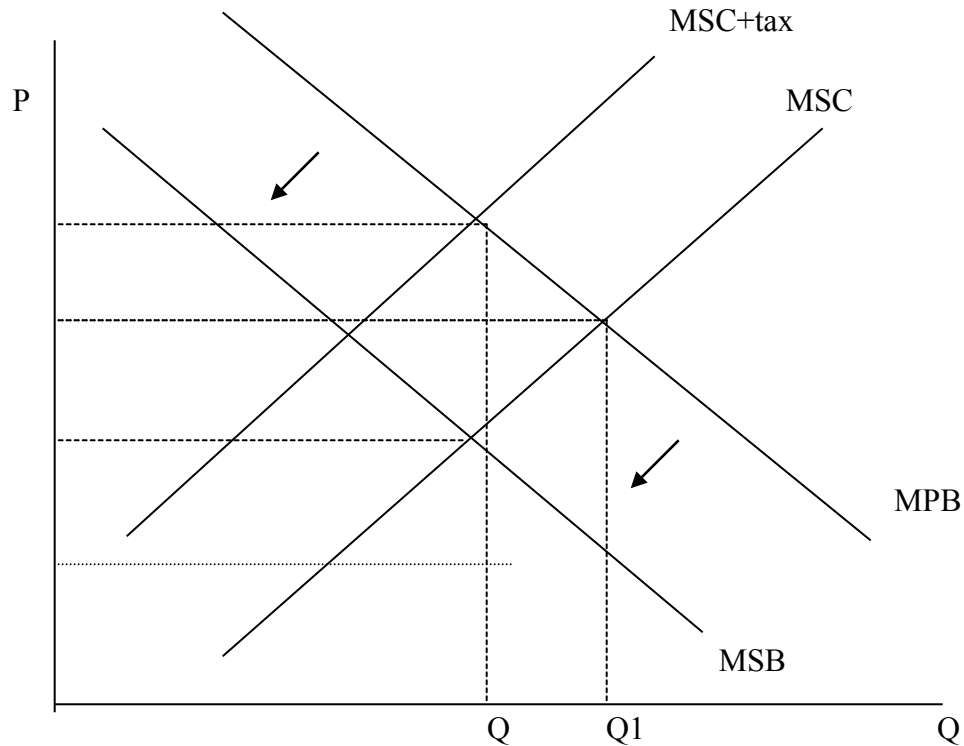
Country	Price of alcohol	Income
Sweden	-0.855	1.200
Spain	-0.314	0.868
Norway	-1.308	0.879
Italy	-0.087	0.890

Source:Lepannen(2000)

Figure 1.4

The price elasticities indicate that excise taxes are more controllable in Northern countries, in this case it is Sweden and Norway. Demand is least sensitive to prices in south European countries, in this case Italy and Spain. For Northern countries, the highest taxes generates more revenue for the government. If prices keep decreasing in near future, alcohol can become inelastic. Inelasticity occurs when price doesn’t alter the sensitivity of the good. Thus the government must take into account that they must prevent inelasticity and thus an increase in price prevents that from occurring.

Externalities and Privatization

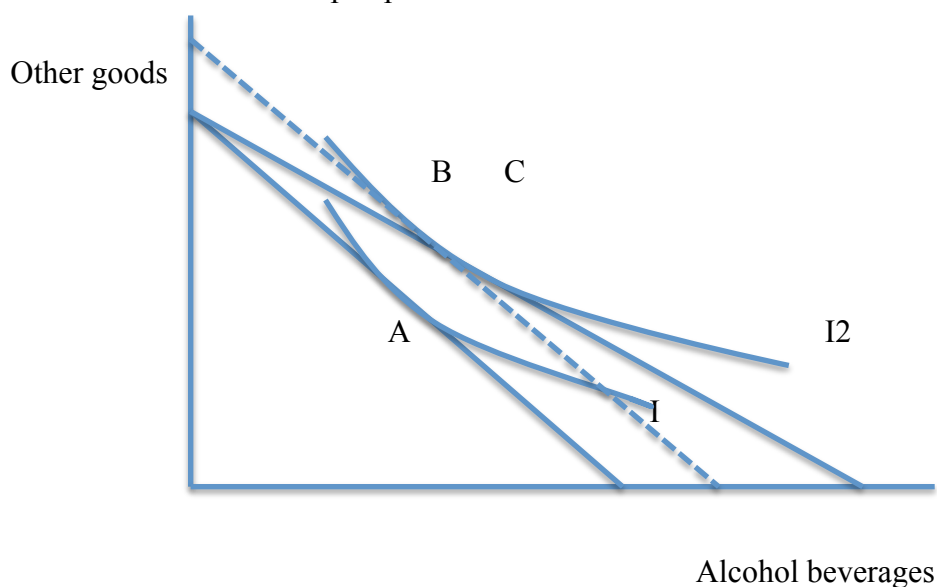


The graph above illustrates the potential solutions such as taxes and negative advertising. The government tries to add an external benefit in order to benefit the consumers. Thus graph reduces the measures of negative externality. In such case the government imposes a tax, which will shift the MSC to MSC+tax. Marginal social cost is reduced, which indicates that there is a reduction in a negative externality. In addition it will reduce the consumption to a socially desirable level of output. Q represents the socially efficient level. Negative advertising will shift the curve from marginal private benefit to marginal social benefit. The reason from marginal social benefit to occur is because negative advertising was presented. Negative advertising creates a social benefit due to knowledge of the consequences of alcohol consumption. The price increases from P to P2.

There is a case in Iowa where it has undergone a change of policy from a monopoly to a privatization. The effects were drastic where Holder and Wagner found that after the privatization of alcohol sales the consumption rose to a “significant 9.5%” (If retail

alcohol sales in Sweden were privatized, what would be the potential consequences 13) following that policy change. Competition however provides economic efficiency where it would generate an increased amount of output at the higher level. Despite that the economy could become more efficient, most of the citizens as conducted by Harold Holder's survey would like to maintain the monopoly. The economic system satisfies the human wants and therefore there is no necessity of change. As studied, the effect of privatization would have a negative effect on the externality. An increase in social cost and an increase in private benefit would cause more damage. According to the Harold Berger's research, there is a possibility of an increase number of assaults by 14,000 (Alcohol statistics 2007). It is estimated that opening hours would be longer (Figure 1.4). As there is a quick response to the price change in alcohol, low priced beverages would have a rapid increase in quantity demanded due to its elasticity. This indicates that it will shape the demand curve due to numerous reasons. One is the substitution effect due to an increased variety of alcohol goods. Consumers will be able to chose and buy a basket of different type of alcohol drinks and will gain a higher satisfaction, given that the price would decrease due to privatization. People would be able to gain the utility from an easier access to alcohol. The quantity demanded would increase due to the income effect. For a lower price there would be an increased incentive due to the fact that there is less income to spend.

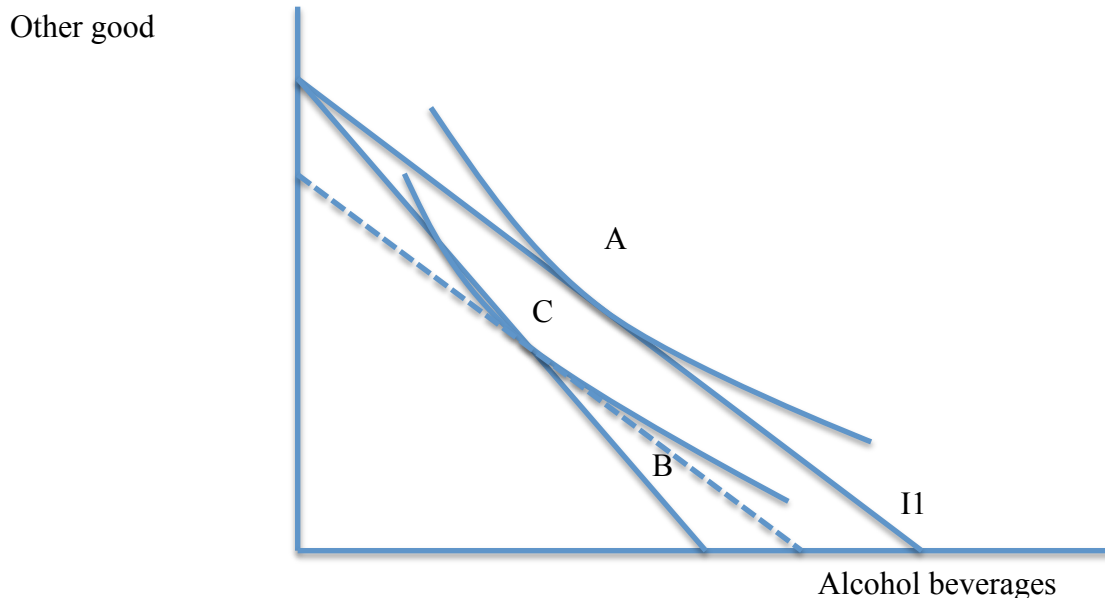
It is possible to interpret the increase in utility from decrease in prices and taxation graphically from the microeconomic perspective



The graph is decomposed into income and substitution effect. The magnitude of the substitution effect shows the amount by which the individual alcohol consumption increased holding real income constant. The substitution effect is the difference between the individual's consumption of alcohol at the new and old prices holding the real income constant which means staying on the same indifference curve. An indifference curve is a graph showing combination of two goods that give the consumer equal satisfaction and utility. Indifference curves are labeled as I1 and I2 respectively. The graph represents the decrease in taxation and falling prices as a result of privatization.

Goods	Income effect	Substitution effect	Total Effect
Other good	↑	↓	?
Alcohol beverage	↓	↑	?

The income effect represents the path from A to B. From B to C we have the substitution effect. In this case we are unable to observe the total effect, however we can see graphically the magnitude of the substitution effect. In this graph, the substitution effect outweighs the income effect, therefore playing a bigger role than income effect. Therefore an increase in alcohol consumption is verified as a result of decrease in taxation. Alcohol beverages are available and affordable and the changes in relative prices induce more consumption. We can compare the income effect and substitution effect on the current high taxation of alcohol beverages.



Goods	Income Effect	Substitution Effect	Total Effect
Other goods	↓	↑	?
Alcohol beverage	↓	↓	↓

The movement from B to C and the corresponding reduction in alcohol beverage is the substitution effect. It represents the reduction in consumption due to the changes of the relative prices. The total effect represents the summation of substitution and income effect. It is clear that the total effect is a decrease in overall consumption of the alcohol beverage. This clearly corresponds to a high sales taxation on alcohol in Sweden. The shapes of the indifference curves are relatively flat, meaning that substitution is easy and therefore the substitution effect is large. The level of consumption depends on the elasticity of substitution. The government uses the form of planning technique that helps them to avoid market failure. In market failure there are cases where markets do not work due to a failed planned technique that did not either benefit the consumers for what they paid for. In order to avoid market failure and avoid a negative externality, an increase in taxes seems to be the right solution. The aim is to provide a certain external benefit and to provide an overprovision of merit goods that can exclude the de-merit good such as alcohol. Merit goods are products with a positive externality. The method the government is using in order to diminish the demand for the de-merit good is negative advertising and in such case it would be anti-drink campaigns. Aim of the government is to lower the demand to a sociable desirable level in which everyone including non-consumers are desired. In order to tackle a negative externality in an efficient way then government must tackle down supply

The alcohol consumption in Sweden between 2001 and 2004 has increased, however it fell in 2005 and 2006. One of the reasons that the decline has occurred is that there was a decline in imports. One of the reasons for the increase in consumption between 2001 and 2004 was that there was a “rapid rise in travelers’ allowances”(Alcohol monopoly and Public health pg.16). The sales have increased with 54 percent in 2006. Assumingly, the decrease in sales in Systembolaget between 2001 and 2004 occurred because the traveler’s imports are categorized as substitute goods due to a significant lower price than the price that Systembolaget set up.

EU and Swedish alcohol policy

The differences in EU member states' historical backgrounds as well as in their current cultural, economic and social conditions relate to differences in their alcohol policies, alcohol consumption and alcohol-related problems. All the EU member states are to a certain extent welfare states taking care of basic schooling, basic health care and social security. In this paper, it is important to comment on the alcohol policies at the European Union level and at Swedish model. According to Esa Ostenberg and Thomas Karlsson the state has "four basic interests and tasks with regard to alcoholic beverages"(Alcohol Policies in EU member states and Norway pg.43). They are the fiscal interests, the economic development interest, maintaining public order and safety and the interest in maintaining reproduction and health of the population. These tasks and interests are split between different departments and levels of government. The European Union is founded on the European communities and consists of three pillars. The first pillar is the "EC level cooperation laid down in Community law and in the treaties establishing the European Coal and Steel Community, the European Economic community and the European Atomic Energy community"(Alcohol policies in EU member states and Norway pg.43). The second pillar involves common foreign and security policy. The third pillar involves judicial cooperation in criminal matters.

The EU is not a federal state and therefore the interests with regard to alcohol beverages are not the same. The EU has an economic development interest with regards to alcohol policy. In specific cases the EU has removed different kinds of barriers to trade. The EU has attempted to harmonize value added taxes and excise duties in the Community area. The EU does not directly collect any taxes on alcohol beverages and therefore the EU does not have any fiscal interests. The EU does acknowledge that state monopolies act as a barrier of trade. According "to article 31 of the EC Treaty, the EU member states shall adjust any state monopolies of a commercial character so as to ensure that no discrimination regarding the conditions under which goods are produced and marketed exists between nationals of the EU member states"(Alcohol policies in EU member states and Norway pg.53). There have been several cases such as the case from Sweden. The issue regarding the existence of the Nordic alcohol monopoly system became actual in the EU context. Norway, for example is not part of the European Community and therefore it is not known what would be the case with the Norwegian membership. When Sweden joined the EU there were severe causes of concern with regards to alcohol monopoly. The Commission stresses that quantitative restrictions and other measures that restricted trade of alcohol beverages were

prohibited. This is the case, where Sweden has adopted measures that go along with the EC treaty. The increasing number of imports and traveller's allowances suggest the easing of the Swedish policy on trade with alcohol beverages. Despite these measures, Sweden has been able to keep up their alcohol legislation and the monopoly system.

When Sweden joined the EU in January 1, 1995 a new Alcohol Act went was adapted. Monopoly control on production, import and export were abolished. Systembolaget continues to operate as a state controlled company that is able to compete with other importers and distributors, who are allowed to sell directly to restaurants and bars.²² Prior to the membership there were strict limits on alcohol content. For example there was a maximum of 60 percent alcohol by volume for distilled spirits. Sweden had to abolish such limits. In 1996, the limits on traveller's alcohol allowances were renegotiated. In the new negotiations, the Sweden has gradually agreed to increase the limits on traveller's private importation of alcohol beverages from the member states. The normal EU practice came into force in the year 2003, where limitations were prohibited. The Second European Action Plan states that all European countries should introduce a tax policy, which contributes to a decrease in number of alcohol-related harm. Discussions and debates are currently taking place for the need for a public health strategy. Furthermore it also highlights the needs for higher minimum taxes on alcohol in the EU. The EU is adapting and takes an influence from the Swedish model. According to Esa Ostenberg and Thomas Karlsson some Swedes "were quiet sure that other EU members would rather buy the good Swedish model for controlling alcohol-related problems than force Sweden to abolish parts of it". Currently "only the off-premise retail alcohol monopoly is left from the old Swedish comprehensive alcohol monopoly system, and Systembolaget has become more and more customer-oriented"(Alcohol policies in EU member states and Norway pg.404)

History

In 1919 Sweden introduced a special booklet. The purpose of the booklet was strictly for registration of all information on the amount of alcohol purchased by an individual. Every adult resident was allowed to purchase a certain amount of alcohol in one month. In 1922 a referendum on the ban of sale of alcohol where 889 000 voted for the ban and 925 000 voted against the ban²³. In 1982, the sale of alcohol was banned on Saturdays, however in 2001 the ban was removed.

²² Harold Holder: Sweden and the European Union

²³ What is the history of alcohol in Sweden? (aarticles.net)

The overall increasing competitive nature of the alcohol sector corresponds to the gradual fluctuations of alcohol consumption from the 1950s.

	1955	1965	1975	1985	1995
Total alcohol consumption	4.26	4.67	6.18	5.29	5.27
Consumption of distilled spirits	2.77	2.60	2.93	2.10	1.31
Consumption of wines	0.31	0.60	1.07	1.41	1.53
Consumption of beer	1.18	1.47	2.18	1.78	2.43

Source: Hurst, Gregory and Gussman, 1997: World Drink Trends, 200 *Figure 1.5*

The trend of alcohol consumption from a time series could correspond to the gradual relaxation of limits imposed by the Swedish government. The interesting aspect of total alcohol consumption occurs during 1995 when Sweden joined the European Union. The total alcohol consumption decreased, despite the fact that Sweden has relaxed rules on limitations regarding alcohol content, traveller's allowances and competition among distributors. In general the drinking pattern seem to have slow shift in terms of generations. As "this shift occurs as a slow disappearance of the older temperance-minded generation, and a respective rise of a younger and wetter generation"(EU alcohol policies and Norway pg.386). It is possible that the data on alcohol consumption may be understated, since wine and beer may be produced legally at home. Unrecorded consumption deals with alcohol consumption from abroad. There are many elements and factors that could undermine the reliability of the data. Between years 1965 and 1975, the explanation behind the drastic increasing trend in consumption was that the Swedish government enforced liberal policies towards alcohol sales. In the years of 1970s and early 1980s the policies were replaced with more restrictive policies. Specifically, the Swedish government appointed an Alcohol

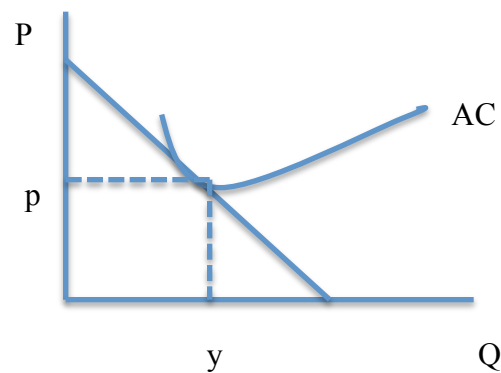
Policy Commission. The Commission has managed to put forward policies in that restricted consumption and such proposals came to form the alcohol policy for the next two decades. The new alcohol law of 1977 attempted to restrict private profit interest and reduce alcohol availability. Other concrete measures included “withdrawal of medium beer from grocery stores and discontinuing the production of medium beer in Sweden”(EU alcohol policy and Norway). Furthermore alcohol advertising was banned as well. Such restrictive policies remained in place until Sweden joined the European Union. Sweden’s present alcohol control policy is composed of high taxation, a retail trade monopoly, restrictions, information and treatment.

The competitive approach- Monopolistic competition after joining the EU

The effect of privatization would inevitably lead to the model of perfect competition. Sweden however has not made steps in completely liberalizing the production of alcohol. It has eased policies due to the recommendations imposed by the European Union. Only a certain limited number of distributors and producers are allowed to sell and distribute alcohol to Systembolaget and other public area such as restaurants and bars. Monopolistic competition is a market structure characterized by a large number of small firms, similar but not identical products sold by all firms. There is a relative freedom of entry into and exit out of the industry and there is perfect information with regards to prices and technology. Even though, the paper has discussed the role of monopoly and perfect competition, the extent that monopolistic competition could play seem to be more convincing. Demand is relatively elastic in monopolistic competition because each firm is distributing and selling alcohol beverages that are close substitutes. A monopolistically competitive firm generally produced less output and charges a higher price than with perfect competition. Despite the relaxation of certain alcohol policies, the prices tend to be high because of taxation, but as well as the fact that with monopolistic competition high and a narrow price range is a common trend. Each alcohol distributor faces a downward-sloping demand curve. Firms have some degree of market power from the aspect that it can set its own price. It does not accept the competitive lower price, which would occur only during perfect competition and privatization.

Elasticity is an important factor that determines the distributor’s choices regarding the quantities produced. As more firms enter the market, the good becomes more elastic and eventually driving the price downwards.

Examples of monopolistic competition include restaurant businesses, hotels and general specialist retailing²⁴. According to figure 1.3, the opening of specialty stores would be increased from 400 to 1,256 stores. The increase of stores would be a result of diversity, choice and utility. Restaurants are allowed to “serve” alcohol in Sweden and therefore due to the limitations of holding license and harder barrier to entry, the restaurant market for selling alcohol could be monopolistically competitive.



Source: Microeconomics, Varian

The demand curve and the average cost curves are tangent with zero profits (Microeconomics, Varian). At any other price the firm would lose money, while at the break-even price, the firm makes zero profits. The break-even price is the profit-maximizing price. Break-even price is the amount of money for which a product must be sold to cover the costs of providing it (Microeconomics, Varian). Distributors and suppliers of Systembolaget and restaurants are competing among each other as Systembolaget became more customer-oriented with an increasing demand to provide different varieties of alcohol products. If there were fewer distributors and suppliers there would also be less product variety and this would make consumers worse off. According to the Economist “prices at the top of Systembolaget’s product range are already competitive”. It seems that even though the prices are still relatively high, Swedish alcohol sector faces a slow shift towards perfect competition. During the 1970s, there was a strict monopoly system until 1995, where different domestic firms are competing among each other to sell alcohol in Systembolaget and restaurants. Systembolaget has asked for price reductions and reduced its work force by 30 percent because of self-service. The open hours are on Saturday, which was restricted before joining the EU. The prices in monopolistic competition are lower than those in

²⁴ Economics Online- Monopolistic competition

monopoly. Due to lower prices Systembolaget's sales have grown well and increased by 17.6 percent between 2005 and 2008. The distributors depend on the growth sales of Systembolaget as they provide the differentiated products. Systembolaget continuously asks for lower prices in order to cover the costs in order to not experience losses. Systembolaget continuously becomes more market-oriented. Reducing prices slightly overtime would limit purchasing of alcohol through illegal channels and increase availability. Monopolistic competition to a certain degree corresponds to this situation, as there are more varieties and slightly lower prices. Moreover this could be attributed to EU pressure and its trade policies.

Education and information

There are special funds for education that deal with informing students about the dangers of alcohol consumption. There are local-school based and workplace alcohol programmes. The retail monopoly supports the idea of informing the public with regards to potential dangers of alcohol consumption such as pregnancy, adolescence or driving. According to Esa Estenberg "alcohol education is given in Swedish schools as early as the first grade"(EU alcohol policy and Norway pg.399). The Swedish Council for Information on alcohol, which cooperates with the National Board of Health and Welfare is monitoring and analyzing the alcohol field and recent development reports are given to the government and other non-government organizations. The council "publishes reports on alcohol consumption and produces information materials such as brochures, films and books for use by organizations and schools"(EU alcohol policies and Norway pg.399). The Swedish retail monopoly is aware of increasing trend of openness and liberalization of alcohol beverages. It has therefore set up information programs that would promote moderate drinking habits and increase advertising of non-alcoholic beverages such as non-alcoholic beer. Sweden has also compulsory treatment for misusers that have participated for 6 months²⁵. One of the major reasons for systematic failure of the government to achieve its objectives would be limited information. In such case the government would not have the necessary tools and methods on what it would like to do. Given that fact, it seems that the Swedish government is avoiding the system failure with some degree of success. Providing the reporting, statistical data and predicted data on the effects of prolonged open hours on consumption and giving out information among schools seems to indicate the effectiveness of education and information. Information asymmetry is a usual concern among many governments that try to limit and reduce negative externality.

²⁵ EU alcohol policies and Norway

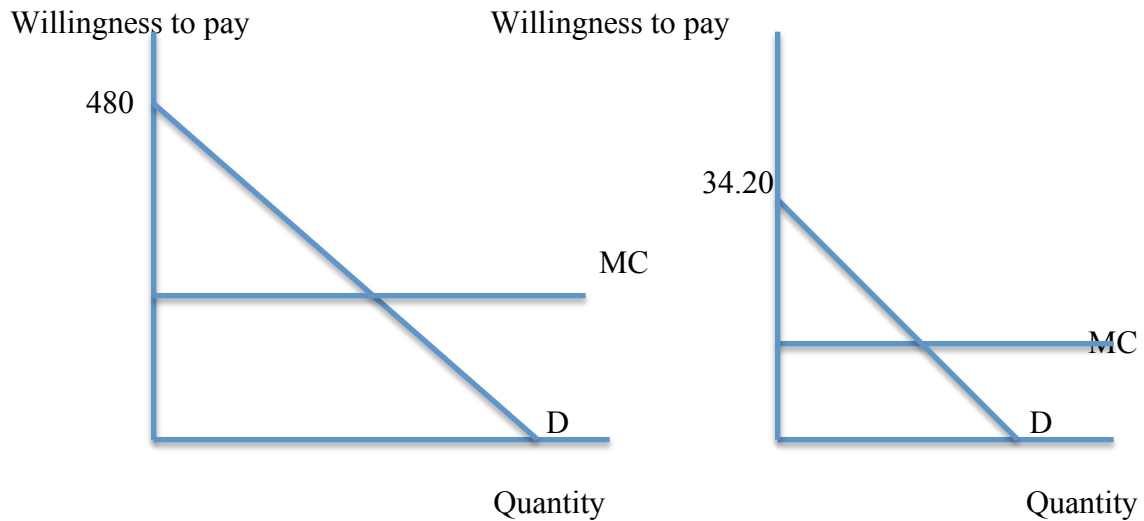
There could be various factors that would limit the Swedish effectiveness in reducing alcohol-related harm due to the fact that Sweden is a EU member. One factor would be limited control over market responses. Systembolaget becomes more customer-oriented and more competitive, even though it still regarded as a sole monopoly of selling alcohol. The government could fail to anticipate the rapid increase in alcohol consumption and it does not directly control the total level of expenditures on health care. According to Figure 1.1 Sweden has an increasing trend of alcohol imports and therefore higher consumption. Harold Holder's data on potential hazards of privatization indicates the increasing level of consumption on open hours and therefore the government would have to deal with a potential unexpected increase of health care expenditures. The reason for stressing the fact is that due to the EU accession, Sweden becomes more market-oriented. Stressing the monopolistic competition seems to indicate that it is slowly heading towards perfect competition. In addition another factor that would limit the effectiveness in enforcing alcohol control would be limitations imposed by political processes. There would be many special interest groups that would act on behalf of their pricing on alcohol. Corruption and information misuse could therefore be more frequent. These limiting factors can impose difficulties in reducing the negative externality.

Price discrimination

Systembolaget is a retail monopoly and its aim is not to be profit-maximizing Therefore it restricts output. When there is low output, distributors are competing more intensively to supply the products to Systembolaget and therefore the distributors have some degree of market power. Systembolaget has different pricing units for different alcohol beverages it sells. Selling different units of output at different prices is called price discrimination²⁶. There are various types of consumers when buying alcohol with regards to different preferences. One customer prefers to buy alcohol with higher alcohol content and therefore he has to pay higher price than the customer that prefers alcohol with lower content. Taxation and prices of products in Systembolaget are determined by their content. Systembolaget could be engaged in first-degree price discrimination. First-degree price discrimination means "that the monopolist sells different units of output for different prices and these price may differ from person to person"(Varian, Microeconomics pg.462). For example according to the official website of Systembolaget Purity Vodka bottle costs 480 Swedish Crowns. A castel beer bottle costs 34,20 Swedish crowns. Customers with a preference with higher content

²⁶ Microeconomics, Hal R.Varian

would have to pay significantly higher and therefore price discrimination is present. We can show this graphically.



The consumer with preferences to higher alcohol content (vodka) is indicated graphically on the left. The consumer with preferences on lower alcohol content (beer) is indicated on the right. Their willingness to pay are indicated on the vertical axis and quantities horizontally respectively. Systembolaget will sell the maximum price it commands on each consumer.

The areas indicated above MC are the producer surplus. In the competitive prices it would be the consumer surplus, but since Systembolaget is a retail monopoly and is engaged in price discrimination than the monopolist is able to get the surplus for itself. Both customers prefer alcohol beverages but due to monopoly pricing, the consumer surplus has disappeared. Both of the areas are given to the producer. Price discrimination is also involved with discounts, however we clearly see that price differences that are determined by alcohol content indicate price discrimination. The Systembolaget monopolist charges his customers different prices, based on their ability to pay.

Information technology

The rapid rise in information technology has given manufacturers promotional opportunities. According to European Health “research on alcohol portrayals on the Internet has focused on youth access, exposure to alcohol marketing, and the potential attractiveness commercial alcohol web sites to youth”(pg.276). In many countries sites are found to promote alcohol use and not in many cases they do not inform about

alcohol-related injuries. The official website for Systembolaget specifically informs on their homepage that alcohol causes different kinds of harm to the human body. To a certain extent it is evident that the Swedish government and Systembolaget are using information technology to limit the negative externality. Other kinds of information technology include television and music. The films in Sweden are not facing censorship when it relates to smoking or sexual images. This could indicate that the youth can be exposed in some way despite the monopoly setting. Visual representation could provide certain pressure from youth to drink. If films portray smokers and alcohol drinkers as heroes or positive characters then there is an increased chance of consumption among the youth. From the data of time series, the gradual increase of consumption from the 1950s could also indicate the progress in information technology. Information technology is an important factor that influences consumption.

Other factors that influence consumption

A majority of adults that are employed spend a significant proportion of their time at work. According to European Health “many studies have found significant associations between stress in the workplace and elevated levels of alcohol consumption”(Effectiveness of alcohol policy pg. 296). In Sweden many jobs have supervisory training, which significantly contribute to positive attitude in the workplace²⁷. Workplace prevention training programme for stress management “has been shown to reduce problem drinking” (Effectiveness of alcohol policy pg.296). Adults that are employed play a significant factor in determining the consumption levels. The graphs representing substitution and income effects are mainly aimed at people that earn income and therefore can substitute goods for other goods. Privatization will lead to higher consumption and therefore more availability. This could impact an increase in negative attitude and stress in the workplace.

Interestingly, another factor that influences consumption is public transportation. According to European Health “various studies using a variety of methodologies have identified public transport availability as a key issue”(Effectiveness of alcohol policy pg.291). According to such studies if privatization was to occur, a high concentration of grocery stores with a lack of public transport has the effect of retaining large groups of heavy drinkers²⁸. From this perspective, increasing the availability of public transport would contribute to decreasing the negative externality. This indicates the

²⁷ Effectiveness of Alcohol Policy (European Health)

²⁸ Effectiveness of Alcohol Policy (European Health)

difference in the level of consumption in rural and urban areas.

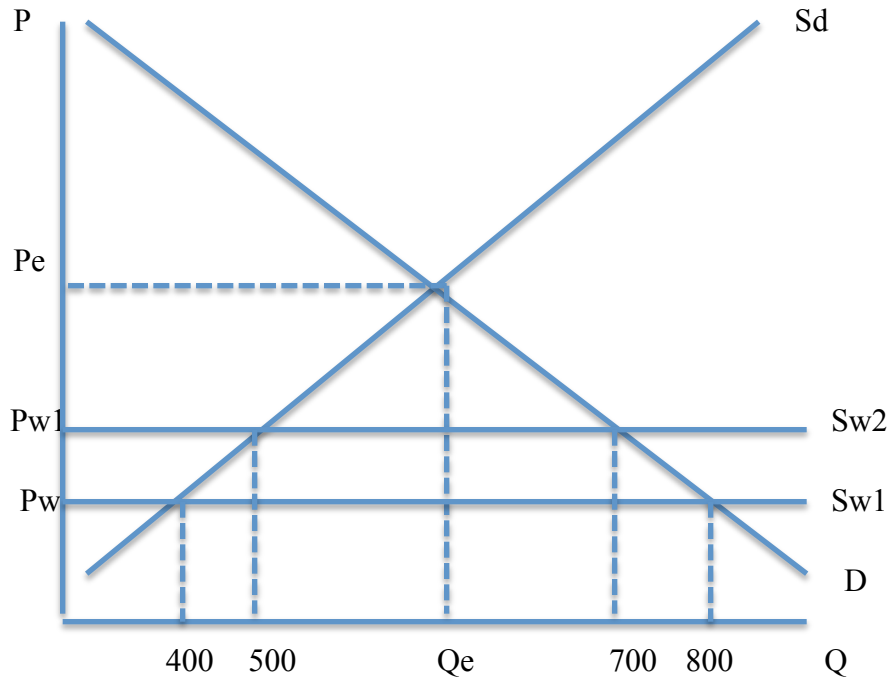
Community and neighborhood characteristics are important factors in moderating the alcohol consumption. Communities with higher enforcement of minimum ages tend to have lower rates of alcohol use. In Sweden “since 1996, a multi-component program based on community mobilization, training in responsible beverage service for servers and stricter enforcement of existing alcohol laws has been conducted in Stockholm, leading to 29 percent reduction in violent crimes in the intervention area, compared with the control area” (pg.293). The project included a media and mobilization intervention. From the cost-benefit analysis the intervention resulted in large amount of savings. From the public perspective social cost-benefit analysis takes into account a wider range of impacts, not just profits. Furthermore in social cost-benefit analysis, market prices may not exist for benefits and costs. Market prices do not exist for the lives saved or for other preservations. A community-based program intervention is a method of “internalizing” the externality. Furthermore the community programs values benefits that are not typically monetized, like the value of lives. In Sweden, the strong public support for the monopoly seems to indicate that individuals are willing to pay high taxes in order to preserve the benefits and limit the number of injuries and death related to alcohol consumption. Even though not all individuals are in direct contact with each other, the community places existence values for supporting individuals that are endangered by alcohol. The Ministry of Health of the Czech Republic “has reported an outbreak of methanol poisoning associated with the consumption of counterfeit alcoholic drinks”(health professionals). Privatization of alcohol would lead to lack of community intervention and regulation. The cause for methanol poisoning seems to indicate the ineffectiveness of privatized alcohol production and sales.

Quota

Quota is more regulation based and less market-based. The quotas limit the number of imports of certain good²⁹. In such case Sweden imposed a quota on alcohol imports. We can show and see the impacts of a quota imposed by the Swedish government. In such case with simple quota consumers lose, however there would be a gain in producer’s surplus for the domestic producers. The quota was used as another tool on how to limit the negative externality³⁰

²⁹ Pugelt, International Economics, Quota

³⁰ Basic Analysis of a quota – Colin Danby (1998)



Quota automatically hikes up the price from P_w to P_{w1} . When there is no restriction to trade, we can have world supply S_w . The world supply is horizontal because the scale of quantity is not significant at world supply and therefore they can supply at the world price P_w . For example, without any restrictions on trade there would be 800 types of alcohol beverages demanded and 400 alcohol beverages being supplied domestically. This means that the imports are 400. In our case the Swedish government does not allow the imports of 400 alcohol beverages because the quantity being imported is in excess. The aim for the Swedish government is to limit alcohol consumption and therefore limit the alcohol beverages coming into the country. Therefore the Swedish government sets a quota of 200. This has led to a reduction in demand and an increase of domestic supply. The price has increased from P_w to P_{w1} . The excess demand is 200. The quota does not set the price however it drives up the price. The taxes play a major role in determining the high prices of alcohol beverages in Sweden, however we clearly see that a quota plays an important role in limiting consumption as well. Quotas raise no revenue for the government³¹. Quotas are one of the components of direct regulation and seems to be regulating the negative externality created by alcohol consumption. The increasing in traveller's allowances that were launched limited the effectiveness of quota as a result of Sweden joining the EU. When increasing "allowances for spirits were introduced for the first time and wine and beer quotas were

³¹ Pugelt, International Economics, Quota

raised significantly, and practically abolished in 2004” (Nordic studies on alcohol and drugs pg.165).

The table below indicates the changes of alcohol quotas. The quotas regard the number of liters for each traveller 20 years or older who travelled to Sweden from other EU-countries.

Time Period	Spirits	Strong Wine	Table Wine	Strong beer1995
1995	1	3	5	15
2000	1	3	20	24
2001	1	6	26	32
2002	2	6	26	32
2003	5	6	52	64
2004 (EU quota)	Free import for personal use	Free import for personal use	Free import for personal use	Free import for personal use

Source: Nordic studies on alcohol and drugs

Figure 1.6

Assuming substitution effect occurring, the increasing amount of imports is associated with lower sales of Systembolaget. The quota increase from 2 to 5 litres in 2003 was followed by a significantly higher number of travellers’ allowances. Beer imports have increased significantly as well. In addition the “reduction of the Danish spirits-tax in October was associated not only with the level of importation of imports, but also on imports of beer and wine”(Nordic Studies on alcohol and drugs pg.170). The abolishment of import quotas in January 2004 resulted in a significant increase of alcohol beverage imports. Systembolaget sales have decreased in 2004 and it affected all regions. The opening hours on Saturday at Systembolaget, which were implemented in 2001, possibly prevented a rapid increase of spirits imports from 2001 to 2002. Furthermore, other factors that have influenced the increase of imports are changes of alcohol taxes in neighboring countries, domestic availability and travelling habits. These factors play an important role in determining the increase of alcohol imports. According to Figure 1.1 we clearly can see that after the abolishment of quotas in 2004, the imports have increased for alcohol beverages. Sweden has higher imports than

Germany and Czech Republic. In a brief period before 2004 Sweden's import was similar to the import levels of Germany. Despite the abolishment of imports and a gradual increase of consumption "the retail monopoly in Sweden has actually never been so popular as today" (Nordic studies on alcohol and drugs pg.174). The general increase and abolishment of alcohol quotas do not coincide with the long-term plan that Swedish government tries to implement. The trend of increasing imports and abolishing quotas do not limit the negative externality.

The liberalization trend of the monopoly on consumption

There are numerous factors that suggest increasing liberalization. Such factors include expanding production; liberalize trade quotas and eventually the increasing pressure from the EU to adopt liberalization policies. According to Svensson "product range has been widened to include ale, cider, bag-in-boxes and alcoholic beverages, which were previously banned". In addition "taxation on beer was reduced by 38 percent". Systembolaget used to be closed on weekends, but eventually in 2011, Systembolaget has opened on Saturdays. The table shows the effect of liberalization policies on consumption since 2000. The table shows interesting trend.

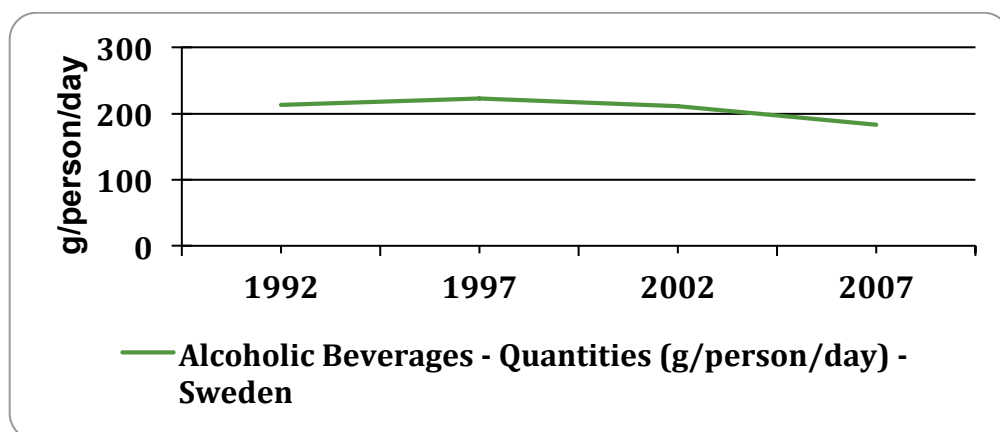


Figure 1.7

Source: Knoema, consumption of alcohol beverages from 1997-2007

The graph depicts alcohol consumption per person on the vertical axis. The years are on the horizontal axis. Figure 1.6 contains alcohol consumption until 1995. This graph illustrates the impact of liberalization policies on consumption until 2007. This graph corresponds to the more updated timeline than figure 1.6 and adds an additional insight into the impact of abolishing quotas, EU membership and Systembolaget opening hours on weekends on consumption. Despite less restricting policies, according to Svensson

alcohol consumption has “actually decreased”. Furthermore “alcohol related illness casualties are declining in numbers”(Svensson). This could be questionable whether privatization would lead to an increase in consumption of alcohol beverages. Therefore Harold Holder’s data could be questionable as well, even though his models are based on econometric and empirical data. The apprehensions regarding increasing alcoholism and alcohol related-harm have not followed a more liberalized monopoly nor an increase in overall consumption. There could be factors that the consumption is successfully limited despite more liberalized approach towards alcohol consumption. As mentioned before education and information could play a significant role. The Swedish government effectively limits alcohol consumption by enforcing strict rules such as banning multi-buy promotions, minimum unit pricing and age verification. Even though the monopoly has become liberalized, there are direct and strict regulation that come with a more liberalized approach to alcohol consumption. Other factors are active community interference and continuous negative advertising

Conclusion

Assumingly, given that the lower price of alcohol would increase consumption it would be regarded as an inelastic good in a long-run. The consumption might not have an effect on price due to addiction of alcohol. It is highly recommended that the government should have a quick response to the potential risks of privatization. Desirably, it is a best option that privatization in such case would be avoided. Taxing the negative externality is a good solution in minimizing the consumption, however some cases of domestic violence and other forms of violence due to alcohol consumption are unrecorded and it is therefore difficult to identify whether high taxes help to drastically decrease consumption of alcohols. Under privatization, the government would have to be more effective in enforcing the legislation of age restrictions. A more effective enforcement of the legislation of age restrictions could increase spending from the government. More negative advertising would drastically increase the spending as well. Monopolistic policy doesn’t take competition in consideration due to the fact that the health of the citizens is the government’s top priority. Sweden, however with its monopoly has a very effective legislative system, which effectively reduces alcohol consumption. In addition the monopolistic policy enables the government to regulate effectively as well. The connection between the monopoly and reducing alcohol consumption is very strong. The government is able to steer the price in order to decrease negative externalities as much as possible. In addition, due to the success in previous decades of the monopoly it is more likely and recommended that the Swedish government should pursue with maintaining that

monopoly for a longer period of time. Privatization on the other hand could have an mild effect according to my opinion on the increase of consumption and it would diminish the success of the monopolistic policy, which has worked over a century. The monopoly helps to steer the demand and the supply. According to figure 1.8 the effective legislative system also enables the Swedish government to successfully limit alcohol consumption during EU accession, abolishment of alcohol quota and more liberalized monopoly system. This adds an additional strength and effectiveness in steering and limiting consumption. According to the quota graph the abolishment of quota should steer the price downwards and increase consumption, however in some cases theoretical backgrounds may be misleading in interpreting certain scenarios that involve other factors. These factors that influence alcohol consumption in Sweden may be cultural, economical anyhow and as we can see according to the quota graph, the consumption is in status quo level for the last decade, no matter what policy is applicable.

Works cited

Holder, Harold. *Alcohol monopoly and Public health* . Berkeley: Swedish national institute of public health, 2007. PDF file.

“Systembolaget’s mandate.” *systembolaget.se*. Systembolaget, 2009. Web. 13 Sept. 2009. <<http://www.systembolaget.se/Applikationer/Knappar/InEnglish/systembolagetsmandate.htm>>.

"Loosening up." *The Economist*. The Economist Newspaper, 01 Sept. 2001. Web. 05 July 2014. <<http://www.economist.com/node/761075>>.

Policy, Effectiveness Of. (n.d.): n. pag. Web. 12 June 2014. <http://ec.europa.eu/health-eu/doc/alcoholineu_chap7_en.pdf>.

2010. "Alcohol Tax in Sweden." *Alcohol Tax in Sweden* (n.d.): n. pag. Web. 11 June 2014. <http://gul.gu.se/public/pp/public_courses/course44889/published/1302796242835/resourceId/16917418/content/1a120e0f-4aab-4ab9-926f-930ba025555f/Alcohol%20Tax%20Sweden.pdf>.

"NaTHNaC | Methanol Poisoning in Czech Republic, 25 Sep 12, Health Professionals." *NaTHNaC | Methanol Poisoning in Czech Republic, 25 Sep 12, Health Professionals*. N.p., n.d. Web. 05 July 2014. <https://www.nathnac.org/pro/clinical_updates/methanol_czechrep_250912.htm>.

"Increasing Traveller's Allowances in Sweden- How Did It Affect Traveller's Imports and Systembolaget's Sales?" *NINA-KATRI GUSTAFSSON Increasing Travellers' Allowances in Sweden – How Did It Affect Travellers' Imports and Systembolaget's* (n.d.): n. pag. Stockholm University, 2009. Web. 1 July 2014. Nordic studies on alcohol and drugs<<http://www.nordicwelfare.org/PageFiles/4737/RamstedtGustafsson.pdf>>

Holder, Harold D. *Sweden and the European Union: Changes in National Alcohol Policy and Their Consequences*. Stockholm: Almqvist & Wiksell International, 2000. Print.

Norstrom, Thor. *The price elasticity for alcohol in Sweden 1984-2003*. Stockholm: Nordisk Alcohol, 2005. PDF file.

Alcohol Policies in EU Member States and Norway: A Collection of Country Reports. Helsinki: STAKES, 2002. *Ec.europa.eu*. Web. 2 July 2014. <http://ec.europa.eu/health/ph_projects/1998/promotion/fp_promotion_1998_a01_27_en.pdf>.

Varian, Hal R. *Intermediate Microeconomics: A Modern Approach*. 8th ed. New York: W.W. Norton & Co., 1999. Print.

Arkestal, Sofia. "Abolish the (Swedish) State Monopoly on the Sale of Alcohol." *Spfoia*. N.p., 27 May 2013. Web. 9 July 2014. <<http://spfoia.se/2013/05/abolish-the-swedish-state-monopoly-on-the-sale-of-alcohol/>>.

Pugel, Thomas A. *International Economics*. Boston, MA: McGraw-Hill, 2005. Print.

Donby, Colin. "Basic Analysis of a Quota, and Other Restrictions." *Basic Analysis of a Quota, and Other Restrictions*. N.p., 1998. Web. 15 July 2014. <<http://faculty.washington.edu/danby/bls324/trade/quota.html>>.

"Monopolistic Competition." *Economics Online*. N.p., n.d. Web. 15 July 2014. <http://www.economicsonline.co.uk/Business_economics/Monopolistic_competition.html>.

"What Is the History of Alcohol in Sweden?" *Aarticles*. N.p., n.d. Web. 15 July 2014. <<http://aarticles.net/world-around-us/8470-kakova-istoriya-alkogolya-v-shvecii.html>>.