

**Negative externalities of consumption: Examining
the effects of the Norwegian policy on standardised
snus packaging**

*To what extent is standardised snus packaging the
most effective way to reduce the negative
externalities of snus consumption among 16-24 year
olds in Norway?*

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Subject: Economics

Word count: 3945

***[THIS IS MY EXTENDED ESSAY SUBMISSION TO THE
INTERNATIONAL BACCALAUREATE DIPLOMA
PROGRAMME FOR THE MAY 2020 EXAMINATION]***

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Introduction

This essay will attempt to look at how effective the new standardized snus packaging implemented by the Norwegian government has been on reducing the consumption of said good in the country. The primary focus of this essay is on the change in consumption of snus amongst the youth. The circumscription of my investigation to a single age group of the Norwegian population allows me to reduce the number of variables I have to consider. For the sake of this investigation, I will refer to 16-24-year olds as the youth. Snus is a tobacco product, which causes harm to the individual and therefore the society. Therefore, I have chosen the research question: **“To what extent is standardised snus packaging the most effective way to reduce the negative externalities of snus consumption among 16-24 year olds in Norway?”**

The research question is connected to the economic concept of externalities, more specifically on negative externalities. This particular case looks to resolve the negative externalities with negative advertisement, which is one of the ways negative externalities are dealt with.

Another economic concept worth examining in this investigation is the price elasticity of snus. This investigation will also take into consideration other non-price factors such as consumer trends and behaviour.

Why I chose this topic

I have chosen this topic because snus consumption has been rising in the past couple of year, which is what makes this legislation interesting. I chose to focus on the youth instead of the entire population since snus is more widespread amongst younger people than amongst older people (Lund & Veløy, 2018). By focusing on the youth, the investigation becomes more personal, and its results become more significant to me and my peers. The topic is quite relevant since the law has only been fully in effect for less than a year, which is why

politicians are eagerly waiting for its results. I found this topic quite interesting since it allowed me to examine an issue which primarily affects my age group, with economic theory.

Background information

The Norwegian government legislated a new bill in December 2016 which stated that all tobacco products sold in Norway would get a standardised packaging (Union for International Cancer Council, 2019). The legislation applied to cigarette and snus packaging and was implemented on the 1st of July 2017. Snus manufacturers were then given a one-year transition period till the 1st of July 2018 so that they had time to produce the new packaging. The new packaging is in the colour pantone 448C which is often referred to as the ugliest colour in the world. A team of Australian experts concluded this when tasked to find the colour which would dissuade people, especially younger people from buying cigarettes (Ferrier, 2016). The design on the packets have been stripped away and replaced with the name of the brand, product information and health warnings in a simple font. Snus is mainly consumed by the youth which is why they have introduced the new changes. By imposing this legislation, the Norwegian government aims to decrease the consumption amongst the youth by making the packets less attractive.

Snus is a smokeless tobacco product which comes in several forms. It can be sniffed, chewed or placed in between one's gum and lip. The latter one is the type widespread in Scandinavia, and the focus of this essay. Snus contains nicotine which makes it highly addictive and includes chemicals which are cariogenic. The most common types of cancers caused by snus are cancer in the pancreas, oesophagus, stomach and mouth. Snus can also affect the metabolism in a person's body, and therefore increase the risk of type 2 diabetes. Consuming snus also has consequences for the teeth and gums. The gums will after some time deteriorate which can increase the probability of getting cavities and will make your teeth more sensitive to cold substances (The Norwegian Cancer Society, u.d.), (Helse Norge, 2018).

The reasons listed above is why the Norwegian government wants to implement the new legislation. A similar law on standardised cigarette packaging has been implemented in several countries prior to Norway, such as Australia, the United Kingdom and France. Norway however, has also imposed this legislation on snus, making it the first country to introduce standardized snus packaging. The effect of this legislation will determine whether other countries implement a similar bill, which is why its results are significant for the global community. Snus manufacturers are sceptic to this legislation. They believe that its impact is minimal or non-existent and will only incur costs to the manufacturers. Therefore, the snus manufacturer Swedish Match went to court with the Norwegian government to repeal the bill claiming that it violates the EEA trade agreement. Swedish Match lost the court case, and were therefore obliged to change their snus packaging in accordance to the Norwegian legislation (The Norwegian Government, 2017).

Approach

In investigating the effects of the legislation on snus consumption, I will outline the theory related to externalities. I will look at how the consumption has changed primarily by looking at secondary sources. In particular, I will look at statistics provided by Statistics Norway which is the national statistical institute of Norway, and the main provider of official statistics used by the government. I will look at data from 2017, before the legislation was implemented, and compare it to data from 2018, when the legislation had been implemented. I chose to use data from Statistics Norway as it is a well-established and legitimate source, which ensures that the secondary data I analyse will not be fabricated, and is collected by experts.

In interpreting the data I find during my research, I will also take a look into other factors that could have contributed to a possible change in consumption. I will also evaluate the impact of the legislation and other possible solutions.

Data and Analysis

Market failure and externalities

In economics, where there is a free market, we assume that when the market is in equilibrium, all resources are allocated efficiently. However, in reality, this is not always the case due to market failure. Market failure refers to a situation in which the market is unable to efficiently allocate resources from society's point of view, leading to a welfare loss. One type of market failure is called externalities. Externalities occur when producing or consuming a good has a positive or negative spillover effect on society which is not taken into account for by the free market. This incurs external costs to the society, hence the name externalities. Depending on the good or service, it could have a positive or a negative spillover effect on society. When a good has positive externalities, we want to increase its consumption or production, whilst when a good has negative externalities we want to reduce its consumption or production.

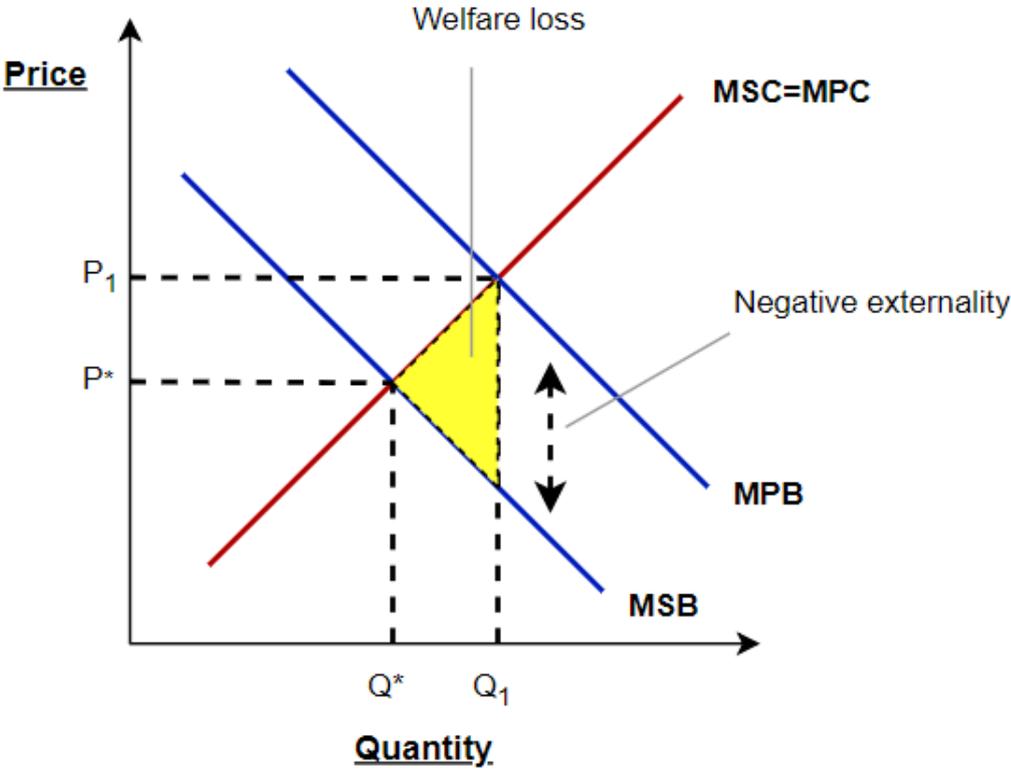


Figure 1: Negative externalities of consumption

By the forces of supply and demand, only taking into account the consumers' private benefit of consuming the good and the producers cost of producing the good, the market will end up at the point where the quantity supplied and demanded is equal to Q_1 . The benefit for the consumer to consume one more unit of a good is known as the marginal private benefit (MPB), and the cost to producers to produce one more unit of a good is known as the marginal private cost (MPC). The marginal social cost (MSC), which is the cost to society to produce one more unit of a good, is in this case equal to the MPC since the externality is on the demand side. The marginal social benefit (MSB) is the benefit to society from consuming one additional unit of a good. If the externality is considered, the MSB is lower than the MPB at every level of output as illustrated by **Figure 1**. The vertical difference between the MSB and the MPB represents the externality. This means that the socially optimal amount consumed and produced of such a good is where the MSC curve intersects the MSB curve, which is at Q^* . What this shows us is that the benefit to society is smaller than the benefit to the individual consumer. Since the market is producing an amount $Q_1 > Q^*$ and is selling it at $P_1 > P^*$, there is an inefficient allocation of resources from society's point of view. This creates a welfare loss which is shown as the yellow shaded triangle in **Figure 1**. All the units produced and thus consumed from Q_1 to Q^* have a higher cost than benefit for society.

How the bill would affect the snus market

Snus is a demerit good, and therefore has externalities. A demerit good is considered harmful for the individual and the society and is over-provided in a free market. One of the externalities connected to snus consumption is greater costs to the health care system due to diseases caused by consuming snus.

The bill legislated by the Norwegian government on implementing standardised snus packaging is attempting to reduce or even get rid of this externality through negative advertisement. Plain packaging is a form of negative advertisement, which is a demand-based solution. This will shift the demand curve to the left, resulting in a reduction in consumption.

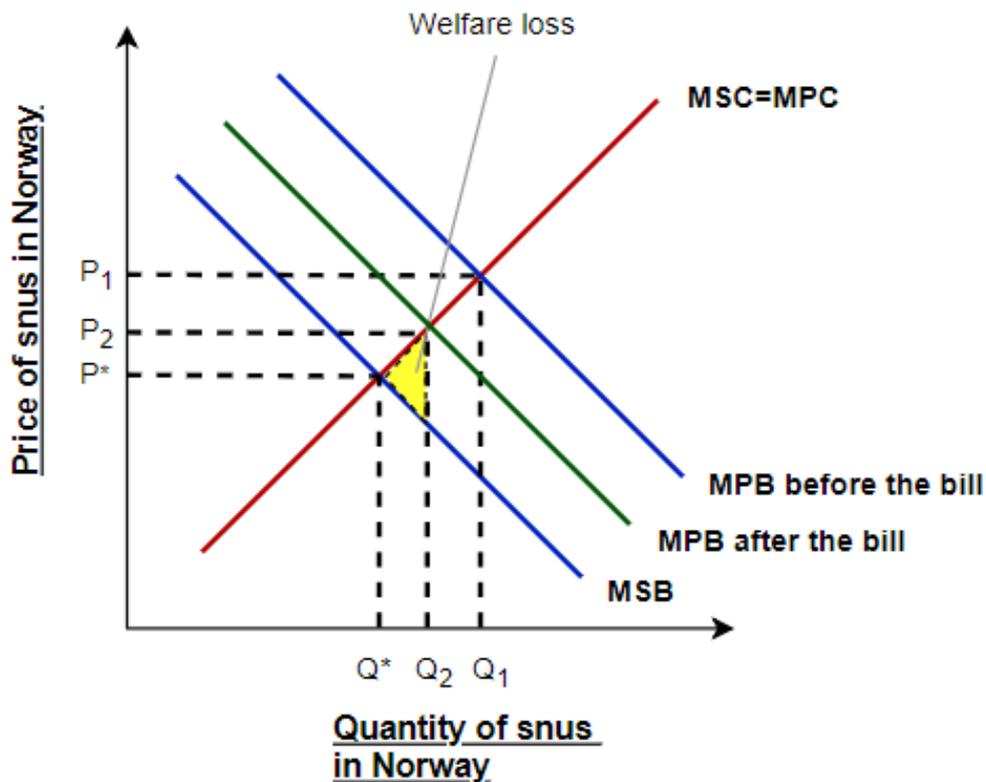


Figure 2: Market of snus in Norway

Hypothetically, with the new bill, consumers will be dissuaded from consuming more snus, leading to a decrease in consumption. Thus, the MPB will move closer to the MSB, reducing the welfare loss. As we can see from **Figure 2**, after the bill is implemented, the MSC and the new MPB curve will intersect at Q_2 .

Dataset

Since the beginning of the century, the number of people who consume snus daily has increased immensely, and in 2017 it overtook the number of people who smoke daily. One reason for this major increase is because cigarettes and snus are substitute goods. As the number of daily snus consumers increased, the number of daily smokers decreased. Therefore, one of the reasons for why people are consuming more snus now is because they shifted from smoking cigarettes to consuming snus (Statistics Norway, 2018).

		Daily users of snus	Occasional users of snus
		2017	2017
Both sexes	16-24 years	19	8
Males	16-24 years	25	7
Females	16-24 years	14	8

Table 1: Snus consumption among 16-24 year olds in Norway in 2017. Reprinted from Daily users of snus and occasional users of snus, by sex and age (per cent) 2005 - 2018 by Statistics Norway, n.d., Retrieved from <https://www.ssb.no/en/statbank/table/07692/>

The data collected by Statistics Norway on snus consumption in Norway is based on a sample size of 4500 – 5000 people, which encompasses people in different age groups and areas in Norway (Statistics Norway, 2019). **Table 1** shows us the data on snus consumption amongst males and females aged between 16-24 years old. Plain packaging was implemented the 1st of

July 2017, but was not fully functional until the 1st of July 2018. Therefore, this dataset gives us a good indication of how the consumption was before the bill was implemented.

		Daily users of snus	Occasional users of snus
		2018	2018
Both sexes	16-24 years	19	6
Males	16-24 years	22	6
Females	16-24 years	16	7

Table 2: Snus consumption among 16-24 year olds in Norway in 2018. Reprinted from Daily users of snus and occasional users of snus, by sex and age (per cent) 2005 - 2018 by Statistics Norway, n.d., Retrieved from <https://www.ssb.no/en/statbank/table/07692/>

Table 2 shows us how many people used snus daily and occasionally among the youth in 2018. There are some differences in the datasets. The number of occasional snus users for each gender has decreased by 1 percentage point, resulting in a reduction of 2 percentage points in total for both the genders. The average percentage of daily snus users for both sexes however, is still the same. This is because as the percentage of men who use snus daily has fallen from 25% to 22%, the percentage of women who use snus daily has increased from 14% to 16%. This in turn has left the average percentage of both genders untouched.

It is difficult to determine why there is a difference in consumption patterns among men and women. One point worth mentioning is that for the past ten years there has been an increase in snus consumption among younger women which could have contributed to the increase from 14% to 16% (Statistics Norway, 2017). One possible reason for why women consume more snus now than before is because it has become more socially acceptable. This is similar to the trend we see in cigarette smoking among women, albeit on a smaller scale (Lund & Veløy, 2018).

What we can say is that the number of occasional snus users has decreased. By analysing the data, it becomes quite clear that the legislation implemented by the Norwegian government

primarily affects occasional snus users. Snus is an addictive good, which is why the legislation will have a smaller impact on those who snus daily. People will simply not stop consuming an addictive good because of a less appealing packaging. Since there was a reduction in consumption, we can say that the legislation was able to move the new MPB closer to the MSB. However, we cannot with certainty say whether or not the standardised packaging had an effect on occasional snus users, because the reduction in consumption is too small to draw a conclusion. There are other factors such as price, trends and random fluctuations which could have played a part in reducing the consumption of occasional users by 2 percentage point.

Evaluation

Plain packaging

There are several possible reasons for why standardised packaging has not seen a greater effect. One possible reason is that people substitute smoking cigarettes with using snus. A lot of people who try to stop smoking cigarettes switch over to consuming snus as it is less harmful, but still provides its addictive substance, nicotine. Therefore, it can be argued that standardised packaging might have stopped some people from using snus, but the influx of people who used to smoke has taken their place in the statistics. Data from Statistics Norway show that 1 in 3 of those who smoked daily have switched over to using snus in order to quit smoking. The statistics also showed that 3 out of 4 of those who switched to using snus to stop smoking, still use snus daily or occasionally today (Statistics Norway, 2017). This data is from all age groups, and not specifically the youth. Since younger people in Norway smoke less than older people, this might not be as impactful for the age group we are considering.

One crucial fact worth remembering is that the bill was not fully functional until the 1st of July 2018. This means that the data from 2018 only shows how the plain packaging affected consumption the last six months of 2018. Six months is too short of a time frame to assess whether or not plain packaging has been successful. As mentioned earlier, snus is an addictive good, which means that it has inelastic demand. If a good is inelastic, its demand is less responsive to a change in its price. The measure is therefore bound to see little to no results in the short run because of the inelasticity of snus. In the long run however, plain packaging could see effects. Goods usually tend to be more elastic in the long run. This has been the case for Australia after they introduced plain packaging for cigarettes in 2012. According to the Australian Department of Treasury, revenue generated by taxation on cigarettes fell by 3.4% in 2013 compared to 2012 when plain packaging was introduced (The Australian Department

of Health, 2014). Along with that, a review in 2013 found that plain packaging reduces the appeal of cigarettes and smoking. It also found that the new packaging made the health warnings more noticeable and for the consumers. (Stead, et al., 2013). However, this has allegedly brought some problems as well. According to some independent reports, illicit tobacco trade through black markets in Australia saw a huge increase after the bill was enacted (Montanari, 2017). However, an article published in the British Medical Journal refutes this (Hastings & Moodie, 2015).

When that is said, it is important to acknowledge that snus and cigarettes are different goods. Both snus and cigarettes are tobacco products that contain nicotine and other toxic substances. Cigarettes are more harmful than snus, which is why it is regulated more than snus is. For instance, smoking indoors in restaurants and bars is prohibited primarily because of passive smoking. Snus does not have the same level of regulations. Another point worth taking into account is that just because plain packaging for cigarettes worked in Australia, does not mean that it will work for snus in Norway. This is because snus and cigarettes are different goods, along with the fact that consumer behaviour might differ from Australia to Norway.

After knowing this, it is safe to say that the legislation had little or nothing to do with the changes in consumption from 2017 to 2018. Numbers from the snus producer Swedish Match suggest that the new packaging has had little to no effect on their sales, which would suggest that people are consuming at the same rate (Teigen, 2019). The numbers from Swedish Match are purely based on their turnover and do not show what age group consumes the most, which is why it is not conclusive. Regardless of this, standardised packaging might see some results given more time, which is why most politicians look at it as a long-term solution.

There are several ways to deal with goods which have negative externalities. In this case, the Norwegian government has tried to reduce the consumption of snus with negative advertisement, which aims to lower the demand for snus. However, there are also other ways to deal with this externality.

Banning or regulating snus

One possible way to deal with the externality is by banning the good. This will make the externality disappear completely as the good will now be illegal. By doing this, the market of snus will disappear. Alternatively, you can regulate the good. This can be done through legislations which can restrict people from using snus. The most effective restriction would be an age limit, which is already in place. Many governments restrict where people can smoke to reduce the externalities of cigarette smoking, namely passive smoking. This however, would not be a practical solution for snus as the externalities differ for both goods. Consuming snus does not directly harm those around you as passive smoking does. Therefore, prohibiting the use of snus in public areas would not decrease the externalities associated with snus, and would most likely not have an effect on consumption.

When that is said, there are also a lot of consequences with this solution. First and foremost, banning snus will have a tremendous toll on the entire snus industry and for the different shareholders involved. Snus is primarily sold in Scandinavia, which means that producers will lose a big chunk of their market if the good is banned in Norway. Many workers will lose their jobs as the producers will not need as many employees as before. The consumers will be worse off since they will not be able to consume a good they wish to consume, and the government will also be worse off since they will collect less tax revenue. Another concern for the government is that people will feel like banning the good violates their rights and

liberty. This in turn could have a negative effect on the government's future elections as consumers are also voters.

By looking at all the advantages and disadvantages of banning snus as a possible solution to reduce consumption, it is clear to see that this is not a viable option.

Taxation

Another possible solution is taxation. The government has already levied an indirect specific tax on tobacco products. A specific tax is a fixed amount imposed on a good or a service per unit sold. In this case, there is a specific tax of 1,07kr per gram snus for 2019 (The Norwegian Tax Administration, u.d.). The government could increase the tax so that the cost of production increases for the producers. The extra cost will then have to be paid for by the consumers if they wish to consume that good. Taxation is a supply-based solution.

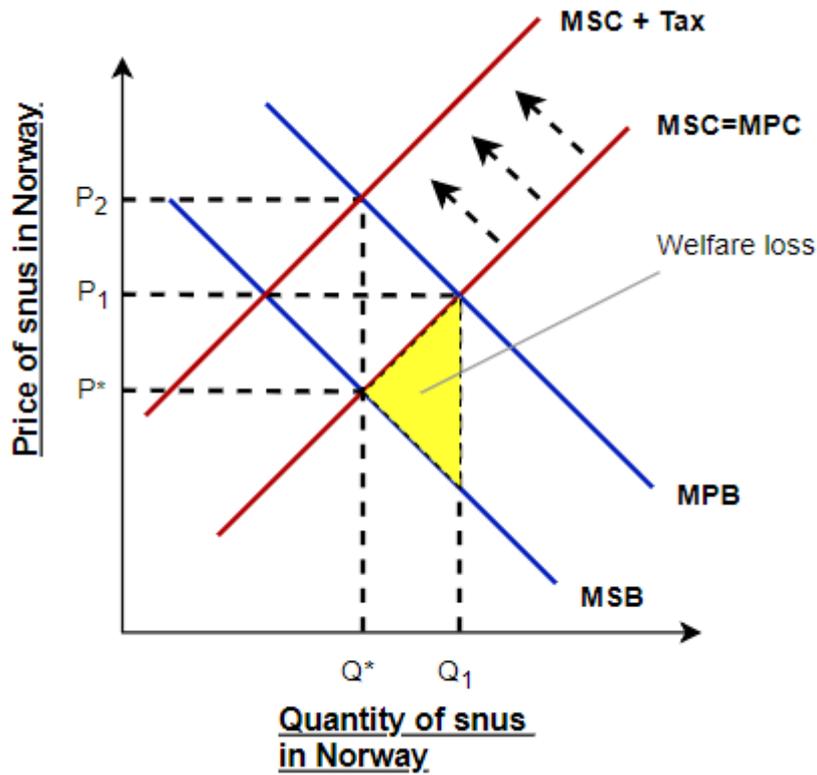


Figure 3: The effect of a specific tax on snus in Norway

As we can see from **Figure 3**, the tax will result in an upward shift in the supply curve from MSC to MSC + tax. This will increase the price from P_1 to P_2 which in turn will decrease the demand from Q_1 and bring it closer to Q^* . Due to the law of demand, the demand for snus will decrease since the price of snus has increased. This might not get rid of the externality completely, but can certainly reduce it. Imposing a higher indirect tax can also accumulate more government revenue, which in turn can be used to mitigate the externalities caused by consuming snus. This measure could also see more immediate results, as imposing a higher tax on snus is easy for the government to implement and will directly affect the consumers' capability of buying said good.

When talking about whether or not taxation will have an effect on snus consumption, it is important to talk about the price elasticity of snus. Snus is an inelastic good, as stated earlier. Therefore, implementing a tax will not change the demand by much. However, this could have an effect on 16-24-year olds. A lot of people in that age group do not have a stable

source of income and get most of their money from their parents. With a higher tax, snus could constitute to a bigger portion of their income.

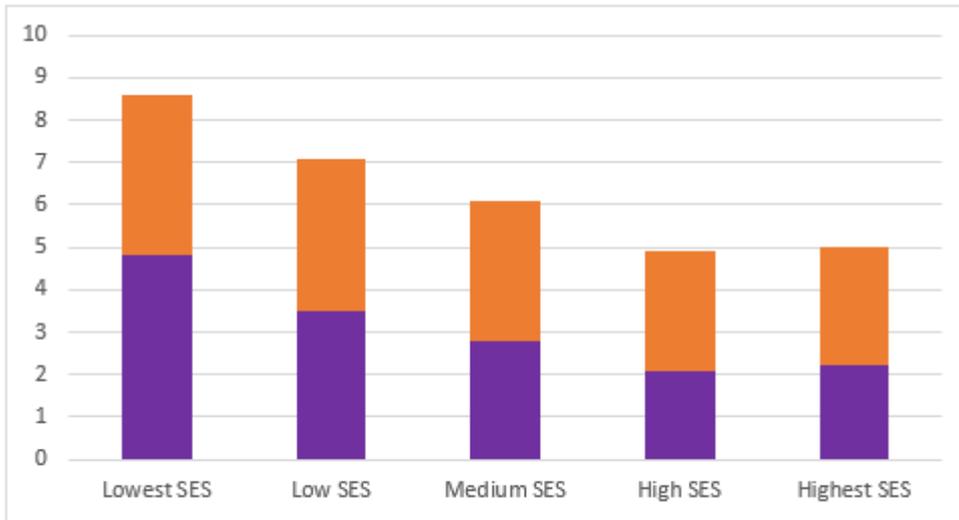


Chart 1: Daily and occasional snus usage among 8th-10th graders based on socioeconomic status. Reprinted from Smoking and snus use in Norway, by Vollset, S. E., Grøtvedt, L., Aarø, L. E., Vedøy, T. F., & Lund, K. E., (2016). Retrieved from <https://www.fhi.no/en/op/hin/lifestyle/royking-og-snusbruk-i-noreg/#social-differences-in-smoking-and-snus-use>

What is interesting to see from **Chart 1** is that those with the lowest socioeconomic status are those who consume the most snus. This means that if the price of snus was increased due to a tax, it would potentially decrease consumption amongst the young people who have the lowest incomes, even though snus is price inelastic. The bar chart only looks at 8th-10th graders who fall outside of the age group we are considering. However, most of this is also applicable to those between 16-24 years old. With a higher tax, snus will constitute to a higher percentage of the income of younger people, especially those with a lower socioeconomic status, which in turn could dissuade them from consuming more snus.

One of the problems which can arise from high taxes is the creation of black markets. Consumers might look for illegal sources of supply when the price increases too much. This applies especially to addictive goods such as snus. Another issue with taxation is that it makes people pay for the external costs they create, but does not directly stop the negative effects

from taking place. Along with that, increasing taxes could be received poorly by the public, which can affect future elections.

Overall, taxation seems like a good solution. Although snus is an inelastic good, it might be more elastic for younger people as many of them do not have a stable source of income.

Chart 1 shows that the young people who are economically worse off are those who consume the most snus. This means that if a higher tax were to be implemented, they would be hit the hardest, which in turn could pressure them to stop using snus.

Conclusion

Standardised snus packaging was implemented by the Norwegian government as a measure to reduce snus consumption amongst young people in Norway. This analysis suggests that their measure has not yet been successful. We do however, see a small reduction in occasional snus users. Whether or not this is because of the legislation is difficult to say. There are also other possible solutions the Norwegian government could have taken such as banning and regulating snus or increasing the taxes. By increasing the taxes, the Norwegian government could have seen some immediate results. However, both of these solutions come with their consequences.

The main reason for why standardised snus packaging has not worked is simply because it has not been given enough time. Politicians expect it to have an impact in the long run and are therefore patient. If we were to answer our research question which was: **“To what extent standardised snus packaging is the most effective way of reducing snus consumption among 16-24 year olds in Norway?”** We can deduce that the legislation at the moment might have worked to a small degree, and is not the most effective way of reducing the consumption of snus. Perhaps it will see some results as time passes. Imposing a higher tax on the other hand, could have had a greater and more immediate effect.

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