

**JOURNAL**

of Health Inequalities

# Alcohol and tobacco: different tax policies and different health and revenue consequences in the 21<sup>st</sup> century in Poland

Jarosław Neneman

Institute of Economics, University of Lodz, Poland

**ABSTRACT**

Over the last 20 years we can observe a divergence in health policies with respect to tobacco and alcohol that has led to significant health consequences. Poland experienced a significant increase in alcohol consumption accompanied by negative health and social consequences while, on the other hand, tobacco consumption went significantly down. Excise duty is one of the most important drivers for that. Alcohol excise policy was very passive, which resulted in a huge increase in the economic affordability of alcohol. Between 1999 and 2021 the number of bottles of vodka the disposable income could buy went up by 176%. At the same time, the tobacco tax policy was active so that the economic affordability of cigarettes did not change at all. This article presents the data on taxes, affordability and tax revenues and tries to explain this divergence. Three perspectives (health, financial and political) are sketched to show the predominant incentives for the players.

**KEY WORDS:** alcohol, tobacco, tax, affordability, policy, Poland.

**ADDRESS FOR CORRESPONDENCE:** Jarosław Neneman, University of Lodz, Poland, e-mail: [jaroslaw.neneman@uni.lodz.pl](mailto:jaroslaw.neneman@uni.lodz.pl)

Democracy and the market economy, restored in Poland in 1990, gave a big push to health that can be seen, among other indicators, in life expectancy. This can be attributable to many factors, including tobacco and alcohol control policies [1, 2]. These two policies differed a lot, resulting in divergence in both health indicators and tax revenues. This paper shows the consequences of both policies for tax revenues, economic affordability and hence consumption and deaths attributable to tobacco and alcohol. The inspiration for this paper is the decrease in life expectancy in recent years. One of the significant causes of this phenomenon is the increase in alcohol consumption, leading to an increase in mortality resulting from alcohol consumption (AAC – alcohol-attributable causes) [2-4] and falling mortality rates from lung cancer [5].

Consumption of alcohol and tobacco brings a lot of harm to the society. Economists use the expression “negative externality”, which is the harm (social cost) done to those not involved directly in drinking and smoking. There is also a negative “internality” – the harm done

to smokers and alcohol drinkers. Social perception of drinking and smoking is getting increasingly negative and therefore high taxation of these sin goods is relatively easy. Years ago, the main objective of these high taxes was to raise money at relatively low political cost. Growing awareness of the negative social consequences of smoking and drinking transforms these sin taxes into health taxes, where the prime objective of the tax is to reduce consumption rather than bring money. From the perspective of the health tax, money is a by-product, and the more successful the tax is, the less money it brings.

For public health specialists it is obvious that alcohol and cigarettes should be banned. However, as this first-best solution is not realistic, the second best is to considerably reduce the consumption of these goods. Taxes seem to be the most effective way to achieve this goal. The economic perspective is a bit different. If a drunken driver dies in an accident he caused, this is tragedy, but not an externality. If a drunken driver kills a passer-by, this is both a tragedy and an externality. From this perspective, the aim of taxes on drinking and smoking is to

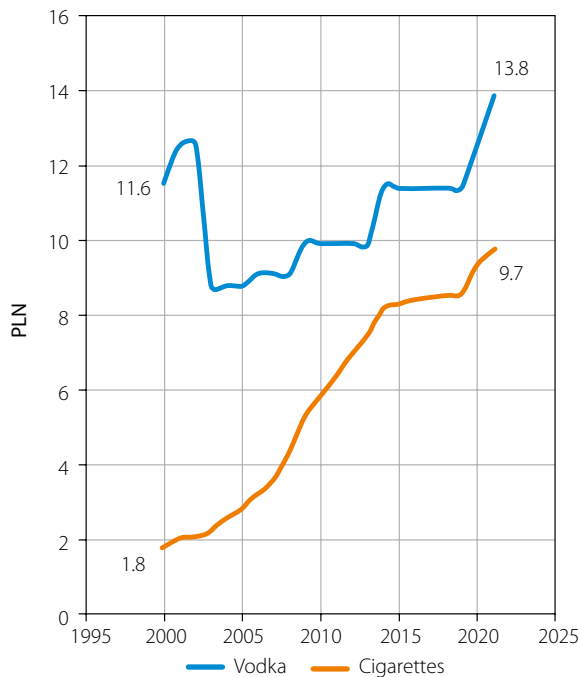


FIGURE 1. Excise duty for a ½ l bottle of vodka (40%) and a pack of 20 cigarettes in PLN

internalize the negative externality and a tax plays the role of a Pigouvian tax – i.e. here, a tax whose main aim is to let the consumers know the full social cost of consumption and, via a higher final price, reduce consumption. The size of the tax should depend on the negative externalities drinking and smoking bring. It is easier said than done, as even a rough estimation of the external cost in the case of smoking and drinking is exceedingly difficult and prone to under- or overestimation according to the assumptions made. Considering the sin nature of these goods, one tempting approach is to set the tax to maximise the tax revenues, while paying attention to equity, compliance cost, organized crime and other aspects of high taxes.

In democratic societies decisions on taxation are made by elected politicians. They must balance the pros of high taxes on these sin goods – money and a strong incentive to reduce consumption – with the cons, namely public opposition to high taxes. Also, regressivity of these taxes must be taken into account: the tax burden falls heavily on poorer people (voters) who are at the same time more sensitive to the price – their price as well income elasticity of demand is relatively high, especially at a low level of income. High price elasticity implies that higher prices due to higher taxes significantly reduce consumption among those who consume a lot and spend a high share of their budget on cigarettes and alcohol. High income elasticity, especially for poor people, implies that they can afford to drink and smoke more or be less likely to reduce or quit as their income grows.

For the purpose of this article, let us assume that the minister of health represents the public health perspec-

tive, the minister of finance the economic one, and the prime minister the political one. That is a considerable simplification, but still it approximates real life reasonably well. The present considerations focus generally on the last 20 years where the financial data are available, and the construction of the tobacco taxes enables comparisons to alcohol taxation.

Excise duty as a separate tax was introduced in Poland in mid 1993 together with a value added tax. Initially the rates (especially for tobacco) were low, but they kept increasing faster than inflation in the last decade of the 20<sup>th</sup> century. At the turn of the centuries, in the case of alcohol Poland was on the backward-sloping side of the Laffer curve<sup>1</sup>, i.e., higher excise tax rates brought less tax revenues. To boost legal sale and therefore revenues, the government introduced a 30% tax cut in 2002. Preparation to join the EU (which took place in 2004) resulted in the introduction of European type tobacco taxation and in radical step-by-step increases in the excises. This continued also in the second decade of this century, when we had to adjust to new, higher taxes stipulated by the new tobacco directive [6]. At the same time, the minimum excise duty on alcohol has not been changed since 1992 and the Polish rate is almost 3 times higher than the EU minimum. The pattern of excise duty on vodka and cigarettes can be seen on Figure 1.

Quite passive alcohol and active tobacco excise policies resulted in hugely different economic affordability of vodka [7, 8] and cigarettes over the last 20 years (Figure 2).

The economic affordability of alcohol and tobacco can be gauged using various measures. Figure 2 uses two measures. Disposable income per person in households takes into account not only income but also benefits received and income tax paid, of a typical household. Between 1999 and 2021, the disposable income rose by approximately 270%. It is also interesting to include the minimum earnings, i.e., the minimum that a person working full-time must earn a month (excluding taxes and benefits). This largely affects households with low incomes, i.e., those whose price and income elasticity demand is high. Between 1999 and 2021, the minimum wage increased by as much as 430%. As a result, between 1999 and 2021, the affordability of alcohol measured by the number of half-litre bottles of 40% vodka that could be purchased increased from 29 to 79 bottles (disposable income); and from 27 to 107 bottles (minimum wage). In the case of cigarettes, the respective numbers are: 139.4 and 139.9 for disposable income and 131.3 and 190 packs of cigarettes for the minimum wage. Here the diverging patterns of the two policies are the most vis-

<sup>1</sup> The Laffer curve shows the theoretical relationship between a tax rate (horizontal axis) and the tax revenues (vertical axis). It has the shape of a hill. On the left, upward sloping side of the curve, an increase in the tax rate increases the revenues. At some point, the revenues are maximized and further increases in the tax rate result in the decline of the tax revenues. The Laffer curve is widely used in political debates by proponents of low taxes.

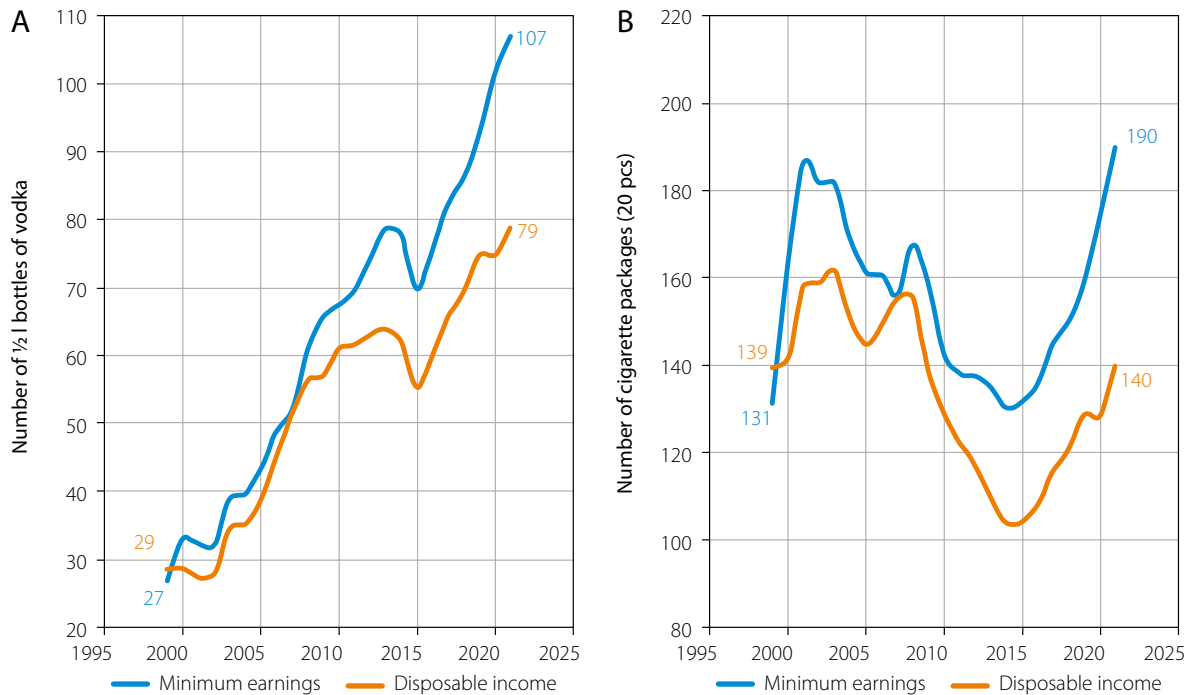


FIGURE 2. Economic affordability of A) vodka and B) cigarettes in Poland for minimum earnings and disposable income

ible. The economic affordability of cigarettes measured according to disposable income has not changed at all over more than 20 years, but in the case of vodka it went up by 176% (for minimum wage earners the numbers are 45% for cigarettes and 298% for vodka).

At the same time, the alcohol control policy was weakened by abolishing the ban on advertising of beer, and the introduction of sale of alcohol in small, pocket-size bottles [9], as well as a very liberal policy with respect to the outlets where and when alcohol can be purchased, which increased the physical availability of alcohol. The tobacco control policy was kept unchanged, with an increasing number of places where smoking is not allowed, a total ban on advertisement and graphic warning labels.

Between 1990 and 2002 alcohol consumption varied between 7.8 and 8.8 litres of pure alcohol per capita (15+) but in 2021 it reached almost 12 litres [10]. At the same time, tobacco consumption went down from about 100 billion cigarettes in the 1990s to about 88 billion in 1999 to 45.6 billion in 2021 [11]. The consequences of these changes for the excise revenues can be seen in Figure 3.

After dynamic growth of the revenues from alcohol excise duty in the first part of the 1990s, there was a period of stagnation or even decline. Starting from 2003 we can observe small increases in the alcohol excise revenues, mainly due to the higher volume of sale and consumption, as after the 30% tax cut in 2002, the tax rate increased only a little – see Figure 1. The decline that can be observed in 2014 was due to the announcement of the excise increases in 2013. Producers increased production at the end of 2013, paying lower taxes, and then

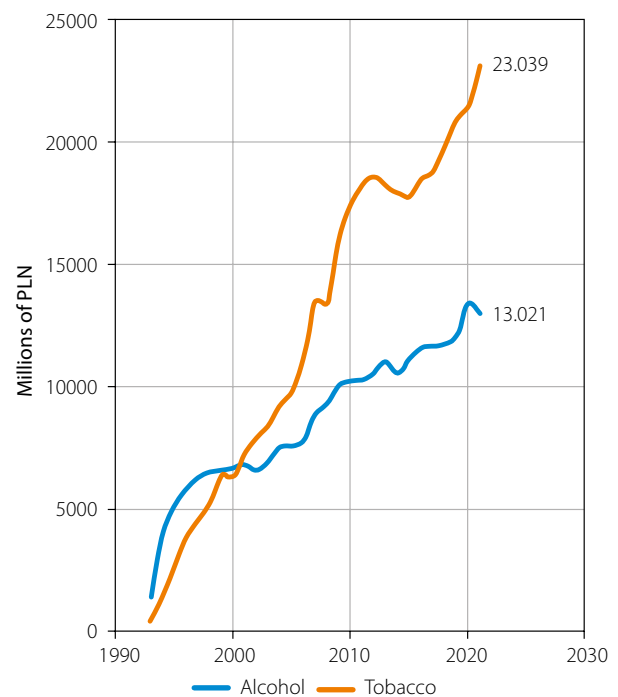


FIGURE 3. Excise duty revenues from alcohol and tobacco in Poland

reduced production in 2014, selling alcohol produced and taxed earlier.

Despite the decreasing volume of cigarette consumption and sale, due to the very active smoking control policy, including (almost) persistent excise increases, one can observe a considerable increase in the tax revenues. Also, in the case of cigarettes Poland reached

the backward-sloping part of the Laffer curve. That happened in the first part of the second decade of the 21<sup>st</sup> century, when the rates were adjusted to reach the new minimum stipulated in the directive. The government announced the non-binding road map of increases (5% per annum), but due to “budgetary needs”, the actual increases were higher. Unfortunately, later there was a long period (5 years) of no tax increases and Poland was again on the left, upward sloping part of the Laffer curve. With rising affordability (see Figure 2) consumption of cigarettes went up by 10% between 2015 and 2021. It still keeps growing despite the tax increase in 2020. In real terms, between 1999 and 2021 alcohol excise duty revenues went up by 10%, but at the same time excise revenues from tobacco went up by more than 100%.

From the perspective of the ministry of health, the tax policy toward cigarettes appeared to be almost highly successful. This “almost” is due to the lack of tax increases in the late 2010s that reversed the falling trend of tobacco consumption. In the case of alcohol taxation, the excise policy was a total failure – economic affordability skyrocketed, which resulted in rising consumption and a rising death toll of AAC [4]. The perspective of the minister of finance is quite similar in the case of tobacco – these revenues could have been higher, had there been moderate increases in the first part of the 2010s, extending to the second part of that decade. The excise on alcohol should not be perceived as a big failure for the ministry of finance – the revenues kept increasing, but the pace of growth could have been faster. It is likely that if only the tax rates on alcohol had been adjusted to the growing average earnings or disposable income, then the revenues could have increased more. The 15% increases in excise duty on alcohol in 2015 increased revenues in the next years.

Why did the excise policy toward tobacco and vodka differ? Politics seems to be the answer. Even though tobacco and alcohol are sin goods, politicians have been reluctant to increase the excise. This was also the case of the excises on fuels, which were kept almost unchanged for almost the last 20 years in the case of gasoline and 10 years in the case of diesel. Obviously, this resulted in a significant increase of the economic affordability with all its negative environmental and social consequences. Why was the excise on tobacco increased? This was the “EU’s fault” – a perfect excuse for politicians. From the perspective of the prime minister, the excise duty policy is perceived as a success. The tax increases have been very infrequent and low, except for tobacco – but once the EU minimum was reached, the “good” politicians did not put an additional tax burden on the shoulders of their voters.

Over the last 20 years we have not had a coherent health and excise policy with respect to alcohol. In the case of tobacco, the situation was much better, but in

the field of taxation that was due to the EU. I worked for three different governments as the deputy minister of finance responsible for tax policy and never had any discussion with the ministry of health or with a representative of any other public body responsible for public health. There was no cooperation within the government over the role of excises in the health and environmental policy. At the end of the day, a decision about an excise duty increase is made by elected politicians. The greater the social awareness of the social costs of drinking and smoking, the easier it is for the prime minister to accept the higher taxes on alcohol and tobacco. Therefore, we should use all possible ways to increase the awareness of the society in that field. The European Commission could also influence the tax policy, especially in the field of alcohol taxation – it is politically difficult to increase the excise duty on alcohol if the taxes in neighbouring countries, even wealthier ones, are lower. There is an urgent need to update the 92/83/EEC Directive [12] that came into force 30 years ago!

In 2021, a roadmap was adopted for increases in excise duty on alcohol and tobacco in Poland, which envisages annual increases of 5% per year in the case of alcohol in the years 2021–2026 and 10% per annum for tobacco from 2022 until 2026. Inflation in 2021 was 5.1% and the minimum wage increased by 7.6%, which basically means a slight real decrease in the amount of excise duty on alcohol and even higher for tobacco. This decrease will deepen significantly in 2022, as inflation is likely to reach almost 20% and stay on an elevated level longer. In the coming years we can therefore expect a significant decrease in the real price of alcohol, meaning an increase in its affordability, and thus an increase in alcohol consumption and an increase in the number of deaths due to alcohol-related diseases and an increase in the negative social consequences associated with alcohol, such as domestic violence, road accidents, murder and robbery. In the case of tobacco the situation again looks better. If only politicians had decided to construct the road map in a slightly better way, the problem of increasing economic affordability of alcohol (and to a much smaller degree tobacco) could have been avoided. One potential solution could be to index the excise increases to inflation or average earnings growth in the previous year. A simple formula, for example CPI (consumer price index) + 2 percentage points, would do.

## DISCLOSURE

The authors report no conflict of interest.

## References

1. Zatonski WA. One hundred years of health in Poland. *J Health Inequal* 2019; 5(1): 11-19.
2. Zatoński WA, Janik-Konieczny K, Zatoński M. Life expectancy and alcohol use health burden in Poland after 2002. *J Health Inequal* 2022; 8(1): 4-16.

3. Zatoński WA, Zatoński MZ, Janik-Koncewicz K, McKee M. Alcohol-related liver cirrhosis in Poland: the reservoir effect. *Lancet Gastroenterol Hepatol* 2020; 5(12): 1035.
4. Zatoński WA, Zatoński M, Janik-Koncewicz K, Wojtyła A. Alcohol-related deaths in Poland during a period of weakening alcohol control measures. *JAMA* 2021; 325(11): 1108-1109.
5. Zatoński WA, Janik-Koncewicz K, Zatoński M. Role of primary prevention in lung cancer control in Poland. *J Thorac Oncol* 2021; 16(10): e93-e94.
6. Council Directive 2011/64/EU of 21 June 2011 on the structure and rates of excise duty applied to manufactured tobacco. Available from: <https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:32011L0064> (accessed: 15 November 2022).
7. Stokłosa M, Drope J, Zatoński M, Zatoński WA. Towards improved public health: affecting alcohol and tobacco affordability and consumption in Poland through taxation. *J Health Inequal* 2016; 2(2): 101-104.
8. Neneman J. Alcohol excise duty policy in Poland in the 21<sup>st</sup> century. *J Health Inequal* 2021; 7(2): 102-106.
9. Zatoński WA, Młóżniak I, Zatoński M, Gruszczyński Ł. Small bottles – huge problem? A new phase of Poland's ongoing alcohol epidemic. *J Health Inequal* 2019; 5(1): 86-88.
10. OECD data. Alcohol consumption. Available from: <https://data.oecd.org/healthrisk/alcohol-consumption.htm> (accessed: 4 November 2022).
11. Zatoński WA, Zatoński M, Janik-Koncewicz K, et al. Hundred years of cigarette smoking in Poland: three phases of the tobacco epidemic. *J Health Inequal* 2017; 3(2): 118-122.
12. Council Directive 92/83/EEC of 19 October 1992 on the harmonization of the structures of excise duties on alcohol and alcoholic beverages. Available from: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31992L0083> (accessed: 15 November 2022).