ALCOHOL CONSUMPTION IN THE CZECH REPUBLIC IN THE CONTEXT OF COVID-19 PANDEMIC: IMPLICATIONS FOR PUBLIC POLICY

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Abstract: *The Czech Republic has long been among the countries with the highest alcohol consumption in the world. Almost a fifth of the Czech population is categorised as problematic or high-risk alcohol drinkers. Restrictions taken against the spread of coronavirus have affected the lives of millions of people. Due to economic insecurity and severe mental health consequences, potential changes in behavioural and consumption patterns might also occur. The aim of this article is therefore to analyse available research and data related to alcohol consumption in the Czech Republic during the COVID-19 pandemic (the year 2020). Within this research, methods of time series analyses, comparison and synthesis were applied. Macroeconomic data indicated a decline in overall consumption, which however is affected by reduced tourism. On the other hand, microeconomic data showed an increase in average consumption when people with intense patterns of substance use increased their level of use. If the situation is not sufficiently addressed, serious socio-economic risks might occur, including increased costs for the healthcare system.*

Keywords: *Alcohol, Consumption, COVID-19, Czech Republic, Consumer behaviour.*

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1. INTRODUCTION

The Czech Republic has long been among the top countries with the highest per capita consumption of pure alcohol in the world (WHO, 2022; OECD, 2022). At the same time, the prevalence of risky alcohol use and harmful alcohol use has been increasing (Chomynová, Černíková & Mravčík, 2021) and the prevalence of highly problematic alcohol drinkers reached 8% in 2020 (National Institute of Public Health, 2021). The impact of alcohol on the overall health burden is significant – alcohol is one of the leading causes of morbidity and premature mortality in developed countries (Shield et al., 2020), including the Czech Republic (Mravčík et al., 2019).

The COVID-19 pandemic and related safety measures probably caused serious changes in consumption behaviour and former drinking habits. Some studies showed that overall consumption decreased during the first wave of the pandemic (Kilian et al., 2021) due to reduced availability and affordability of alcohol products, or because of the reduced number of opportunities for social contact, celebrations, and other occasions for alcohol drinking (Rehm et al., 2020). However, despite the decline in overall alcohol consumption, it appears that there has been no decline in consumption across all consumer categories and the lockdown had a polarizing impact on drinking patterns (Vanderbruggen et al., 2020; Oldham et al., 2021). In other words, some drinkers drank less during the pandemic, but others drank more (Panagiotidis et al., 2020; Calina et al., 2021).

Several studies also found that individual changes in consumption depended on pre-pandemic consumer drinking levels - those with initial low consumption tended to report a decrease in drinking during the pandemic, while the group with initial highest pre-pandemic consumption level tended to report an increase in drinking (Bramness, et al., 2021). In addition, patterns of change may also depend on the level of stress experienced during the pandemic. Specifically, people who experienced distress were more likely to consume more alcohol than those who did not, independently of financial income (Kilian et al., 2021).

Moreover, Barbosa, Cowell & Dowd (2021) stated, that alcoholic beverage sales increased significantly after the relaxation of pandemic security restrictions and the US alcohol drinkers consumed more drinks per day with a greater occurrence of binge drinking. Thus, alcohol-related consequences remained one of the major social issues which the pandemic could have deepened (Sugarman & Greenfield, 2021). It is therefore crucial at this point to further monitor any potential changes in consumption behaviour across all consumer categories (especially among the highest risky consumers of alcoholic beverages) to select, create and implement a suitable response to public health policy.

2. METHODOLOGY

The aim of this article is to analyse available data and information related to alcohol consumption which might indicate potential changes in consumers' behaviour in the Czech Republic in the context of the COVID-19 pandemic. Within this research, methods of time series analyses, comparison and synthesis were applied. The following data sources were used:

a)   *scientific research outputs* – within the Web of Science and SCOPUS database, using the following search keywords: alcohol, consumption, COVID-19, coronavirus, Czech Republic;

b)   *microeconomic, macroeconomic and market data* – publicly available data from the Czech and international institutions, and unique data from the Czech beer industry, as beer is the most frequently consumed alcoholic beverage in the Czech Republic.

Authors consider the synthesis of this information as a necessary next step for further research and moreover as a useful essential step for developing appropriate response of public health policy institutions. As excessive and risky alcohol consumption is a long-term problem in the Czech Republic, it is also desirable to point out the increasing relevance of hazardous or addictive behaviour of the Czech alcohol consumers in light of the COVID-19 pandemic.

3. ALCOHOL CONSUMPTION IN THE CZECH REPUBLIC DURING THE COVID-19 PANDEMIC

3.1. Literature review

Studies focusing on changes in alcohol use among the Czech population during the COVID-19 pandemic and especially during the state of emergency and lockdowns have brought inconclusive results. However, it appears that there may have been a worsening of the situation, especially among heavy alcohol users. Kilian et al. (2021) who analysed the alcohol consumption across twenty-one European countries and conducted a wide survey between April 24, 2020 and July 22, 2020 stated, that overall consumption in the Czech Republic slightly decreased. However, financial distress and distress due to changes in everyday life may increase drinking levels later on. Moreover, Rossow et al. (2021) showed, that the upper decile of Czech drinkers with the highest initial pre-pandemic alcohol consumption level increased their consumption.

Furthermore, respondents reporting the highest frequency of pre-pandemic use of addictive substances, especially alcohol, cannabis, and sedatives, increased their intensity of use during the state of emergency by 5-10% on average, while less intensive users decreased their consumption (survey conducted in May 2020). Moreover, the results suggest a slight increase in overall alcohol and sedative consumption and a significant increase in digital gaming and social media use (Mravčík & Chomynová, 2021).

A repeated nationwide cross-sectional study by Winkler et al. (2020) showed, that the prevalence of alcohol use disorders in May 2020 was approximately on the same level compared to 2017, but there was a significant increase in the prevalence of weekly binge drinking behaviours from 4.07% in 2017 to 6.39% in 2020. More importantly, after the second wave of the pandemic in November 2020, the prevalence of alcohol use disorders as well as the prevalence of alcohol abuse increased significantly compared to the beginning of 2020 (Winkler et al., 2021).

According to Barták et al. (2021), the results of a representative online survey showed some changes in drinking patterns during the COVID-19 pandemic. Generally, most respondents stated that they did not change their consumption level. At the same time, there were more respondents who reported a decrease in alcohol use than respondents who reported an increase. However, in relation to age, the authors observed that people in the younger age categories reported larger increases in alcohol use than those within the older age categories. Respondents in age 18-24 reported more changes on both sides of the curve, i.e., a significant proportion reported a decreased alcohol consumption, but a significant proportion also reported an increase in alcohol consumption. This relates to both frequency and quantity of alcohol consumed. On the other hand, the smallest decrease in alcohol consumption was observed in the age category 45-54. Moreover, 8% of respondents stated, that they now drink alcohol alone more often than before the COVID-19 pandemic and 1% of respondents chose the option that they now drink more often before noon. In addition, more respondents now prefer drinks with lower alcohol content compared to the pre-pandemic situation.

3.2. Results

The macroeconomic point of view on the development of Czech average alcohol consumption is represented in the following Table 1 (within the meaning of the methodological definition by the Czech Statistical Office, where the alcohol consumption is measured by the volume of sales of domestic producers, imports are added, and exports of alcohol products are deducted). The increasing consumption trend between 2017-2019 is followed by a decline in 2020 to 9.7 litres of pure alcohol per capita.

Table 1. Average alcohol consumption in the Czech Republic – Macroeconomic point of view (Litres of pure alcohol per capita, 2016-2020)

	2016	2017	2018	2019	2020
Overall alcohol consumption	9.9	9.8	9.9	10.0	9.7
Beer	4.9	4.8	4.8	4.8	4.6
Wine	2.3	2.2	2.4	2.3	2.3
Liquor	2.8	2.8	2.8	2.8	2.8

Source: Czech Statistical Office (2022)

However, such decline may also be influenced by a significant downturn in foreign tourism, when the number of foreign visitors decreased by 74.4% in 2020 compared to 2019 (Czech Statistical Office, 2021), and also by a possible reduction in cross-border purchases.

Table 2. Occupancy in collective accommodation establishments (number of non-residents, 2016-2020)

	2016	2017	2018	2019	2020
Overall alcohol consumption	9,321,440	10,160,468	10,611,394	10,890,500	2,784,170

Source: Czech Statistical Office (2022)

Thus, overall sales of alcoholic beverages in the Czech Republic declined in 2020 due to these factors. Moreover, excise duty collections on alcoholic beverages fell by CZK 624 million (-4.7%) in 2020, despite an increase in the excise tax rate on spirits effective from the beginning of 2020. Excise duty collections fell for spirits and beer but increased by 10.2% in the case of wine (excise duty collection on wine is much lower compared to other types of alcohol due to the zero-excise duty on still wines).

Table 3. Excise Duty Collection in CZK million (2018-2020)

	2018		2019		2020	
	CZK mil.	Index 2018/2017	CZK mil.	Index 2019/2018	CZK mil.	Index 2020/2019
Beer	4,776	103.0	4,696	98.3	4,497	95.8
Wine	408	107.2	404	98.8	445	110.2
Liquor	7,943	108.2	8,234	103.7	7,768	94.3
SUM	13,127	-	13,334	101.6	12,710	95.3

Source: Ministry of Finance of the Czech Republic (2021)

On the other hand, the microeconomic point of view on the development of alcohol consumption in the Czech Republic is presented by the annual survey among the representative number of respondents (1,806 respondents in 2020), issued by the National Institute of Public Health of the Czech Republic (Table 3). It can be noticed that the average alcohol consumption followed an increasing trend in 2020 and reached 8.0 litres of pure alcohol per capita (reversely to macroeconomic data).

Table 4. Average alcohol consumption in the Czech Republic - Microeconomic point of view
(Litres of pure alcohol per capita, divided by age, 2016-2020)

	2016	2017*	2018	2019	2020
Overall Consumption	6.8	-	7.4	7.7	8.0
15-24	6.3	-	6.6	7.0	7.1
25-44	6.9	-	8.0	8.6	8.4
45-64	7.9	-	8.1	8.6	8.9
65+	5.2	-	6.0	5.4	6.6

* Data for 2017 are not available

Source: National Institute of Public Health (2017-2021)

The COVID-19 pandemic may also have caused some changes in the frequency of alcohol drinking, when more frequent drinkers increased their drinking frequency level during 2020, while less frequent drinkers tended to decrease it. This assumption is confirmed by the National Institute of Public Health data mentioned above, presented in Table 4. The prevalence of respondents who consume alcohol every day or almost every day increased from 8.5% in 2019 to 9.6% in 2020. Similarly, the prevalence of respondents who consume alcohol 3-4 times a week has increased from 8.9% in 2019 to 10.2% in 2020.

Table 5. Frequency of drinking alcoholic beverages (%)

	2016	2017	2018	2019	2020
Every day or almost every day	6.1	-	7.8	8.5	9.6
3-4 times a week	7.7	-	8.9	8.9	10.2
1-2 times a week	19.7	-	20.8	22.0	19.3
2-3 times a month	18.3	-	18.0	17.3	16.9
Once a month	12.1	-	12.9	12.7	11.0
6-11 times a year	5.1	-	5.0	5.4	5.3
2-5 times a year	9.3	-	9.0	8.5	7.0
Once a year	4.4	-	5.0	3.9	4.9
Not at all during last year	13.7	-	9.6	10.3	12.2
Never in my life	3.8	-	3.7	2.4	3.6

* Data for 2017 are not available

Source: National Institute of Public Health (2017-2021)

4.   CASE STUDY: BEER PRODUCTION IN THE CZECH REPUBLIC

As an example, in the context of this article authors present the development of beer production in the on-trade (direct sales - restaurants, hotels, etc.) and off-trade trade (indirect sales - shops, chains, etc.) segments based on unique data provided by the Czech Association of Brewers. While in 2019 the production ratio of beer between the on-trade and off-trade segments reached 37/63, in 2020 the ratio changed to 27/73 - meaning that 73% of total beer production went to retail in 2020.

The decline in beer production in the on-trade segment during 2020 is evident (Figure 1), mainly due to the government's pandemic security measures under which restaurants and other hospitality establishments were closed. The biggest declines are evident in March, April, and May, followed by October, November, and December. In total, production in this segment fell by 31.09% compared to 2019.
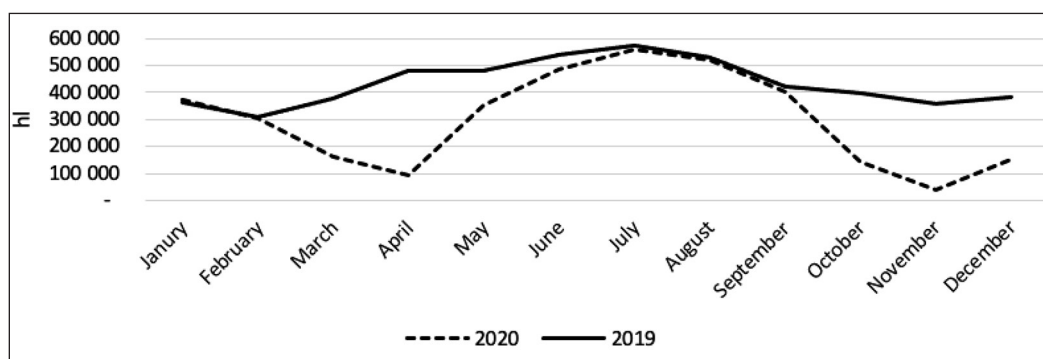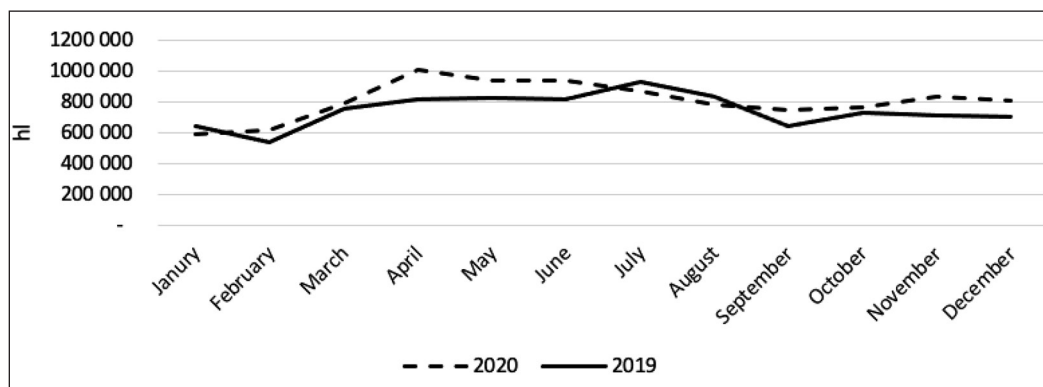
Figure 1. Development of beer production in the Czech on-trade segment – 2019 and 2020
(hectolitres of beer)
Source: Czech Association of Brewers, personal communication, February 2022

On the other hand, the total beer production in the off-trade segment in 2020 increased by 8.2% compared to 2019, with the largest increases during March, April, and May, followed by November and December (Figure 2). In terms of beer packaging types, the largest increases in beer sales during 2020 were in can products (16%), glass bottles (7.2%) and PET bottles (3.7%). Conversely, the largest declines occurred in barrels (29.6%) and beer tanks (45.3%).

Figure 2. Development of beer production in the Czech off-trade segment – 2019 and 2020
(hectolitres of beer)
Source: Czech Association of Brewers, personal communication, February 2022

5. DISCUSSION

Deep and thorough information on the impact of the COVID-19 epidemic on patterns and levels of alcohol consumption seems to be still limited and ambiguous. Many of the most serious socioeconomic impacts may occur not subsequently, but rather over a longer time period. However, it appears that there may have been a worsening of the situation, particularly among intensive alcohol users, who may have increased both frequencies of use and amount of alcohol consumed. Moreover, the COVID-19 pandemic has affected the alcohol market and people's consumption behaviour. Alcohol consumption shifted from public to private places during the states of emergency and the question now is - to what extent will the shift of consumers away from public catering to retail outlets be reflected in the period ahead.

As previous research and alcohol consumption data show, there has been a forced change in consumer market behaviour as a result of restrictions on social contacts, restrictions and bans on public and private events and, in particular, restrictions and bans on restaurants, bars and pubs due to spread of COVID-19. Retail outlets have become a primary source of alcoholic beverages, especially during the state of the emergency period in spring and at the end of 2020. The alcohol market in the Czech Republic has also been affected by a drop in tourists and a reduction in cross-border purchases and sales of alcoholic beverages declined in 2020 due to these factors. Thus, there was also a year-on-year decline in alcohol excise duty collections by CZK 0,6 billion (-4,7 %).

Addictology services have reported increased demand for their services following the relaxation of anti-epidemic security government measures, although this increase is not evident from health statistics data (Mravčík et al., 2021). The COVID-19 pandemic and related restrictive measures have made it more difficult for clients with alcohol dependence problems to contact and access social and addictology services. On the other hand, the provision of online counselling and treatment services has partly developed during the pandemic, which might be a great benefit in the future.

In addition, such changes in this area have direct implications for the cost of the healthcare system, excise duty collections and a range of other socio-economic impacts which may emerge subsequently during upcoming months, but also in the long term. Therefore, it is now crucial to focus primarily on the most at-risk groups of alcohol consumers and to target appropriate prevention and regulatory tools at these consumer groups, through targeted health and regulatory instruments (such as harm reduction programmes, targeted interventions and also strengthening the capacity of addictology and social services).

6. FUTURE RESEARCH DIRECTIONS

One of the important future research directions in the analysis and economic evaluation of targeted prevention tools aimed at reduction of alcohol consumption among at-risk consumer groups, such as screening and brief intervention. This tool is relatively under-used among Czech health professionals, despite WHO recommendations, and it is, therefore, necessary to show what particular benefits this method of prevention can bring to the Czech healthcare system.

7. CONCLUSION

Macroeconomic data indicate a decline in overall consumption, which however has also been affected to some extent by the reduced number of foreign tourists. On the other hand, microeconomic data showed an increase in average consumption among Czech alcohol consumers in 2020 compared to 2019. At the same time, the pandemic has deepened the country's long-term issue with a growing number of high-risk alcohol consumers. Moreover, people with intense patterns of substance use increased their level of use during a state of emergency. The same applies to digital games and social media. Thus, demand for addiction treatment can be expected to increase in the near future.

If the situation is not sufficiently addressed, serious socio-economic risks might occur, including increased future costs for a healthcare system that is already experiencing huge pressure. In particular, the solution may lie in the widespread use of targeted preventive and regulatory tools such as screening and brief intervention as well as awareness-raising campaigns on the benefits of a healthy lifestyle, harm reduction programmes and strengthening the capacity of addictology and social services.

The aim of this article was to synthesize all available data concerning changes in alcohol consumption in the Czech Republic in the context of the COVID-19 pandemic, which was achieved. A limitation of this article is the lack of microeconomic data dealing with specific changes in consumer behaviour, which can also be considered as a further research direction.

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