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WEAKENING OF ONE MORE ALCOHOL CONTROL PILLAR: A REVIEW OF THE EFFECTS OF THE ALCOHOL TAX CUTS IN FINLAND IN 2004

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Abstract

Aims—To review the consequences of the changes in Finnish alcohol policy in 2004, when quotas for travellers' tax free imports of alcoholic beverages from other European Union (EU) countries were abolished, Estonia joined the EU, and excise duties on alcoholic beverages were reduced by one-third, on the average.

Design—A review of published research and routinely available data.

Setting—Finland.

Measurements—Prices of alcoholic beverages, recorded and unrecorded alcohol consumption, data on criminality and other police statistics, alcohol-related deaths and hospitalizations, service use.

Findings—Alcohol consumption increased 10% in 2004, clearly more than in the early 2000's. With few exceptions, alcohol-related harms increased. Alcohol-induced liver disease deaths increased the most, by 46% in 2004–2006 compared to 2001–2003, which indicates a strong effect on pre-2004 heavy drinkers. Consumption and harms increased most among middle-aged and older segments of the population, and in the worst-off parts of the population in particular.

Conclusions—Alcohol taxation and alcohol prices affect consumption and related harms, and heavy drinkers are responsive to price. In Finland in 2004, the worst-off parts of the population paid the highest price in terms of health for cuts in alcohol prices. The removal of travellers' import quotas, which was an inherent part of creating the single European market, had serious public health consequences in Finland.

Keywords

Alcohol policy; alcohol consumption; alcohol-related harm

Year 2004 saw significant changes in Finnish alcohol control. Quotas on tax-free imports of alcoholic beverages by travellers arriving in Finland from other European Union (EU) countries were abolished on January 1st. This had great significance after Finland's southern neighbour, Estonia, a country with low alcohol prices, joined the European Union on May 1st. Related to these changes, alcohol taxes were cut on average by one-third on March 1st.

This article puts the 2004 developments in context and examines their effects on alcohol consumption, its distribution and related harm. We do this by reviewing the published research and routinely available data accumulated on the issue, which have been published only in Finnish or are otherwise not easily available to the international readership. The measures we use when assessing the effects of the changes are: prices of alcoholic beverages, recorded and

unrecorded alcohol consumption, data on criminality and other police statistics, alcohol-related deaths and hospitalizations, and data on service use.

Weakening pillars of alcohol control policy

Nordic alcohol control has rested on three pillars: strict control of the physical availability of alcohol, a comprehensive state monopoly on alcohol production and trade that prevented private profit-seeking, and high prices of alcoholic beverages.

In Finland, the physical availability of alcoholic beverages was very strictly controlled until 1969 when new alcohol legislation was introduced. The most important changes were that medium beer (up to 4.7% alcohol by volume) could be sold in grocery stores and cafés, alcohol sales were enabled in rural municipalities and legal age limits for alcohol purchases were lowered [1]. During the following decades, alcohol availability has further increased as the number of liquor stores and licensed restaurants has expanded, controls on off- and on-premise sales of alcoholic beverages have decreased and opening hours of alcohol outlets have been extended [2].

In 1995, when Finland joined the EU, the state monopoly on the production, import, export and wholesale of alcoholic beverages was dissolved. However, the off-premise retail alcohol monopoly, Alko, was maintained for alcoholic beverages with an alcohol content exceeding 4.7% by volume [3].

During the second half of the twentieth century, real prices of alcoholic beverages were held practically at the high level they had reached in 1951. In March 2004, however, the prices of alcoholic beverages decreased greatly when excise duty rates for alcoholic beverages were lowered. The relative decrease was higher for strong alcoholic beverages than for beer and wine (Table 1).

Motivations behind the 2004 alcohol tax cuts

A number of factors magnified the potential impact on Finland of the abolishment of travellers' import quotas and Estonia's accession into the EU. The population in Finland is concentrated in the south, and Estonia can be reached from Southern Finland in less than two hours by boat. The five million inhabitants of Finland made approximately 2.5 million trips to Estonia annually at the turn of the millennium. At the beginning of 2004, prices in Estonia for cheap brands of vodka were merely a fifth of the Finnish prices, prices for beer were one-third and for wine two-thirds of the Finnish prices [4]. Since May 2004, Finns have been able to take with them practically any amount of alcoholic beverages for their own use, whereas before that, a Finnish traveller having stayed in Estonia at least 20 hours was allowed to import tax-free merely one litre of strong alcoholic beverages, or two litres of intermediate products, and two litres of wine and 16 litres of beer.

The aim of the tax cuts from the government's perspective was to curb the expected growth of travellers' alcohol imports, to maintain the tax base of alcoholic beverages and jobs created by the alcohol industry in Finland and to prevent the emergence of grey markets based on travellers' alcohol imports [5: p.28–29]. The Government anticipated that the tax cuts would increase alcohol consumption and related harms, but it emphasized that, due to much greater travellers' imports, they would increase even if no cuts were made in alcohol taxes [5: p.26–27]. The removal of the import quotas together with Estonia's EU membership thus implied that Finland had only bad alternatives to choose from in the spring of 2004.

The differences in tax cuts by beverage category were mainly motivated by differences in the prices of alcoholic beverages between Finland and Estonia. Furthermore, in Estonia, the price

of ethyl alcohol is lowest in vodka, and it is much easier to transport alcohol in the form of a beverage containing 40–80% alcohol than in the form of wine or beer. For beer, the size of the tax cut was affected also by Finland's industrial policy targets [5: p.29].

Effects of the tax cuts on prices

The share of alcohol tax in the price of alcohol is larger for off-premise than on-premise retail sales. Accordingly, on-premise sales prices declined only 4% in March 2004, representing approximately two-thirds of the calculated reduction margin resulting from the tax reform.

In off-premise retail sales, the tax reduction was reflected to the fullest extent possible in the retail prices of the state alcohol company Alko's stores, as Alko did not change its margin and the suppliers were not able in March to change the prices at which they sold their beverages to Alko (Table 1). No major price changes took place between April 2004 and the end of year 2007. In groceries, where increased international competition made special offers on medium beer increasingly common, the decrease in medium beer prices was even greater than that attributable to the tax reduction. In late 2007, the prices of the most inexpensive vodkas in Estonia were still only one-third of the Finnish level.

One factor that has explained changes in the market shares of different beverages in Finland is which brand is the cheapest source of ethyl alcohol. Before the tax cuts, one centilitre of ethyl alcohol cost at its cheapest 51 cents in table wines, 55 cents in fortified wines and 69 cents in vodka, compared with 48, 41 and 42 cents, respectively, after the cuts [Alko's price list, January and April, 2004]. In other words, it became significantly cheaper to buy ethyl alcohol in fortified wines and in vodka than in table wine. For medium beer the price of one centilitre of ethyl alcohol was 67 cents in March 2004 in Alko stores whereas the lowest discount prices offered by groceries translated to as little as 25 cents, with prices below 40 cents being quite common.

Effects of the 2004 changes on alcohol consumption

In the mid-1960s, total per capita alcohol consumption (both recorded and estimated unrecorded) was some 3 litres, while it was slightly more than 9 litres in 2003 (Figure 1). In 2004, consumption increased 10% and has since kept at that level.

Recorded alcohol consumption, which accurately measures the volume of alcohol sales in Finland [6], increased 7% in 2004 over the previous year (Table 2). The percentage growth for 2004, however, fails to reflect the total impact of the tax reform as the post-reform period only covered ten months of the year.

The immediate effects of the tax change can be evaluated on the basis of weekly Alko sales, contrasting them to same weeks of the previous year (Figure 2). Sales increased immediately at the beginning of March (week 10). The growth rate was higher during the months immediately following the tax cuts than during the summer months when Estonia was already an EU member state.

In 2004, the sales of both strong alcoholic beverages and fortified wines increased 17% over the previous year (Table 2). Beer sales increased by some 5% whereas no increase took place for table wines, and sales of cider and "long drinks" (a popular type of premixed drink) declined somewhat. The decades-long increasing trend in wine consumption paused in 2004.

On-premise consumption of alcohol has decreased constantly since 1997, 4% a year on average. In 2004, on-premise sales decreased 4%, after which the decrease ended.

In Finland, the volume of unrecorded alcohol consumption has been regularly assessed by interview studies [7]. Even if such estimates have inherent uncertainties, they provide a fairly reliable description of the order of magnitude and the direction of change.

Unrecorded alcohol remained roughly unchanged during the first few years of the 2000s [8], but in 2004 it increased by about one-quarter. It continued to grow in 2005, but then decreased in 2006 (Table 3). These changes were mainly driven by travellers' imports which, despite the tax cuts, were estimated to have increased by nearly 80% in 2004. Legal and illegal home production and smuggling of alcoholic beverages had already decreased in the early 2000s, but in 2004 there was a larger, approximately 50% drop (Table 3).

How was the increase in consumption distributed?

Some qualitative data on substitution across beverage types is available, based on discussions with sales staff in Alko stores. According to them, semi-dry white wines and inexpensive fortified wines were favoured by low-income problem drinkers before the tax cuts because of the low price of ethyl alcohol contained in them. The differential tax cuts by beverage type made them shift from inexpensive white wines to inexpensive vodkas. This type of substitution explains the discontinuation of the increasing trend in wine consumption in 2004.

Young people mostly drink beer and cider sold in grocery stores [9: Table 7.2]. Among them a similar shift to stronger beverages (as with low-income problem drinkers) was not to be expected considering that the price of ethyl alcohol in discount beer after 2004 was able to compete with the price of vodkas and that the age limit for buying distilled spirits is 20 and for beer and cider, which are available in groceries, it is 18. Youth health surveys show that the increase in the prevalence of abstention that started in the late 1990s has continued into 2004, whereas the downward trend in drinking frequency and binge drinking in some age groups levelled off in 2004 but has since then continued [10,11].

According to a survey conducted by the National Public Health Institute, the proportion of people with moderate to heavy alcohol consumption increased the most in the group with the lowest level of education from years 2000–2003 to years 2004–2005 [12]. An analysis by age group revealed a distinct division of the male population into two groups: drinking among persons over 45 increased clearly whereas no increase was observed in the age group under 45. For women, the differences between age groups were similar in direction but less pronounced [12]. In another survey, the increase in alcohol consumption was not observed [13,14], but the changes by age group suggested by the study were similar to the Public Health Institute's survey [12].

Trends in alcohol-related harms

Table 4 gives the percentage change in alcohol-related harms from 2003 to 2004 and, due to larger random variation than with the alcohol consumption series, from 2001–2003 to 2004–2006. The table shows changes as observed and as expected if the trend observed in 2001–2003 had continued. Figures 3 and 4 show some central harm series from 1990 onwards.

Data on criminality and other police statistics

In Finland, some 70% of assaults are committed while under the influence of alcohol [15], which is towards the higher end of the range observed across countries [16]. The 2004 changes had no permanent effect on manslaughters and murders or attempted manslaughters and murders (Table 4). This result has been confirmed by a time series analysis by Sirén and Lehti [15], which showed that the increase in manslaughters and murders in March 2004 was statistically significant, but that the effect did not last. The temporary increase in 2004 was

largely accounted for by manslaughters within small groups consisting of marginalized drunkards [15].

The observed number of assaults increased somewhat after 2004, but the growth rate was no greater than before 2004 (Table 4, Figure 4). Also this result is confirmed by a time series analysis [15], which showed that there was no statistically significant intervention effect on assaults in 2004.

Arrests for drunkenness and the total number of drink driving cases recorded by the police increased in 2004, more than could have been expected merely on the basis of the previous trend (Table 4; Figure 3). In the case of arrests for drunkenness this was mostly due to an increase in the number of arrests per arrested person over the year [17].

Despite the 10% increase in aggravated cases of drink driving in 2004, these cases seemed not to have increased more than expected on the basis of the trend in the early 2000's, while for non-aggravated drink driving, year 2004 may have marked an end to the decreasing trend in early 2000s. The number of breath tests conducted by the police increased between 2003 and 2004, but this explains only a part of the increase in drink driving cases [18,19]. The number of persons injured in accidents involving drink driving also increased 9% in 2004 over the previous year. In 2005, however, the figure declined, being close to the 2003 level [20].

Alcohol-related deaths

The 2004 increase in consumption resulted in a dramatic increase in deaths from alcohol-attributable diseases and poisonings in both men and women. The increase was 19% in one year, and 31% from 2001–2003 to 2004–2006, which was much more than expected on the basis of the trend before 2004 (Table 4). The relative increase was similar among men and women, but the absolute number of deaths increased much more among men. Although accidental and violent deaths with alcohol intoxication as a contributory cause increased less, they too increased more than expected, particularly among women. According to a time series analysis, the impact of the alcohol tax cuts in March 2004 on another category of alcohol-related deaths, namely "alcohol-positive sudden deaths", was a statistically significant 17% increase [21]. No statistically significant effects were observed for 1st January or 1st May.

The greatest increase occurred in deaths from alcohol-induced liver diseases. The increase in 2004 was 29% on the previous year, and the number of such deaths in 2004–2006 was 46% higher than in early2000's (Table 4, Figure 4). Also deaths from alcohol poisoning and alcohol dependence increased clearly more than expected. By contrast, the increase in the smaller categories of alcohol-induced pancreatic diseases and alcoholic cardiomyopathy was no greater than before 2004.

Another study showed that the growth in alcohol-related mortality was clearly largest in ages 50–70 years, while it was nonexistent among men (but not women) aged 35 and younger [22,23]. Additionally, the increase in alcohol-related deaths did not in 2004–2005 concern people in active employment or people with underage children, but it was concentrated in the worst-off parts of the population: compared with years 2001–2003, the increase in 2004–2005 among men aged 30–59 was 2 per 100 000 person-years for the employed, 166 for long-term unemployed, 101 for other unemployed, 168 for pensioners and 57 for men living alone. The corresponding figures for women were 1, 109, 46, 59 and 23 per 100 000 person-years, respectively.

Alcohol-related hospitalisations

Alcohol-related hospitalisations increased less than alcohol-related deaths. Yet, the increase was clearly greater than expected on the basis of the development before 2004 (Table 4). The

growth in alcohol-related hospitalizations could be largely attributed to three diagnostic categories, namely alcohol intoxication, liver diseases caused by alcohol and the category including psychotic disorders caused by alcohol (ICD10 codes F10.3–F10.9).

Separate tabulations from the hospital discharge register show that the increase in hospital discharges was strongly associated with age [24]. No increases were observed in 2004 in the 15–44 age group, but rather a slight decrease. The increase mainly concerned over 45 year olds: it was 9% in age group 45–54, 25% in age group 55–64 and 11% in age group 65 and older. Additionally, alcohol-related hospitalisations increased 32% among the under 15 year olds.

Service use

The number of clients and care days in specialised services for substance abusers, the great majority of whom abuse alcohol, increased somewhat from 2001–2003 to 2004–2006, and more so than they had increased in early 2000s (Table 4). These figures do not, however, directly describe the demand for treatment as the number of treatment episodes is affected by local authorities' commitment to pay for treatment in substance abuse units. A national report from 2005 stated that the supply of services for substance abusers has not been able to respond to the increasing need for such services [25]. Additionally, problem users in the poorest condition may have been left without treatment as a consequence of obstacles such as waiting lists and great distances to service units [26] and of a shift among service providers favouring the more socially integrated problem users able to commit themselves to an intensive treatment relationship [27].

Discussion

In 2004, Finland's quotas for travellers' tax free imports of alcoholic beverages from other EU countries were abolished. At the same time Estonia joined the EU and excise duties on alcoholic beverages were reduced, which together meant a significant reduction in the effective price of alcohol. In that year alcohol consumption increased clearly more than it had increased in early 2000's. The reaction of Finnish consumers to the price decreases of March 2004 was immediate, and Estonian EU membership lead to increases in travellers' alcohol imports and decreases in alcohol sales in Finland in 2004. Consumption stabilized to the new, higher level by fall 2004. These results strongly suggest that the reduction in the effective price of alcohol had a considerable permanent impact on alcohol consumption in Finland.

This finding, based on a natural experiment, confirms what has earlier been known on the basis of time series and pooled cross-sectional time series analyses about the effects of taxes and prices on alcohol consumption: changes in prices of alcoholic beverages tend to be followed by opposite changes in consumption [28,29]. In fact, even the size of the Finnish 2004 changes corresponds quite well with pre-2004 predictions, according to which the price elasticity for off-premise sales was −0.93 for spirits, −1.46 for wine and −0.49 for beer [30].

The increase in consumption, in its turn, was followed by an increase in a wide spectrum of alcohol-related harm: arrests for drunkenness, non-aggravated drink driving, and alcohol-related deaths and hospitalizations. For assaults, and for some causes of death or hospitalization, the increase was no larger than could be expected on the basis of the pre-existing trend. In principle, something else than the alcohol policy change under scrutiny could have caused the changes in consumption and harms. Indeed, third factors, like police control or the supply of treatment, are known to have affected trends in alcohol-related harms in Finland in the past 15 years [19]. However, there are no obvious factors other than alcohol that could explain the increased rate of alcohol-related harms observed after 2003.

The decrease in alcohol prices was expected to manifest itself as an increase in drinking among the population at large, but even more so among people on low incomes, including young people [5: p. 40]. The results reviewed in this article, based on surveys and on alcohol-related hospitalizations and mortality, showed that it was the middle-aged and older segments of the population whose consumption and related harms increased the most. This observation contrasts with results in the econometric literature which suggest a higher elasticity among younger than among older drinkers [29,31]

The largest increase in harm was observed for deaths from alcoholic liver cirrhosis and other liver diseases, which are now at a nearly 50% higher level than they were in the first years of the millennium. Because liver cirrhosis takes a long time to develop, this sudden increase can only mean that alcohol consumption rose considerably among heavy drinkers who had damaged their livers already before 2004. Hence, the Finnish experience confirms the results from studies showing that heavy drinkers are especially responsive to price [32,33], although opposite results have also been reported in the literature [34].

The reduction of socioeconomic differences in mortality has been recognized as an important goal [35,36:10.3], and alcohol-related causes have been found to be a major determinant of socioeconomic differences in premature mortality in Finland [37]. Published results [22,23] show that the changes in alcohol policy in 2004 resulted in dramatic increases in severe alcohol-related harm among those parts of the population that are worst off: the unemployed, early pensioners, and people living alone. Hence it can be said that high alcohol prices are a good tool to protect the health of the worst-off parts of the population. It should be mentioned, however, that the aforementioned effects on mortality until the end of 2005 do not exclude the possibility that better-off parts of the population also increased their consumption, as the time lag between increased drinking and death from an alcohol-related cause for a healthy working adult may be several years.

With no information on what would have happened in Finland if taxes would not have been cut, a proper evaluation of the sensibility of the Finnish policy decision is difficult. However, a comparison can be made to Sweden, which experienced a removal of import quotas similar to Finland [38]. In Sweden the only tax cut after 2000 was a moderate decrease in the taxes for wines. As a result of the increasing import quotas, private imports and smuggling grew so much that total consumption has increased [39] and by 2003, in the region next to Denmark, imports exceeded registered consumption [39: table 15]. This resulted in considerable problems with a black market for alcoholic beverages. Yet, in Sweden as a whole, alcohol-related deaths have not increased with the increasing consumption, even if there was an increase in the south of Sweden [40]. It is possible, albeit not proven, that the Swedish approach saved lives compared to a tax reduction approach, although it happened at the expense of obedience to the law, employment and state revenues.

In the EU, economic issues tend to be guided by “hard law”, or binding legislation, and public health issues by “soft law”, like recommendations and strategies [41], which is problematic from a public health point of view. The EU has recognized this, and it adopted a Health in All Policies approach in 2006 [42]. The fact that the EU, aiming to remove barriers to trade, has forced member states to abolish travellers’ import quotas of alcohol and tobacco is a prime example of this conflict of interests. As this article has shown, in Finland the removal of import quotas, mediated largely by the reduced taxes, resulted in severe public health consequences, a finding that should be taken into account in future trade policy decisions.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

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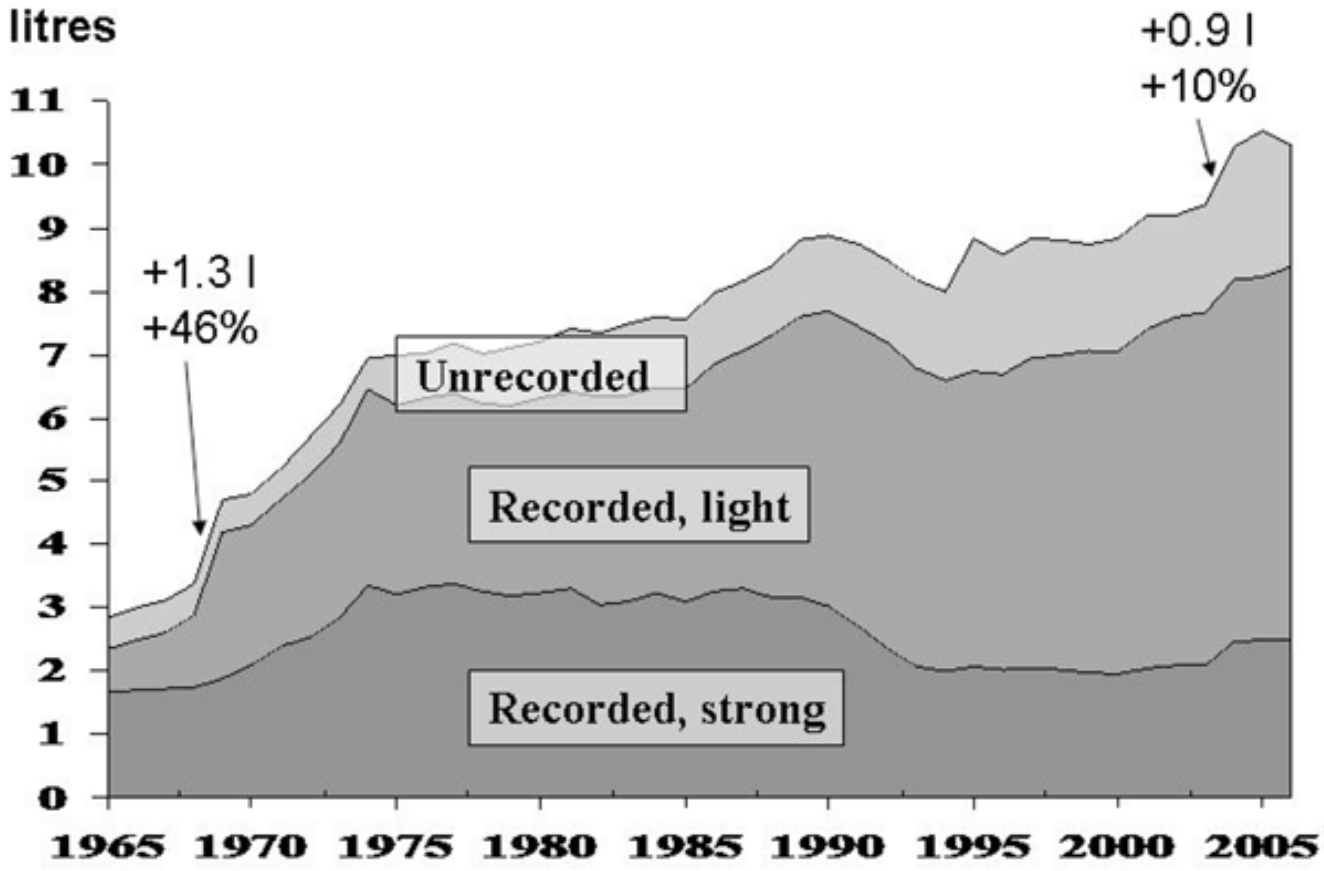

Figure 1.
Per capita alcohol consumption in litres of 100% alcohol in Finland in 1965–2006, divided into unrecorded and recorded consumption of light and strong alcoholic beverages
Sources: STAKES

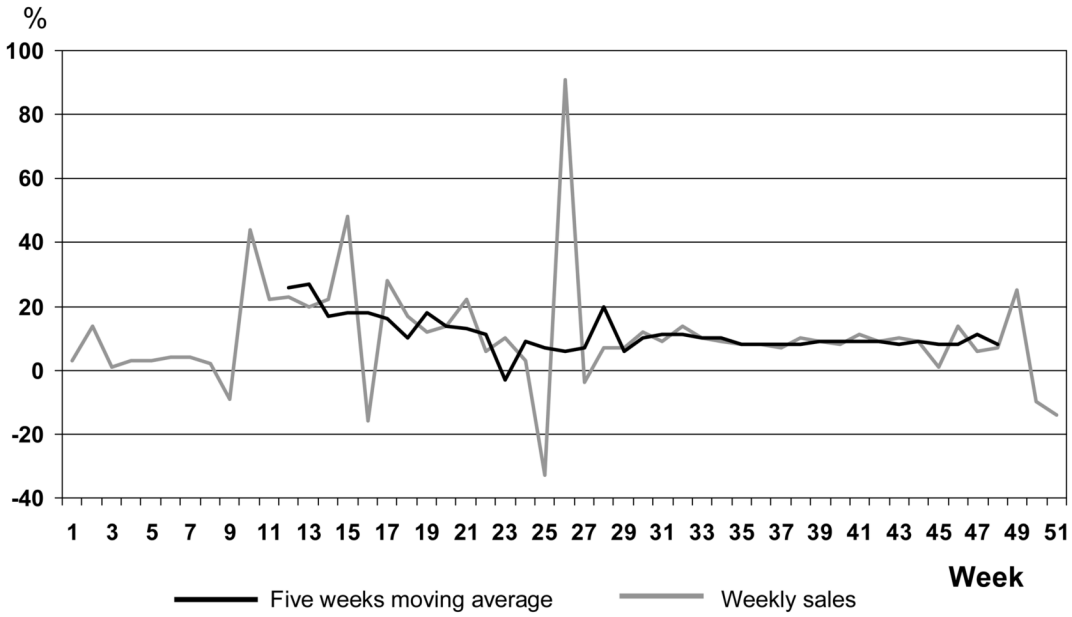

Figure 2.
Changes in weekly sales of the Finnish off-premise retail alcohol monopoly, Alko, in 100% alcohol in 2004 compared to the sales in previous year[1]
[1] Tax change on week 10; Easter on week 16 in 2003, on week 15 in 2004; Midsummer on week 25 in 2003 and on week 26 in 2004; long weekend for Independence Day on week 49 in 2004. Estonia joined the EU on week 18. Alko's sales are recorded at the time when the bottles are purchased by the customer.
Source: Alko Inc.

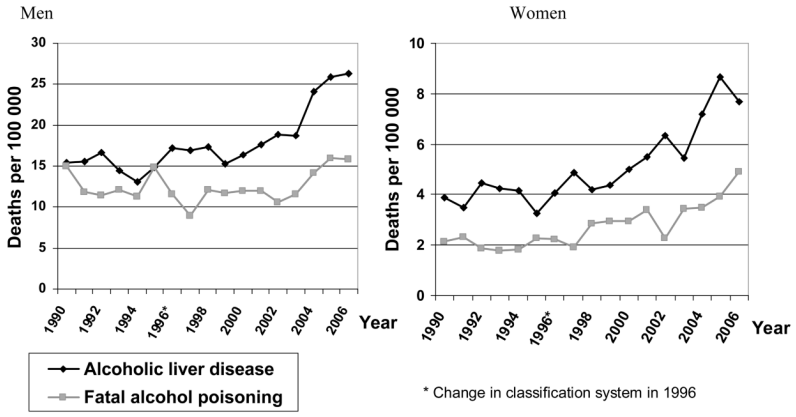

Figure 3.

Age-adjusted mortality from alcoholic liver diseases and fatal alcohol poisoning among men (left) and women (right) in 1990–2006.

* Change in classification system in 1996

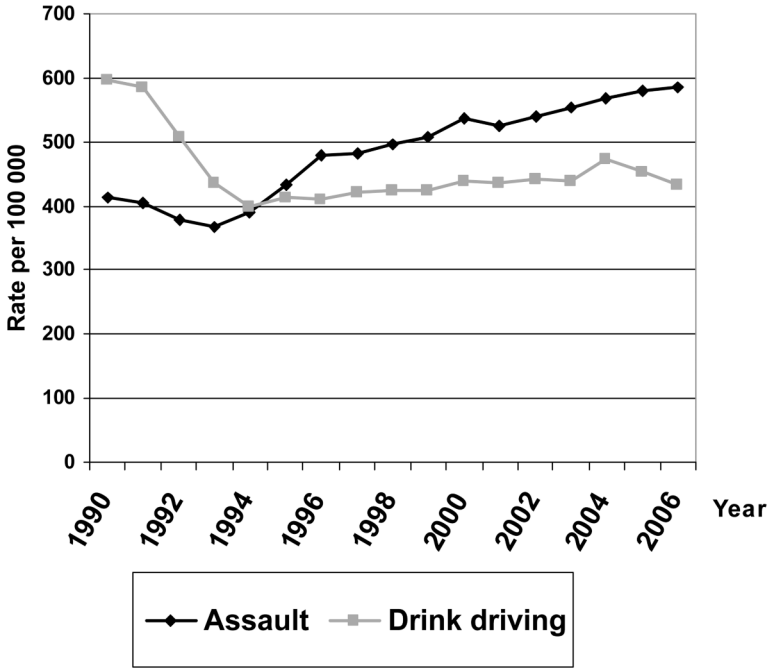

Figure 4.
The rate of assaults and drink driving in 1990–2006.

Table 1

Reductions in alcohol excise duties and prices of alcoholic beverages in Alko stores in March 1, 2004.

Beverage category	Tax reduction, %	Decrease in off- premise price, %
Vodkas	44	36
Other distilled spirits	44	28
Intermediate products	40	25
Long drinks*	37	17
Wine	10	3
Cider	23	7
Beer	32	13

* Long drinks are a popular type of pre-mixed drink

Source: Government Bill 80/2003; Alko Inc

Table 2

Recorded per capita consumption of alcoholic beverages in litres of 100% alcohol by beverage type and channel of distribution in 2000's, and changes in 2003–2004.

	Litres per capita			Change 2003–2004	
	2003	2004	2006	litres[1]	%
Strong beverages	2.0	2.3	2.4	0.34	17
Fortified wines	0.1	0.2	0.2	0.02	17
Table wines	1.2	1.2	1.3	0.00	0
Cider and long drinks	0.8	0.7	0.8	−0.04	−5
Beer	3.6	3.8	3.8	0.17	5
Total, of which	7.7	8.2	8.4	0.50	7
On-premise sales	1.4	1.4	1.4	−0.05	−4
Retail sales, of which	6.3	6.8	7.1	0.54	9
Alko liquor stores	3.3	3.6	3.7	0.34	10
Grocery stores	3.0	3.2	3.4	0.21	7

[1] Changes have been calculated on more accurate figures than those shown in the tables.

Source: National Product Control Agency for Welfare and Health

Table 3

Unrecorded per capita consumption of alcoholic beverages in litres of 100% alcohol by means of acquisition in 2000's, and changes in 2003–2004.[1]

	Litres per capita			Change 2003–2004	
	2003	**2004**	**2006**	**litres**	**%**
Imports by travellers, of which	0.88	1.56	1.39	0.68	77
Strong alcoholic beverages	0.42	0.88	0.76	0.46	110
Intermediate products	0.07	0.10	0.08	0.03	43
Wines	0.11	0.15	0.18	0.04	36
Ciders and long drinks	0.01	0.07	0.11	0.06	600[2]
Beer	0.27	0.36	0.24	0.09	33
Consumption outside Finland	0.33	0.33	0.30	0.00	0
Legal home production	0.19	0.11	0.09	−0.08	−42
Illegal home production and smuggling	0.27	0.11	0.08	−0.16	−59
Total	1.66	2.11	1.86	0.45	27

[1]The figures are based on interview studies, so they should only be taken as indicative of the order of magnitude, even if the estimates are given with an accuracy of two decimal places in the tables.

[2]The strong relative growth in the imports of long drinks and ciders by travellers after 2003 is due to the very small absolute imported amounts before 2004 when they were included in the import quota of wines or strong alcoholic beverages, depending on the method of production. The small quotas were rarely used for importing long drinks or ciders.

Source: National Product Control Agency for Welfare and Health & STAKES

Table 4

Trends in alcohol-related harms in 2000s*

	2003	2004	2006	Change 2003->04, %	Change from "before" (2001–03) to "after" (2004–06)[1], %	
					Observed	Expected[2]
CRIMINALITY & OTHER POLICE DATA						
Manslaughters and murders total	103	144	111	40	−5	−46
Attempted manslaughters and murders	347	334	271	−4	−12	−9
Assaults	28862	29806	30885	3	8	9
Arrests for drunkenness	95275	105819	99559	11	7	−1
Drink driving total	22858	24861	22929	9	4	1
Drink driving	8721	9368	8664	7	−1	−11
Aggravated drink driving	14137	15493	14265	10	8	10
ALCOHOL-RELATED DEATHS						
All alcohol-related deaths						
Total	2456	2826	3033	15	23	6
Men	2015	2285	2464	13	21	6
Women	441	541	569	23	31	5
Alcohol attributable disease or poisoning						
Total	1560	1860	2032	19	31	9
Men	1233	1477	1599	20	31	10
Women	327	383	433	17	33	6
Accidental and violent deaths with alcohol intoxication as a contributory cause						
Total	896	966	1001	8	9	1
Men	782	808	865	3	7	0
Women	114	158	136	39	24	5
ALCOHOL-RELATED DEATHS BY CAUSE						
Liver diseases caused by alcohol	643	831	978	29	46	8
Alcohol cardiomyopathy	108	116	102	7	13	25
Pancreatic diseases caused by alcohol	88	100	117	14	52	127
Poisoning, alcoholism	677	756	767	12	16	6
ALCOHOL-RELATED HOSPITALISATIONS						
Total	24491	26673	26016	9	7	−2

	2003	2004	2006	Change 2003->04, %	Change from "before" (2001–03) to "after" (2004–06)[1], %	
					Observed	Expected[2]
Men	19544	21338	20531	9	7	−2
Women	4947	5335	5485	8	9	−2
ALCOHOL-RELATED HOSPITALISATIONS BY CAUSE						
Alcohol dependence	6153	6354	6001	3	−3	−9
Other disorders caused by alcohol	4619	5370	6060	16	24	−3
Liver diseases caused by alcohol	2491	2885	3220	16	33	17
Intoxication	7142	8009	7255	12	6	−4
Other alcohol diseases	3744	3780	3451	1	−5	−2
SERVICE USE						
A-clinics: clients	41710	42977	44443	3	4	−1
Detoxification centres: clients	9223	10091	10569	9	10	−1
Detoxification centres: care days	97129	106204	105519	9	10	7
Rehabilitation centres: clients	6774	6848	6979	1	4	0
Rehabilitation centres: care days	278082	300288	301114	8	12	10

[1]The observed change is from the mean of 2001, 2002 and 2003 to the mean of 2004, 2005 and 2006. To keep the table concise, only years 2003, 2004 and 2006 are shown. Data for all years are available as supporting information

[2]The calculated (expected) percentage change from mean of years 2001–2003 to mean of 2004–06 when the annual relative changes in 2004–06 were set to equal those seen in 2001–03, i.e. when the pre-existing trend was assumed to continue.

Source: STAKES & Statistics Finland/StatFin online service