World Health Organization
REGIONAL OFFICE FOR Europe

Alcohol taxation policy in Kyrgyzstan

WHO European Office for the Prevention and Control of Noncommunicable Diseases

9 Leontyevsky Pereulok
125009 Moscow, Russian Federation
Email: NCDoffice@who.int

Website:
www.euro.who.int/en/NCDoffice

World Health Organization
REGIONAL OFFICE FOR Europe

Alcohol taxation policy in Kyrgyzstan

Abstract

Increasing the price of alcohol is one of the most effective policy measures to reduce overall consumption in a country, and hence to reduce the level of alcohol-related harm. Taxation is a common way to control the price of alcoholic beverages, and when adjusted according to inflation, it can be an effective measure to reduce harm while providing revenue for governments. This report outlines the alcohol taxation policy in Kyrgyzstan between 2006 and 2016, and its impact on revenue and alcohol-related harm. Implementation of strong policies in the period 2012–2014 reduced the affordability of alcohol and resulted in a decline in alcohol turnover and consumption and alcohol-related harm. While taxation policies in Kyrgyzstan appear to have had a positive impact, tax increases should be accompanied by government efforts to control the production, sale and consumption of illicit alcohol.

Keywords

Alcohol drinking – economics
Alcohol drinking – legislation and jurisprudence
Alcoholic beverages – economics
Taxes
Kyrgyzstan

Address requests about publications of the WHO Regional Office for Europe to:

Publications
WHO Regional Office for Europe
United Nations City
Marmorvej 51
DK–2100 Copenhagen Ø, Denmark

Alternatively, complete an online request form for documentation, health information, or for permission to quote or translate, on the Regional Office website (http://www.euro.who.int/pubrequest).

Contents

Acknowledgements

The author of this report is Dr Konstantin Krasovsky, Consultant, WHO Regional Office for Europe.

The WHO Regional Office for Europe, in collaboration with the WHO Country Office in Bishkek, Kyrgyzstan, organized a workshop on alcohol taxation in Bishkek on 7 July 2017, where a draft version of this report was presented and discussed.

Technical editing was done by Dr Lisa Schölin, Consultant, Ms Julie Brummer, Consultant, and Dr Lars Møller, Programme Manager for Alcohol, Division of Noncommunicable Diseases and Promoting Health through the Life-course, all of the WHO Regional Office for Europe; and by Dr Jarno Habicht, of the WHO Country Office, Kyrgyzstan. The report was reviewed by Dr Oskonbek Moldokulov, WHO Country Office, Kyrgyzstan; and Dr Konstantin Vyshinskiy, Epidemiology Department, Federal Medical Research Centre for Psychiatry and Narcology, Ministry of Health, Moscow, Russian Federation.

This report was developed under the frame of the Biennial Collaborative Agreement between Kyrgyzstan and the WHO Regional Office for Europe.

This report was produced with funding from the Ministry of Health of the Russian Federation within the context of the WHO European Office for the Prevention and Control of Noncommunicable Diseases.

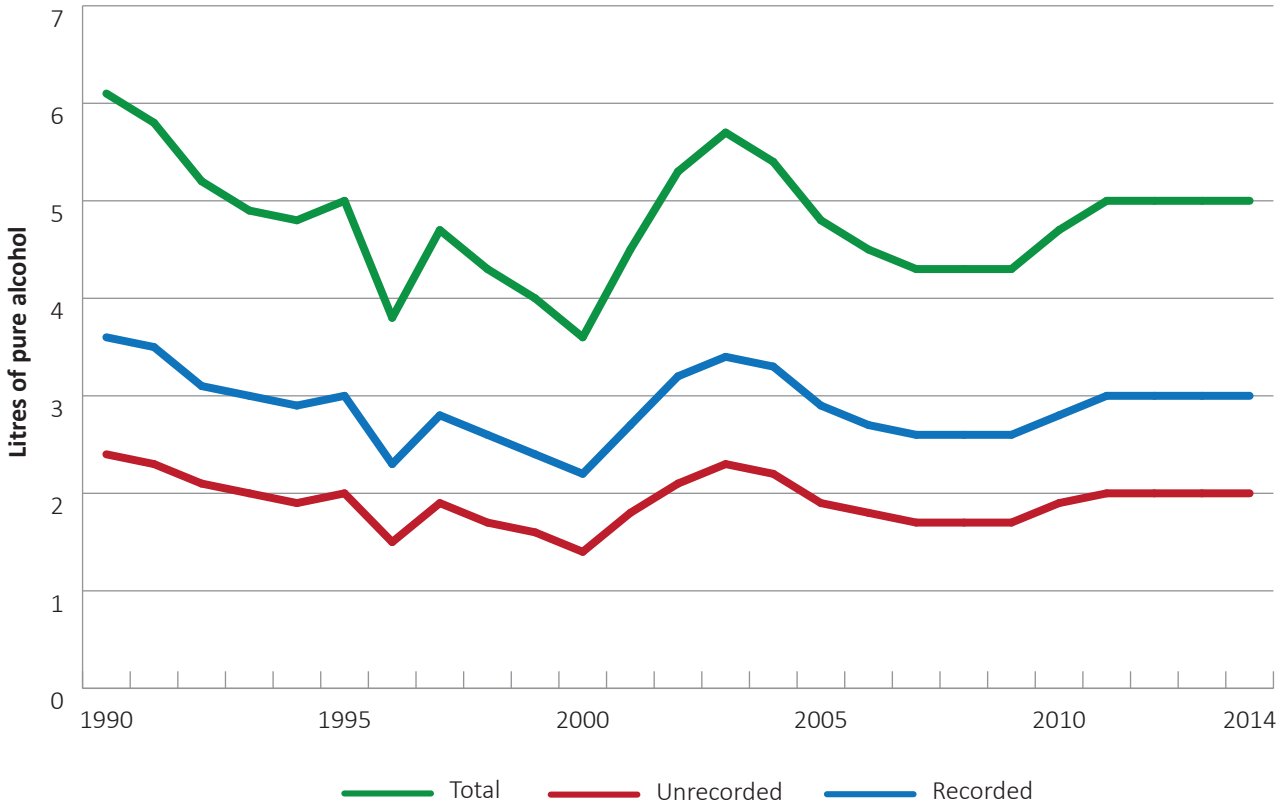
Abbreviations

ABV	alcohol by volume
APC	alcohol per capita consumption
AAI	alcohol affordability index
CPI	consumer price index
DALYs	disability-adjusted life years
GDP	gross domestic product
EAEU	Eurasian Economic Union
VAT	value-added tax

Introduction

Alcohol is the ninth leading risk factor for mortality and disease in the world; 3.5% of disability-adjusted life years (DALYs) and 4.1% of deaths are caused by the harmful use of alcohol *(1)*. In the WHO European Region, alcohol is a significant risk factor for noncommunicable diseases, and despite a reduction in total alcohol per capita consumption (APC) in recent decades, the burden of premature mortality attributable to alcohol is still high, both in absolute terms and relative to other regions *(2)*. In 2014, the total adult (15+ years) APC for Kyrgyzstan was 5 litres of pure alcohol (3 litres of recorded consumption, 2 litres unrecorded). Compared to the average APC for the WHO European Region, estimated at 10.7 litres, the level of alcohol consumption in Kyrgyzstan can be described as relatively moderate. However, alcohol consumption has increased since 2000, when the total APC was 3.6 litres (Fig. 1) *(2)*.

Fig. 1. Trends in recorded, unrecorded and total alcohol per capita consumption (APC) in Kyrgyzstan, 1990–2014



Source: Shield, Rylett & Rehm *(2)*

Reducing the impact of the harmful use of alcohol requires a comprehensive approach to alcohol policy. Countries that take strong action to decrease alcohol consumption will reap considerable gains in terms of better population health and well-being, enhanced employment and productivity, increased health and social welfare savings, greater health and economic equality, and greater social cohesion and inclusion *(3)*. In the joint briefing for the 2011 United Nations high-level meeting on noncommunicable diseases, the World Economic Forum and WHO concluded that the three “best buys” to reduce alcohol-related harm are: (i) tax increases, (ii) restricted access to retailed alcohol, and (iii) bans on alcohol advertising *(4)*.

Currently, alcohol taxes in Kyrgyzstan are relatively low, although they have increased in recent years. The aims of this report are: (i) to analyse the impact of alcohol taxation policy on alcohol excise revenues and alcohol-related harm in Kyrgyzstan in the period 2006–2016; and (ii) to propose options for alcohol taxation policies in the coming years, in terms of their potential impact on alcohol consumption and revenues.

Methods

Information sources

Changes in alcohol taxation legislation were reviewed using the Central Databank of Law Information of the Ministry of Justice *(5)*. Data on alcohol excise revenues were taken from reports produced by the Central Treasury of the Ministry of Finance *(6)* and by the State Tax Service *(7)*. Data on prices, income, population, mortality, morbidity and other indices were taken from the National Statistics Committee website *(8)*. Data on imports and exports were taken from the Customs Service site *(9)* and the Eurasian Economic Commission site *(10)*.

Trade codes for all alcoholic beverages are shown in Annex 1. It was assumed that average alcohol by volume (ABV) was 40% for vodka, liquors and cognac, 5% for beer, and 14% for wine. Low-alcohol beverages are beverages with commodity code 22089069 and alcohol content 7% or lower.

To estimate annual alcohol sales in the country, two methods were used: (i) calculation of the turnover (production plus import minus export) for specific alcoholic beverages; and (ii) estimation of taxable sales, which are calculated as annual amount of revenues for specific alcoholic beverages divided by the excise rates for those beverages effective in that year.

Affordability calculations

For calculations of the affordability of alcohol, the index developed by the National Health Service Information Centre in England was used *(11)*. This index gives a measure of relative affordability of alcohol by comparing the relative changes in the price of alcohol with changes in disposable household income over the same period. When calculating the affordability of alcohol, it is important to note the following: (i) income per capita provides the most accurate results as an income measure, especially in populations with rapidly changing size or structure; however, household data can be used if per capita data are unavailable *(12)*; and (ii) the income measure and the alcohol price measure should both be either in nominal terms or adjusted for inflation.

In the current analysis, the alcohol affordability index (AAI) is used to estimate the changes in alcohol affordability. The AAI is calculated as the percentage of annual change in disposable income per capita divided by the alcohol price increase (consumer price index (CPI)), as follows:

AAI = (income increase/CPI for alcohol – 1) x 100

Data collection to calculate the individual household income has some limitations *(13)*, so an additional income indicator was used – World Bank data on annual percentage growth rate of gross domestic product (GDP) per capita based on constant local currency *(14)*. As the GDP change is expressed in constant local currency (adjusted for the effects of price inflation), the AAI was calculated as follows:

AAI = (GDP annual change/CPI for alcohol x CPI for all items) – 100

Results

Sales and taxation of alcoholic beverages

Alcohol excise rates

Table 1 shows the alcohol excise rates in Kyrgyzstan set by the Kyrgyz parliament. However, these are only so-called basic rates, which are not usually used to calculate excise duties. For trade codes, see Annex 1.

Table 1. Basic excise rates for alcoholic beverages set by the Kyrgyz parliament (in som[a] per litre)

Beverage type	Law reference				
	No. 67	No. 101	No. 230	No. 33	No. 47
	8 July 1999	22 Sept 1999	17 Oct 2008	30 May 2011	3 Mar 2015
Ethyl alcohol, undenatured and >80%, or denatured	80	70	–	350	350
Vodka	44	40	–	200	300
Liquors	44	40	–	200	300
Fortified beverages	44	40	–	200	300
Cognac	28	25	27	135	200
Low-alcohol beverages	–	–	–	60	200
Wine	10	–	–	100	100
Sparkling wines	20	–	–	110	130
Wine materials	2	–	–	10	35
Beer	3	–	5	25	30

Source: Central Databank of Law Information of the Ministry of Justice *(5)*

[a] Average exchange rates (€1): 2006 – 50.39 Kyrgyz som; 2007 – 51.04 som; 2008 – 53.73 som; 2009 – 60.00 som; 2010 – 61.01 som; 2011 – 64.28 som; 2012 – 60.44 som; 2013 – 64.35 som; 2014 – 71.27 som; 2015 – 71.59 som; 2016 – 77.37 som (Source: National Bank of the Kyrgyz Republic (http://www.nbkr.kg/index1.jsp?item=1562&lang=ENG, accessed 2 August 2017)).

The Kyrgyz government sets actual excise rates (Table 2), which should not exceed the basic tax rates. Where no actual rates are set, the basic rates apply. Between 2000 and 2015, alcohol excise rates in Kyrgyzstan increased; however, the rate increase was inconsistent and different for the various beverage types. In accordance with the Tax Code of the Kyrgyz Republic of 17 October 2008, new excise rates were introduced on 1 January 2009 and value-added tax (VAT) was reduced from 20% to 12%. Small increases in vodka excise rates were introduced in 2003 and 2008 (effective from January 2009). The highest excise increase was introduced in 2013, when rates for most types of alcoholic beverages were increased by 50% (Table 2). In 2014, the excise rate for vodka and liquors was increased by 50%, for low-alcohol beverages by 100%, and for beer by 17%.

Table 2. Actual excise rates for alcoholic beverages set by the Kyrgyz government (in som per litre)

Beverage type	Government order									
	No. 366	No. 495	No. 19	No. 735	No. 392	No. 547	No. 139	No. 49	No. 255	No. 109
	19 July 2001	25 July 2002	20 Jan 2003	30 Dec 2008	15 July 2011	6 Aug 2012	18 Mar 2013	23 Jan 2014	13 May 2014	17 Feb 2017
Ethyl alcohol, undenatured and >80%, or denatured	–	–	–	–	70	–	–	–	–	–
Vodka	15	–	18	21	–	26	40	60	–	70
Liquors	15	–	18	21	–	26	40	60	–	70
Fortified beverages	15	–	18	21	–	26	40	60	–	–
Cognac	–	–	–	–	27	–	42	–	–	–
Low-alcohol beverages	–	–	–	–	15	–	30	60	–	–
Wine	–	4	–	6	–	–	9	–	–	–
Sparkling wines	–	–	–	–	22	–	34	–	–	–
Wine materials	–	–	–	–	–	2	3	–	–	–
Beer	–	–	–	–	8	–	12	–	14	–

Source: Central Databank of Law Information of the Ministry of Justice *(5)*

Alcohol excise revenue

From 2009 to 2011 excise rates for vodka and liquors did not change, and respective revenues were lower in 2011 than in 2009 (Table 3). Excise rates for vodka and liquors were increased in three stages, in 2012, 2013 and 2014 (see Table 2), and by late 2014 these rates were almost three times higher than they had been in early 2012. In 2014 domestic revenues were 2.8 times higher than the average annual revenue in 2009–2011 (Table 3). In 2015–2016 excise rates were not changed, but revenues started to decline because of a sharp fall in taxable volumes of vodka and liquors.

Through the government order No. 139 of March 2013, which came into effect in April of that year, the excise rate for wine increased by 50% (see Table 2). After the tax rate increase, the average annual wine revenue was almost twice as much as it had been in previous years (Table 3).

Beer revenues substantially increased after the excise rate hikes in 2011, 2013 and 2014 (see Table 2). The excise rate was increased by 75% in 2013–2014, and annual total beer revenues in 2014 and 2015 were 68% higher than in 2012. In 2015–2016, when excise rates did not change, beer revenue declined slightly.

Increases in alcohol excise rates, introduced in 2012, 2013 and 2014, substantially increased government alcohol revenues. No excise rate increases were introduced in 2015–2016. Wine and beer revenues remained fairly stable in 2015–2016 as taxable sales of wine and beer did not change much. According to the forecast of the State Tax Service, no increase in excise rates and revenue was expected in 2017 (Table 3).

Table 3. Alcohol excise revenues in Kyrgyzstan, by beverage type and origin (in million som), 2009–2017[a]

	Year								
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Domestic alcohol									
Vodka, liquors and cognac	331	263	313	403	597	758	523	486	436
Wine	16	17	14	14	25	30	25	32	27
Beer	78	72	139	173	261	358	377	357	372
Total domestic	**425**	**352**	**467**	**590**	**884**	**1146**	**925**	**875**	**835**
Imported alcohol[b]									
Vodka, liquors and cognac	–	–	–	85	108	145	98[c]	79[c]	–
Wine	–	–	–	8	17	14	6[c]	9[c]	–
Beer	–	–	–	143	178	176	150[c]	139[c]	–
Total imported	**–**	**–**	**–**	**236**	**303**	**335**	**254**	**227**	**–**
Total domestic and imported									
Vodka, liquors and cognac	–	–	–	487	705	903	621	565	–
Wine	–	–	–	22	42	44	31	41	–
Beer	–	–	–	316	439	534	527	496	–
Total domestic and imported	**–**	**–**	**–**	**825**	**1186**	**1481**	**1179**	**1102**	**–**

[a] The forecast for 2017 is taken from the State Tax Service *(15)*.
[b] Data on revenue from imported alcohol before 2012 are not available.
[c] Data on import revenue were corrected with data on imports from the Eurasian Economic Union (EAEU) countries in 2015 and 2016.

Alcohol sales and recorded consumption

Fig. 2 shows sales of alcoholic beverages in Kyrgyzstan between 2002 and 2015, as reported by the National Statistics Committee *(16, 17)*. Between 2002 and 2007 spirits and beer sales increased, while sales of wine decreased. Between 2007 and 2015 reported sales were fairly stable for all three kinds of alcoholic beverage.

The turnover of alcoholic beverages (production plus import minus export) for 2006–2016 was calculated using data from the National Statistics Committee *(8)* and the State Customs Service *(9)*.

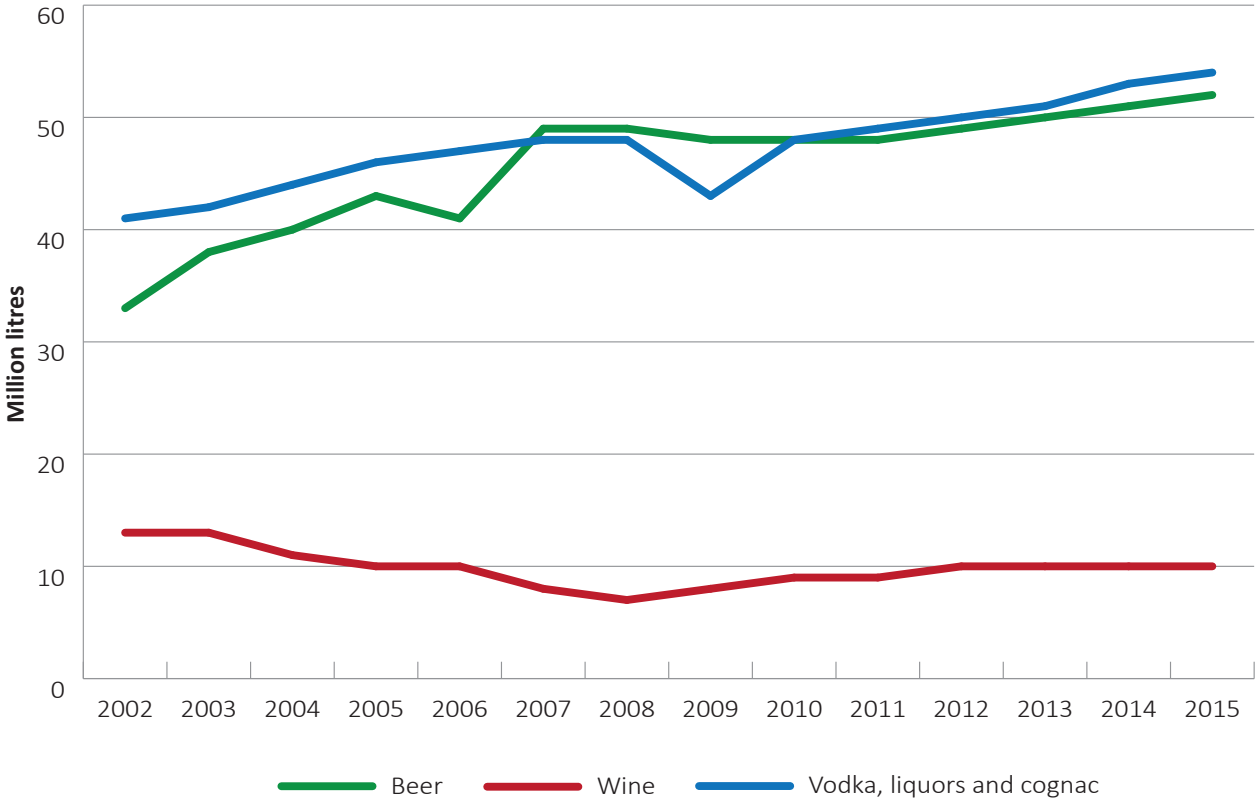
In August 2015 Kyrgyzstan joined the EAEU, and since that time the Customs Service has not reported import data from EAEU countries. For this reason, alcohol export data from the Russian Federation, Armenia and Kazakhstan from 2015 and 2016 are used to estimate the total volume of imports.

Taxable sales (excise revenue divided by excise rate) for 2012–2016 were estimated using data on revenues for specific alcoholic beverages (see Table 3) and excise rates (see Tables 1 and 2).[1] In 2012–2014 the turnover and taxable sales figures were very similar. In 2015 the turnover was slightly higher, probably as a result of underreporting of revenues from imported alcohol after Kyrgyzstan joined the EAEU.

While the turnover (Table 4) and the taxable sales are very similar, they differ substantially (especially for liquors and wine) from the reported sales figures (see Fig. 2).

[1] Calculations of taxable sales are available on request.

Fig. 2. Trend in reported sales in Kyrgyzstan by beverage type, 2002–2015



Source: National Statistics Committee *(16, 17)*

Table 4. Turnover of alcoholic beverages (in million litres), 2006–2016

	Year										
	2006	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Production											
Vodka, liquors and cognac	14.9	14.7	15.5	14.3	13.0	16.5	16.4	17.0	14.0	9.7	8.3
Wine	2.7	2.0	1.6	1.6	1.8	1.6	0.7	1.8	0.8	1.6	1.8
Beer	11.0	14.0	15.4	15.2	18.0	21.2	21.9	23.9	27.1	26.3	23.9
Import minus export											
Vodka, liquors and cognac	1.1	1.9	3.8	2.4	2.1	3.2	3.5	2.9	3.0	1.5	1.3
Wine	0.7	1.5	1.5	1.7	1.8	1.3	1.9	1.8	1.4	1.7	1.8
Beer	24.5	30.2	31.0	26.3	20.7	21.5	17.5	15.9	13.9	10.7	9.4
Turnover (production plus import minus export)											
Vodka, liquors and cognac	16.0	16.6	19.3	16.7	15.1	19.7	19.9	19.9	17.0	11.2	9.6
Taxable vodka, liquors and cognac	–	–	–	–	–	–	20.2	20.0	17.0	10.6	9.7
Wine	3.5	3.5	3.1	3.2	3.3	2.9	2.6	3.5	2.2	3.3	3.6
Taxable wine	–	–	–	–	–	–	2.6	3.6	3.0	1.8	2.4
Beer	35.5	44.2	46.4	41.5	38.7	42.7	39.4	39.8	41.0	37.0	33.3
Taxable beer	–	–	–	–	–	–	39.5	39.9	41.1	34.8	35.5
Alcohol turnover[a]	**8.7**	**9.4**	**10.6**	**9.3**	**8.6**	**10.4**	**10.3**	**10.4**	**9.1**	**6.8**	**6.0**

Source: Author's calculations using data from *(6–8)*

[a] In pure alcohol.

Alcohol turnover increased between 2006 and 2008, declined in 2009–2010, and then increased again. After excise tax hikes in 2012–2014, alcohol turnover stabilized and then declined in 2014–2016. There are two probable explanations for the decline in alcohol turnover: (i) legal alcohol consumption was replaced by illicit consumption, as legally available vodka became too expensive after the excise increases *(18)*; and (ii) alcohol consumption really declined because alcohol became less affordable after the excise increases.

Prices

The National Statistics Committee publishes monthly data on average prices for selected alcoholic beverages (Table 5) *(19)*. Sharp shifts in vodka and red wine prices in January 2011, compared with December 2010, are probably due to changes in the procedure for calculating the average price, as there were no changes in alcohol taxation at that time.

Table 5. Average annual prices of alcoholic beverages (in som), 2003–2016

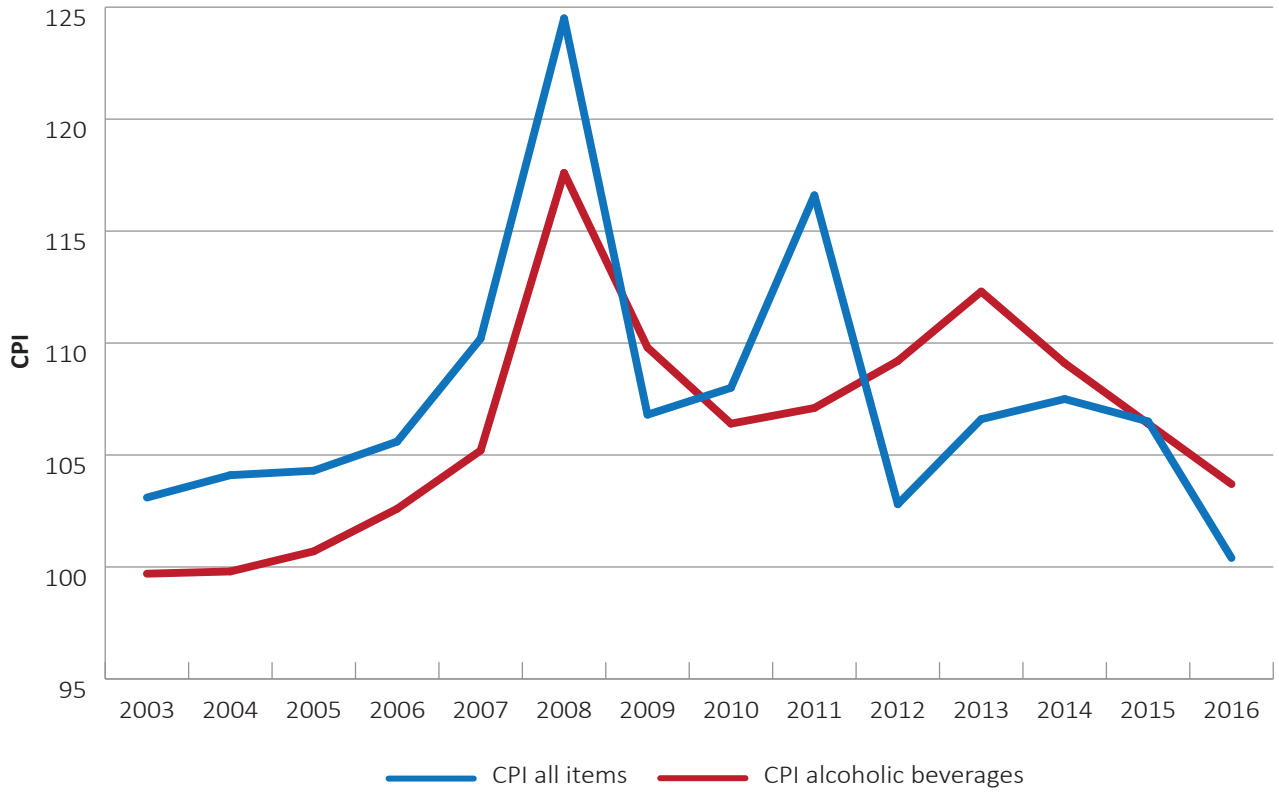
	Year													
	2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Vodka 0.5 L	34	34	35	37	42	50	56	62	111	121	145	158	169	173
Cognac 0.5 L	116	117	130	149	170	183	213	234	253	277	295	338	382	395
Red wine 0.7 L	65	63	62	64	65	68	79	92	186	217	227	194	180	203
White wine 0.7 L	110	108	117	130	140	146	155	170	178	194	203	205	211	231
Sparkling wine 0.7 L	91	92	91	107	125	129	137	138	142	153	165	176	187	200
Beer in bottles 0.5 L	17	17	20	23	24	29	32	34	39	42	45	50	54	55
Beer in cans 0.33 L	26	26	21	20	21	24	25	26	29	31	34	37	40	40

Source: National Statistics Committee *(19)*

The excise share in the average price in 2016 was fairly low: 17% for vodka, 3% for wine and 13% for beer (based on calculations using data from Tables 2 and 5).

Fig. 3 shows the CPI for alcoholic beverages and for all goods and services (an indicator of inflation). Between 2003 and 2011, alcohol prices rose above the level of inflation only in 2009. However, from 2012 to 2016, alcohol prices remained above the level of inflation in every year except 2015. In the five years from 2012 to 2016, alcohol prices rose by 48% while inflation in the same period was 26%.

Fig. 3. Annual consumer price indices (CPI) for all goods and services and for alcoholic beverages (previous year = 100), 2003–2016



Source: National Statistics Committee *(8)*

In January 2013, the government set a minimum price of 70 som for a 0.5-litre bottle of vodka *(20)*. In June 2014, the minimum price was increased to 90 som. However, the minimum prices were well below the average prices (see Table 5).

Between 2012 and 2014 the excise rate for vodka increased from 21 to 60 som per litre (corresponding to an increase of 19.5 som per 0.5–litre bottle) (see Table 2). However, the average price increased by 47 som from 2011 to 2014 (Table 6). Alcohol producers increased their (net-of-tax) part of the price to a much greater extent than the excise increase. Between 2012 and 2016 the net-of-tax price of vodka increased above the level of inflation.

Table 6. Average price of vodka (in som per 0.5 litre), December 2011–2016

	Year					
	2011	**2012**	**2013**	**2014**	**2015**	**2016**
Excise	11	13	20	30	30	30
VAT	12	14	16	18	18	19
Net-of-tax price	94	104	115	116	124	127
Price (excise plus VAT plus net-of-tax)	117	131	151	164	172	176

Source: National Statistics Committee *(8)*

Alcohol affordability

Price increases correlate with a reduction in the harm caused by alcohol, but only when alcohol becomes less affordable. One of the main determinants of alcohol consumption and alcohol-related harm is affordability, a composite measure of the price of alcohol relative to the price of other goods, adjusted for income. The *European action plan to reduce the harmful use of alcohol, 2012–2020* recommends using the affordability of alcohol (measured by comparing the relative alcohol

price index against the real household disposable income index) as an indicator of alcohol taxation policy *(3)*. Table 7 shows alcohol affordability in Kyrgyzstan for the years 2006–2015 (for the calculations used, see Methods above).

Table 7. Alcohol affordability in Kyrgyzstan (in som), 2006–2016

	Year										
	2006	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
CPI for all items[a]	105.6	110.2	124.5	106.8	108.0	116.6	102.8	106.6	107.5	106.5	100.4
CPI for alcohol[a]	102.6	105.2	117.6	109.8	106.4	107.1	109.2	112.3	109.1	106.4	103.7
Relative alcohol price index	97.2	95.5	94.5	102.8	98.5	91.9	106.2	105.3	101.5	99.9	103.3
Disposable per capita household income (som per month)	1112	1417	2029	2312	2494	2936	3216	3336	3958	4075	–
Changes in household income[a]	–	127.5	143.1	114.0	107.9	117.7	109.5	103.7	118.6	103.0	–
AAI–income	**–**	**21.2**	**21.7**	**3.8**	**1.4**	**9.9**	**0.3**	**–7.6**	**8.7**	**–3.2**	**–**
GDP per capita change[a]	102.0	107.5	107.4	101.6	98.4	104.7	98.3	108.7	102.0	101.4	–
AAI–GDP	**5.0**	**12.6**	**13.7**	**–1.1**	**–0.2**	**14.0**	**–7.5**	**3.2**	**0.5**	**1.5**	**-**

[a] Previous year = 100.

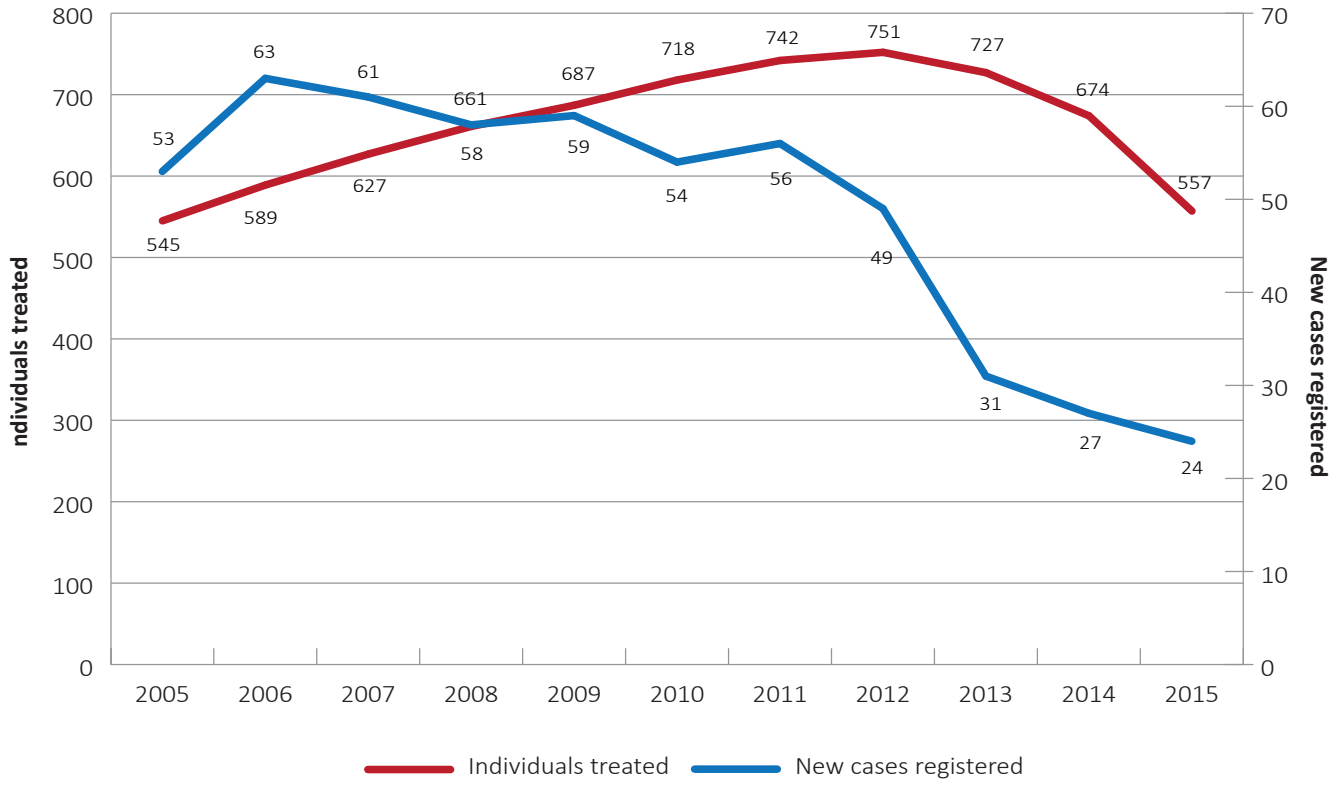
If the AAI has a negative value, it means that alcohol became less affordable than in the baseline year, and alcohol consumption is expected to fall. From 2006 to 2008 relative alcohol prices fell, while income was rising. Alcohol became more affordable and some increase in alcohol turnover (especially beer) was observed between 2006 and 2008 (see Table 4). In 2009–2010 alcohol affordability did not rise as in previous years because income growth stagnated during the economic recession. In 2011 relative alcohol prices fell and income started to rise again, so alcohol affordability increased. Such changes in affordability could explain trends in alcohol turnover during these years: a decline in 2009–2010 and an increase in 2011 (see Table 4). In 2012, 2013 and 2014 relative alcohol prices increased (see Table 7) mainly as a result of the increase in excise rates, and alcohol affordability fell as well as alcohol turnover. The decline in alcohol affordability between 2012 and 2016 was fairly small for the population as a whole. However, there is evidence that people in low socioeconomic groups are even more responsive than other groups to changes in the affordability of alcohol, probably because expenditure on alcohol constitutes a greater proportion of their income *(21)*.

Trends in alcohol-related harm

Morbidity

According to national health reports *(22, 23)*, the number of individuals diagnosed with alcoholism and alcohol psychoses was fairly stable between 2005 and 2011, but then fell sharply between 2012 and 2014 (Fig. 4) *(24)*. By 2014 this number had fallen to half the annual average in the period 2006–2011. From 2005 to 2012 the number of people treated for alcoholism and alcohol psychosis increased by 38%, but from 2012 to 2015 it fell by 26%. Research conducted in Poland *(26)*, the Russian Federation *(27)* and Belarus *(28)* indicates that the incidence of alcohol psychosis is closely correlated with total alcohol consumption. This suggests that the incidence of alcohol psychosis can serve as an indicator of the burden of alcohol-related problems.

Fig. 4. Individuals treated for alcoholism and alcohol psychosis, and newly registered cases of alcoholism and alcohol psychosis (per 100 000 population), 2005–2015

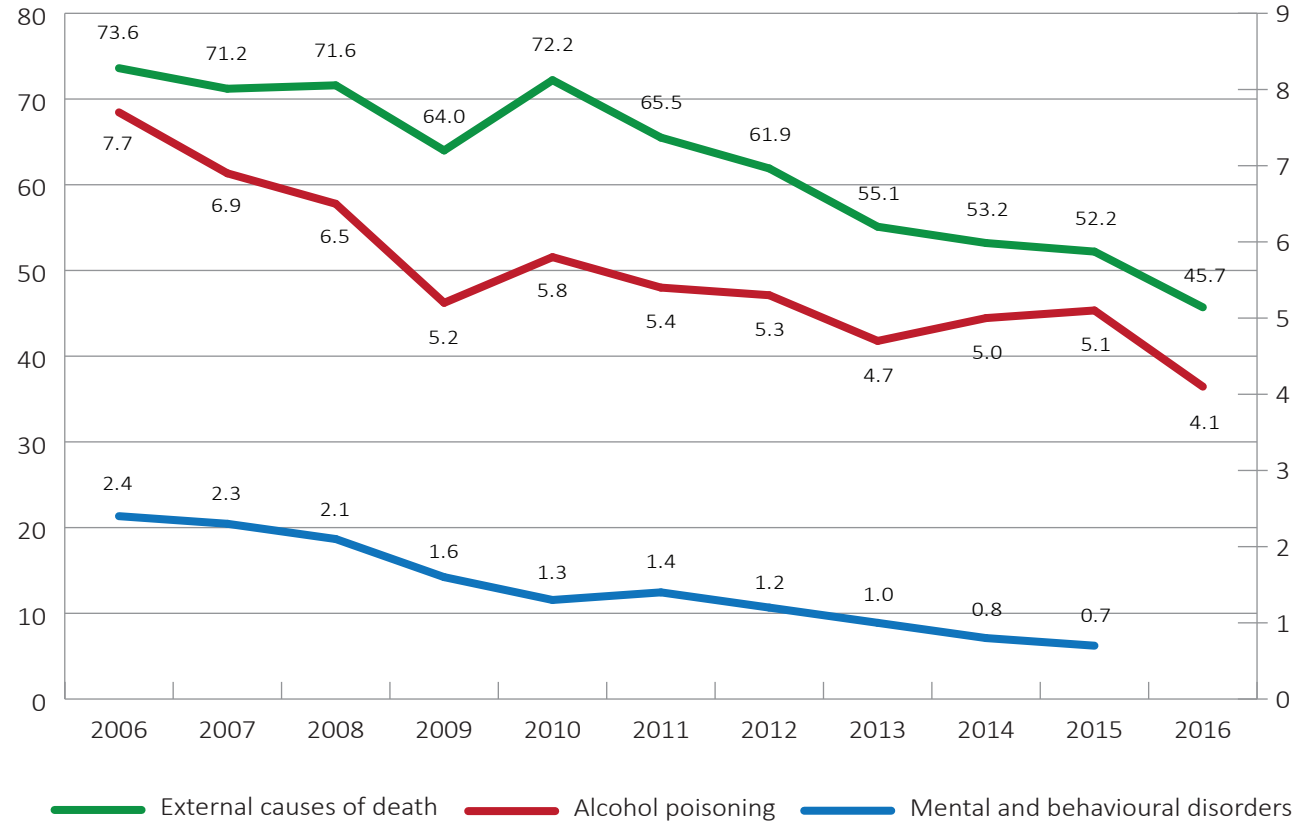


Source: National Statistics Committee *(22–24)*

Mortality

Mortality due to mental and behavioural disorders declined sharply in 2009–2010; it then increased slightly in 2011 and declined every year between 2012 and 2015 (Fig. 5). Death due to alcohol poisoning declined steadily between 2006 and 2016, with sharper falls in 2009, 2013 and 2016. Mortality due to alcohol poisoning has some limitations as an indicator of alcohol consumption. A study from the Russian Federation, which analysed autopsy records, found lethal or potentially lethal blood concentrations of ethanol in an exceptionally high proportion of cases where death had been attributed to cardiovascular disease; this suggests that these deaths were due to alcohol poisoning rather than cardiovascular disease *(29)*. A substantial proportion of cases of alcohol poisoning were misclassified as cardiovascular deaths, perhaps to reduce the social stigma involved. Mortality from external causes was fairly stable between 2006 and 2010 (with a fall in 2009) and then declined in each successive year to 2016.

Fig. 5. Mortality due to various alcohol-related causes (per 100 000 population), 2006–2016



Source: National Statistics Committee *(22, 23, 25)*

Alcohol-related mortality and alcohol morbidity in Kyrgyzstan followed opposite trends between 2006 and 2011, but from 2012 to 2014 both fell. This indicates that alcohol consumption in Kyrgyzstan declined in the latter years.

Alcohol taxation policy in Kyrgyzstan and the EAEU

Kyrgyzstan is a member of the EAEU. The draft agreement on principles for alcohol and tobacco excise tax policy implementation in the countries of the EAEU was published in October 2015 *(30)*. Article 4 proposes indicative, minimum and maximum excise tax rates for some alcoholic beverages in the period 2016–2020, expressed in euro (€). According to the agreement *(31)*, Kyrgyzstan should have excise rates for 1 litre of vodka (40% ABV) which exceed €1.54 (116 som) in 2017; €2.08 in 2018; €2.52 in 2019; and €3.2 (240 som) in 2020. The current excise rate is 70 som (€0.93 euro), so to meet the minimum EAEU rates it should be increased by 66% in 2017 and by 243% by 2020. Currently, Kyrgyzstan has a lower excise rate for vodka than its neighbours (Table 8).

According to the Kazakhstan Statistics Committee, in February 2017 the price of 1 litre of vodka in Kazakhstan was 2169 tenge *(36)* (equivalent of 477 som), while in Kyrgyzstan it was 352 som *(19)*. In 2016, the excise rate for vodka in Kyrgyzstan was 60 som (see Table 2); if the excise rate was increased to the minimum EAEU level of 116 som (an increase of 93%), the excise burden per litre would increase by 62 som (56 som excise plus 6 som VAT), and the average retail price of a 0.5-litre bottle of vodka would increase from 176 som to 207 som, or by 18%.

A recent meta-analysis estimated that the world average price elasticity for spirits is –0.55 *(35)*. Even if we assume that the price elasticity in Kyrgyzstan is almost twice as high (–1.0), the taxable turnover for vodka and liquors will also decrease by 18%: from 10 million litres (the average annual level in 2015–2016) to 8.2 million litres. The projected annual revenue will then be 8.2 x 116 = 950 million som, while the current annual revenue is only about 700 (10 x 70) million som. However, excise tax increases should be accompanied by government efforts to reduce the illicit alcohol market and tax avoidance.

Table 8. Excise rates for alcoholic beverages in Kyrgyzstan, Kazakhstan, Tajikistan, Uzbekistan and the Russian Federation, 2017

	Vodka, per litre		Vodka, per litre of pure alcohol		Beer, per litre		Wine, per litre	
Country	**National currency[a]**	**Euro**	**National currency[a]**	**Euro**	**National currency[a]**	**Euro**	**National currency[a]**	**Euro**
Russian Federation	–	–	523	8.50	21	0.34	18	0.29
Uzbekistan	8907	2.35	–	5.87	641.6	0.17	635.8	0.17
Kazakhstan	–	–	2000	5.88	39	0.11	35	0.10
Tajikistan	–	–	2.5	2.50	0.1	0.10	0.25	0.25
Kyrgyzstan	70	0.93	–	2.33	14	0.19	9	0.12

Source: (32–35)

[a] National currencies: Russian Federation – ruble; Uzbekistan – Uzbek som; Kazakhstan – tenge; Tajikistan – somoni (but excise rates are set in euro); Kyrgyzstan – Kyrgyz som.

Excise rates hikes for beer and wine in 2013 and 2014 in Kyrgyzstan substantially increased excise tax revenue from beer and wine in those years because the turnover of these beverages decreased by a much smaller amount than the excise rate increased (see Tables 2–4). As the share of excise tax in the beer and wine price is very low, even a large increase in excise rates will not significantly increase their prices, and this can lead to an increase in government revenues.

Discussion

Kyrgyzstan is a predominantly rural country with a population of 6 million (as of 2016), of which 73% are ethnic Kyrgyz, 15% Uzbeks and 6% Russians. Ethnic Russians in Kyrgyzstan have higher recorded mortality rates, despite their assumed advantageous socioeconomic status relative to the native ethnic groups *(38)*. In various populations around the world, subgroups with a higher socioeconomic status tend to have lower mortality rates; the fact that the opposite has been found to be the case in many post-Soviet countries has been termed the "Russian mortality paradox" *(39)*. Guillot et al. *(38)* found that excess mortality among adult Russians in Kyrgyzstan is probably not due to data artefacts or migration effects; rather, they came to the conclusion that the higher rates can be explained by important ethnic differences in cause-specific mortality. Although many causes of death contribute to the observed differences, alcohol has been identified as a major factor, especially for males *(38)*. Levels of adult mortality in Kyrgyzstan are lower than in the Russian Federation, and a recent study *(40)* showed that the observed mortality gap between the two countries is overwhelmingly attributable to causes strongly related to alcohol consumption.

The drinking pattern among Russians (or, more generally, among Slavs) is a specific set of practices that involves binge-drinking of hard liquors (vodka, in particular) and is an inherent part of many social rituals, such as birthdays, weddings and other celebrations *(41)*. In contrast, alcohol consumption is a much less inherent part of social rituals in central Asia, where the social stigma attached to drunkenness appears to be greater *(42)*. The extent to which this is directly due to the influence of Islam and its prohibition of alcohol consumption is not clear. Although the influence of Islam on everyday life in contemporary Kyrgyzstan is relatively small, it is increasing, and in many communities the sale of alcoholic beverages is prohibited. Kyrgyz and Uzbeks have been influenced to some extent by drinking habits which were historically common in the Soviet Union, so the health benefits of low alcohol consumption for Kyrgyz and Uzbeks may disappear without strong policies relating to alcohol.

WHO identifies availability, marketing and affordability of alcohol as the areas where control measures have the strongest potential to contribute to a reduction in the burden of noncommunicable diseases *(4)*. There is a total ban in Kyrgyzstan on selling alcohol to children and young people under 18, and it is now prohibited to sell alcohol products near schools, other educational institutions and health facilities. New restrictions on advertising alcohol have been introduced. The Kyrgyz Ministry of Health has been taking steps towards developing and implementing a national policy on alcohol consumption.

In order to protect public health, alcohol taxes may need to be adjusted to ensure that alcohol does not become more affordable. The existence of a substantial illicit or informal market for alcohol can complicate formulation of policy concerning alcohol taxes. In such circumstances, tax increases should be accompanied by government efforts to control these markets *(3)*.

Kyrgyzstan implemented a fairly strong alcohol taxation policy in the period 2012–2014 (see Table 2), which reduced alcohol affordability in the country (see Table 7) and led to a decline in alcohol turnover (see Table 4), alcohol consumption and alcohol-related harm (see Fig. 4 and 5). The reduced affordability of alcohol in 2009–2010 (see Table 7) may also have contributed to the observed decline in alcohol-related mortality over those years (see Fig. 5); however, the main factor in the reduction in affordability was income stagnation during the economic recession. This observation confirms that affordability is one of the main determinants of alcohol consumption and alcohol-related harm.

Alcohol excise revenue increased substantially in the period 2012–2014 but then started to decline (see Table 3), mainly as a result of a sharp reduction in vodka turnover. The government did not change alcohol excise rates in 2015–2016, apparently anticipating that frozen excise rates would help to revive alcohol turnover and increase revenue. But this did not happen, and both vodka turnover and vodka revenue continued to decline in 2015–2016. However, alcohol excise revenue in 2016 was much higher than in 2011 and previous years, so in the long run the alcohol taxation policy of 2012–2014 was beneficial in both fiscal and public health terms.

Vodka and liquor turnover declined by almost 50% in the period 2013–2015, and while alcohol consumption did fall, this cannot explain such a sharp decline in the recorded turnover. It is likely that various forms of tax avoidance were used by

alcohol producers and importers. Illicit vodka consumption increased, but this increase did not compensate for the decline in legal alcohol consumption, as mortality and morbidity statistics demonstrate.

Excise rates for beer and wine were also frozen from 2014 (see Table 2), while their turnover decrease was rather small (see Table 4). Wine and beer excise revenues declined slightly in 2015–2016 after the sharp rise between 2012 and 2014 (see Table 3).

Conclusions

Kyrgyzstan implemented fairly strong alcohol taxation policies in the period 2012–2014, which reduced alcohol affordability in the country and led to a decline in alcohol turnover, alcohol consumption and alcohol-related harm. There is great potential for Kyrgyzstan to increase excise rates for all alcoholic beverages in the years to come; such increases are likely to be beneficial for both public health and tax revenues. However, tax increases should be accompanied by government efforts to control illicit alcohol markets. Monitoring of alcohol sales, excise revenues and alcohol-related harm needs to be significantly improved in Kyrgyzstan in order to provide adequate data for evaluation of the impact of alcohol taxation policy.

References

1. Global Health Data Exchange [online database]. Seattle (WA): Institute for Health Metrics and Evaluation, University of Washington; 2017 (http://ghdx.healthdata.org/gbd-results-tool, accessed 16 June 2017).

2. Shield KD, Rylett M, Rehm J. Public health successes and missed opportunities: trends in alcohol consumption and attributable mortality in the WHO European Region, 1990–2014. Copenhagen: WHO Regional Office for Europe; 2016 (http://www.euro.who.int/__data/assets/pdf_file/0018/319122/Public-health-successes-and-missed-opportunities-alcohol-mortality-19902014.pdf?ua=1, accessed 8 June 2017).

3. European action plan to reduce the harmful use of alcohol, 2012–2020. Copenhagen: WHO Regional Office for Europe; 2012 (http://www.euro.who.int/__data/assets/pdf_file/0008/178163/E96726.pdf?ua=1, accessed 8 June 2017).

4. From burden to "best buys": reducing the economic impact of non-communicable diseases in low- and middle-income countries. Geneva: World Health Organization and World Economic Forum; 2011 (http://www.who.int/entity/nmh/publications/best_buys_summary.pdf?ua=1, accessed 8 June 2017).

5. Централизованный банк данных правовой информации Министерства Юстиции Кыргызской Республики [Central Databank of Law Information of the Ministry of Justice] (in Russian) (http://cbd.minjust.gov.kg, accessed 8 June 2017).

6. Отчеты об исполнении бюджета. Центральное казначейство Министерства финансов Кыргызской Республики [Budget performance reports: Central Treasury of the Ministry of Finance] (in Russian) (http://www.kazna.gov.kg/index.php/ispolnenie-byudzheta/otchety-ob-ispolnenii-byudzheta, accessed 8 June 2017).

7. Отчеты о работе Государственной налоговой службы [State Tax Service reports] (in Russian). Bishkek: State Tax Service of the Kyrgyz Republic (http://sti.gov.kg/taxservice/report-sts, accessed 8 June 2017).

8. Национальный статистический комитет Кыргызской Республики [National Statistics Committee of the Kyrgyz Republic] (in Russian/Kyrgyz) (http://stat.kg/ru, accessed 13 June 2017).

9. Государственная таможенная служба [Customs Service] (in Russian/Kyrgyz) (www.customs.kg, accessed 13 June 2017).

10. Евразийская экономическая комиссия [Eurasian Economic Commission] (in Russian/Kyrgyz) (http://www.eurasiancommission.org/ru/act/integr_i_makroec/dep_stat/tradestat/tables/Pages/default.aspx, accessed 13 June 2017).

11. Statistics on alcohol: England, 2008. NHS Information Centre; 2008 (http://content.digital.nhs.uk/catalogue/PUB00110/alco-eng-2008-rep.pdf, accessed 13 June 2017).

12. Seabrook R. A new measure of alcohol affordability for the United Kingdom. Alcohol alcohol. 2010;45(6):581–5 (https://www.ncbi.nlm.nih.gov/pubmed/21075856, accessed 13 June 2017).

13. Hruschka DJ, Gerkey D, Hadley C. Estimating the absolute wealth of households. Bull World Health Organ. 2015;93(7):483–90.

14. GDP per capita growth [website]. Washington (DC): World Bank; 2017 (http://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG, accessed 13 June 2017).

15. Прогноз доходной части государственного бюджета Кыргызской Республики на 2017 год [Forecast of the revenues of the state budget of the Kyrgyz Republic for 2017] (in Russian). National Tax Services (http://sti.gov.kg/STSDocuments/Prognoz2017.pdf, accessed 13 June 2017).

16. Потребительский рынок Кыргызской Республики, 2006–2010 [Consumer market of the Kyrgyz Republic, 2006–2010] (in Russian/Kyrgyz). Bishkek: National Statistics Committee of the Kyrgyz Republic; 2011 (http://stat.kg/media/publicationarchive/7f297ed4-413e-4be9-ade6-78f852e689b1.pdf, accessed 13 June 2017).

17. Потребительский рынок Кыргызской Республики, 2011–2015 [Consumer market of the Kyrgyz Republic, 2011–2015] (in Russian/Kyrgyz). Bishkek: National Statistics Committee of the Kyrgyz Republic; 2016 (http://stat.kg/media/publicationarchive/149a79ac-74c7-4b08-bf6f-621e4b1360b2.pdf, accessed 13 June 2017).

18. Grant M, editor. Alcohol and emerging markets: patterns, problems, and responses. Routledge; 2013.

19. Средние потребительские цены и тарифы на товары и услуги в Кыргызской Республике [Average consumer prices and tariffs for goods and services in the Kyrgyz Republic] (in Russian/Kyrgyz). Bishkek: National Statistics Committee of the Republic of Kyrgyzstan; 2017 (http://stat.kg/ru/statistics/download/operational/343, accessed 13 June 2017).

20. О введении государственного регулирования цен на водку [On introduction of state regulation of prices for vodka] (in Russian). Government of Kyrgyz Republic, Order No. 26 of 23 January 2013 (http://cbd.minjust.gov.kg/act/view/ru-ru/94123/10?cl=ru-ru, accessed 13 June 2017).

21. Evidence for the effectiveness and cost–effectiveness of interventions to reduce alcohol-related harm. Copenhagen: WHO Regional Office for Europe; 2009 (http://www.euro.who.int/en/health-topics/disease-prevention/alcohol-use/publications/2009/evidence-for-the-effectiveness-and-costeffectiveness-of-interventions-to-reduce-alcohol-related-harm-2009, accessed 13 June 2017).

22. Статистический сборник «Здоровье населения и здравоохранение в Кыргызской Республике» в 2005–2009гг.» [Statistical Bulletin "Population health and health care in Kyrgyz Republic in 2005–2009"] (in Russian). Bishkek: National Statistics Committee of the Kyrgyz Republic; 2010 (http://stat.kg/media/publicationarchive/f25ee110-7e85-4a44-8fa8-b36449b5ef2b.pdf, accessed 17 June 2017).

23. Статистический сборник «Здоровье населения и здравоохранение в Кыргызской Республике в 2010-2014 гг.» [Statistical Bulletin "Population health and health care in Kyrgyz Republic in 2010–2014"] (in Russian). Bishkek: National Statistics Committee of the Kyrgyz Republic; 2015 (http://stat.kg/media/publicationarchive/51acb5e6-fb90-44a2-a2f7-61fc32bb946f.pdf, accessed 13 June 2017).

24. Статистический ежегодник Кыргызской Республики [Statistical Yearbook of Kyrgyz Republic] (in Russian/Kyrgyz). Bishkek: National Statistics Committee of the Kyrgyz Republic; 2016 (http://stat.kg/media/publicationarchive/09d1453d-5135-4af4-b54a-2a1a1c5ba64c.pdf, accessed 18 June 2017).

25. Статистический сборник. Социально-экономическое положение Кыргызской Республики, январь [Socioeconomic situation in Kyrgyz Republic, January 2017] (in Russian). Bishkek: National Statistics Committee of the Kyrgyz Republic; 2017 (http://stat.kg/media/publicationarchive/d5022d2a-ab03-4927-a6b3-eae82fdfce9f.pdf, accessed 18 June 2017).

26. Wald I, Jaroszewski Z. Alcohol consumption and alcoholic psychoses in Poland. J Stud Alcohol. 1983;44(6):1040–8 (https://www.ncbi.nlm.nih.gov/pubmed/6607383, accessed 13 June 2017).

27. Neufeld M, Rehm J. Alcohol consumption and mortality in Russia since 2000: are there any changes following the alcohol policy changes starting in 2006? Alcohol Alcohol. 2013;48:222–30 (http://alcalc.oxfordjournals.org/content/48/2/222.long, accessed 13 June 2017).

28. Norström T, Razvodovsky Y. Per capita alcohol consumption and alcohol-related harm in Belarus, 1970–2005. Eur J Public Health. 2010;20(5):564–8 (https://www.ncbi.nlm.nih.gov/pubmed/20181684, accessed 13 June 2017).

29. Zaridze D, Maximovitch D, Lazarev A, Igitov V, Boroda A, Boreham J et al. Alcohol poisoning is a main determinant of recent mortality trends in the Russian Federation: evidence from a detailed analysis of mortality statistics and autopsies. Int J Epidemiol. 2009;38(1):143–53 (https://www.ncbi.nlm.nih.gov/pubmed/18775875, accessed 13 June 2017).

30. Draft Agreements on the tax policy principles in respect of excise duties on alcohol and tobacco products in the EAEU Member States are approved. Eurasian Economic Commission; 29 October 2015 (http://www.eurasiancommission.org/en/nae/news/Pages/29-10-2015-5.aspx, accessed 13 June 2017).

31. Проект. Соглашение о принципах ведения налоговой политики в области акцизов на алкогольную продукцию государств – членов Евразийского экономического союза [Draft. Agreement on the principles of the excise tax policy on alcohol products of the member states of the Eurasian Economic Union] (in Russian). Eurasian Economic Commission; 2015 (https://docs.eaeunion.org/pd/ru-ru/012619/pd_13102015_att.pdf, accessed 13 June 2017).

32. Федеральный закон от 30 ноября 2016 г. N 401-ФЗ "О внесении изменений в части первую и вторую Налогового кодекса Российской Федерации и отдельные законодательные акты Российской Федерации" [Federal Law No. 401-FZ of 30 November 2016 "On Amending Part One and Two of the Tax Code of the Russian Federation and Certain Legislative Acts of the Russian Federation"] (in Russian). The Russian Newspaper – Federal Issue No. 7143 (275); 2016 (https://rg.ru/2016/12/05/nalogi-dok.html, accessed 13 June 2017).

33. О прогнозе основных макроэкономических показателей и параметрах государственного бюджета Республики Узбекистан на 2017 год [On the forecast of the main macroeconomic indicators and parameters of the state budget of the Republic of Uzbekistan for 2017] (in Russian). Order of the President of Uzbekistan; 2016 (http://lex.uz/pages/getpage.aspx?lact_id=3085625, accessed 13 June 2017).

34. Кодекс Республики Казахстан О налогах и других обязательных платежах в бюджет [Code of the Republic of Kazakhstan on taxes and other mandatory payments to the budget] (in Russian). online.zakon.kz; 2017 (http://online.zakon.kz/Document/?doc_id=30366217#pos=10718;-209, accessed 13 June 2017).

35. Об утверждении ставок акцизного налога на отдельные товары, производимые в Республике Таджикистан и ввозимые на территорию Республики Таджикистан [On approval of excise tax rates for certain goods produced in the Republic of Tajikistan and imported to the territory of the Republic of Tajikistan] (in Russian). Government of the Republic of Tajikistan; 2014 (http://www.andoz.tj/images/materiali_andoz_tj/GLAVNOE%20MENU/2_zakonodatelstvo/6_postanovleniya_pravitelstva_r_t/1-Pravilo%20%E2%84%96102%20akciz_neft.pdf, accessed 13 June 2017).

36. Розничные цены на основные продовольственные товары в Республике Казахстан. Февраль 2017 года [Retail prices for basic food products in the Republic of Kazakhstan, February 2017] (in Russian/Kazakh). Statistics Committee of the Republic of Kazakhstan; 2017 (http://www.stat.gov.kz/getImg?id=ESTAT208129, accessed 13 June 2017).

37. Nelson JP. Meta-analysis of alcohol price and income elasticities – with corrections for publication bias. Health econ rev. 2013;3(1):1–10.

38. Guillot M, Gavrilova N, Pudrovska T. Understanding the "Russian mortality paradox" in central Asia: evidence from Kyrgyzstan. Demography. 2011;48(3):1081–104 (https://www.ncbi.nlm.nih.gov/pubmed/21618068, accessed 13 June 2017).

39. Guillot M. Mortality in Kyrgyzstan since 1959: real patterns and data artifacts. Espace Popul Soc. 2007;1:113–26 (https://eps.revues.org/2025, accessed 13 June 2017).

40. Guillot M, Gavrilova N, Torgasheva L, Denisenko M. Divergent paths for adult mortality in the Russian Federation and central Asia: evidence from Kyrgyzstan. PloS One. 2013;8(10):e75314 (http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0075314, accessed 13 June 2017).

41. Cockerham WC. Health lifestyles in the Russian Federation. Soc Sci Med. 2000;51:1313–24 (https://www.ncbi.nlm.nih.gov/pubmed/11037219, accessed 13 June 2017).

42. Cockerham WC, Hinote BP, Abbott P, Haerpfer C. Health lifestyles in central Asia: the case of Kazakhstan and Kyrgyzstan. Soc Sci Med. 2004;59:1409–21 (https://www.ncbi.nlm.nih.gov/pubmed/15246170, accessed 13 June 2017).

43. Status report on alcohol and health in 35 European countries, 2013. Copenhagen: WHO Regional Office for Europe; 2013 (http://www.euro.who.int/en/health-topics/disease-prevention/alcohol-use/publications/2013/status-report-on-alcohol-and-health-in-35-european-countries-2013, accessed 13 June 2017).

Annex 1

Trade codes for alcoholic beverages in Kyrgyzstan

Beverage type	Trade code
Undenatured ethyl alcohol of an alcoholic strength by volume of 80% or higher; ethyl alcohol and other spirits, denatured	2207
Vodka	220860
Liquors	220830; 220870; 20890
Fortified beverages	220840; 220850
Cognac	2208201200-2208202900; 2208206200-2208208900
Low-alcohol beverages	2208906901; 2208906909
Wine	2204 (except 220410; 220430); 2205; 2206
Sparkling wines	220410
Wine materials	220430
Beer	2203

The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

Member States

Albania
Andorra
Armenia
Austria
Azerbaijan
Belarus
Belgium
Bosnia and Herzegovina
Bulgaria
Croatia
Cyprus
Czechia
Denmark
Estonia
Finland
France
Georgia
Germany
Greece
Hungary
Iceland
Ireland
Israel
Italy
Kazakhstan
Kyrgyzstan
Latvia
Lithuania
Luxembourg
Malta
Monaco
Montenegro
Netherlands
Norway
Poland
Portugal
Republic of Moldova
Romania
Russian Federation
San Marino
Serbia
Slovakia
Slovenia
Spain
Sweden
Switzerland
Tajikistan
The former Yugoslav Republic of Macedonia
Turkey
Turkmenistan
Ukraine
United Kingdom
Uzbekistan

World Health Organization Regional Office for Europe
UN City, Marmorvej 51, DK-2100 Copenhagen Ø, Denmark
Tel.: +45 45 33 70 00 Fax: +45 45 33 70 01
E-mail: eucontact@who.int