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CONSUMPTION OF COUNTERFEIT ALCOHOL IN CONTEMPORARY RUSSIA: THE ROLE OF CULTURAL AND STRUCTURAL FACTORS

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CONSUMPTION OF COUNTERFEIT ALCOHOL IN CONTEMPORARY RUSSIA: THE ROLE OF CULTURAL AND STRUCTURAL FACTORS²

The majority of Russians believe that counterfeit alcohol may cause death. Nevertheless, alcohol is a common target of counterfeiting in contemporary Russia as are branded clothes, accessories and audio products. This paper aims to reveal whether counterfeit alcohol consumers are distinctive in terms of structure and culture. It investigates the prevalence and structure of counterfeit alcohol purchasing and consumption; attitudes and beliefs about counterfeit alcohol; and predictors of counterfeit alcohol consumption. The research is based on the Russia Longitudinal Monitoring Survey (RLMS-HSE), an annual nationwide panel survey designed to monitor the health and economic welfare of households and individuals in the Russian Federation. The research findings demonstrate that cultural and structural factors contribute a lot to the consumption of counterfeit alcohol. Counterfeit alcohol consumption is associated with hazardous alcohol drinkers and homemade alcohol drinkers who tend to ignore trademarks and the taste of alcoholic beverages. Blur counterfeiting is a characteristic of hazardous alcohol drinkers and vodka-lovers who are inclined to be price sensitive and to ignore brands. Social networks play a significant role in consumption of counterfeit alcohol. Counterfeit alcohol consumers are highly likely to represent lower classes.

Key words: counterfeiting; blur counterfeiting; illicit alcohol; unrecorded consumption; compulsory consumption; emerging markets.

JEL Classification: Z.

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1. Introduction

Russia is generally accepted to be affected by counterfeiting. The goods counterfeited range from clothes, cigarettes, medicines, and food to automobile parts, computer software, mobile phones and wristwatches. Alcohol is a frequent and common target of counterfeiting. According to expert evaluations, counterfeits make up 30 to 40% of alcoholic beverages trade in Russia [Radaev et al. 2008]. The large majority of Russians (94%) believe that consumption of counterfeit alcohol may cause serious harm to health and even death. These beliefs are supported by daily news and official statistics which report that acute alcohol poisoning resulted in the deaths of 17,302 people in 2012³. This paper looks at who consumes counterfeit alcohol in Russia and, more generally the reasons why people consume illicit goods.

In general, counterfeiting means “a range of illicit activities linked with the trademark infringement” [OECD 2007: 8]. There are several similar types of activities commonly grouped together under one heading, including piracy, direct copies, imitations, introduction of original products with a registered trademark into the commercial turnover without a permission from the owner, etc. [Cheung & Prendergast 2004; Jennings 1989; Lay & Zaichkowsky 1999; Kotelnikova 2011]. It is important to stress that counterfeiting is primarily concerned with registered trademarks and the exclusive rights of owners rather than with product falsification, deceptive information about product’s features, tax evasion, unlicensed production, usage of forged excise stamps, etc. In practice, however, counterfeiting, product falsification and tax evasion overlap. Counterfeit alcohol may include toxic elements and implies low quality products produced and distributed on an illegal basis. For example, it is known that counterfeiting in alcohol drinks can take three forms: 1) “tipping” implying “a practice whereby genuine containers are in some way supplemented with alcohol from a non-genuine source”; 2) “collection of empties on a commercial basis for refilling, selling counterfeit labels and capsules”; 3) “producing whole product: bottle, capsule and liquid [Counting counterfeits 2002: 85]. Forms of counterfeiting also embrace imitations of the registered trademarks including copies, which are similar but not identical to the original; and grey goods “which are illegally sold as overruns produced by factories contracted by the brand manufactures” [Phau et al. 2000: 46–47].

Economic factors involved in the production and distribution of counterfeits always infringe the rights of the brand holder but do not always infringe those of the consumer. The expansion of counterfeiting is often explained by a fact that production and provision of fakes is a profitable and low-risk business, which is to a significant extent supported by a steady consumer demand for counterfeit branded goods. However, it is not only consumers that contribute to the proliferation of counterfeits but also owners of registered trademarks—victims of counterfeiting—may pursue a contradictory policy.⁴ For a better understanding how markets for counterfeited goods work, the entire process and all counterparts should be studied, nevertheless, this paper deals only with consumer behavior.

The market for fakes can be mainly divided into two sectors—fakes bought by consumers unknowingly (deceptive counterfeiting) and fakes bought by consumers deliberately (non-deceptive counterfeiting) [Grossman & Shapiro 1988]. Previous research findings demonstrate that “about one-third of consumers would knowingly purchase counterfeit goods” [Bian & Moutinho 2009: 368; see also Rutter & Bryce 2008]. However, research has revealed that perceived risks have a direct impact on purchase intentions [Clow, Tripp & Kenny 1996]. Consumers buy counterfeits only in those product categories where risks (social, financial, physical, etc.) are perceived to be low [Bloch et al 1993; Chapa, Minor & Maldonado 2006: 83]. Demand-side research shows that the purchase of counterfeits varies across income, education,

³ See official statistics: URL: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/population/healthcare/# (accessed on 2 August 2014).

⁴ They are not always active in the protection of their intellectual property rights and sometimes even try to take advantage of the market expansion of counterfeits [Kotelnikova 2011].

age and gender [Lee & Yoo 2009: 12]. However, research findings are contradictory in explaining the role of culture and social structure in counterfeit consumption.

Additionally, Rutter and Bryce [2008] argue counterfeit consumption should be considered from the perspective of everyday activities and not be associated with specific subcultures, for instance social deviants or the technological elite. They found that counterfeit consumption is linked to modern leisure consumption. This is consistent with the bulk of the literature on counterfeiting, showing consumer commitment to famous trademarks stimulate their purchase of counterfeited products, especially in the context of non-deceptive counterfeiting [Bian & Moutinho 2009]. Additionally, a price advantage is believed to be the most influential factor in explaining why people buy counterfeit goods. Besides price and status, Cheung and Prendergast [2004] show that the system of distribution can condition the expansion of counterfeit consumption.

Given the mass expansion of counterfeited goods and the high physical risks associated with counterfeit alcohol consumption, the paper looks at whether counterfeit alcohol consumption is localized culturally and structurally. To carry out this aim, the following questions are addressed. First, how common is counterfeit alcohol consumption in Russia? Second, what kind of consumer attitudes to counterfeit alcohol are predominant in Russia? Third, are consumers of counterfeit alcohol with a specific social class position? Fourth, do consumers of counterfeit alcohol differ from other alcohol consumers in relation to patterns of alcohol consumption? Finally, what are predictors of risks to being a consumer of counterfeit alcohol in Russia?

Counterfeit alcohol markets seem to be the main subject of interests to three well-recognized perspectives including sociology of markets, studies in unrecorded alcohol, and marketing science. However, each of these perspectives gives little attention to counterfeit alcohol markets per se. The economic sociological tradition has overlooked illegal markets, mainly because of a lack of discussion on the issues of the legality of the market [Beckert & Wehinger 2011]. Studies in unrecorded alcohol⁵ consumption, focusing mostly on home and small-scale artisanal alcohol, and public health effects of unrecorded consumption in general, correlations between unrecorded alcohol consumption and alcohol policy measures and interventions, and international comparisons, tend to ignore consumption of manufactured counterfeit alcohol. The bulk of marketing literature on counterfeiting, which is primarily devoted to understanding incentives of the consumer demand for counterfeit goods, has passed over deceptive counterfeiting and blur counterfeiting.

This paper is divided into 7 sections. Section 2 describes the major trends in markets for counterfeited goods in contemporary Russia. Section 3 is devoted to the findings of previous research concerning counterfeit alcohol consumption in Russia. Section 4 presents assumptions and hypotheses supported by a short literature review on determinants of the purchase of counterfeits. Section 5 discusses the research method and data collection. Section 6 analyzes the results obtained in the study. Section 7 concludes.

2. Major trends in counterfeit alcohol expansion in Russia

The scope of counterfeited goods in present day Russian markets is considered to be shocking; international experts state that Russia is among the countries with the largest amount of counterfeited goods, including China, Turkey, and Ukraine [Devigne 2008]. However, the evaluations of the volume of counterfeits are based on speculations rather than reliable statistics. The scope of counterfeiting significantly varies depending on the sector. Russian markets can knowingly be divided into four types: markets where counterfeits predominate 70–80% (CD and DVD recordings); mass expansion of counterfeits 30–40% (clothes, shoes, and alcoholic

⁵ The term “unrecorded alcohol” usually covers “(1) illegally produced or smuggled alcohol, (2) surrogate alcohol, i.e. non-beverage alcohol not officially intended for human consumption, such as perfume, (3) alcohol not registered in the country where it is consumed, and (4) legal unregistered alcohol (e.g. homemade alcohol in countries where it is legal)” [Lachenmeier, Taylor & Rehm 2011].

beverages); moderate expansion 15% (fragrances and medicines); and limited expansion of counterfeits up to 1% (tea, coffee, and cigarettes) [Radaev et al. 2008]. In Russia alcohol is counterfeited as frequently as branded clothes, shoes, and watches, that is, goods targeted by counterfeiting traditionally.

Counterfeiting is one of constitutive elements of illegal alcohol markets. Unrecorded alcohol is a longstanding problem for Russia partially provoked by the radical anti-alcohol reforms conducted by Michael Gorbachev in the mid-1980s. Initially aimed to reduce total alcohol consumption⁶, the anti-alcohol reforms generated some unexpected consequences. The significant decrease of state-produced alcohol immediately caused a sharp increase in moonshining and underground alcohol production [Nemtsov 2009]. Illegal alcohol production and distribution networks developed across the country and contributed a lot to the accumulation of private capital during the anti-alcohol reforms. By the early 1990s, the state completely had lost its alcohol monopoly, which were under control of private capital and embedded into organized criminal networks. Further economic liberalization opened up a legal way for illicit alcoholic beverages to emerging consumer markets. Official statistics indicate that illegal commercial alcohol products amounted to 56% in 2002. Given surrogate alcohol consumed, this figure could reach 65% [Nemtsov 2009: 139]. The abundance of low quality alcoholic beverages, locally produced and imported, in consumer markets resulted in Russian consumers steadily switching from moonshining to consuming low-priced commercial alcohol. For instance, in 1999 the average price for a bottle of vodka (1L) was 64.84 RUB equaling the cost of six loaves of bread⁷.

However, regardless of the ongoing increase in total alcohol consumption, the early 2000s saw the beginning of the next fluctuations: volumes of unrecorded alcohol in Russian markets decreased gradually [Kratko 2013]. This dynamic can partially be explained by structural changes in alcohol consumption caused by global producers entering Russian markets. The 2000s observed the formation of new alcohol consumption culture: hard drinks, the consumption of which accounted for 70% of total consumption in the 1980s [Nemtsov 2009], were replaced with light drinks, primarily beer [Martynenko & Roshchina 2014]. A steady decrease in the consumption of spirits was accompanied by a significant decline in volumes of unrecorded alcohol. The overall percentage of samogon drinkers came down to 3.6% by 2012 [Roshchina 2013]. Meanwhile, volumes of illegal alcohol seized in the course of inspections in 2012 were one third of 1999 (see Fig 1). This tendency was supported by toughening state control over alcohol markets in the mid-2000s.

⁶ After the Second World War the total alcohol consumption increased substantially. According to official statistics, in 1984 per capita consumption was 10.5L., UK (6.9L.), US and Canada (8.0L.) and Australia (8.9L.) behind. In addition, in those years alcohol markets were characterized by higher share of unrecorded and low quality alcohol equaled to 35% [Nemtsov 2009].

⁷ See official statistics: URL: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/tariffs/ (accessed on 2 August 2014).

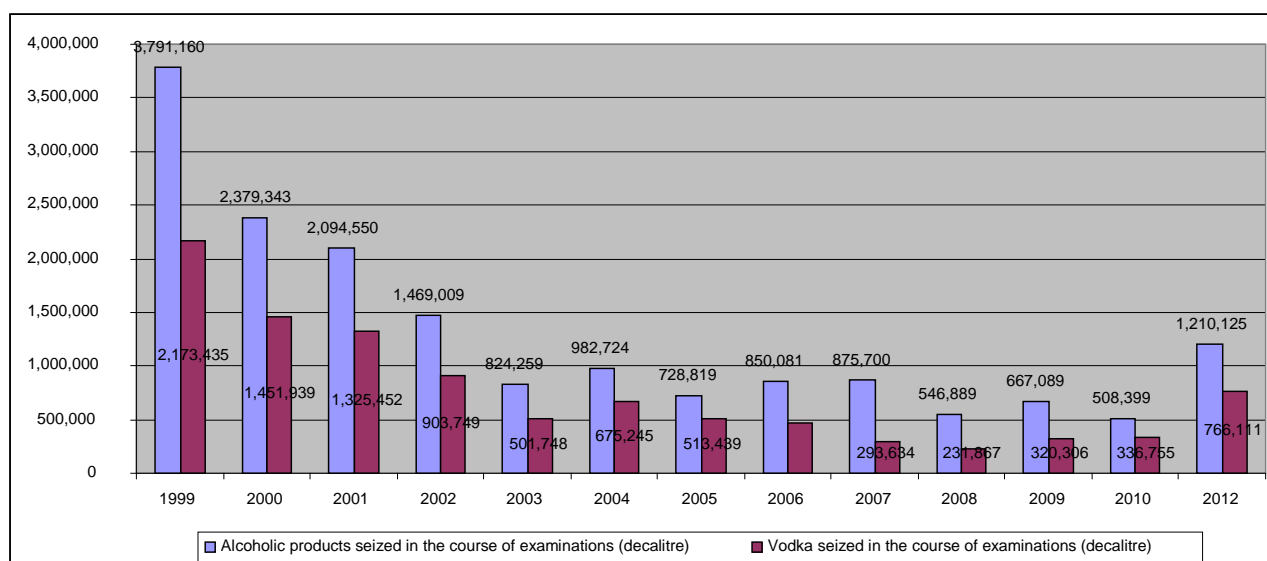


Fig. 1. Illicit alcoholic beverages seized in the course of inspections, 1999–2012

Although the volume of illicitly manufactured alcohol has decreased since the early 2000s, the problem of counterfeiting remains. 246 underground factory shops involved in the production of alcoholic beverages and 78,053 persons having committed violations related to illegal production and distribution of ethyl alcohol and alcohol products were discovered in 2011 [Key Indicators... 2011]. The number of organizations involved in the production and distribution of alcoholic beverages, using forged federal, special and excise stamps was 978; the number of organizations using counterfeited trademarks was 146; two organizations involved in illegal importation were revealed.

The next trend concerns the key sources of counterfeiting. There is some evidence that the volumes of imported counterfeited alcohol are much less than those of locally produced ones. Local counterfeit alcohol production is located in the Southern regions, especially in North-Caucasian region [Nemtsov 2009]. Counterfeiting also can be found in areas which are close to the capitals – in Moscovskaya and Leningradskaya oblasts [Radaev et al 2008]. Some experts point to the border regions, which are thought to be glutted with counterfeits. Especially areas bordering Kazakhstan and Far Eastern regions.

In the 1990s, key counterfeiting trade channels were open markets and peddling (kiosks, booths and so on). Under stronger state control of retailing, counterfeit goods circulating in open markets and peddling began to decrease. Today, the major channels for counterfeit goods are thought to be small traditional shops located in remote city districts and the internet. However, counterfeits can be found anywhere, even in chain stores. For example, consignments of counterfeit goods which are mixed with originals and sold to consumers. Another method is high quality counterfeited goods being sold using forged documents, as an examination to determine the originality of these goods is a task out of the reach of both shops and the owners of a registered trademark [Kotelnikova 2011].

Illicit commercial alcohol started its mass expansion in the mid-1980s, driven by economic liberalization, it peaked in the late 1990s, and then, in the early 2000s it began to decrease. A number of contingent and fundamental reasons caused these fluctuations, two key tendencies had a significant impact on counterfeit alcohol markets. First is the turn from moonshining to the consumption of low-priced and low-quality manufactured alcohol. It resulted in some favorable conditions for consumer demand for counterfeits. Second is the sources of counterfeiting: from importation toward local production of counterfeit alcohol.

All these trends are important, especially as Russia is going through a new long-term anti-alcoholic campaign initiated by the government in 2006. A number of restrictions has been introduced to reduce market availability of alcohol. As to restrictions imposed on legal alcohol, it

is necessary to investigate counterfeit consumption more thoroughly to predict whether they give rise to counterfeiting.

3. Determinants of counterfeit alcohol consumption. Conceptualization and hypotheses

The literature singles out two different views on counterfeit consumption [Rutter & Bryce 2008]. The first investigates counterfeiting from the perspective of subcultures implying that people engaged in the consumption of illicit goods represent subgroups of social deviants or innovative consumers having common values, attitudes, and practices. The second considers counterfeit consumption as everyday activities because nowadays the counterfeiting of status goods has been replaced by counterfeiting of mass products [OECD 2007]; and an increasing number of people consume counterfeits. For instance, in 2006, Fund of Public Opinion conducted a survey devoted to falsified goods in Russian markets (n = 1500) and found that 53% of respondents purchased faked goods during the previous year [Falsified goods... 2006]. Meanwhile, in 2012, 30% of respondents stated that they had bought counterfeits during the previous year [Khramova 2012]⁸. The most popular product was clothing (42%), followed by audio and video products (35%), alcoholic beverages (32%) and cosmetics (26%).

As mentioned above, there are several forms of counterfeiting. They include a) non-deceptive counterfeiting implying the situation when consumers purposely purchase fakes; b) deceptive counterfeiting meaning that consumers unknowingly buy forged branded goods [Grossman & Shapiro 1988]; and c) blur counterfeiting which is “the scenario where consumers are not quite sure whether what they purchase is counterfeit or a genuine branded product” [Bian 2006: 4]. Moreover, some researchers suggest considering deception not as two distinct forms but as a spectrum generated from “super-deceptive” (no one can tell apart a counterfeited product from its genuine counterpart) to “completely non-deceptive” (each buyer can distinct a counterfeited product from its genuine counterpart) [Bosworth 2006]. The degree of deceptiveness of counterfeiting varies with consumer experience, awareness, and knowledge [Eisend & Schuchert-Güler 2006].

Supposedly, due to the fear of possible death caused by acute alcohol poisoning, counterfeit alcohol is less likely to be purchased deliberately by consumers compared with such products as branded clothes, watches, glasses, and cosmetics, which were reported to be knowingly bought by about one-third of consumers [Rutter & Bryce 2008]. Previous research findings support this proposition: only 13% of Russian alcohol drinkers stated that they bought counterfeit alcoholic beverages knowingly during the last year [Khramova 2012]. Additionally, most consumers (46%) mentioned “no time to choose” as a reason for purchasing counterfeit alcohol. This evidence assumes that one of the main factors in why Russian consumers purchase counterfeit alcoholic beverages is the system of distribution. They are highly likely to come across counterfeit alcohol under conditions of its mass expansion. As alcohol refers to experience goods [Nelson 1970], that is, consumers cannot easily determine the quality and originality of alcoholic beverages at a place of purchasing, it is reasonable to take into account not only deceptive and non-deceptive counterfeiting, but also “blur counterfeiting”.

This suggests that counterfeit alcohol consumption is not associated with a specific subculture. Given the mass expansion of counterfeit alcohol in Russian markets and a lower degree of consumer awareness in the context of counterfeit alcohol, consumers of counterfeit alcohol do not significantly differ from other alcohol consumers in relation to patterns of alcohol consumption.

Hypothesis 1. Counterfeit alcohol consumers do not follow distinctive alcohol consumption patterns concerning frequency and volume of alcohol drinking, types of alcoholic beverages consumed, or places of alcohol consumption.

⁸ In 2012, the research on the consumption of counterfeits was conducted on a representative sample of hard alcohol drinkers in Russia (n = 2222) [Khramova 2012].

Price, taste and brand as selection criteria. Counterfeits are usually cheaper than branded counterparts. Past research has revealed that low price is the dominant reason why people buy fakes in the context of both deceptive and non-deceptive counterfeiting. Regarding non-deceptive counterfeiting, the previous studies showed that consumers preferred counterfeit goods to genuine ones if there was a price advantage [Bloch et al. 1993; Weidmann, Hennings & Klarmann 2011]. Moreover, the higher the price an original product sells at, the more attractive its counterfeited counterpart appears [Lee & Yoo 2009]. Deceptive counterfeiting implies that determinants of purchase of fakes are similar to motives governing consumers when buying originals. However, it is reasonable to assume that consumers who are mainly oriented to find a better-priced offer have a higher risk of coming across counterfeits which tend to be localized in low-priced market niches.

This is consistent with the research results obtained for Russian consumers. Most surveyed respondents mentioned “a substantial saving” as the main motive for buying counterfeit goods; especially concerning audio and video products, clothing and cosmetics. As to counterfeit alcohol, 31% consumers said money saved, that is the second most popular reason (46% reported that “there was no time to choose”), explaining why they purchased faked alcoholic beverages during the last 12 months [Khramova 2012].

Hypothesis 2. Consumer orientation to price as a criterion of selection of alcoholic beverages is positively associated with consumer risk of drinking counterfeit alcohol.

Counterfeits often imply not only lower prices but also poorer quality. Low quality may inhibit the consumption of counterfeits. However, the better the quality of a counterfeit is perceived to be, the more attractive it appears to consumers. In addition, consumers construct a complicated relationship between price and quality [Beckert & Musslin 2013]. Some consumers knowingly buy forged products, considering a price advantage as compensation for their lower quality [Lee & Yoo 2009].

There is some evidence that consumers perceive counterfeit alcohol as lower quality. Thus, only 23% of consumers said that they bought counterfeit alcohol because its quality was comparable to original one [Khramova 2012]. In the present research, taste serves as a proxy variable for perceived quality. Consumers who care about taste are supposed to be less prone to buy counterfeits.

Hypothesis 3. Consumer orientation to taste as an important criterion of selection of alcoholic beverages is negatively associated with consumer risk of drinking counterfeit alcohol.

Counterfeiting per se is much more about the consumption of symbols rather than the consumption of functional features of material objects. Past research has revealed consumer desire for a given brand was more influential in purchasing counterfeits [Rutter & Bryce 2008] than price and quality. Brands help consumers to express themselves, to join a desired group and to differentiate themselves from others. Counterfeiters provide consumers with opportunities to have the desired brands at lower prices. It is well known that brand image and brand personality contribute a lot to consumer demand for counterfeiting [Bian & Moutinho 2009].

Hypothesis 4. Consumer orientation to a famous brand as an important criterion of selection of alcoholic beverages is positively associated with consumer risk of drinking counterfeit alcohol.

Subjective norm and social environment. Previous research found that people involved in counterfeit consumption are more sensitive to social pressure. Reference groups can contribute

to the consumption of counterfeits in different ways. First, relatives and friends may act as opinion makers sharing information regarding rational purchase decisions and product features [Beckert & Wehinger 2011]. Second, consumers are likely to select counterfeits over genuine goods, depending on how much their family members and friends approve or disapprove. To impress others is more important than receiving expert opinions. Finally, Albers-Miller [1999] demonstrated that people are more prone to engage in illicit behavior under peer pressure. The surveyed students are high likely to purchase counterfeits if they were with friends who also bought counterfeit goods.

Alcohol consumption is often associated with collective practices implying that a degree of susceptibility to social pressure and subjective norms appears to be very high. It is reasonable therefore to assume that relatives and friends dealing with counterfeit alcohol positively influence considerations to consume counterfeits.

Hypothesis 5. Consumers who have acquaintances consuming counterfeit alcohol and producing homemade alcohol have higher risks of drinking counterfeit alcohol.

Consumer characteristics. Previous research demonstrates contradictory results concerning social characteristics. Some studies show that consumer inclination to purchase counterfeits varies due to income, education, age and gender; some studies show that these characteristics have no significant influence at all.

Social position. There are few papers focusing on the association between social position and the purchase of counterfeits. Scholars usually research how education, occupation and income separately determine consumer inclination to purchase counterfeits.

Gail et al. [1998] show that consumers who stated a preference for counterfeit goods tend to earn less income than consumers who stated a preference for genuine goods. Other scholars found no influence of income on intentions to buy counterfeits [Bian & Moutinho 2009]. On the contrary, there is some evidence that buyers of counterfeits are not necessarily from low-income groups. Khramova found that consumers with higher income more often purchased counterfeit alcohol compared with the other groups [Khramova 2012].

The impact of education on the purchase of counterfeits appears to be the most inconsistent. Research shows that people with higher education have a higher degree of awareness and more easily determine the originality of goods. Nevertheless, people who have better education may induce consumer demand for counterfeits. Regarding alcohol consumption, it was shown that people who have no university degree more often purchase counterfeit alcohol than people with higher education (38 vs 27%) [Khramova 2012].

The present research focuses on how individual social position as an integrated variable of income, occupation and education determines the risk of consuming counterfeits. However, given the mass expansion of counterfeit alcohol, inconsistent research findings on the association between social structure and counterfeit consumption, it is reasonable to assume the following.

Hypothesis 6. Counterfeit alcohol consumers have no association with a specific social position.

Age. Research shows a significant relationship between age and counterfeit consumption. Age appears to have a negative association with counterfeit consumption: young people are more prone to buy counterfeits. One of possible arguments runs from a fact that older people are less likely to take risks and more inclined to follow business ethical norms. However, the previous studies demonstrate that counterfeited product categories purchased vary with age. Younger consumers tend to buy pirated audio and video products [Chiou, Huang & Lee 2005] while older people tend to buy medicines [Khramova 2012].

Hypothesis 6. Counterfeit alcohol consumers tend to be younger.

Gender. Research also reveals that male respondents more often purchase counterfeits [Rutter & Bryce 2008]. It is also supported by data gathered from a survey of Russian consumers, among respondents who purchased counterfeits during the last 12 months, the percentage of male respondents (32%) was higher than the those of females (27%) [Khramova 2012]. This fact supposedly reflects that women are more inclined to follow ethical norms and less disposed to involve themselves in illicit activities. Nevertheless, a large amount of evidence indicates gender differences in counterfeited product categories purchased. Research demonstrates that women were inclined to purchase counterfeited clothes, cosmetics, and pharmaceutical products and medicines while men tended to buy counterfeit alcohol, tobacco, and audio and video products [Khramova 2012]. Thus, it is reasonable to assume the following.

Hypothesis 7. *Counterfeit alcohol consumers tend to be male.*

4. Measures and methods

The paper presents a memory-based approach, relying on consumer self-reports on alcohol drinking gathered with help of a nationwide Russian survey of households and individuals carried out in 2012. It employs several methods, including correspondence analysis, factor analysis, k-means cluster analysis, and multinomial logistic regression to test the hypotheses described above. Factor analysis and k-means cluster analysis were applied in order to classify consumers into groups showing different alcohol consumption patterns while a method of multinomial logistic regression was used in order to reveal predictors of risks for alcohol drinkers to consume counterfeit alcohol in Russia.

Dependent variable

A dependent variable “Counterfeit alcohol consumers” was constructed from three questions: 1) “Do you consume alcoholic beverages, including beer, at least sometimes?”; 2) “Have you consumed alcoholic beverages, including beer, during the last 30 days?” and 3) “Have you consumed alcoholic beverages during the last 30 days which, in your opinion, were counterfeit?”. The variable is “1” when a given consumer states that (s)he “never consumes alcoholic beverages or has not consumed alcoholic beverages during the last 30 days”. It is “2” when a given consumer states that (s)he has not consumed counterfeit alcohol during the last 30 days. It is “3” when a given consumer states that (s)he has consumed counterfeit alcohol during the last 30 days; and “4” when a given consumer states that (s)he does not know whether consumed alcohol was counterfeit or not (blur counterfeiting). People who have not consumed counterfeit alcoholic beverages during the last 30 days serve as a reference group.

Table 1. Dependent variable “Have you consumed alcoholic beverages during the last 30 days which, in your opinion, were counterfeit?”

Dependent variable	
People who do not consume alcohol	51.2%
People who have not consumed counterfeit alcohol during the last 30 days	41.7%
People who are not sure whether the consumed alcoholic beverages were counterfeit	4.4%
People who consumed counterfeit alcohol during the last 30 days	2.7%
Number of respondents	18,303

Independent variables

Independent variables are divided into five groups: 1) clusters of consumers with different patterns of alcohol consumption; 2) criteria taken account by consumers when selecting alcoholic beverages; 3) characteristics of consumer’s social environment; 4) consumer

characteristics; and 5) control variables. Table A1 summarizes all independent variables (see Attachment 1).

Alcohol consumption patterns. Six clusters representing consumers with different patterns of alcohol consumption were computed with help of factor and k-means analysis. The factor analysis was applied in order to find the structural relations among the 18 dichotomous variables describing different patterns of alcohol consumption: frequency of alcohol consumption; places where alcohol is consumed; types of alcoholic beverages consumed during the last 30 days; association between mealtime and alcohol drinking; belonging to a group of alcohol drinkers who have problems generated from alcohol consumption; belonging to a group of households producing homemade alcohol.

Six factors were revealed, applying the method of main components with Varimax rotation (the explained dispersion is 50.6 %). The factor loadings are presented in Table A2 (see the Attachment 2). The first factor is associated with beer consumption patterns implying frequent alcohol drinking before and without meals in public places. The second factor describes socially oriented alcohol drinking covering consumption of cognac, whiskey, wine and champagne consumed at restaurants and bars or at the workplace or visiting friends at mealtimes. The third factor refers to problem alcohol drinking patterns implying consumption of samogon and fortified wine which happens frequently in public places and at the workplace. The fourth factor embraces vodka consumption patterns. The fifth is related to homemade alcohol consumption and production. The last includes alcohol drinking at home (mainly beer).

Then, a k-means cluster analysis was applied in order to find the groups of consumers with different alcohol consumption patterns. Six groups are presented in the table 2.

Table 2. Clusters of consumers with different alcohol consumption patterns

Clusters	%	Short description
Vodka lovers	27.5	Consumers of vodka (and beer) who tend drink alcohol at home and visiting friends having meals from 2–3 times per month to 2–3 times per week. They tend to be heavy drinkers and report problems associated with drinking alcohol.
Light and expensive alcohol consumers	39.8	Consumers of beer, wine and champagne, cognac and whiskey who tend to drink alcohol at restaurants and bars from 2–3 times per month to 2–3 times per week.
Eclectic alcohol drinkers	7.2	Consumers of beer, homemade wine, vodka, and wine, who tend to drink alcohol at home from 2–3 times per month to once per week. They are high likely to belong to households producing homemade alcohol.
Occasional alcohol drinkers	12.7	Consumers of beer, vodka, wine and champagne, cognac and whiskey who tend to drink alcohol once per month in public places, visiting friends and at the workplace.
Hazardous alcohol drinkers	10.0	Consumers of beer, vodka, fortified wine and samogon who tend to drink alcohol at home, in public places, at work, and visiting friends before mealtime and without meal from 2–3 times per week to every day. They tend to be heavy drinkers and report problems associated with drinking alcohol.
Homemade alcohol consumers	2.8	Consumers of homemade wine and samogon who tend to drink alcohol at home 2–3 times per week. They tend to refer to heavy drinkers. They belong to households producing homemade alcohol.
Total	100	
Number of respondents	8,778	

Criteria taken account by consumers when selecting alcoholic beverages include three dimensions: the degree of consumer orientation to price when selecting alcoholic beverages, the degree of consumer orientation to taste, (s)he likes, the degree of consumer orientation to a famous brand. A five grading scale variable represents each of them. In the regression analysis, they were used as separate continuous variables.

Consumer's social environment. This group covers two dichotomous variables indicating characteristics of social networks those alcohol drinkers are involved in. The first indicates whether a given respondent has acquaintances, neighbors or relatives who drink surrogate alcohol. The second reflects whether there are homemade alcohol producers among a given respondent's acquaintances, neighbors or relatives. Both variables indicate social risks for alcohol drinkers to consume counterfeit alcohol.

Consumer characteristics. In addition, there are several variables embracing social and demographic characteristics such as individual social class position, gender, age, number of household members, and type of residence.

Individual social class position is a categorical variable constructed with help of ESOMAR methodology and techniques⁹ (1 = upper-upper class; 2 = lower upper class; 3 = upper middle class; 4 = lower middle class; 5 = upper lower class; 6 = lower-lower class). It reflects an individual social status generated from positions at three social dimensions, including completed education level, occupational status and household well-being.

Gender is represented by a dummy variable (1 = male). Age is measured as a number of years computed as 2012 minus year of birth (continuous variable). The number of household members is a categorical variable (1 = alone, 2 = from two to four, 3 = more than five) constructed from the continuous variable "How many people do you live with?" The type of residence reflects town type and size where a given respondent lives. The variable is "1" for a regional central city, "2" for city or town, "3" for township, and "4" for rural areas.

Control variables. Finally, two control variables (gross regional product per capita and individual level of hesitation) are included into the model. Rosstat official statistics was employed to construct a variable "gross regional product per capita" for the surveyed regions. Additionally, I measure the individual level of hesitation in order to control for the fact that blur counterfeiting is not generated from people who tend to have no certain answer to most questions. This variable is computed as counting a total number of "Difficult to say" chosen by a given respondent during the whole survey (except questions related to alcohol consumption).

A method of multinomial logistic regression was employed to find the predictors of risks for the consumption of counterfeit alcohol in Russia. Several models of multinomial regression were computed in order to understand the impact of cultural and structural factors on counterfeit alcohol consumption. I include sequentially variables relating to drinking patterns in the multinomial regressions (see the table 7). Consumers of original alcohol represented a reference group. In addition, reference groups included female representatives of the lower-lower social class living with five and more household members in rural area, having acquaintances consuming alcoholic surrogates, having acquaintances producing homemade alcoholic beverages, and belonging to a cluster of homemade alcohol drinkers. All regression models turn out to be statistically significant ($p < 0.001$).

5. Data sources

The paper is based on the 21st RLMS-HSE¹⁰ round of the nationwide Russian survey of 8,440 households and 18,687 individuals aged 14 or older, residing those households, conducted

⁹ <http://www.esomar.org/> (accessed on 2 August 2014).

¹⁰ Source: "Russia Longitudinal Monitoring survey, RLMS-HSE", conducted by Higher School of Economics and ZAO "Demoscope" together with Carolina Population Center, University of North Carolina at Chapel Hill and the Institute of Sociology RAS. (RLMS-HSE sites: <http://www.cpc.unc.edu/projects/rlms-hse>, <http://www.hse.ru/org/hse/rlms>) (accessed on 2 August 2014). RLMS-HSE presents a series of nationally representative panel surveys conducted since 1992. Data are gathered with help of face-to-face interviews.

in November 2012. RLMS-HSE, a multi-stage probability sample constructed on dwelling units, provides data on 3,000 variables. All calculations presented in the paper were done on a basis of the merged dataset, including variables generated from surveys of individuals aged 15 or older¹¹ and their households. The main parameters of the sample are summarized in the Table A2 (see the Attachment). Additionally, all percentages concerning the scope of counterfeit alcohol consumption were computed on the weighted sample.

It is well known that studies in counterfeiting based on consumer surveys have some limitations. They are less informative when research aims to count the scope of market proliferation of counterfeits as their results significantly depend on the degree of consumer counterfeit awareness. Consumer surveys appear to be more informative when studying direct effects of counterfeiting on consumer behavior [Olsen 2005]. Additionally, the respondent sensitivity to questions related to consumption of illicit goods should be taken into account. Consumers tend to hide facts concerning fakes consumed, especially in those societies where the majority demonstrate negative attitudes toward counterfeiting.

It is necessary to note that data of RLMS-HSE surveys used also implies some restrictions related to measurement of alcohol consumption as the main subject of the presented paper. The survey does not cover the richest and the poorest representatives of the Russian social structure. More importantly, it fails to achieve heavily alcohol addicted and homeless people. Thus, the calculated estimates of scales of counterfeit alcohol consumption may be undervalued.

6. Research Findings

6.1. Attitudes to counterfeiting and the scope of counterfeit alcohol consumption

The research findings demonstrate that the majority (90.3%) believe that counterfeit alcohol is widespread in contemporary Russia. Nearly half of the surveyed respondents say that the scope of counterfeit alcohol has expanded in the Russian markets over the last 2–3 years. Meanwhile, 42% say that the situation has not changed. Only 9.7% say that there was less counterfeit alcohol than there was several years ago.

The observed level of counterfeit alcohol consumption is much lower than one could expect. Among people who consumed alcohol during the last 30 days ($n = 6,989$), 85.1% say that they definitely did not drink counterfeit alcoholic beverages during the last 30 days; 9.2% cannot give a certain answer to this question and only 5.8% say that they consumed counterfeits. In addition, half of counterfeit alcohol consumers (54.1%) said that they did it more than once during the last 30 days (median value = 2; $n = 403$).

As to purchasing counterfeit alcohol, among the people who bought alcohol during the last 30 days ($n = 3,517$), 6.8% say that they bought counterfeit and 10.8% does not know, while 82.4% say that they did not purchase counterfeit alcohol during the last 30 days. Among counterfeit alcohol buyers, 55.8% did it unknowingly (deceptive counterfeiting) while 31.5% were aware of purchasing counterfeit alcoholic beverages (non-deceptive counterfeiting) and 12.6% stated that sometimes they bought counterfeit alcoholic beverages deliberately, sometimes they did it unknowingly. The observed results contradict past research findings indicating that about one-third of consumers buy counterfeits purposely [Bian & Moutinho 2009: 368; see also Rutter & Bryce 2008]. Vodka (mostly 0,5l) seems to refer to the key target for counterfeiting in Russia compared to the other alcoholic beverages. Among respondents who have purchased counterfeit alcohol during the last 30 days, 51.2% mentioned vodka ($n = 106$) followed by beer, wine, alcoholic cocktails, cognac, and champagne.

Physical risks are the main argument against the consumption of counterfeit alcohol. The absolute majority of Russians (94%) completely agree that counterfeit alcohol may cause death. Consumers of original alcoholic beverages and non-consumers tend to evaluate possible risks for health higher (94.8% and 93.9% respectively) than people who consumed counterfeit alcohol

¹¹ According to the literature on alcohol consumption, comparable parameters indicating volumes of alcohol consumption are calculated for people aged 15 years or older [Nemtsov 2009; WTO 2006].

(86.2%). This indicates that counterfeit alcohol buyers perceive risks lower than others do, and justify their behavior like compulsory consumers, i.e. addicts, are prone to do [Hirschman 1992].

As to how people evaluate the availability of counterfeit alcohol, 74.4% affirms that counterfeit alcohol is less expensive than original. This result is consistent with previous findings: approximately 70% of respondents considered legitimate goods as overpriced [Rutter & Bryce 2009: 1156]. More than 50% of respondents say that there is more counterfeit alcohol on the market than non-counterfeit and say that local alcohol is more frequently counterfeited than imported.

Table 3. Consumer attitudes to counterfeiting

	Do you agree or disagree with the statement that counterfeit alcohol may cause death?	Do you agree or disagree with the statement that counterfeit alcohol is cheaper?	Do you agree or disagree with that counterfeit alcoholic beverages are prevalent in retailing?	Do you agree or disagree with that locally produced alcohol is more frequently counterfeited?
Agree (%)	94.0	74.9	53.4	53.1
Disagree (%)	2.8	12.2	18.2	19.3
Neutral (%)	3.2	12.9	28.4	27.6
Total (%)	100	100	100	100
N	14,098	12,823	11,130	10,184

Russians, including alcohol drinkers and those who never consume it, believe that counterfeit alcohol is highly risky for health, cheaper than the original, locally produced and prevalent in Russian markets.

6.2. *Alcohol consumption patterns and counterfeit alcohol consumption*

As obtained, counterfeiting and blur counterfeiting imply distinct alcohol consumption practices strongly associated with patterns of hazardous drinking. Counterfeit alcohol consumers are inclined to drink alcoholic beverages frequently and a lot in public places and at work, to have problems generated from alcohol consumption, to have acquaintances consuming surrogate alcohol and producing homemade alcohol, and to belong to households producing homemade alcohol.

The highest percentage of consumers who reported that they drank alcohol every day or 4–6 days per week during the last 30 days is observed among consumers of counterfeit alcohol (13.2%). Only 3.5% of consumers of genuine alcoholic beverages and 7.6% of hesitating respondents drank alcohol during the last 30 days as frequently as counterfeit alcohol consumers did. 63% of consumers of original alcohol drank alcoholic beverages up to three times per month. The largest share of excessive drinkers, 51.6%, was also revealed among consumers of counterfeit alcohol if compared with 32.4% of hesitating respondents and 15.3% of consumers of original beverages. In addition, 31.6% of respondents who consumed counterfeit alcohol during the last 30 days confirmed that they had problems (related to family, work, health, etc.) resulted from drinking alcohol. Only 20.3% of hesitating respondents and 9.7% of consumers of original alcohol reported the same problems.

The most popular place where Russians drink alcohol is at home followed by at friends' homes, in restaurants and bars. Consumers of original alcohol tend to drink spirits at restaurants

and bars and tend not to drink them in public places (streets, parks, etc.) or at work as counterfeit alcohol consumers are inclined to do. In addition, percentages of people consuming alcohol before mealtime or without meal are significantly greater among counterfeit alcohol consumers (42.9 and 39.9%) and hesitating respondents (40.2 and 34.2%) than among original alcohol consumers (25.3 and 22.3%).

As to types of alcoholic beverages consumed, the most popular alcoholic beverages are beer followed by vodka and wine. However, counterfeit alcohol consumers demonstrate the greatest percentages of all types of alcoholic beverages consumed during the last 30 days, confirming the fact that they are involved in excessive drinking. One important thing is that counterfeit alcohol consumption is obviously associated with unrecorded alcohol consumption. Counterfeit alcohol consumers are distinguished by significantly higher share of samogon drinkers. Additionally, counterfeit alcohol consumers tend to be involved in the production of homemade alcoholic beverages while hesitating consumers are definitely not inclined to producing alcoholic beverages at home.

Table 4. Associations of counterfeit consumer behavior and patterns of alcohol consumption

	Consumers of counterfeit alcohol	Blur Counterfeiting	Consumers of original alcohol
Frequency of alcohol consumption			
Often	13.2%	7.6%	3.5%
Sometimes	48.0%	40.2%	33.5%
Seldom	38.8%	52.2%	63.0%
Total	100%	100%	100%
N	485	803	7,617
Heavy drinkers			
Heavy drinkers ¹²	51.6%	32.4%	15.3%
Moderate drinkers	48.4%	67.6%	84.7%
Total	100%	100%	100%
N	256	447	4,273
Problem drinkers			
Consumers reporting that they have problems (with health, family, at work, etc.) generated from alcohol consumption	31.6%	20.3%	9.7%
N	487	813	7,636
Place of alcohol consumption			
At home	91.7%	89.8%	86.1%
Restaurants and bars	21.0%	22.2%	25.3%
Public places (parks, streets, etc.)	16.5%	10.5%	4.6%
Visiting friends	70.1%	71.3%	70.4%
At work	10.9%	6.6%	6.0%
N	482	808	7,619
Mealtime and alcohol consumption			
Before mealtime	42.9%	40.2%	25.3%
While mealtime	89.0%	90.3%	88.8%
Without meal	39.9%	34.2%	22.3%

¹² Heavy drinkers cover men who consume over 800 g of pure ethanol monthly and women who consume 400 g pure ethanol monthly.

	N	481	800	7,590
Consumed alcoholic beverages				
Beer		62.6%	56.2%	51.7%
Homemade wine		8.4%	3.0%	5.3%
Fortified wine		11.1%	10.8%	7.8%
Samogon		13.6%	9.6%	3.6%
Vodka		58.9%	56.8%	39.2%
Cognac, whiskey		14.4%	9.6%	14.6%
Wine		22.2%	22.5%	26.8%
	N	487	813	7,636
Producers of homemade alcohol				
Your family produced any homemade alcoholic beverages		11.9%	5.5%	8.2%
	N	486	813	7,617

The findings revealed with help of correspondence analysis are consistent with the research results described above (Fig. 2). Counterfeit alcohol consumers are associated with two clusters of alcohol consumers, namely hazardous drinkers and homemade alcohol drinkers. Blur counterfeiting is related to hazardous drinkers as well as vodka lovers. Finally, eclectic alcohol drinkers, light and expensive alcohol consumers and occasionally alcohol drinkers can be found mainly among original alcohol consumers.

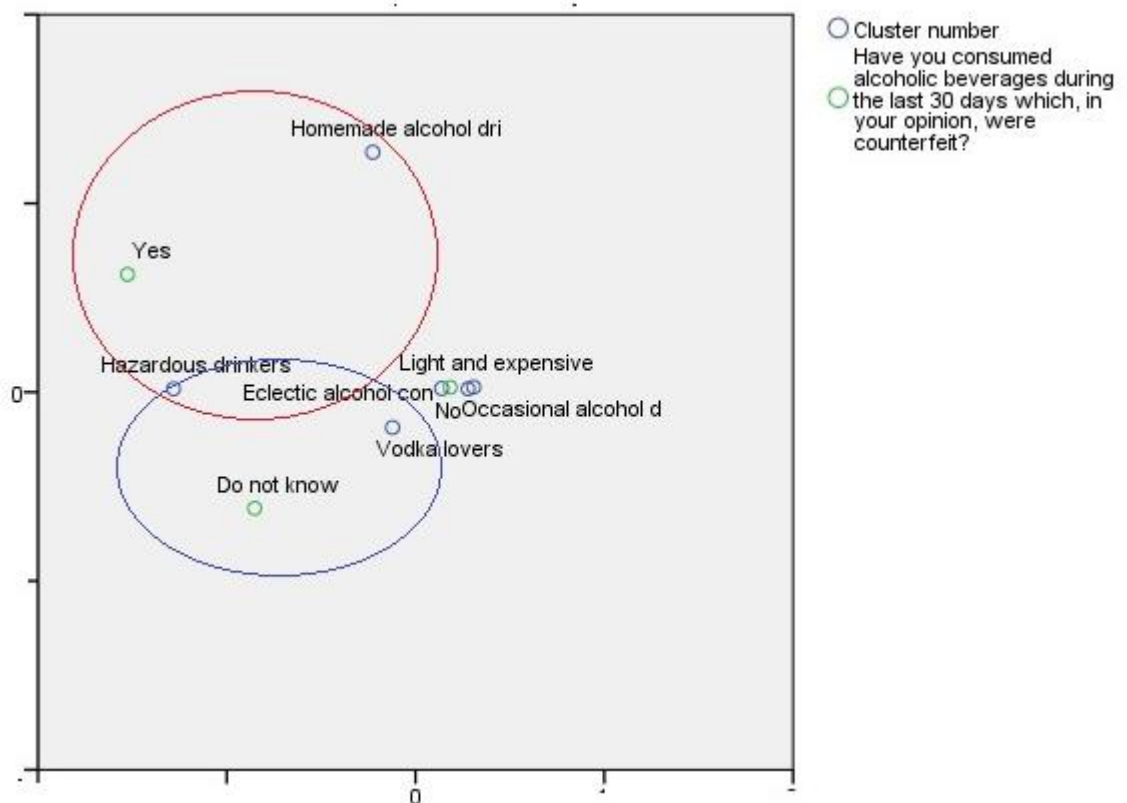


Fig. 2. Association between counterfeit alcohol consumption and clusters of consumers with different alcohol consumption patterns

Counterfeit alcohol consumers are indifferent to taste and famous trademarks when selecting alcoholic beverages. This finding contradicts previous research results according to those brand image and brand personality serve as a main driver for counterfeiting.

Meanwhile, respondents who are not sure whether alcoholic beverages consumed during the last 30 days were counterfeit or not demonstrate higher price sensitivity if compared to other

groups of alcohol consumers. They consider affordable price as a very important criterion when selecting alcoholic beverages.

Table 5. Associations of counterfeit consumer behavior and patterns of alcohol consumption

	Counterfeiting	Blur Counterfeiting	Consumers of original alcohol
Frequency of alcohol consumption			
Alcohol selection criteria			
Available price			
Unimportant	15.2%	8.1%	12.6%
Neutral	14.0%	12.7%	17.0%
Important	70.8%	79.2%	71.2%
Total	100%	100%	100%
N	486	794	7522
Taste			
Unimportant	14.5%	6.8%	4.6%
Neutral	9.8%	12.4%	7.8%
Important	75.7%	80.7%	86.3%
Total	100%	100%	100%
N	482	774	7,475
Famous trademark			
Unimportant	30.0%	20.9%	15.5%
Neutral	18.8%	23.0%	21.0%
Important	51.3%	56.1%	63.4%
Total	100%	100%	100%
N	480	766	7,470
Social environment			
People reporting that they have acquaintances consuming surrogate alcohol	30.7%	25.1%	12.7%
N	460	698	7,124
People reporting that they have acquaintances producing homemade alcohol	23.9%	23.7%	15.9%
N	473	754	7,350

Social embeddedness [Granovetter 1985] should be taken into account when analyzing counterfeiting and blur counterfeiting. Counterfeit alcohol consumers (30.7%) and hesitating consumers (25.1%) significantly more often than original alcohol consumers (12.7%) indicate that they have acquaintances, neighbors or relatives consuming surrogate alcohol. In addition, the percentage of people reporting that they have acquaintances, neighbors or relatives producing homemade alcohol is higher among counterfeit alcohol consumers (23.9%) and hesitating respondents (23.7%) compared to original alcohol consumers (15.9%).

The research findings demonstrate that the alcohol consumption practices of respondents, who assert that they consumed alcohol, which, in their opinion, was counterfeit, are significantly different from those showed by consumers who did not consume counterfeit alcoholic beverages. Blur counterfeiting implies intermediate estimates. Counterfeit alcohol consumers are associated with hazardous drinkers and homemade alcohol drinkers who tend to be indifferent to quality and trademarks while blur counterfeiting is related to hazardous drinkers and vodka lovers who are more sensitive to price when selecting alcohol. One important thing is that people consuming

counterfeit alcohol are involved in social networks supporting unrecorded alcohol production and consumption.

6.3. Social and demographic characteristics of counterfeit alcohol consumers

Analyzing the relationship between social and demographic characteristics, and counterfeit consumption, it is suggested that the percentage of respondents who definitely consumed counterfeit alcoholic beverages varied according to gender and age. The share of male respondents is significantly higher among consumers of counterfeit alcohol (67.8%) and consumers who could not give a certain answer concerning the originality of consumed drinks (58.6%) than among consumers of original alcohol (49.9%). Consumers of counterfeit alcohol tend to be slightly younger (average age is 41.1) than consumers of original alcohol (average age is 42.6) and consumers who did not know the answer (average age is 44.3).

The percentage of people with professional secondary education is greater among consumers of counterfeit alcohol (34.8%) if compared with consumers of genuine alcohol (27.5%) and hesitating respondents (27.2%). The share of people with primary education is the highest among consumers who could not define the originality of consumed alcohol (32.9%) compared with counterfeit consumers (26.9%) and consumers of original alcohol (18.7%). The main difference between consumers of original beverages and the other observed groups is that the former are likely to be higher educated (29.4%), employed (68.1%) and well-off (family income per capita is 15 537 rubles). The significant distinction of hesitating consumers is that among them there is the highest percentage of people (22.4%) who live with more than five family members.

The correspondence analysis findings (Fig. 3) suggest that the lower-lower social class mainly represents counterfeit alcohol consumers and respondents who could not give a certain answer concerning the originality of alcoholic beverages consumed. Original alcohol consumers tend to belong to upper class and upper-middle class.

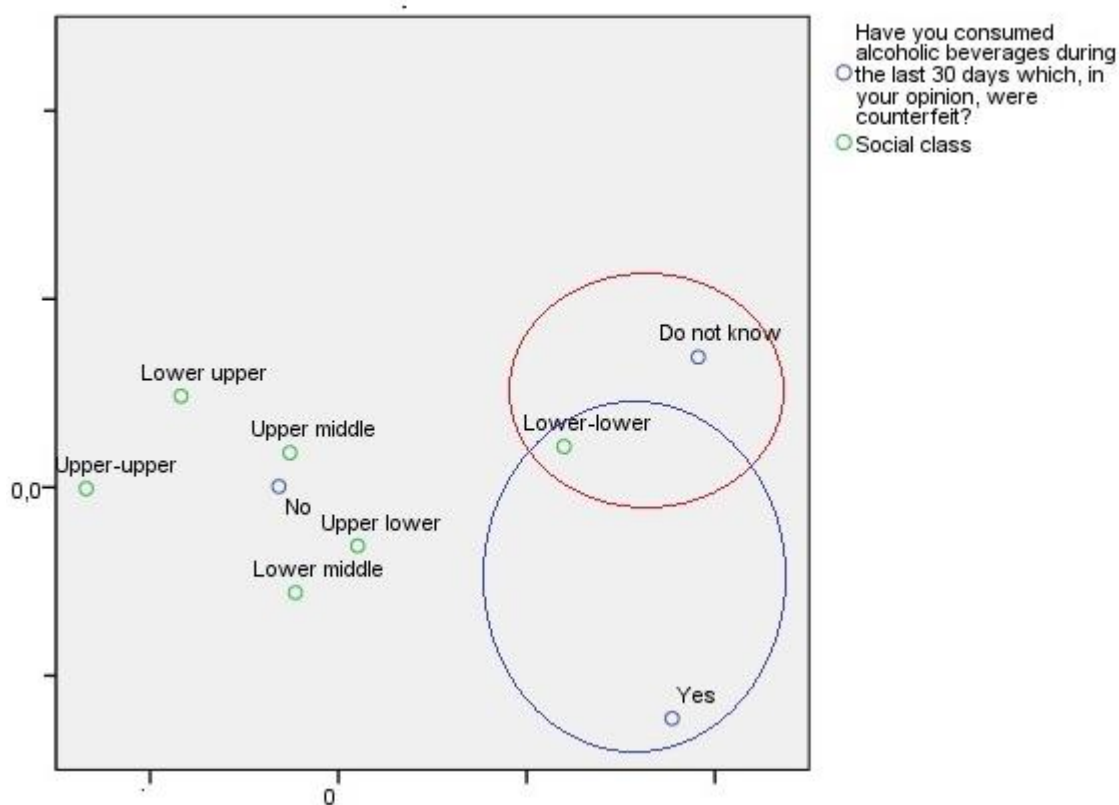


Fig. 3. Association between counterfeit alcohol consumption and social classes

The percentage of respondents who consumed counterfeit alcohol is significantly higher among people living in Siberia (18.9%) and North-Caucasian (9.0%) regions compared to other groups. Respondents who did not know the answer tend to live in Povolzhie (27.2%) and Far-East regions (7.0%). The percentage of respondents who consumed original alcohol is significantly higher among people living in regional central cities (49.1%) while hesitating respondents tend to live in rural areas (32.6%).

Table 6. Relationship between demographic variable and counterfeit alcohol consumption

	Counterfeiting	Blur counterfeiting	Original alcohol consumption
Gender			
Female	32.2%	41.4%	50.1%
Male	67.8%	58.6%	49.9%
Total	100%	100%	100%
N	487	813	7,630
Average age	41.1	44.3	42.6
SE	14.5	15.5	15.6
Number of respondents	487	813	7,636
Education			
Primary and uncompleted secondary	26.9%	32.9%	18.7%
Professional and technical	34.8%	27.2%	27.5%
Special secondary	23.6%	24.0%	24.4%
Higher	14.7%	16.0%	29.4%
Total	100%	100%	100%
N	483	805	7,590
Employment			
Employed	64.5	64.5	68.1
Unemployed	35.5	35.5	31.9
Total			
N	487	812	7,626
Household income per capita	13,593.3	13,273.9	15,537.7
N	464	778	7,257
Number of household members			
One	7.0%	6.2%	7.0%
From two to four	74.5%	71.5%	76.5%
More than five	18.5%	22.4%	16.5%
Total	100%	100%	100%
N	487	813	7,637
Type of residence			
Central city of a region	37.2%	33.5%	49.1%
City	32.0%	29.2%	25.5%
Township	2.9%	4.8%	5.7%
Rural area	27.9%	32.6%	19.7%
Total	100%	100%	100%
N	487	813	7,636
Regions			

North-West	8.4%	11.1%	9.5%
Central	27.1%	24.9%	29.6%
South	6.6%	6.9%	8.7%
Povolzhie	19.9%	27.2%	22.0%
Ural	6.6%	4.6%	7.3%
Siberia	18.9	14.0%	15.6%
Far-East	3.5%	7.0%	4.1%
North-Caucasian	9.0%	4.1%	3.2%
Total	100%	100%	100%
N	487	813	7,637

Counterfeit alcohol consumers tend to be male, younger, less educated, unemployed and poorer compared with consumers of original alcohol who are likely to be more educated, employed and well-off, living in regional centers. It is also important to note that respondents who drank during the last 30 days have a lot in common with people who are not sure whether the consumed alcohol was counterfeit or genuine. Blur counterfeiting is associated with people who tend to be male, older, less educated, unemployed, poorer, and living with more than five family members in rural areas.

6.4. *Predictors of counterfeit alcohol consumption*

This section presents predictors of the existing risks for alcohol drinkers consuming counterfeit alcohol in Russia. Factors which are significantly associated with the dependent variable include patterns of drinking alcohol, alcohol selection criteria, social environment, social class position, gender, age, town type and size, number of household members, and regional differences (see Table 7). Predictors of risks for alcohol drinkers consuming counterfeit alcohol are slightly different for consumers who state that they consumed counterfeits and for consumers who do not know whether alcoholic beverages they consumed were counterfeit. However, cultural factors represented by clusters of consumers with different patterns of alcohol consumption seem to play an important role in explaining risks for alcohol drinkers to consume counterfeits in both contexts of counterfeiting and blur counterfeiting.

<Table 7. Multinomial logistic regression coefficients >

Counterfeiting relative to drinking original alcohol. The risks existing for alcohol drinkers consuming counterfeit alcohol are strongly related to patterns of alcohol consumption, alcohol selection criteria, social environment, social class, gender, age, town type and size, and gross regional product per capita. Contrary to expectations, patterns of alcohol consumption contribute significantly to risks for alcohol drinkers to consume counterfeit alcohol (H1 was rejected). The multinomial logit for vodka lovers relative to homemade alcohol drinkers is 0.674 unit lower for counterfeit alcohol consumers compared to original alcohol consumers given all predictors in the model are held constant. The multinomial logit for eclectic alcohol consumers relative to homemade alcohol drinkers is 1.013 unit lower for counterfeit alcohol consumers relative to original alcohol consumers given all predictors in the model are held constant. The multinomial logit for light and expensive alcohol consumers relative to homemade alcohol drinkers is 1.302 unit lower for counterfeit alcohol consumers compared to original alcohol consumers given all predictors in the model are held constant. The multinomial logit for occasional alcohol drinkers relative to homemade alcohol drinkers is 1.372 unit lower for counterfeit alcohol consumers compared to original alcohol consumers given all predictors in the model are held constant. Additionally, for counterfeit alcohol consumers relative to original alcohol consumers the regression coefficient was not found for hazardous alcohol consumers to be statistically significant. In other words, vodka lovers, light and expensive alcohol consumers,

eclectic alcohol consumers and occasional alcohol drinkers are less likely to consume counterfeit alcoholic beverages compared to hazardous alcohol drinkers and homemade alcohol ones.

Contrary to expectations, affordable price as a criterion of selecting alcoholic beverages has no significant relation with risks to consuming counterfeit alcohol (H2 was rejected). Meanwhile, indifference to quality of alcohol expressed by taste and famous brands contributes a lot into counterfeit consumption (H3 and H4 were partially supported). If perceived importance of famous brands when selecting alcoholic beverages went up by one point, the multinomial logit for consuming counterfeit alcohol relative to drinking original alcohol would go down by 0.670 unit while holding all other variables in the model constant. If perceived importance of taste when selecting alcoholic beverages increased by one point, the multinomial logit for consuming counterfeit alcohol relative to drinking original alcohol would decrease by 0.871 unit while holding all other variables in the model constant. Thus, consumers who are less oriented toward taste and famous brands when choosing alcohol tend to drink counterfeits.

The social environment is one of the influential factors determining counterfeit alcohol consumption (H4 was supported). For people who have no neighbors and acquaintances consuming surrogate alcohol compared to people who have such neighbors and acquaintances the chances of consuming counterfeit alcohol relative to those of drinking original alcohol are 0.666 unit lower when holding all other variables constant. Respondents who have acquaintances and relatives producing homemade alcohol relative to individuals who have no such acquaintances and relatives have risks equaled to 0.315 unit lower if all other predictors are constant. So, consumers tied with people drinking low-quality alcohol tend to drink counterfeits.

As to social characteristics, the two upper class representatives have significantly lower risks than those of the lower-lower class do compared to original alcohol consumers (H5 was rejected). The multinomial logits for upper-upper class and lower upper class relative to lower-lower one are correspondingly 0.845 and 0.610 unit lower for counterfeit alcohol consumers compared to original alcohol consumers given all predictors in the model are held constant. Older people have lower risks of encountering counterfeiting (H6 was supported). If a subject were to increase the age of a given respondent by one year, the multinomial logit for consuming counterfeit alcohol relative to original one would be expected to decrease by 0.013. Men are more likely to consume counterfeit alcohol if compared to women (H7 was supported). The multinomial logit for males relative to females is 0.332 unit higher for counterfeit alcohol consumers relative to original alcohol consumers given all predictors in the model are held constant. Risks of consuming counterfeit alcohol are lower for people living in towns than for a person living in other areas. The multinomial logit for consumers living in towns relative to alcohol drinkers dwelling in rural areas is 0.966 unit lower for counterfeit alcohol consumers compared to original alcohol consumers given all predictors in the model are held constant. The regression coefficients were not found for people living in regional centers and cities to be statistically significant in comparison of counterfeit alcohol consumers and original alcohol ones. The risk of consuming counterfeit alcohol goes down with an increase in the gross regional product per capita. If a subject were to increase the natural logarithm of gross regional product per capita by one point the multinomial logit for consuming counterfeit alcohol relative to original one would be expected to decrease by 0.248. This fact means that people leaving in poorer regions have higher risks of consuming counterfeit alcohol.

Blur counterfeiting relative to drinking original alcohol. It was obtained that risks of blur counterfeiting are explained by such factors as patterns of alcohol consumption, alcohol selection criteria, social environment, social class, number of family members, town type and size, gross regional product per capita, and overall level of hesitation.

Vodka lovers, hazardous drinkers and light and expensive alcohol consumers are inclined to hesitate about the originality of alcoholic beverages consumed. They have higher risks than other groups if compared to original alcohol consumers. Hazardous drinkers have the highest risks. The multinomial logit for hazardous alcohol drinkers relative to homemade alcohol drinkers is 1.912 unit higher for hesitating consumers compared to original alcohol consumers

given all predictors in the model are held constant. The multinomial logit for vodka lovers relative to homemade alcohol drinkers is 1.403 unit higher for consumers hesitating about the originality of consumed alcohol compared to original alcohol consumers given all predictors in the model are held constant. The multinomial logit for light and expensive alcohol consumers relative to homemade alcohol drinkers is 0.975 unit higher for blur counterfeiting relative to drinking original alcohol given all predictors in the model are held constant.

Affordable price and taste as important criteria when choosing alcoholic beverages are significant factors explaining consumer risks in the context of blur counterfeiting. Consumers taking into account price as an important criterion when purchasing alcoholic beverages are high likely to show blur counterfeiting. If a subject were to increase the importance of affordable price by one point the multinomial logit for blur counterfeiting relative to drinking original one would be expected to increase by 0.995 unit while holding all other variables constant. The consumer indifference to taste also increases the risk of blur counterfeiting. If a subject were to increase the perceived importance of taste by one point the multinomial logit for blur counterfeiting relative to drinking original one would be expected to decrease by 0.552 unit while holding all other variables constant.

For people who have neighbors and acquaintances consuming surrogate alcohol and producing homemade alcohol, the risks of blur counterfeiting are significantly greater than they are for people who have no such acquaintances. The multinomial logit estimates are correspondingly 0.392 and 0.368 unit lower for hesitating consumers compared to original alcohol consumers given all predictors in the model are held constant.

Representatives of all social classes (except upper middle class) have lower risks than those of the lower-lower class compared with people who did not consume counterfeit alcohol during the last 30 days. The multinomial logit for upper-upper class relative to lower-lower one is 0.912 unit lower for hesitating consumers compared to original alcohol consumers given all predictors in the model are held constant. The multinomial logit for lower upper class relative to lower-lower class is 0.400 unit lower for hesitating consumers compared to original alcohol consumers given all predictors in the model are held constant. The multinomial logit for lower middle class relative to lower-lower one is 0.547 unit lower for hesitating consumers compared to original alcohol consumers given all predictors in the model are held constant. The multinomial logit for upper lower class relative to lower-lower class is 0.371 unit lower for hesitating consumers compared to original alcohol consumers given all predictors in the model are held constant. People living with up to four family members have lower risks than people living with more than five household members. For the former chances of blur counterfeiting relative to those of drinking original alcohol are 0.414 unit lower when holding all other variables constant. People dwelling in central cities have lower risks than people living in other areas. The multinomial logit for consumers living in regional centers relative to alcohol drinkers dwelling in rural areas is 0.654 unit lower for hesitating consumers compared to original alcohol consumers given all predictors in the model are held constant.

A significant relation between the individual level of hesitation and blur counterfeiting was found. If a subject were to increase the level of hesitation by one point the multinomial logit for blur counterfeiting relative to drinking original one would be expected to increase by 0.124 unit while holding all other predictors constant. In other words, the more often people chose the answer "Do not know" during the survey, the higher the probability to have no answer to the question concerning the originality of consumed beverages. It seems that a given consumer does not know whether consumed alcohol was counterfeit or not only due to high quality of counterfeits but also due to consumer's lower level of education.

7. Discussion and conclusions

This paper focuses on counterfeit alcohol consumption in contemporary Russia. It is aimed at understanding whether counterfeit alcohol consumption refers to the phenomenon

culturally and structurally localized and to reveal predictors of risks for alcohol drinkers of consuming counterfeit alcohol.

Most Russians believe that counterfeit alcohol is prevalent in national markets and that there has been a negative trend in its expansion during the last 2–3 years. The public opinion is consistent with expert speculations indicating that Russian markets for alcoholic beverages are much affected by counterfeiting. Moreover, estimations collected from alcohol consumers are significantly higher than those given by respondents who never drink alcohol, implying that they may rely on some empirical evidence. In this light, it is important to understand what is going on in alcohol markets more thoroughly, especially because of the anti-alcohol reforms started in 2006. Public opinion probably should be considered as a signal of how informal alcohol markets have been reacting to the implemented restrictions, including fiscal policies.

The observed counterfeit alcohol consumption was revealed to be lower than one would expect. The findings demonstrate that among people who have consumed alcohol drinks during the last 30 days, 5.4% state that they have drunk counterfeit alcohol and 9.1% cannot give a certain answer to this question. Among people who bought alcohol during the last 30 days, 6.8% affirm that they bought counterfeits and 10.8% do not know the answer to this question. It is important to note that the observed scope of counterfeit alcohol consumption may be underestimated as to alcohol refers to experience goods, quality and authenticity of which cannot be easily determined by consumers. Therefore, it is necessary to take into account blur counterfeiting as a separate form of counterfeiting. In addition, RLMS-HSE as any nationwide survey does not reach marginal groups, including homeless and heavy drinkers who are supposedly involved in the consumption of illicit products more actively.

The percentage of counterfeit alcohol buyers who consumed and purchased it deliberately is higher than predicted. Half of counterfeit alcohol consumers (54.1%) did it more than once during the last 30 days. In addition, only 55.0% of buyers of counterfeit alcoholic beverages purchased them unknowingly. These figures do not support the previous research findings [Kharmova 2012] and imply that counterfeit alcohol consumption is significantly associated with non-deceptive counterfeiting. There is a steady consumer demand for counterfeit alcohol supported by the system of distribution that makes counterfeit alcohol available in Russia.

Vodka is subject to counterfeiting more often than other types of alcoholic beverages. Vodka refers to the second type of alcoholic beverages (after beer) mostly demanded by alcohol drinkers in Russia. Thus, counterfeiting tends to be concentrated in the market niches where there is an extensive consumer demand supported by local production capacities and provision networks.

Most Russians associate counterfeit alcohol with high physical risks. The majority of respondents (94%) believe that counterfeit alcohol may cause death. However, consumers of original alcoholic beverages tend to evaluate physical risks higher than counterfeit alcohol drinkers. This fact indicates that counterfeit alcohol consumption can be associated with compulsory consumption, implying that consumers tend to justify their hazardous behavior.

Alcohol consumption practices of the respondents who consumed counterfeit alcohol are significantly different from ones reported by consumers who did not consume counterfeit alcoholic beverages. Compared to consumers of original, counterfeit alcohol consumers are strongly associated with hazardous alcohol drinkers and homemade alcohol drinkers. Hazardous drinkers imply consumers of beer, vodka, fortified wine and samogon who tend to drink alcohol everywhere before mealtime and without meal from 2–3 times per week to every day. They tend to be heavy drinkers and to report problems coming from drinking alcohol. Meanwhile, consumers of homemade wine and samogon are prone to drink alcohol at home 2–3 times per week. They tend to be heavy drinkers and to belong to households producing homemade alcohol.

Blur counterfeiting implies the intermediate position between counterfeiting and original alcohol consumption. Hazardous alcohol drinkers, vodka lovers and light and expensive alcohol drinkers are associated with blur counterfeiting. Vodka lovers prefer to drink alcohol at home with meals and do it from 2–3 times per month to 2–3 times per week. They tend to report problems caused by drinking alcohol. The fact that vodka is the most popular target of counterfeiting causes them to hesitate concerning the originality of the alcohol consumed. As to light and expensive consumers, they tend to drink beer, wine and champagne, cognac and whiskey at restaurants and bars from 2–3 times per month to 2–3 times per week. They are unsure whether the alcoholic beverages consumed were counterfeit or original because of mistrust in the drinking-houses they visited.

Russian consumers tend to associate not only price but also famous brands with high quality alcoholic beverages and their protection from counterfeiting. Counterfeit alcohol consumers appear to be more indifferent to the quality of alcoholic beverages expressed by taste when choosing alcoholic beverages. Moreover, they are less involved in sign consumption, showing some ignorance of famous brands. As to blur counterfeiting, these consumers tend to be more price sensitive and less interested in taste as a signal of quality of the alcoholic beverages consumed. The research findings demonstrate that consumers involved in the consumption of counterfeit alcohol create a demand for low-quality products. Their ignorance of trademarks and taste indicates that they are prone to evaluate the quality, giving attention to other criteria, which are distinct from criteria taken account by consumers of legal alcohol, and relying on specific social mechanisms, which help them to make risks lower.

Social networks appear to be one of the most important factors affecting counterfeit alcohol consumption. Social networks can support and reinforce practices of counterfeit alcohol consumption. The results demonstrate that people who have acquaintances consuming surrogate alcohol and producing homemade alcohol tend to be more involved in counterfeit consumption. These findings are consistent with ideas according to which personalized networks play an extremely important role in illegal markets [Granovetter 1985; Beckert & Wehinger 2012]. Social networks may reduce uncertainty derived from the ignorance to trademarks and serve as warranties of harmless consumption of low quality alcohol. In addition, the high importance of social networks supports the idea that consumers of counterfeit alcohol can be studied in terms of subcultures.

Counterfeit alcohol consumers tend to be localized within lower social classes. Counterfeit alcohol consumers are less educated, unemployed and poorer compared with consumers of original alcohol who are likely to be higher educated, employed and well-off, living in regional centers. This is supported by the fact that counterfeit consumers tend to be from poorer regions by GDP per capita. As to demographic characteristics, men are more likely to consume counterfeit alcohol compared to women. Counterfeit alcohol consumers tend to be younger while hesitating consumers tend to be older. These findings support the assumption that male and younger consumers are prone to take risks and to break the rules of business ethic.

It was revealed that counterfeiting was associated with lower social classes characterized by lower volumes of economic and cultural capital. It is important to understand that the specific class culture creates a great demand not only for low-priced goods but also for low quality ones [Bourdieu 1994]. This is supported by counterfeit alcohol consumers tending to be indifferent to taste and trademarks as a part of the world of symbols, forms and signs shared by representatives of higher classes. Additionally, counterfeit alcohol consumers have social networks supporting their hazardous behavior and serving as safety mechanisms. Moreover, the hazardous behavioral patterns, including binge drinking and counterfeit alcohol consumption, are the part of the masculine culture of lower social classes associated with the necessity to prove masculinity. Russian folklore contains many anecdotes and stories concerning what the real Russian male character means. Fearlessness and binge drinking are inalienable components. As usually described, the Russian drinking culture “is characterized by the predominance of liquors on one

occasion, a disinclination to consume food when drinking, an initial determination to get heavily drunk, and the existence of many drinking traditions that have turned alcohol consumption into an inalienable element of the Russian lifestyle” [Zaigraev 2004: 31].

However, there are some questions without answers. Why counterfeit alcohol consumers tend to follow hazardous behavioral patterns. Does that result from compulsory consumption (alcoholism) or a desire to experience adventures (some kind of gambling) [Perez, Castano & Quintanilla 2010]? How do counterfeit alcohol consumers make the possible physical risks lower? How do they determine the value of counterfeit alcohol if they tend not to rely on price, taste and famous brands as traditional market signals?

Finally, the existing literature on counterfeiting has ignored some important issues so far. Different forms of counterfeiting should be moved to the center of studies. Previous research mainly focuses on non-deceptive counterfeiting, ignoring deceptive counterfeiting, and blur counterfeiting. However, the findings demonstrate that factors affecting distinct forms of counterfeiting are slightly different. Consumers who are not sure about the originality of consumed alcohol have a lot in common with consumers of counterfeit alcohol. The main differences of the former group of consumers is that they are inclined to have higher level of hesitation, to be price sensitive (probably due to lower income), less-educated and older, and to live in households with five and more members.

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Attachments

Table A1. Concepts and measurement for independent variables

Dimension	Variable	Measurement
Clusters of alcohol consumers		
	Six clusters classified on the basis of 6 factors generated from 18 dichotomous variables, including frequency of alcohol consumption; places where alcohol is consumed; types of alcoholic beverages consumed during the last 30 days; association between alcohol drinking and meal-time; belonging to a group of alcohol drinkers who have problems generated from alcohol consumption; belonging to households which produce homemade alcohol	Nominal 1 = vodka-oriented consumers; 2 = light and expensive alcohol consumers; 3 = eclectic alcohol consumers; 4 = occasional alcohol drinkers; 5 = hazardous drinkers; 6 = homemade alcohol consumers)
Criteria taken account by consumers when selecting alcoholic beverages		
Affordable price	Evaluate how important is affordable price for you when selecting alcoholic beverages?	Continuous (1 = not important at all, 2... 4 , 5 = very important)
Taste	Evaluate how important is affordable price for you when selecting alcoholic beverages?	Continuous (1 = not important at all, 2... 4 , 5 = very important)
Famous brand	Evaluate how important is famous brand for you when selecting alcoholic	Continuous (1 = not important at all, 2... 4 , 5 = very important)

	beverages?	
Social environment		
Producers of homemade alcohol	Do any of your neighbors, acquaintances or relatives make home-produced alcoholic beverages?	Dichotomous (1 = yes, 0 = no)
Consumers of alcohol surrogates	Do any of your neighbors, acquaintances or relatives consume surrogate alcohol?	Dichotomous (1 = yes, 0 = no)
Demographic and social characteristics		
Social class	Individual social class position constructed with help of ESOMAR methodology and techniques ¹³ . It reflects individual social status generated from occupied positions at three social dimensions, including completed education level, occupational status and household well-being.	Categorical (1 = upper-upper class; 2 = lower upper class; 3 = upper middle class; 4 = lower middle class; 5 = upper lower class; 6 = lower-lower class)
Gender	Gender	Nominal (1 = man, 0 = woman)
Age	Number of years computed as 2012 minus a given year of birth	Continuous
Number of household members	Number of household members	Categorical (1 = one, 2 = from two to four, 3 = more than five)
Type of residence	Town type and size	Categorical (1 = Central city of a given region, 2 = city or town, 3 = township, 4 = rural area)
Control variables		
Gross regional product per capita in a given region	Natural log of gross regional product per capita in a given region	Continuous
Individual level of hesitation	A total number of "Difficult to answer" chosen by a given respondent during the survey (except questions related to alcohol consumption)	Continuous

Table A2. Factor loadings computed with help of the method of main components with Varimax rotation (n = 8,779)

Variables	1	2	3	4	5	6
Frequency of alcohol consumption	0.406	0.174	0.350	0.246	0.055	0.413
Consumers reporting that they have problems generated from alcohol consumption	0.165	-	0.569	0.226	-	-
		0.007			0.065	0.008
Place of alcohol consumption						
At home	0.010	-.081	0.009	0.013	0.044	0.842
Restaurants and bars	0.169	0.698	-	-	-	0.059
			0.116	0.181	0.018	
Public places (parks, streets, etc.)	0.376	0.163	0.415	0.047	-	-
					0.030	0.220
At work	0.007	0.378	0.275	-	-	-
				0.021	0.026	0.072
Visiting friends	-.027	0.623	0.129	0.130	-	-

¹³ URL: <http://www.esomar.org/> (accessed on 2 August 2014).

					0.025	0.187
Meal-time and alcohol drinking						
Before meal-time	0.468	0.097	0.343	0.010	-	0.167
While having meals	-	0.296	0.114	0.133	-	0.266
Without meal	0.779	0.040	0.212	-	-	-
				0.011	0.012	0.021
Alcoholic beverages consumed						
Beer	0.616	0.102	-	0.168	-	0.309
Homemade wine	-	0.021	-	-	0.781	0.000
Fortified wine	-	-	0.410	-	-	0.130
Samogon	-	-	0.573	-	0.183	0.069
Vodka	-	0.015	0.215	0.782	-	0.023
Cognac, whiskey	-	0.470	-	-	0.041	0.162
Wine, champagne, light alcohol cocktails	-	0.328	-	-	0.010	-
	0.148		0.084	0.534		0.135
Households producing homemade alcohol	-	-	0.078	-	0.774	0.047
	0.028	0.038		0.009		

Table A2. Main parameters of the sample (%)

Main survey (n=18,462)	
Gender	
Male	42.0
Female	58.0
Age	
15–19	6.5
20–29	19.5
30–39	18.9
40–49	15.4
50–64	23.8
65+	15.9
Education	
Primary and uncompleted secondary	25.0
Secondary and technical education	27.6
Secondary special and professional education	23.4
Higher education	24.0
Employment	
Employed	54.3
Unemployed	45.6
Marital status	
Single	17.7
Married (live together)	62.0

Divorced (live separately)	8.7
Widowed	11.6
<hr/>	
Social class	
Upper-upper	5.4
Lower upper	14.1
Upper middle	14.5
Lower middle	14.8
Upper lower	23.5
Lower-lower	27.7
<hr/>	
Type of residence	
Regional center	42.9
City	25.6
Township	6.6
Rural area	24.9
<hr/>	
Regions of Russia	
North-West	9.3
Central	28.2
South	10.5
Povolzhie	22.2
Ural	6.3
Siberia	13.4
Far-East	4.3
North-Caucasian	5.8
<hr/>	

Table 7. Regression coefficients. Dependent variable - <i>Have you consumed alcoholic beverages during the last 30 days which, in your opinion, were counterfeit?</i>															
Reference – Original alcohol consumers	Model 2									Model 3					
	Counterfeiting			Blur counterfeiting			Non-consumers			Counterfeiting			Blur counterfeiting		
	D	SE	Exp(B)	D	SE	Exp(B)	D	SE	Exp(B)	D	SE	Exp(B)	D	SE	Exp(B)
Clusters (base – homemade alcohol consumers)															
Vodka lovers										-.674**	.248	.510	1.403**	.467	4.066
Light and expensive alcohol consumers										-1.302***	.256	.272	.957*	.469	2.603
Eclectic alcohol consumers										-1.013**	.307	.363	.921	.495	2.512
Occasional alcohol drinkers										-	.296	.253	.856	.484	2.353
Hazardous drinkers										1.375****					
										.191	.255	1.211	1.912***	.473	6.764
Affordable price	.231	.219	1.260	1.183***	.218	3.264	-.554***	.095	.575	-.059	.224	.943	.995***	.223	2.706
Likes the taste	-	.235	.302	-.759**	.225	.468	-.298**	.125	.743	-.871***	.248	.418	-.552*	.237	.576
	1.199***														
Famous brand	-.797***	.205	.451	-.357*	.182	.700	-.052	.098	.950	-.670**	.211	.512	-.283	.186	.754
Any of your neighbors, acquaintances or relatives make home-produced alcoholic beverages (base – yes)	-.475***	.121	.622	-.339**	.111	.712	.291***	.067	1.337	-.315**	.131	.730	-.368**	.118	.692
Any of your neighbors, acquaintances or relatives consume alcohol surrogates (base – yes)	-.784***	.117	.457	-.505***	.108	.604	.151*	.071	1.163	-.666***	.123	.514	-.392***	.113	.676
Gender (base – female)															
Male	.588***	.110	1.800	.121	.092	1.129	-.762***	.049	.467	.322**	.116	1.380	-.053	.098	.949
Age	-.008*	.003	.992	.005	.003	1.005	.009***	.001	1.009	-.013***	.004	.987	.003	.003	1.003
Number of household members (base – more than 5)															
One	.227	.226	1.255	-.352	.207	.704	-.078	.097	.925	.287	.231	1.332	-.311	.209	.733
From 2 to 4	-.042	.135	.959	-.334**	.108	.716	-.366***	.059	.693	-.074	.141	.929	-.414***	.111	.661

Type of residence (base – rural area)															
Regional center	-.100	.140	.904	-.737***	.123	.478	-.222**	.064	.801	-.040	.145	.960	-.654***	.125	.520
City	.132	.135	1.142	-.215	.115	.806	-.095	.066	.910	.169	.141	1.185	-.205	.119	.815
Township	-.648*	.294	.523	-.383	.202	.682	.016	.103	1.016	-.966**	.320	.381	-.395	.206	.674
Social class (base - lower-lower)															
Upper-upper	-.989**	.313	.372	- 1.052***	.265	.349	-.469***	.107	.626	-.845**	.318	.429	-.912**	.268	.402
Lower upper	-.777***	.205	.460	-.545***	.155	.580	-.361***	.077	.697	-.610**	.210	.543	-.400*	.158	.670
Upper middle	-.265	.168	.767	-.288*	.140	.750	-.266***	.076	.767	-.126	.173	.882	-.198	.144	.820
Lower middle	-.132	.154	.876	-.621***	.147	.537	-.295***	.076	.744	-.019	.160	.981	-.547***	.150	.579
Upper lower	-.176	.136	.839	-.406**	.121	.666	-.147*	.068	.863	-.101	.143	.904	-.371**	.125	.690
Control variables															
Ln (Gross regional product per capita)	-.250*	.123	.778	.301**	.102	1.351	-.303***	.052	.739	-.248*	.125	.780	.205	.106	1.227
Level of hesitation	-.024	.020	.977	.120***	.013	1.127	.017	.009	1.017	-.034	.022	.967	.124***	.014	1.132
<i>Constanta</i>	3.187*	1.533		- 5.138***	1.290		2.951***	.653		3.894*	1.560		- 5.144***	1.387	
<i>Nagelkerke's R2</i>	0.120									0.143					
<i>Sign</i>	0.000									0.000					
N	10,591									7,532					

Continuation. Table 7. Regression coefficients. Dependent variable - <i>Have you consumed alcoholic beverages during the last 30 days which, in your opinion, were counterfeit?</i>									
	Model 1								
Reference – Original alcohol consumers	Counterfeiting			Blur counterfeiting			Non-consumers		
	D	SE	Exp(B)	D	SE	Exp(B)	D	SE	Exp(B)
Clusters (base – homemade alcohol drinkers)									
Vodka lovers									
Light and expensive alcohol consumers									
Eclectic alcohol consumers									
Occasional alcohol drinkers									
Hazardous drinkers									
Affordable price									
Likes the taste									
Famous brand									

Any of your neighbors, acquaintances or relatives make home-produced alcoholic beverages (base – yes)	-.914***	.113	.401	-.539***	.103	.583	.243***	.054	1.275
Any of your neighbors, acquaintances or relatives consume alcohol surrogates (base – yes)	-.476***	.118	.621	-.409***	.104	.665	.390***	.051	1.477
Gender (base – female)									
Male	.614***	.108	1.848	.168	.087	1.183	-.731***	.036	.482
Age	-.004	.003	.996	.008**	.002	1.008	.009***	.001	1.009
Number of household members (base – more than 5)									
One	.187	.224	1.205	-.462*	.194	.630	-.135	.074	.874
From 2 to 4	-.074	.132	.928	-.437***	.103	.646	-.427***	.044	.652
Type of residence (base – rural area)									
Regional center	-.154	.137	.858	-.800***	.119	.449	-.388***	.048	.678
City	.078	.132	1.082	-.199	.110	.820	-.255***	.050	.775
Township	-.698*	.290	.498	-.454*	.198	.635	-.062	.077	.940
Social class (base - lower-lower)									
Upper-upper	-1.158***	.310	.314	-1.212***	.256	.298	-.788***	.081	.455
Lower upper	-.919***	.198	.399	-.690***	.148	.502	-.716***	.058	.488
Upper middle	-.412*	.164	.662	-.395**	.134	.674	-.515***	.057	.597
Lower middle	-.237	.151	.789	-.661***	.140	.516	-.500***	.056	.607
Upper lower	-.254	.133	.776	-.434***	.115	.648	-.245***	.050	.783
Control variables									
Ln (Gross regional product per capita)	-.304*	.118	.738	.287**	.096	1.332	-.144**	.038	.866
Level of hesitation	-.011	.019	.989	.112***	.012	1.119	-.001	.007	.999
Constanta	2.474	1.460		-4.784***	1.190		2.272***	.468	
Nagelkerke's R2	0.125								
Sign	0.000								
N	15,981								

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