

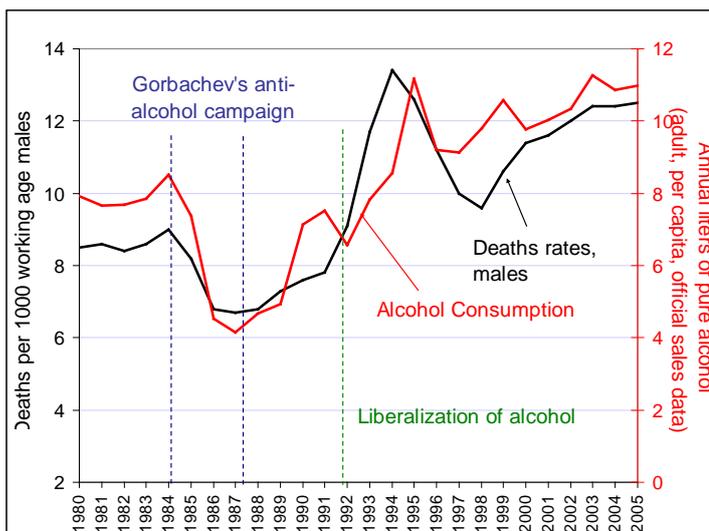
Alcohol Consumption and Mortality

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Many studies have shown that alcohol consumption is the main cause of death among working age Russian males and, in particular, among those younger than 40 (see Bhattacharya et al., 2013, Brainerd and Cutler, 2005, Denisova, 2010, Leon et al., 2007, Triesman, 2010, Yakovlev, 2013a, 2013b). A noteworthy example that illustrates this point is the decrease in male mortality rates during the Gorbachev anti-alcohol campaign. During five years of this campaign, which restricted sales and increased the price of alcohol, alcohol consumption fell by 40%. During the same period, male mortality rates fell by 25%. Furthermore, this trend reversed at end of the Gorbachev anti-alcohol campaign with the liberalization of the alcohol market and surge in mortality by the end of 1990s and beginning of 2000s (see Triesman, 2010 and Bhattacharya et al., 2013). These trends appear to be consistent with the idea that access to more alcohol is related to higher rates of male mortality.

Despite recent regulatory measures imposed by the Russian government to end this trend, male life expectancy remains low: it is 4 years below world average and below poor countries, such as North Korea or Yemen.

Figure 1. Alcohol Consumption and Male Mortality Rates



The economic literature emphasizes several features of alcohol consumption that are important for policy makers. First, alcohol, and especially hard alcohol, is a relatively elastic good. This implies that an increase in the price of alcohol as well as other costs (such as time costs) will result in an even larger drop in alcohol consumption relative to the price drop. If they are linked, this should also be associated with a fall in mortality rates (see Cook and Moore, 2000, Leung and Phelps, 1993).

Second, alcohol is a "social" good (Kremer and Levy, 2008, Krauth, 2005, Yakovlev, 2013a). People like to drink with others. Drinking often takes place in groups of peers, and peer decisions on whether to drink or not affect personal decisions related to drinking. Peer effects are especially strong among younger generations. The presence of peer effects implies the presence of a so-called social multiplier: the effect of government policy (for example, alcohol taxation) will be higher in the presence of peer effects. A policy

such as a rise in taxation will not only affect an individual by encouraging them to consume less, but also have a spillover effect on his or her peers resulting in them drinking less as well. This should, overall, generate a larger decrease in alcohol consumption than would be the case through the effect on individuals alone (i.e. if people choose to drink based purely on their own preferences without paying attention to their peers or social groups). As it was shown by Yakovlev (2013a), for males below age 30, the peer effect increases the price elasticity of alcohol consumption by 50%. This means that a government policy, such as an increased alcohol tax, should generate a 50% higher decrease in alcohol consumption for the younger generation. Furthermore, this should also lead to an even larger reduction of mortality rates.

A third aspect of alcohol consumption is that alcohol is a habit-forming good (see Cook and Moore, 2000). The consumption of alcohol, as well as consumption of certain types of alcoholic beverages, tends to form habits related to these goods. These habits are strong and they potentially affect personal consumption even decades later. If a person starts to consume alcohol in their youth, this means that they are likely to continue and be more likely to consume alcohol in later years simply because they have a past history of consuming this product.

These three aspects have several policy implications. First, due to habits and peer effects, government policies aiming to reduce mortality rates by decreasing alcohol consumption will potentially have greater impact on younger generations than on older. This is simply because peer effects tend to be stronger among youths, but also because decreased consumption earlier in life will reduce the chances of consuming alcohol later in life and have, as a consequence, even longer term effects on society's level of alcohol consumption. Thus, policy makers should pay

special attention on younger groups of the population, in particular, policy tools such as the restriction of alcohol sales near schools and other educational facilities if the goal is to reduce the negative impact of alcohol on life expectancy. Second, the effect of this policy could be long lasting: once habits form, patterns of consumption could be affected for many years afterwards. In other words, the full effects of a policy aiming to curb alcohol consumption to improve mortality rates will not be immediately observed. Instead, part of the change in the future would be attributed to past changes in alcohol consumption.

Another aspect of alcohol consumption of importance for mortality rates concerns the habits individuals form regarding what types of alcoholic beverages, such as beer or vodka (see Yakovlev, 2013b), they drink. This has policy implications since not all beverages have the same degree of harm. If an individual consumes beer during his or her teens, she or he would likely prefer beer ten (or even more) years later. If she or he starts with vodka, she or he will likely prefer vodka. Moreover, Yakovlev (2013b) shows that beer and vodka are substitutes: an increase in the price of beer will decrease the consumption of beer and increase the consumption of vodka, or vice versa. Because beer is a less harmful alcoholic beverage than vodka, an increase in the relative price of vodka with respect to beer should improve public health to the extent that people switch to consuming a less harmful form. In addition, this effect should be stronger in the long run with individuals forming habits toward beer consumption at the expense of the more harmful vodka and, overall, we should expect mortality rates to be improved as a result, although not by as much as in the case when people stop or do not consume alcohol.

There are several other features of alcohol consumption worth mentioning but which will not be addressed in detail in this brief. Alcohol consumption is correlated with not only

personal health and well-being, but also with the well-being of others: it is associated with negative externalities such as crime, violence, and traffic accidents etc. Alcohol consumption also exhibits several "non-fully-rational" features such as time inconsistency or myopia (Gruber and Koszegi, 2001). In this case, a restriction on the times when alcohol sales are permitted could be a possible effective policy tool to reduce heavy drinking. This happens because people tend to underestimate how much they would like to drink in the future or want to drink less in the future than they expect, and thus prefer not to store alcohol at home. Finally, alcohol consumption is a substitute for other activities, such as sports (Tsai, 2013). Promoting these activities could encourage people to switch from alcohol consumption to healthier behavior, and, conversely, reducing alcohol consumption could foster greater levels of participation in sports activities.

Literature

- Bhattacharya, Jay, Christina Gathmann, and Grant Miller. 2013. "The Gorbachev Anti-Alcohol Campaign and Russia's Mortality Crisis" *A EJ: Economic Policy* 2012
- Cook, Philip J. and Moore, Michael J. 2000. "Alcohol", *Handbook of Health Economics*, in: A. J. Culyer & J. P. Newhouse (ed.), *Handbook of Health Economics*, edition 1, volume 1, chapter 3.
- Brainerd, Elizabeth and David Cutler, 2005, "Autopsy on an Empire: Understanding Mortality in Russia and the Former Soviet Union." *Journal of Economic Perspectives*, American Economic Association, vol. 19(1), pages 107-130, Winter.
- Denisova, Irina. 2010. "Adult mortality in Russia: a microanalysis", *Economics of Transition*, Vol. 18(2), 2010, 333-363.
- Gruber, Jonathan and Botond K"ozzegi. 2001. "Is Addiction 'Rational?' Theory and Evidence." *Quarterly Journal of Economics* (2001), 116(4), pp. 1261-1305.
- Kremer, Michael, and Dan Levy. 2008. "Peer Effects and Alcohol Use among College Students." *Journal of Economic Perspectives*, 22(3): 189–206.
- Krauth, Brian. 2005. "Peer effects and selection effects on smoking among Canadian youth." *Canadian Journal of Economics/Revue canadienne d'économique*, Volume 38, Issue 3, pages 735–757, August 2005.
- Leon, David, Lyudmila Saburova, Susannah Tomkins, Evgueny Andreev, Nikolay Kiryanov, Martin McKee, and Vladimir M Shkolnikov. 2007. "Hazardous alcohol drinking and premature mortality"
- Leung S. F., and Phelps, C. E. "My kingdom for a drink...?" A review of estimates of the price sensitivity of demand for alcoholic beverages. In: Hilton, M. E. and Bloss, G., eds. *Economics and the Prevention of Alcohol-Related Problems*. NIAAA Research Monograph No. 25, NIH Pub. No. 93–3513. Bethesda, MD: National Institute on Alcohol Abuse and Alcoholism, 1993. pp. 1–32.
- Tsai, 2013, "Peer effects in physical training." NES, mimeo
- Yakovlev, Evgeny 2013, "Peers and Alcohol: Evidence from Russia", NES/CEFIR working paper
- Yakovlev, Evgeny 2013, "USSR Babies: Who drinks vodka in Russia", NES/CEFIR working paper

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