

Alcohol and the workplace

Introduction

There is little doubt that alcohol can harm the economy of the European Union. Social costs studies suggest that alcohol leads to lost productivity costs at the workplace through both absenteeism and presenteeism¹. This fact sheet report describes the potential impact of work place policies and programmes to reduce the harm done by alcohol to the economy. It begins by considering societal level effects and social cost studies and alcohol's impact on lost productivity, as well as the relationship between alcohol and absenteeism and presenteeism based on individual level work place-based studies. The fact sheet continues by describing what can be done to mitigate alcohol's impact on the economy, including what is known about the relationship between work place structural factors and work place based interventions and alcohol-related harm.

Societal level effects of alcohol and sickness absence

One study investigated the relationship between per capita alcohol consumption and sickness absence in Sweden for the period 1935-2002, analyzed through the Box-Jenkins method for time-series analyses (Norström 2006). Two indicators of sickness absence were used, one based on sickness insurance data, the other on data from the labour force surveys. Alcohol consumption was gauged by sales of pure alcohol (100%) per inhabitant 15 years of age and older. Because changes in the economy may affect alcohol consumption as well as sickness absence, two macroeconomic indicators were included as control variables: unemployment and real wages. A 1-litre increase in total consumption was found to be associated with a 13% increase in sickness absence among men ($P < 0.05$). The relationship was not statistically significant for women. This relationship is supported by micro-level data from Finland (Johansson et al 2008), which showed that alcohol consumption measured by drinks per week was positively associated with the number of sickness absence days for both men and women.

Social cost studies and lost productivity

Based on 21 European studies, Anderson & Baumberg (2006) estimated the social cost of alcohol to the European Union in 2003, and found that at €59bn (range €39bn-€102bn) productivity losses contributed 47% of the total social cost of alcohol to Europe, Figure 1.

These findings are similar to other estimates. For example, Rehm et al (2009) found that the indirect costs due to productivity losses were the predominant cost category of all alcohol-attributable social costs in France and Scotland. Outside of Europe, similar results were found in Australia (Collins & Laspley 2008a) and in Canada (Rehm et al 2006).

¹ In contrast to absenteeism, when employees are absent from work, presenteeism discusses the problems faced when employees come to work in spite of illness, which can have similar negative repercussions on business performance. [<http://en.wikipedia.org/wiki/Presenteeism>].

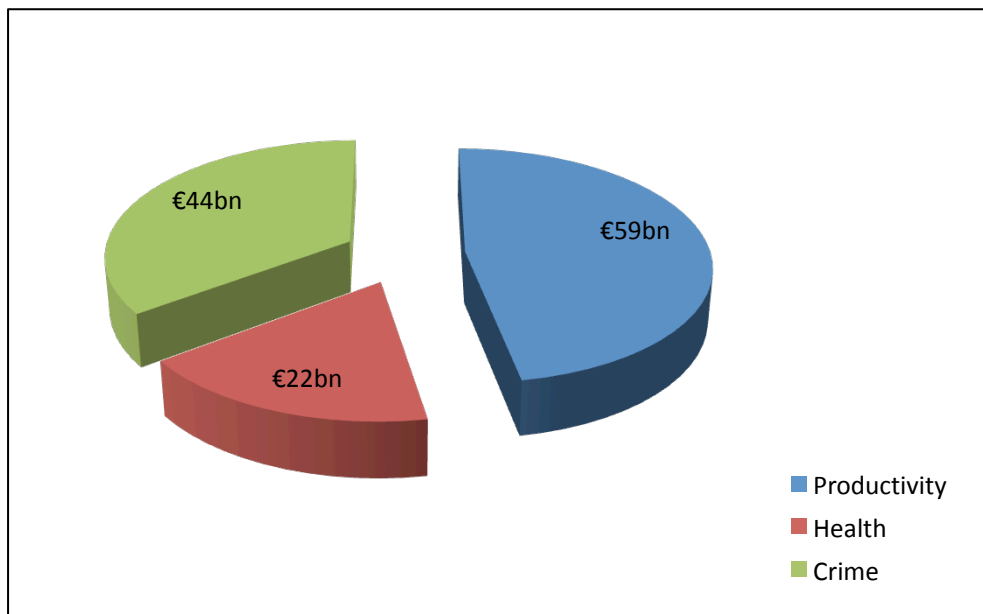


Figure 1 Social costs of alcohol to Europe.

Absenteeism due to alcohol

A study of 13,582 Australian workers found clear evidence for the impact of drinking patterns on absenteeism (Roche et al 2008). Workers' alcohol consumption was classified according to short- and long-term risk levels. After adjusting for age, gender and marital status, the likelihood of alcohol-related absenteeism was larger for workers who drank at risky or high-risk levels compared to workers who were low-risk drinkers. For both short- and long-term risk levels, as consumption increased so did the likelihood of alcohol-related absenteeism. Compared to low-risk drinkers, workers drinking at short-term high-risk levels (110g alcohol or more on any one day for a man and 70g alcohol or more on any one day for a woman) at least yearly, at least monthly or at least weekly were 3.1, 8.7 and 21.9 times (respectively) more likely to report alcohol-related absenteeism, Figure 2. Workers drinking at long-term risky (290g-420g per week for a man and 150g-280g per week for a woman) or high-risk levels (430g or more per week for a man and 290g or more per week for a woman) were 4.3 and 7.3 times (respectively) more likely to report alcohol-related absenteeism, compared to low-risk drinkers, Figure 3.

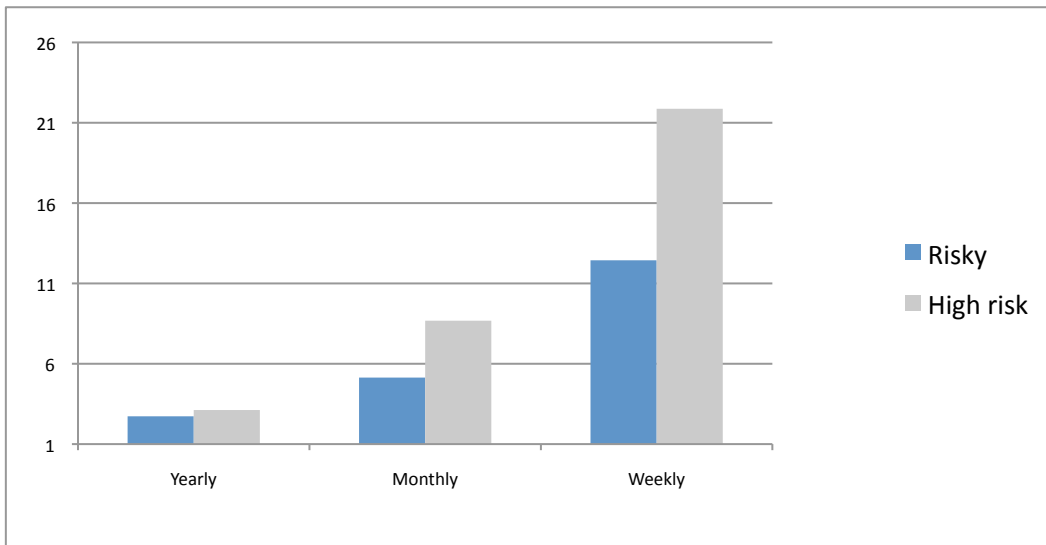


Figure 2 Adjusted ORs for absenteeism in previous 3 months by drinking category (short term risk levels)

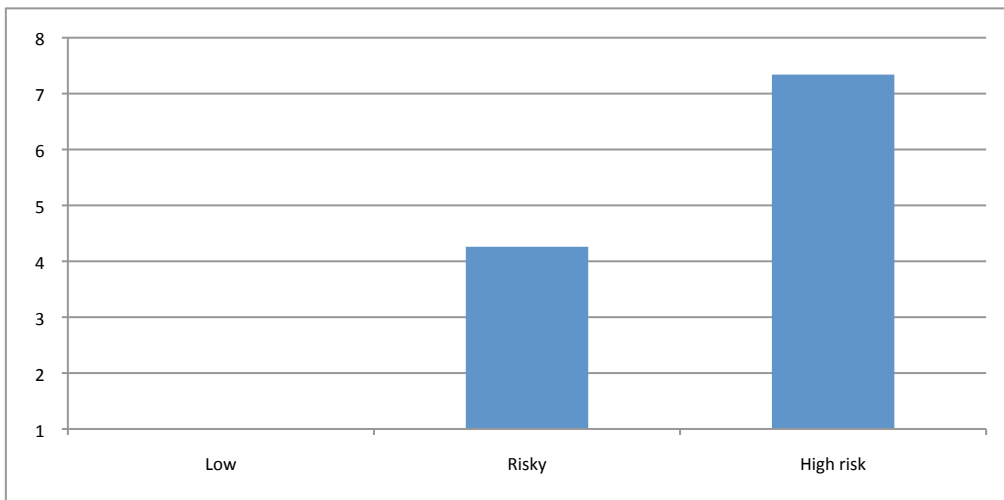


Figure 3 Adjusted ORs for absenteeism in previous 3 months by drinking category (long term risk levels)

Presenteesim due to alcohol

Harmful alcohol use and episodic heavy drinking increase the risk of arriving to work late and leaving work early or disciplinary suspension, resulting in loss of productivity; turnover due to premature death; disciplinary problems or low productivity from the use of alcohol; inappropriate behaviour (such as behaviour resulting in disciplinary procedures); theft and other crime; and poor co-worker relations and low company morale. One study conducted at 114 work sites of seven corporations (Mangione *et al.* 1999) showed an almost linear relationship between increasing average consumption and a summary measure of job performance, finding the strongest associations between consumption and getting to work late, leaving early, and doing less work, and only a weak association with missing days of work.

Population based interventions to reduce lost productivity due to alcohol

A number of studies have estimated the avoidable costs of alcohol use disorders and the potential benefits of effective policies to reduce the social costs of alcohol (Collins et al 2006; Collins & Lapsley 2008b).

A Canadian study modelled the impact of six alcohol policy interventions relative to baseline costs of \$CAN14.5bn, obtained from the Second Canadian Cost Study (Rehm et al., 2006; Rehm et al 2008): taxation increases, lowering the blood alcohol concentration (BAC) legal limit from 0.8g/L to 0.5g/L, zero BAC restriction for all drivers under the age of 21 years, increasing the minimum legal drinking age (MLDA) from 19 to 21 years, a Safer Bars intervention, and brief interventions. In addition a change from a government monopoly to privatized alcohol sales was also modelled. Under conservative assumptions, it was estimated that a combination of the six interventions related to alcohol policy would result in cost savings of about \$1 billion in Canada per year. By implementing all six interventions, the greatest saving would be achieved by lowering productivity losses, i.e. more than \$561 million or 58%, followed by health care, almost \$230 million or 24%, and criminality, almost \$178 million or 18% of the total avoidable cost. The potential gains to Canadian society may be even much higher, as sensitivity analyses on three of the six selected interventions resulted in a doubling of the avoidable alcohol-attributable burden and cost. It was estimated that substantial increases in burden (from 8% to 16%) and cost (from 6% to 12%) would occur if Canadian provinces were to privatize alcohol sales.

Impact of alcohol policies on jobs

Despite the simplicity of the implicit model sometimes suggested in debates (reduced alcohol consumption due to alcohol policy leads to reduced output in the alcohol beverage sector leads to job losses leads to higher unemployment), most of these connections in practice require assumptions that rarely hold fully (Baumberg 2006). For example, if people spend less money on alcohol, they will spend more money on other goods, which will create jobs elsewhere in the economy. In the long run, the evidence suggests that the effect of alcohol policy on employment would effectively be zero. On the other hand, the costs that should be considered are the adjustment costs in the medium and short term, i.e. over a matter of a few years.

Capital investment has increased considerably in the alcohol production sector and is associated with higher levels of productivity, particularly for beer and spirits. In some countries, innovation in the brewing industry has led to a fivefold increase in the amount of beer produced per employee (Anderson & Baumberg 2006). Similarly for wine, mechanical harvesting and pruning are increasingly used in lower-quality as well as higher-quality production, while the labour intensity of wine grape production has been reduced by mechanization and the computerization of irrigation. A greater number of jobs are linked with alcohol in other sectors, particularly retail and the hotels, restaurants and catering sector. Here, in general, adjustment costs will be much lower than for drinks production (Baumberg 2006).

In fact, the evidence suggests that implementing effective alcohol policy would actually increase jobs. Estimates from the United Kingdom suggest that a 10% increase in the price of alcoholic beverages would lead to 12,800 fewer unemployed people and 310,000 fewer sick days per year over a ten year period (Purshouse et al 2009). The estimated societal value of all the harm reductions is £7.8b in total (when discounted) over the 10-year period modelled. In the first year, of the total estimated societal value of the harm reduction of £660m, half (£330m) were due to avoided employment related harms.

In the United Kingdom, 59% of off-trade and 14% of on trade alcohol is currently sold at less than 5 pence per gram of alcohol. Setting a minimum price of 5 pence per gram of alcohol is estimated to lead to 12,400 fewer unemployed people and 100,000 fewer sick days. The societal value of all the harm reductions is £5.4bn in total over the 10-year period modelled. In the first year, of the total estimated societal value of the harm reduction of £438m, over two-thirds (£312m) is from avoided employment related harms.

Structural factors at the work place

There has been little research on the role of an adverse work environment in increasing the risk of alcohol use disorders. There is some evidence of an association of shift work, low level of technical responsibility at work, and job insecurity (Cooper et al 1990) with alcohol consumption. However, associations of an adverse work environment with alcohol use are often moderated by distinct coping characteristics of working people. Moreover, studies in this area are rarely based on an explicit stress-theoretical model that identifies “toxic” components of an adverse work environment, with special emphasis on its psychosocial dimensions, such as the demand-support control model of job strain, and the effort-reward imbalance model.

Analysis of the Whitehall II occupational cohort of London based civil servants study found, for women a clear grade gradient between grade and problems drinking with those in the highest two grades having the highest proportion of problem drinkers, which was not the case for men (Head et al 2004). In men, effort-reward imbalance was associated with alcohol dependence after taking account of age and employment grade, with those classified as putting in high efforts but receiving low rewards having the highest risk of being alcohol dependent. This association was also seen for women, although was not as marked. In addition, low decision latitude in women was associated with increased risk of alcohol dependence. Neither high job demands nor low work support were associated with alcohol dependence. These associations between work characteristics and alcohol dependence did not appear to be mediated through physical illness, poor mental health, or adverse changes in social supports or network size.

Most other studies of psychosocial work characteristics and alcohol have used measures of alcohol consumption rather than alcohol problems or alcohol dependence and most have found no or little association between work characteristics and amount consumed. A cross-sectional study of a French occupational cohort showed that, in men, low decision latitude was associated with alcohol consumption and, in women, low work social supports was associated with alcohol consumption (Niedhammer et al 1998).

A Finnish study found a relationship between burnout and the risk of alcohol dependence in both men and women (Ahola et al 2006). Each one-point increase in burnout score was associated with an 80% increase in the incidence of alcohol dependence among women and a 51% increase among men. After adjustment for socio-demographic factors, the odds ratio of burnout for alcohol dependence was 2.06 (95% CI 1.52–2.81) in a logistic regression analysis for women and 1.51 (95% CI 1.28–1.79) for men.

Despite the structural relationships between the work environment and the risk of alcohol use disorders, few intervention studies have investigated the impact of changing work structures on reducing workplace alcohol-related harm. An exception to this is a study that compared two work settings with distinctly different managerial cultures (Ames et al 2000). One setting had a traditional hierarchical U.S. management design and the other was based on a Japanese management model transplanted to the United States. Although overall alcohol consumption rates in both populations

were similar, the traditional management design was associated with more permissive norms regarding drinking before or during work shifts (including breaks) and higher workplace drinking rates. By contrast, the transplant management design was associated with greater enforcement of alcohol policies, which, in turn, predicted more conservative drinking norms and lower alcohol availability at work. Qualitative research clearly indicated that the transplant design facilitated the social control of alcohol problems, whereas the traditional design appeared to undermine such control.

Individually directed interventions

A recent systematic review of work-place interventions for alcohol-related problems (Webb et al 2009) identified only ten reasonable quality studies in which the interventions comprised three broad types of strategies: psychosocial skills training; brief intervention, including feedback of results of self-reported drinking, life-style factors and general health checks; and alcohol education delivered via an internet website. The psychosocial interventions included peer referral, team building and stress management and skills derived from the social learning model. For health checks, topics covered in addition to alcohol were smoking, exercise, diet, weight, stress, depression, blood pressure, cholesterol, diabetes, cancer, safety and preventive health-care risks. Only one study reported no statistically significant results. Seven studies reported significant reductions in various self-report-measures of alcohol consumption or alcohol-related problems. The counselling-based interventions either reported no effect, or the effect was small, self-reported only, or measured desire to change rather than actual behaviour. The four mail-out/feedback/brief intervention studies were practical and possibly sustainable interventions that achieved outcomes somewhat comparable to the more intensive counselling interventions. However, the outcomes were self report.

One study which used objective outcome measures described the impact of a workplace peer-focused substance abuse programme in the transportation industry implemented in phases from 1988 to 1990 (Spicer & Miller 2005; Miller & Spicer 2007). The program focused on changing workplace attitudes toward on-the-job substance use in addition to training workers to recognize and intervene with co-workers who had a problem. The program was strengthened by federally mandated random drug and alcohol testing (implemented, respectively, in 1990 and 1994). With time-series analysis, the association of monthly injury rates and costs were analyzed with phased program implementation, controlling for industry injury trend. The combination of the peer-based program and testing was associated with an approximate one-third reduction in injury rate, avoiding an estimated \$48 million in employer costs in 1999. That year, the peer-based program cost the company \$35 and testing cost another \$35 per employee. The program avoided an estimated \$1850 in employer injury costs per employee in 1999, corresponding to a benefit-cost ratio of 26:1.

Conclusions

An objective of the Lisbon Strategy is to adopt policies that contribute to higher productivity and a sustainable economic development in the European Union. It is clear that the high level of alcohol consumption in the European Union impairs productivity of the Union as a whole, and that alcohol policies have the potential to reduce the economic burden that alcohol imposes on the Union and to enhance higher productivity.

This fact sheet has considered the extent to which work place based alcohol policies and programmes can contribute to reducing the harm done by alcohol to the economy of the European

Union. The simple answer is not much. Work place policies should nevertheless be implemented and maintained for the simple reason that they can bring health gain. But, even if widely implemented they will only have limited impact at most on the economy.

On the other hand, it is clear that alcohol policies that reduce overall levels of consumption will reduce the harm done by alcohol to the economy of the European Union, and have the potential of substantially doing so. A key option here is alcohol price policy which has the potential of considerably reducing alcohol-related harm, sickness absence and the social costs of alcohol and of increasing employment.

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