CHAPTER 5. BALANCE OF POWER IN ALCOHOL POLICY. BALANCE ACROSS DIFFERENT GROUPS AND AS A WHOLE BETWEEN SOCIETAL CHANGES AND ALCOHOL POLICY

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Summary

This chapter describes the forces that have shaped alcohol beverage consumption and the resulting harmful consequences in Europe during the last 50 years. It shows that planned alcohol policies impact on alcohol consumption and alcohol-related harm at a population level. However, it also shows that a number of economic, cultural and political forces, that were not specifically planned to prevent alcohol problems, also impact alcohol consumption in different countries. Considering the whole spectrum of these intervening factors could help alcohol policy planners to design the most effective interventions in their countries and jurisdictions.

Introduction

Alcohol policy today is an established body of science and practice. Over the years, an increasing scientific literature has identified evidence-based policies that can reduce the harm done by alcohol to individuals and societies (Bruun et al., 1975; Edwards et al., 1994; Babor et al., 2010). Recently, Anderson et al (2012) for the WHO recommended: a) increasing the price and taxes of alcoholic beverages, which would affect all kinds of drinkers and would reduce alcohol-related deaths; b) reducing alcohol retail availability and exposure to alcohol in advertising and marketing communication; c) setting and enforcing legal drinking-age limits; and d) introducing or reducing legal blood alcohol concentration levels for driving. While these conclusions would support the dissemination and implementation of these policies across Europe, some problems may ensue when policies are transferred from one country to another; local drinking habits need to be taken into account when planning alcohol policy measures (Österberg, 2012).

One characteristic alcohol consumption data clearly shows is that the consumption of alcoholic beverages changes in Europe over time (Anderson et al 2012). This leads to a series of questions: how and why do they change? How do control policies affect these changes? To what extent do liberalizing policies drive consumption? How do changes in alcohol consumption occur without any alcohol policy, that is, as a consequence of other unplanned contextual factors?

This chapter presents a study which examined 12 European countries during the period 1960-2008. The aims are to understand *which* forces have shaped alcohol beverage consumption,

what changes have occurred over time, and what the resulting harmful consequences have been in these countries. The focus is both on alcohol policy and on other determinants affecting alcohol consumption in a country. The thesis are that the impact of evidence-based alcohol prevention policies will vary by country and by time period, this variation often being due to the impact of wider social, economic and cultural forces.

What we did

We studied twelve European countries (Allamani et al. 2011), grouped geographically as shown in Table 1.

Table 1. European countries involved in the study

Northern countries	Central countries	Western countries	Eastern countries	Southern countries
Sweden	Austria	UK	Hungary	France
Norway	Switzerland	Netherlands	Poland	Spain
Finland				Italy

The research team posed the following questions:
1. How do alcohol policies affect alcohol consumption?
2. How do unplanned factors affect alcohol consumption?
3. To what extent do unplanned factors and alcohol policies explain changes in alcohol consumption?
4. How do policies and unplanned factors affect alcohol-related deaths?
5. What are the similarities and differences between the 12 European countries included in the study, with regards to the 4 points above? 9

Data were collected in each country for the period 1960–2008 for the following factors (Allamani et al., 2011):
- Alcohol consumption per capita by type of beverage;
- Deaths from chronic liver disease and cirrhosis, and transport accidents;
- Policy measures: 9 main types of alcohol policy measures, regarding availability, taxes, drunk driving, advertising, country-wide prevention plans (see Table 2);
- *Unplanned* factors: 21 main types of social, cultural, economic, demographic, political, health and religious determinants of alcohol consumption changes, which have not been part of alcohol policy measures (see Table 3). Prices of alcoholic beverages were considered as part of market strategies by the alcohol industry, and were therefore treated as unplanned variables. Border import of alcohol, which to a great degree depends on price differences between countries, was also considered an unplanned variable.

Table 2. Main types of alcohol policy measures investigated in the 12 study countries (1960 – 2008)

1. Taxes
2. Advertising control
3. Availability: minimum age to buy alcohol; licensing rules for selling places and trading hours
4. Drink driving - BAC
5. National prevention plans
6. Enforcement
7. Nationwide education programs
8. Community projects
9. Development of alcohol - treatment programs

(For operationalization, see Allamani et al., 2011)

When lacking national information, data were complemented by information from the following international sources: the World Bank, Eurostat, and the Organization for Economic Co-operation and Development (OECD).

Unplanned factors were classified in three categories:

- Factors with relatively large amount of data for most countries, including: age group (operationalized as proportion of males over 65 of age), level of education for women, employment status of women, mean maternal age at all births, proportion of urban versus rural living, per capita income, price of alcohol beverages, and price of food items. These factors turned out to have data for at least once every 5 years from about 1960 to 2008, for all countries.
- Factors for which only a limited amount of data was available in most countries over time, such as migration, single parent/single household, water/soft drink consumption, smoking.
- Factors with little data, data limited to only a few countries, or qualitative descriptors, such as major socio-political and economic changes, border trade and travellers' imports of alcoholic beverages, tolerance of intoxication, and secularization.

1. Demographic Issues	12. Food consumption
2. Urbanisation	13. Price of food items
3. Migratory movement from other countries	14. Household expenditure on food
4. Education	15. Density of on & off licensed premises selling alcohol
5. Employment	16. Social attitude towards alcohol
6. Income	17. Major socio-political & economic events
7. Age of women at childbirth	18. Motor road traffic density
8. Price of alcohol beverages	19. Secularization
9. Household expenditure on alcohol	20. Smokers
10. Alcohol advertising	21. Border import of alcoholic beverages
11. Impact of alcohol industry	22. Unintended counter-effects like methanol intoxication

Table 3. Main types of alcohol unplanned factors investigated in the 12 study countries (1960–2008)

(For operationalization, see Allaman et al., 2011)

Method of analysis
Multiple imputation of missing entries
A Multivariate Imputation by Chained Equations (MICE) was carried out in order to account for missing information (Raghunathan et al., 2001). Variables with more than 40 missing values (on a series of 50 values) were removed from the dataset. The limit of 40 was chosen to maintain variables with values every 5 years. Separate multiple imputation were done by country. Separate regression analyses were performed on the 5 complete datasets produced by the MICE technique, and the results were combined according to the methods of Little et al (2002).

Modelling the effect of policy measures
The effect of each policy measure, adjusted for the effect of unplanned factors, was estimated by introducing the same value, i.e. 0 before the year of the introduction of the policy and 1 in the following time period. In this way, each policy measure was considered to have an

immediate and constant effect over time, with no accumulation with other policy measures which could be implemented before, during, or after.

Modelling the effect of the unplanned factors
For each of the 12 countries, a linear regression model was specified for log alcohol consumption, controlling for log transformed income, proportion of males over 65 of age, and prices of alcoholic beverages. A time trend was added to capture long- term consumption changes that could be related to unobserved factors.

Then, four unplanned factors, which were identified on the basis of optimal data coverage (female education, female employment, urbanization, and mother's age at childbirth), were inserted in the model one at time, after a logarithmic transformation. Since the effects of the unplanned factors were expected to be delayed, the mean value between the values of each factor in the current year and in the two preceding years was taken into account. The AIC (Akaike information criterion) for each of the resulting four models was calculated (AIC measures the parsimony of models: a lower AIC value indicates a better model).

Partial correlation
In order to check the overall relative role of each of the two groups of factors in explaining the alcohol consumption changes, and the alcohol- related harm, the partial square correlation coefficients between consumption and harm on the one hand, and policies taken together, and unplanned factors taken together, on the other hand, were calculated for each country.

Artificial Neural Network
For each country, all the variables were independently analysed by means of Artificial Neural Network (ANN) approach, combining the theory of artificial neural network analysis with auto-contractive mapping, which represents the correlation among variables spatially, so that the closeness among variables reflects their associations. This is represented by means of graphs, where the variables are nodes and the correlations are connecting lines between nodes. For each country the ANN approaches investigated four groups of associations: between the four socio-demographic changes and alcohol consumption; between the planned alcohol policy measures and alcohol consumption; between the socio-demographic changes, the planned policies and alcohol consumption; and between the socio-demographic changes, planned policies and deaths from liver disease and transport accidents.

What we found
In general, the results of the analysis of alcohol consumption and the selected main *policy measures* support previous observations that policies impact alcohol consumption over time. For the *unplanned variables*, the results support the thesis that urbanization, mean maternal age at childbirths, and female employment, as indicators of general changes in society, impact alcohol consumption.

As space does not permit a description of all 12 countries, we contrast the examples of Finland and Italy. The results for Finland were similar to those for Norway and Sweden, while the results for Italy were close to those of France and Spain.

Results from two countries: *FINLAND*
Policies
Figure 1 plots the development of total recorded and unrecorded alcohol consumption in Finland during the last five decades. The first dramatic change in consumption occurred in

1969, when a new, more liberal alcohol act came into force. In just one year, consumption increased by 46%. Another peak in total alcohol consumption occurred in 1995 when Finland joined the EU and introduced new more liberal alcohol legislation. This resulted in a 10% increase in total alcohol consumption; this was due mainly to increased quotas for traveller's alcohol imports. In 2004, a large tax-reduction for all alcoholic beverages, but particularly spirits, led to another 10% increase in total alcohol consumption.

Statistical analysis of three selected policy measures gives comparable conclusions. Table 4 shows that, when controlling for the effect of unplanned factors, the two 1969 liberalizing policies (reducing minimum age of purchase and allowing sales of medium strength beer in grocery stores) were associated with increases in recorded alcohol consumption. Overall, however, Finnish alcohol consumption has to a large extent been driven by changes in alcohol taxation. This is not presented separately in Table 4, since it is included in the analyses controlling for changes in alcohol prices, as an unplanned factor.

Figure 1. Selected policy measures and total recorded and unrecorded alcohol consumption (litres of pure alcohol per capita) in Finland - 1958–2011 – Source: Official Statistics, Finland
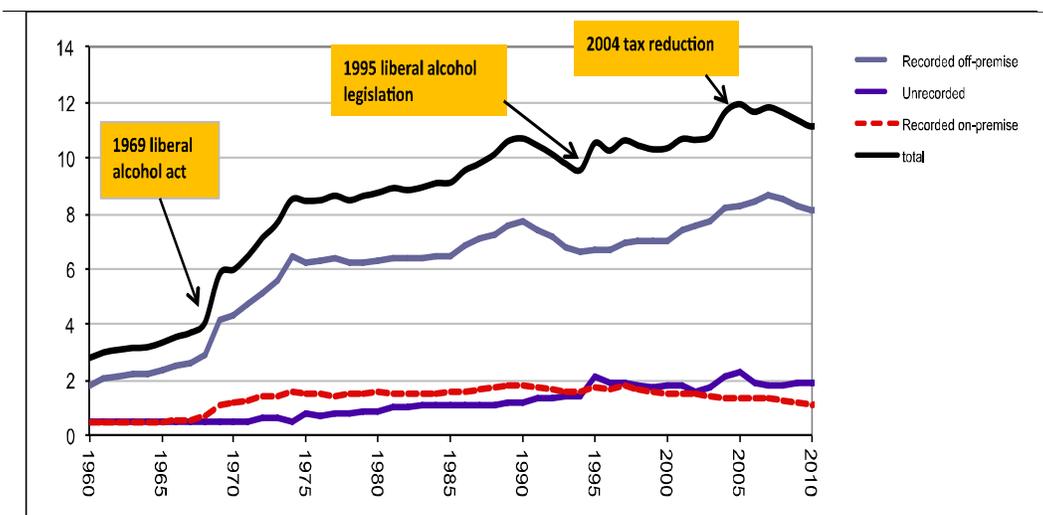

Table 4. Correlation coefficients of recorded alcohol consumption (source: WHO 2011) and selected policy measures in Finland, with 90% confidence intervals (CI 90)

Policy measures, Finland	Coefficient	IC 90
1969 reducing minimum age and allowing sales of medium strength beer in grocery stores	0,42	(0.31, 0.53)
1995 liberal alcohol legislation[4]	-0,09	(-0.21, 0.03)

Unplanned factors

Table 5 reports the results of separate regression models for four unplanned factors, with each model controlled for time trend, income, proportion of males over 65 years of age, and prices of alcoholic beverages. There is a significant positive association between level of urbanization

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4 1995 Alcohol Act: On January 1st 1995, due to Finland's membership in the European Union, the new 1994 Alcohol Act abolished the monopoly on production, import, export and wholesale of alcoholic beverages. The 1994 Alcohol Act granted domestic wine farmers the right or license to sell their products (but only products containing 13% alcohol by volume or less) at the production site. Grocery stores and cafés were allowed to sell beverages produced by fermentation (ciders, long drinks etc.) containing less than 4.7% alcohol by volume. All alcoholic beverages could be served on-premise from 9 a.m. onwards.

and alcohol consumption. During the past 60 years, the proportion of Finnish people living in urban areas grew from 32% to 85%.

A higher level of female education was associated with less consumption, whereas a greater level of female employment was associated with more consumption. The present analysis is not able to determine the reason for these apparent contrasting findings. This will be investigated in subsequent work.

Table 5. Regression coefficients describing the relationship between recorded alcohol consumption (source: WHO 2011) and four selected unplanned indicators in Finland *, with 90% confidence intervals (CI 90), and AIC (Akaike information criterion) values **

Unplanned factors, Finland	coefficient	CI 90	AIC
Female education	-0,33	(-0.47, -0.19)	-119,99
Female employment	0,77	(0.4, 1.15)	-102,96
Urbanization	1,23	(0.91, 1.55)	-112,89
Mean maternal age at all childbirths	-0,65	(-3.25, 1.94)	-96,95

*Results from 4 separate regression models for each unplanned factor, adjusted for time trend, income, proportion of males over 65 of age, and prices of alcoholic beverages
**lower AIC values indicate better models

Figure 2 describes the ANN analysis combining the two effects of unplanned variables and policy measures, showing that especially the increase in beer (Beer Max) consumption is related to urbanization, and also to increased income and to the ageing population (which in turn is connected with the raise of wine consumption, WineMax) on the one side, and, less directly, to the permissive policies of 1969 on the other. The restrictive policy measures of 1975 (tax increase) shows little correlation with consumption; while the abolition of monopoly in 1995 is connected with a drop in spirit consumption (SpiritMin), and the lowering of taxes in 2004 is not acknowledged as effective by this analysis. However, an increase of price of wine is connected with a decrease in wine consumption (WinMin).

Figure 2. Policy measures and unplanned variables with consumption of beer, wine, spirits in Finland - ANN analysis
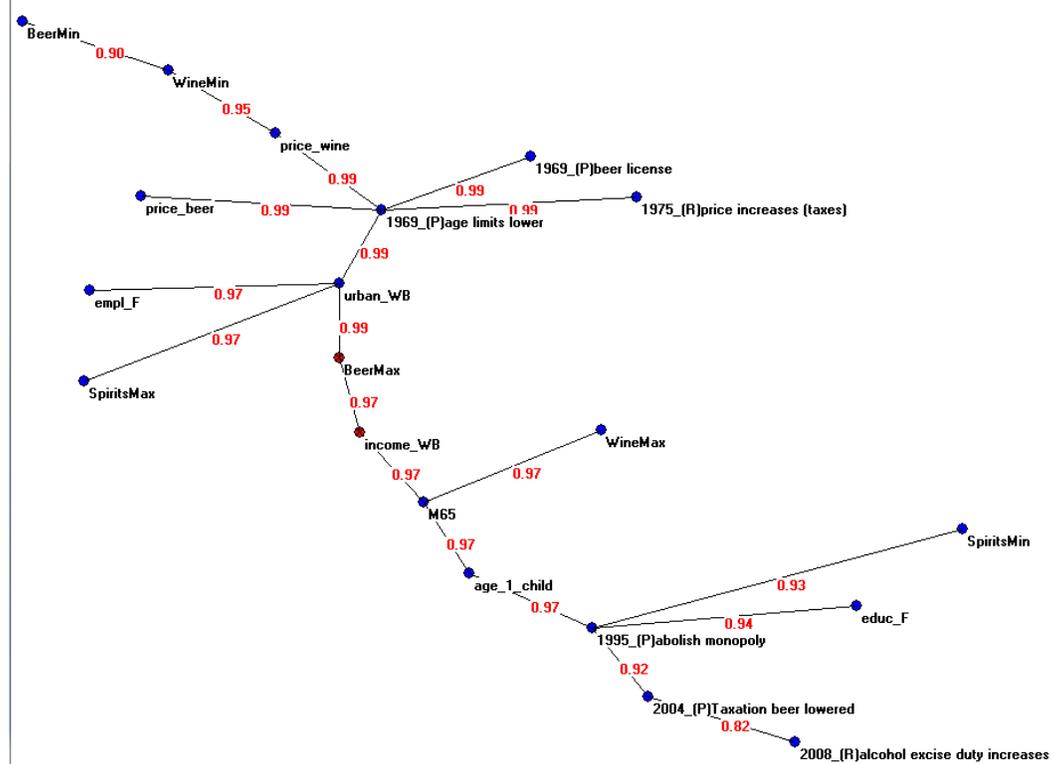

Results from two countries: *ITALY*
Policies

In Italy, common to other southern European countries, the significant drop in alcohol consumption, largely due to decreases in wine consumption, occurred before any alcohol policy acts came into force (Figure 3). There appears to be little relation between the main alcohol policy measures and levels of alcohol consumption.

Figure 3. Italy: Selected policy measures and 15+ per capita pure litres of recorded alcohol consumption, 1961-2009 in Italy- Source: WHO 2011
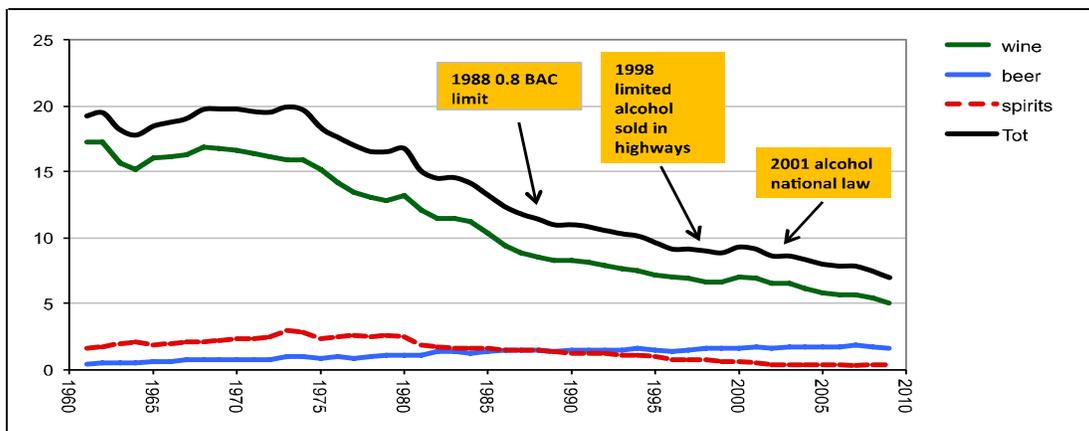
Statistical analysis of some selected policy measures supports the same conclusions (Table 6). A lack of a relationship could be due to poor enforcement of policies, or the enactment of policies which, in any case, might only have little impact.

Table 6. Regression coefficients describing the relationship between recorded alcohol consumption (source: WHO 2011), and four selected policy measures in Italy, with 90% confidence intervals (CI 90)

Policy measures, Italy	Coefficient	CI 90
1988 BAC	0,03	(-0.01, 0.08)
1991 no alcohol sale during events	0,03	(-0.01, 0.07)
1998 limited alcohol sold in highways	-0,02	(-0.05, 0.02)
2001 general alcohol policy law	-0,02	(-0.05, 0.02)

Unplanned factors

Table 7 reports the results of separate regression models for four unplanned factors, with each model controlled for time trend, income, proportion of males over 65 years of age, and prices of alcoholic beverages. As in Finland, there is an association between levels of urbanization and increased alcohol consumption. This is an unexpected finding as it runs contrary to the explanation of urbanization being associated with decreased alcohol consumption in Italy (see Tusini, 2007; Cipriani & Prina, 2007). In contrast to Finland, increased levels of female education were associated with increased alcohol consumption, but there was no relationship with levels of female employment. A higher mean age of maternal childbirth was strongly associated with decreased levels of alcohol consumption. As with Finland, further work is needed to understand and explain these relationships.

Table 7. Regression coefficients describing the relationship between recorded alcohol consumption (source: WHO 2011) and four selected unplanned indicators in Italy*, with 90% confidence intervals (CI90), and AIC (Akaike information criterion) values**

Unplanned factors, Italy	coefficient	CI 90	AIC
Female education	0,1	(0.06, 0.14)	-148,85
Fem. employment	0,11	(-0.1, 0.33)	-119,99
Urbanization	6,96	(6.3, 7.61)	-181,35
Mean maternal age at all childbirths	-4,01	(-4.52, -3.5)	-163,06

*Results from 4 separate regression models for each unplanned factor, adjusted for time trend, income, proportion of males over 65 of age, and prices of alcoholic beverages
**lower AIC values indicate better models

In figure 4, the two effects of unplanned variables and policy measures are analysed simultaneously by means of Artificial Neural Network. The group of unplanned variables on the one side, and the group of policy measures on the other, are well separated in this graph, perhaps suggesting temporal differentiated impact of the two groups. As to the connections among variables, the figure shows that the decrease in wine (Wine Min) is connected with the increase of income (which in turn is linked to urbanisation), and also to the 1988 BAC norm. Income is also linked to the increase of beer consumption (BeerMax).The decrease in spirits (SpiritMin) is shown to be related to an older age of mothers at their first childhood, but also to the increase of wine price.

Figure 4- Policy measures and unplanned variables with consumption of beer, wine, spirits in Italy- ANN analysis
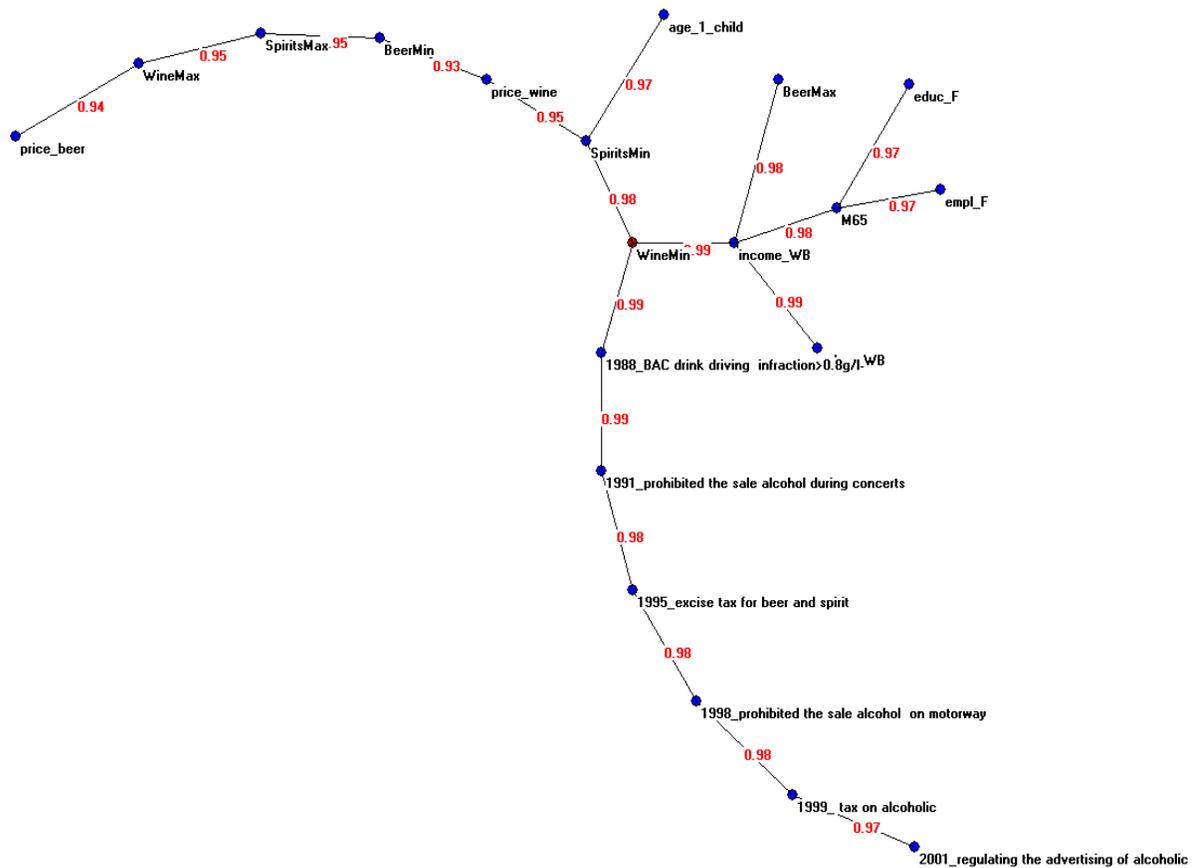
In conclusion, regarding the impact of socio-demographic factors, increased levels of urbanisation are associated with increased consumption and increased maternal age at all childbirths with decreased consumption. In general, the ANN approach supports the findings of a positive association between urbanization and increased consumption, but does not fully support the findings of the association between maternal age at childbirth and decreased consumption.   For the southern European countries, the ANN approach suggests that urbanization was associated with increases in beer and spirits consumption, but decreases in wine consumption.

With regards to the impact of alcohol policy changes on alcohol consumption, the introduction of a legal blood alcohol concentration was associated with an increase, rather than a decrease in consumption, whereas, in general, a decrease in the legal level was associated with a reduction in consumption. Increasing the minimum age for purchase was generally associated with a reduction in consumption. In general, increased availability was associated with increase in consumption and decreased availability with decreases in consumption, while increased advertising restrictions do not seem to elicit consistent results. The introduction of prevention and treatment programmes were more often associated with increases in consumption.   An ANN analysis done on a limited number of countries has shown that an increase of taxes may be related with a decrease in consumption of the country traditional alcoholic beverages, while the abolition of alcohol monopolies (in Finland, Poland and Sweden) had an inconsistent relationship with alcohol consumption changes.

Results from the 12 EU countries: Contribution of policies and of unplanned factors to consumption changes

The partial square correlations between both the main six alcohol policy measures of Table 2 and the unplanned factors with large data coverage, which also includes the price of alcohol, and total alcohol consumption, are plotted in Figure 5, with the correlations not indicating the direction of change (a partial square correlation coefficient, as it is defined, can only indicate the dimension of change, but cannot indicate the direction of the effect, whether increase or decrease of consumption).

On the whole, unplanned factors have higher correlations with alcohol consumption than policy measures, even if the data show that unplanned factors are more relevant in some countries than in others. This is also supported by the Artificial Neural Network approach, when combining the analysis of both unplanned variables and policy measures for each country.

The impact of policies is far more variable in different countries. The partial squared correlation between unplanned variables and alcohol consumption, i.e. the supposed effect of unplanned factors on consumption, varies according to the country: e.g. it is higher for Italy and the Netherlands, it is lower for Austria and Finland. The partial squared correlation between policy measures and alcohol consumption, i.e. the supposed effect of policies on consumption, varies according to the country: e.g. it is higher for Finland and UK, it is lower for Italy and Hungary.

Figure 5. Policy measures and unplanned variables: partial correlations (in percent) with total alcohol consumption, 12 EU countries, 1960-2008
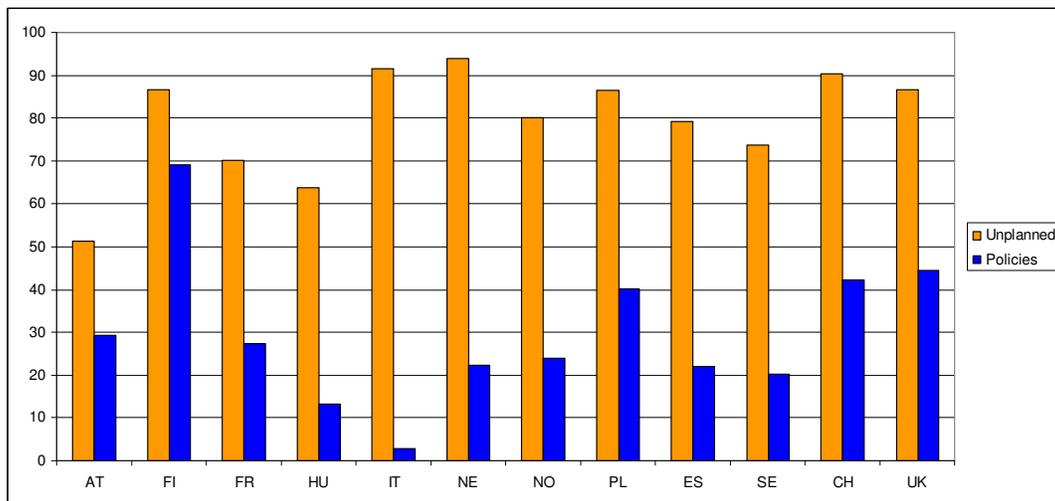

Example: for Italy we found that the six main policies globally explain 3% of the total variability, while the selected unplanned variables in this country explain 91% of the total variability; for Finland policies globally explain 69%, while the unplanned variables explain 87%; and for Switzerland rates are 42.2% and 90.3% respectively. By and large in the 12 European countries altogether the policies explain approximately 30%, while the unplanned variables explain about 80% of the total consumption variability.

Results from the 12 EU countries: Contribution of policies and of unplanned factors to alcohol related harm

Figure 6 shows the same correlation analyses in Figure 5, but this time for deaths from chronic liver disease and cirrhosis, with the correlations not indicating the direction of change. Correlations are found between both the policy measures and the unplanned factors and deaths from chronic liver disease. Unplanned factors tend to have higher correlations than policies, although the differences are somewhat less than with alcohol consumption. Again, there is considerable variation between countries, with no obvious explanations. Correlations between both policies and unplanned factors with deaths from chronic liver diseases and cirrhosis are highest in France and Italy, countries with historically high levels of liver cirrhosis death rates. However, the poor availability of data sets precluded any definitive conclusions on the impact of policy measures directly or indirectly through changes in consumption on deaths from liver disease.

Figure 6. Policy measures and unplanned variables: partial correlations (percentages) with chronic liver and cirrhosis deaths in 12 EU countries, 1970-2008
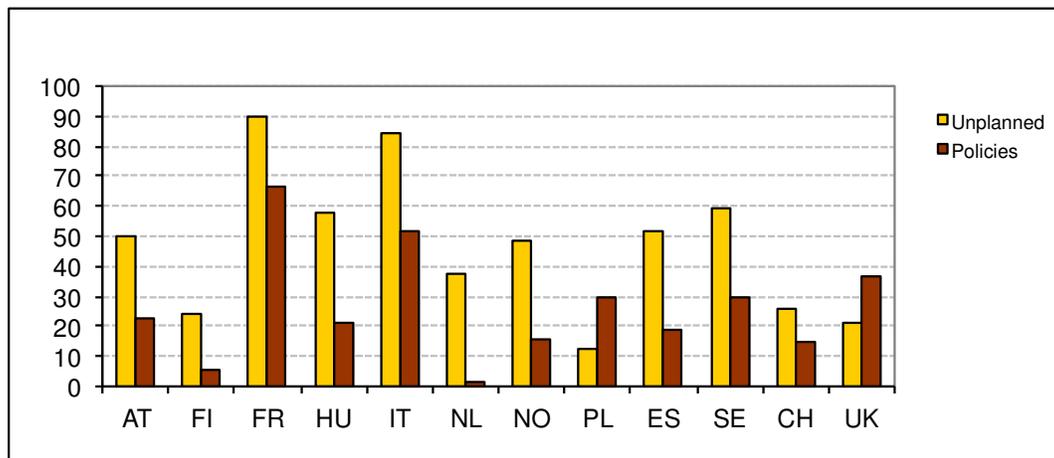
Results from the 12 EU countries: Far and near countries in Europe: an Artificial Neural Network analysis

The Artificial Neural Network approach was also used to analyse the associations between the twelve study countries as to their connections, or closeness, with each other for the observed trends of all the study factors.

Figure 7 shows that the European countries, in terms of alcohol consumption trends, are connected according to three geographical patterns (a) the lower-right area which includes the three Mediterranean countries with long tradition of wine consumption – Spain, Italy and France – plus Hungary and Austria which have also have a tradition of wine at least of the second preferred beverage; (b) the higher-left area which include two Scandinavian countries with historical tradition of spirits consumption – Sweden and Norway – plus Netherlands, which also has some tradition of drinking spirits, and Switzerland, which is in a marginal position; and (c) a middle area, which connects with the other two, represented by Finland, Poland, and UK, the first two countries with a tradition of spirit, and the last one with spirit as the second preferred alcoholic beverage.

Figure 7. Connections of 12 European countries and their trends of beer, wine and spirits consumption, 1960-2009 – ANN analysis
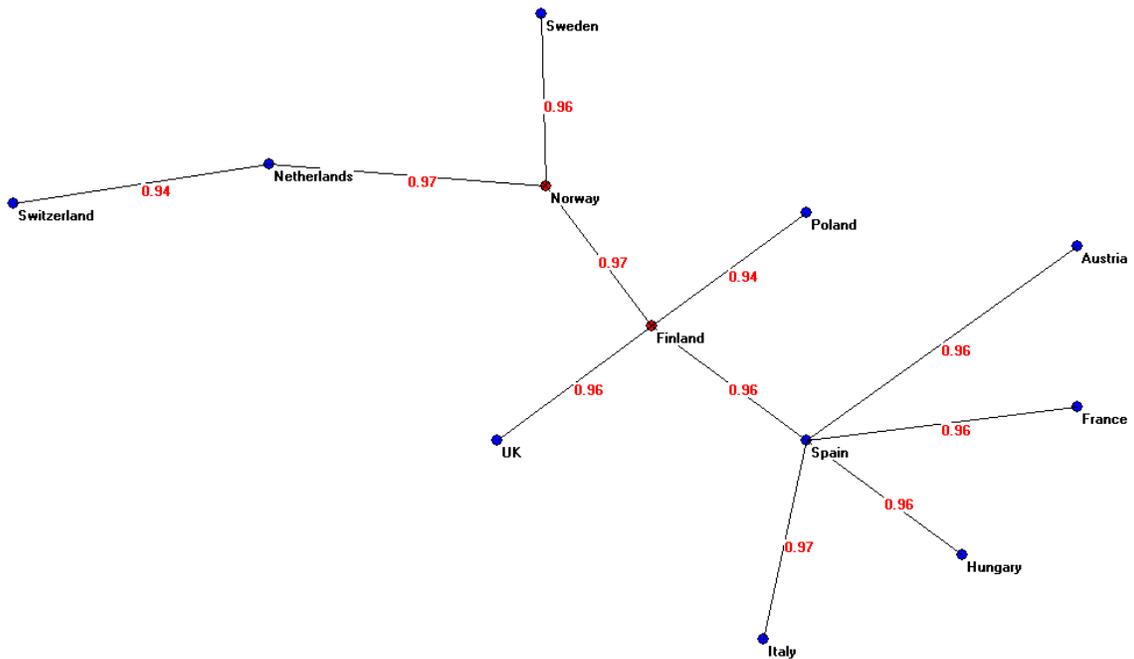

Figure 8 describes the countries' connections in terms of all their policy measures, and the country consumption trends of beer, wine and spirits during the 50-year study period (nationwide prevention and education plans and community projects, as well as Major alcohol treatment changes, were excluded).

Figure 8. Connections of the 12 Countries by all their policy measures (but prevention and treatment plans) over time and consumption trends of beer, wine and spirits (1960-2000s)- ANN analysis
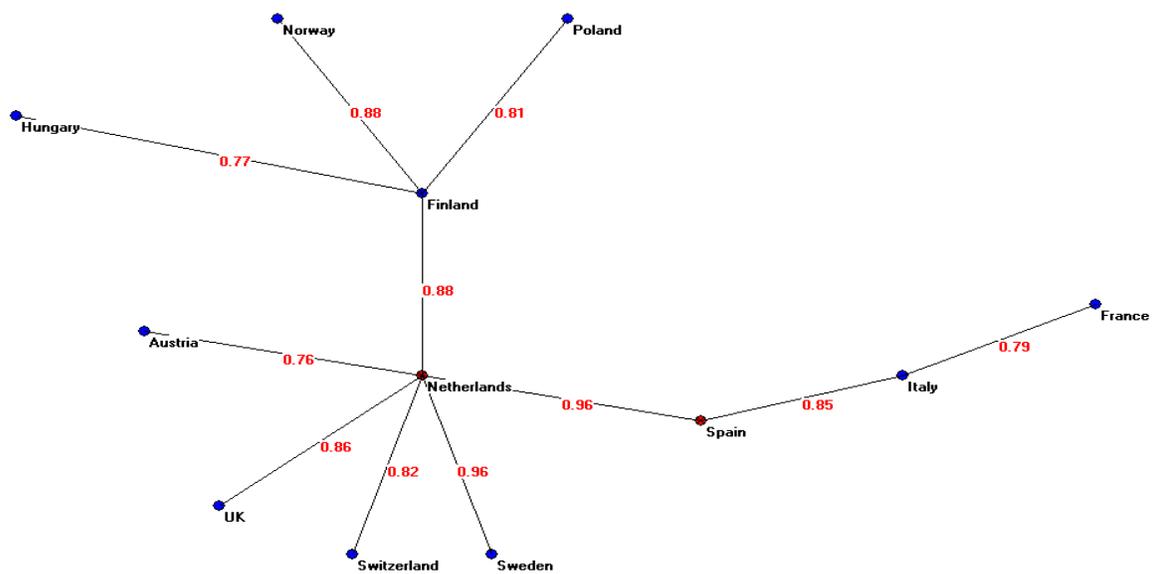
Three groups of countries are well connected: Finland, Poland, Norway and Hungary; Netherlands, Sweden, Switzerland, UK and Austria; Spain with Italy and France - Finland and Netherlands being the central countries in the graph. This may suggest some similarities among the three groups of countries in terms of similar policy measures inducing similar consumption changes.

In conclusion, the Artificial Neural Network approach that investigated changes in consumption, socio-demographic changes, and planned policies tended to find that although grouping was not stable for all investigations, the countries tended to cluster into three groups. In general, the northern and southern groups remained more stable, with the central countries, like Poland and Hungary, sometimes moving from one grouping to another, dependent on the investigation.

What does this mean?

This study, the first of its kind, confirms that both the measured planned alcohol policies and measured unplanned factors (which also include the price of alcohol) impact on alcohol consumption and alcohol-related harm, with, in general, the measured unplanned factors having higher impacts. Urbanization, women's increasing levels of employment and improved education, and older maternal age at childbirth, seem to be the most important unplanned factors, mirroring the large social changes that have occurred in European countries over the last fifty years.

Understanding the role of contextual factors enables policy makers to take these into account when implementing existing evidence-based policies and designing new policies.

Take home messages

1. *Alcohol policies do impact on alcohol consumption.* In general, liberalization of policies is associated with increased consumption and the introduction of preventive policies is often associated with decreased consumption, **especially of those beverages that are traditional in each country**. There is notable variability in the size of the associations across the 12 countries studied.

2. ***Socio-demographic, or "unplanned",*** *factors impact on alcohol consumption.* Urbanization and mother's age at childbirth are related to the increase in alcohol consumption, especially of those alcoholic beverages that are less traditional in each country.

> ## Take home messages
>
> 3. ***Socio-demographic, or "unplanned",*** *factors* **as well as alcohol policies** *do impact on measures of alcohol related harm.* Correlations are found between **the two groups of** factors and death rates from liver disease. Again, there is variability of the size of the associations across the 12 countries studied, while the poor availability of data sets precluded any sound conclusion.
>
> 4. Considering the changes in alcohol consumption and alcohol related harm, in socio-demographic factors and in alcohol policies, the twelve European study countries generally tended to cluster into three groups of comparable nations: North Europe, South Europe, Central Europe. This suggests that both alcohol policies and their impact on consumption and harm can be compared within each area.
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> 5. ***Socio-demographic*** *factors seem to have a greater impact than policies.* This applies to both consumption and harm. Understanding the role of these factors needs to be taken into account when implementing existing evidence-based alcohol polices and designing new policies.

Conflict of Interest Statement

Fabio Voller, Pasquale Pepe, Michela Baccini, Giulia Carreras, Giulia Massini, Guido Maurelli, Massimo Buscema, Peter Anderson, Thomas Karlsson, Mikaela Lindeman, Zsuzsanna Elekes, Juliette Guillemont, Carmen Kreft-Jais, Chloe Cogordan, Ronald Knibbe, Mieke Derickx, Sturla Nordlund, Øystein Skjælaaen, Börje Olsson, Filip Roumeliotis, Moira Plant, Nikki Coghill, Grażyna Świątkiewicz, and Hervé Kuendig have no conflicts of interests to declare.

Since 2007, Allaman Allamani has received travel reimbursement for a trip Firenze-Milano (104€) to attend a Scientific Lab session with the *Osservatorio Permanente Giovani and Alcool*, which is substantially funded by the Beer & Wine Industry in Italy.

Since 2007, Antoni Gual has received honoraria and travel grants from Lundbeck, Janssen, Servier and D&A Pharma, and has worked on research grants from Bayer and Lundbeck.

Since 2007, Silvia Matrai has worked on research grants from Bayer and Lundbeck.

Since 2007, Esa Österberg has received honoraria from Lundbeck.

Since 2007, Gerhard Gmel has participated in scientific meetings co-sponsored by the pharmaceutical industry. He has received funding for research projects from the Swiss Alcohol Monopoly. He has never received direct research funding from any industry.

Since 2007, Irmgard Eisenbach-Stangl has received subsidies from the European Alcohol Forum for Responsible Drinking (EFRD) for two workshops on alcohol issues, contributing to travel and accommodation costs of participants but not to the costs of scientific work, and from the International Centre for Alcohol Policy (ICAP) for one article not covering costs of production.

She in all cases collaborated with experienced colleagues and the funding organisations did not have or use any influence on decision making and outcomes of the work.

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