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ESTIMATING THE IMPACT OF THE 2012 LIQUOR PROHIBITION ON CRIME IN THE CZECH REPUBLIC

diplomová práce

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Prohlašuji na svou čest, že jsem diplomovou práci vypracoval samostatně a s použitím uvedené literatury.

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Poděkování

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Abstrakt:

Tato diplomová práce se soustřeďuje na zachyceni kauzálního vztahu mezi alkoholem a jeho externalitou, zločinem. Kvazi-přirozený experiment, jakým byl český zákaz prodeje tvrdého alkoholu po sérii otrav metanolem v roce 2012, je cennou výzkumnou příležitostí pro tento vztah. Během této částečné prohibice poklesla násilná trestná činnost o zhruba 10 %, stejně jako agregát trestných činů ublížení na zdraví, nebezpečné vyhrožování, výtržnictví a poškozování cizí věci. Navíc se tento propad nejvíce projevil na víkendové zločinnosti. Počet pachatelů trestných činů pod vlivem alkoholu poklesl o přibližně 18 % u dopravních trestných činů a o 28 % u nedopravních. Pozornost je věnována i možnosti, že pokles nahlášené zločinnosti byl způsoben nižší mírou detekce policie. Zatímco v modelovém příkladu demonstruji, že značná část poklesu v zaznamenané míře ohrožování pod vlivem alkoholu mohla být způsobena nižší detekcí, pouze míry zločinů bez obětí by tímto mohly být ovlivněny. Závěrem zkoumám možný efekt na míry majetkové kriminality, který je ale nesignifikantní s výjimkou vloupání do barů a restaurací.

Klíčová slova: ekonomie zločinu, alkohol, externalita, přirozený experiment

JEL Klasifikace: H23, I18, K42

Abstract:

This thesis focuses on capturing causal link between alcohol consumption and one of its externalities, crime. The quasi-natural experiment of the Czech temporary ban on hard liquor following an outbreak of methanol poisonings in September 2012 provides a valuable setting for evaluation of the alcohol-crime relationship. Over the course of the prohibition, violent crime rates fell by approximately 10 %, just like the aggregate of aggravated assault, criminal threatening, vandalism and property damage. In addition, the biggest share of reduction in crime falls on weekend criminality. The number of offenders under the influence of alcohol dropped by approximately 18 % for traffic-related offences and by 28 % in non-traffic offenses. The possibility of the reduction in crime being caused by lower detection capabilities of the law enforcement was examined. The reduction in reported cases of e.g. driving under the influence might be to a large extend explained by lower detection, but it could have reduced only rates of victimless crimes. Finally, the property crime rate was not significantly affected by the intervention, except for burglaries into bars and restaurants.

Keywords: Economics of crime, Alcohol, Externality, Natural experiment
JEL Classification: H23, I18, K42

Content

Introduction

Consumption of alcohol is associated with many externalities, i.e. costs that are borne by society as a consequence of individuals' actions. Many previous studies have demonstrated how the culture of drinking alcohol leads to poorer public health, loss of productivity or increased criminality, which is the focus of my thesis.

First sections will characterize the alcohol consumption in the Czech Republic, which is one of the most heavily drinking countries in the world. In fact, globally it is the tenth country with the highest average alcohol consumption per year by the World Health Organization database. Moreover, some authors characterized large share of the population as heavy drinkers. Studies attempting to quantify the costs of alcohol imposed on Czech Republic or other countries are also included. The externalities are the rationale for alcohol market being subject to regulation by the governments. So, a review of the history of regulating alcohol and its externalities, mostly from American experience, which finally led to the current system where the costs are internalized by a selective tax on alcohol in a Pigouvian fashion.

There is a substantial body of research in the fields of economics, criminology and addictology that links alcohol consumption to crime, which I will go through in Section 1.5. Some correlate reported crime rates with spatial availability of alcohol or other type of restrictions such as regulation of sale times to demonstrate the link. However, the research design that is most likely to reflect causality of alcohol on crime is a large and abrupt intervention that cuts the alcohol consumption, i.e. it makes alcohol either less available or more expensive. (Carpenter, et al., 2010)

Such a design is employed in this thesis as well, using the 2012 Czech ban on hard liquor as the treatment period. The ban was an emergency measure by the Czech government after an outbreak of methanol poisonings and lasted only two weeks. The epidemic of the poisonings killed 41 people and its subsequent investigation is till now the biggest criminal case in Czech history. The details about the ban and the poisonings are presented in Section 1.4.

The effect of this quasi-natural experiment is studied on multiple crime categories using the data from police information system, which were made available for this thesis. The data include all the reported crimes by date between years 2010 and 2015 which allows me to study the effect on weekly crime rates. The first stage of the analysis studies

if violent crimes were affected by the absence of hard liquor. Next, the analysis is refined to include the most-alcohol involving crimes and the total number of criminal offenders under the influence of alcohol. Since alcohol-related criminality, just like alcohol consumption, is peaking during the weekend, the crime rates were also split into weekday and weekend observations to see which of the two was the more affected. The study of reported crime rates, which are just a subset of the crime actually committed, raises the question whether the displaced police activity also affected the reporting rates. This problem will be addressed in a separate section on a model case of two traffic-related offenses. Finally, a potential effect on rates of property criminality will be investigated.

The parameters of the regression equations were estimated both by ordinary least squares and by the Poisson regression model, which is more suitable to count data such as crime.

1 Alcohol consumption and its externalities

1.1 Alcohol consumption in Czech Republic – a comparison

According to WHO's 2014 *Global status report on alcohol and health*, the Czech Republic falls into the category of the heaviest drinkers in the world. Average adult Czech (15+ years) drinks around 13 liters of pure alcohol annually, which puts the Czech Republic along with neighboring Slovakia tied for the tenth place globally in total per capita alcohol consumption. This figure, which is a yearly average of the three-year period between 2008-2010, when the survey took place, is more than double of the global average of 6.2 liters per capita (WHO, 2010a). It is only exceeded by Andorra and other Eastern European countries, with Belorussia being the world's heaviest drinking country with 17.5 liters per capita (WHO, 2010a).

The consumption of alcohol in the Czech Republic is characterized by very high prevalence of heavy episodic drinking[1] (HED), where approximately 36.5 % of the population consumes alcohol heavily at least once a month. HED is a better metric for risk of experiencing alcohol-related acute harm or developing chronic health complications. Among the countries included in this survey (WHO, 2010d), the Czech Republic has the third highest share of HED in the world. The share however varies among genders, 53.5 for male population and 24.9 for females, which is also the world's highest and fifth highest, respectively (global average per person is only 7.5 %).

Even more alarming data have been presented in Oxford's journal *Alcohol and Alcoholism* (Popova, et al., 2007), where the authors of this comparative study estimate the Czech Republic's share of heavy drinkers (40+ grams of alcohol daily) to reach almost 60 % of male population and is the highest of all the countries included in the study. Share of heavy female drinkers is estimated to be approximately 7 %. On the other hand, the Czech share of abstainers or very light drinkers was the lowest from all the countries in the sample. The conclusions of the study are that the countries of Central Eastern Europe are the second biggest alcohol consumers, only surpassed by Eastern European

[1] For the use in its report, WHO defined HED as "60 or more grams of pure alcohol on at least one single occasion at least monthly" (WHO, 2014 p. 4), which is the alcohol content of at least 6 standard drinks in most countries. They set this metric because "volume of alcohol consumed on a single occasion is important for many acute consequences of drinking such as alcohol poisoning, injury and violence, and is also important wherever intoxication is socially disapproved of. HED is associated with detrimental consequences even if the average level of alcohol consumption of the person concerned is relatively low." (WHO, 2014)

Moldova Republic, Russia, or Ukraine. Also, the pattern of drinking within the CEE region is mostly irregular binges, but in the Czech Republic less so as it is rather consumed more frequently and in lesser quantities at a time. In another comparison with Russia, Russian men self-reported attending on average 67 drinking sessions per year compared to 179 sessions among Czech men. Yet, Czech men reported 46 grams of alcohol as the mean dose per session, compared to 71 grams by Russian men who report almost no session with less than 40 g and occasionally consumed up to 160 g. (Bobak, et al., 2004) In terms of detrimentality to health, the Czech pattern is nevertheless seen only as moderately harmful - 2 on the scale from 1 to 4. Russian pattern was given 4 out of 4, the most detrimental. (Popova, et al., 2007) This 4-level ranking is based on data from medical study focusing on relationship between pattern and level of alcohol consumption and alcohol attributable fraction (AAF) of injuries and chronic diseases. Results of AAF are not country specific in this study, Rehm et al. only present cluster averages. Czech Republic fell into Western European cluster, where the average AAF of all diseases and injuries for males is 11.1 %. In the Eastern European cluster, the total AAF was almost double, 21.5 %. (Rehm, et al., 2003). The difference in patterns also led to conclusion that HED measured using 60g as a benchmark overestimates the prevalence of binge drinking in Czech Republic and Poland because their consumption is frequently just few grams over the benchmark, but given the local drinking culture does not equal a hazardous alcohol binge. (Bobak, et al., 2004)

The low detrimental score for the Czech pattern is caused by other important factors. In addition to the total consumption and the drinking pattern, the preferred type of beverage and its origin also plays a role. Czechs get more than half of their alcohol intake from drinking beer, 53.5 %, and then 20.5 % from wine while spirits account for only 26 %. In Russian Federation, the distribution is 37.6, 11.4 and 51, respectively. By the drinking pattern, Czech Republic is more alike with its Central European neighbors, like Germany with distribution 53.6, 27.8 and 18.6 or Austria with 50.4, 35.5 and 14, respectively. (WHO, 2010c)

Most importantly, the total consumption of alcohol also comprises the unrecorded consumption of alcohol which is naturally only approximated and then added to the known recorded one. While the records of governmental agencies about production, import or sale of alcohol on legal market make a reliable source of information, there is a wide range of estimates of the extent of unrecorded consumption. It includes all alcohol

that was home-made, smuggled, informally produced or any industrial and medical alcohol that was in the end consumed as surrogate. According to WHO's GISAH database, Czech Republic's unrecorded consumption should amount to around 1.2 liters per capita and year, but, as it remains rather a guesstimate, the 95 % confidence interval ranges from 0.7 to 1.7 of liters of unrecorded alcohol consumed every year (WHO, 2010b).[2] Dominant part of the Czech unrecorded consumption falls on home-made fruit brandies, while e.g. in Russia or the Baltics the unrecorded consumption is mainly comprised of low quality samogon or surrogates, both with elevated toxicity. (Popova, et al., 2007)

[2] The WHO methodology of determining such value include a multiple of steps: first, there are many national surveys about home production, then specific empirical investigations and finally an expert opinion. Statistics of confiscated illicit alcohol or alcohol poisonings are also considered. (WHO, 2010b)

1.2 Economics of alcohol consumption

1.2.1 Social costs of drinking alcohol

The drinkers may derive their personal utility from consuming alcohol, serving them either as a stimulant or a lubricant of social interaction, although drinking it also affects the individual and economy on various levels. The most obvious ways are the costs of lost health, healthcare spending and premature deaths. Individual drinker may bear some of the direct costs in forgone income, by paying higher insurance premiums or after being denied payment of insurance claim for alcohol-related harm. (Goodliffe, 2007) Healthcare costs in the Czech Republic are, nevertheless, mainly covered by revenue from mandatory employment-related insurance plans, i.e. by both drinkers and abstainers regardless.

The leading harmful consequences are unintentional injuries, hypertensive and other cardiovascular disease, hemorrhagic stroke, liver cirrhosis and liver cancer, mouth and oropharyngeal cancer, breast cancer or psychiatric disorders such as depression. (Rehm, et al., 2009) Probability of these complications increase with average consumption, but even more so by a detrimental drinking pattern in case of coronary diseases and injuries. On the other hand, alcohol can also contribute with some health benefits, affecting positively e.g. chance of stroke or diabetes mellitus by drinking moderately. (Rehm, et al., 2003) AAF of all deaths in the Czech Republic is 5.8 %, but for Czech men it is 9.8 %, but Czech AAF of liver cirrhosis deaths is almost three quarters. Alcohol is also responsible for 15 % of female traffic accident deaths and 36.3 % for males. In conclusion, WHO gave the Czech Republic the worst score of alcohol attributable years of life lost – 5 out of 5. The metric represents (in quintiles) how much of the difference between life expectancy and potential life expectancy could be mitigated in the absence of alcohol-related complications, i.e. over 80 % in case of the Czech Republic. (WHO, 2012)

Although being disputed by recent authors (Dave, et al., 2002), one of the main arguments for regulating alcohol market is its impact on productivity and work absenteeism. The real reason behind alcohol-related employee absenteeism may be another omitted variable and alcohol abuse just another symptom of the same. (Bacharach, et al., 2010)

Costs to the justice system are also partly attributed to alcohol, as it may lead drinkers to higher propensity to crime, therefore generate additional costs in law enforcing, judiciary and jailing. Damage done by alcohol-intoxicated offenders is also included, most commonly accident costs of driving under influence or lost productivity of homicide victims. (Bouchery, et al., 2011) And it is this externality, crime, that lies in the focus of this thesis. The research of causality between alcohol and crime will be discussed in section 1.5.3.

Many authors have tried to assess all these social costs of alcohol, especially in the United States. In one of the recent ones, from 2006, the estimated costs total to $223.5 billion. (Bouchery, et al., 2011) Majority of the costs, $161.3 billion, is the loss of productivity – either completely lost because of premature mortality or the impaired productivity of alcohol abusers. Only 11 % of that amount, $24.5 billion, are healthcare costs, with almost half being spent on special alcohol abuse or dependence care. Additional costs to justice system are almost $21 billion; $4.4 billion on police, $3.7 billion on adjudication and $12.6 billion on corrections. Key contribution of this study is determining the bearers of these costs. Authors state that only 41.5 % of the costs is borne by the drinkers and 16.3 % by the rest of the society, typically insurers, employers or crime victims. The rest, 42.1 % of the costs is paid for by the government sector. That enabled them to quantify that given the total consumption of 550,761,000 gallons of pure ethanol in 2006, one standard drink (14 g of ethanol) accounts for $0.80 in government expenses. Total cost of one drink is $1.90.

In a report for European Commission, P. Anderson from Institute of Alcohol Studies claims that the tangible costs of alcohol to member countries of European Union (15 at the time) was €125bn in 2003, equivalent to 1.3 % of that year's GDP. Unemployment and absenteeism amounted for €23bn, increased mortality €36bn, €22bn in spending on healthcare and prevention, €10bn in alcohol-attributable traffic accidents damage and more than €30bn in costs of alcohol related crime. That includes property damage, spending on law enforcement, judicial system etc. (Anderson, et al., 2006)

Czech costs of alcohol were estimated to be 16.4 billion CZK in 2007 (Zábranský, et al., 2011), i.e. around 0.45 % of GDP. These studies are not well comparable as the methodology and discount rates used vary. Zábranský and his colleagues calculated that Czech economy forgoes 6.1 billion CZK annually in income because of mortality,

and spends almost 2 billion in treating alcohol-attributable diseases and injuries and about 675 million in costs of treating alcohol dependence. Alcohol-induced crime accounts for 5.45 billion CZK.

1.2.2 Regulating alcohol: From Prohibition to Pigouvian tax

Industrial Revolution in the 19th century made massive amount of alcohol cheaper and more available than ever and, at the same time, made the costs of excessive alcohol abuse more apparent. The temperance movements started to appear in many countries (USA, Canada, United Kingdom, Nordic Countries etc.) first promoted by physicians, clerics and employers as a response to growing general drunkenness. Throughout the 19th century it became the biggest middle-class mass movement of the era, rejecting alcohol consumption and demanding its regulation or total prohibition, either from religious, economic or moral standpoint. The per adult consumption in 1830s was up to 7 gallons (≈26.5 liters) of pure alcohol a year, but fell beneath 2 gallons by 1870s. (Rorabaugh, 1979 as cited in Levine, et al., 1991) I.e., throughout the 19th century, the counterforce to the rise in alcohol consumption and the externalities that it imposed on society was individual abstinence. The alcohol consumption in the United States was again peaking before World War I. at around 2.5 gallons (≈9.5 liters) in 1910s which was disrupted by a temporary war-time prohibition on alcohol to preserve more grain as food, valid since 1917. After the war, the temperance movements used their political force to extend it permanently, as of January 1920, by the 18th Constitutional Amendment. The Prohibition under 18th Amendment lasted for 13 years, making the general ban in the United States another distinctive era in the history of regulation of alcohol consumption. However, after those 13 years it became the first Amendment ever to be repealed. The rationale for lifting the ban was not only the surge in criminal activity, lawlessness, inefficiency of prohibition enforcement and its costs (Levine, et al., 1991), but also the argument that the forgone revenue from taxes on alcohol may be used to alleviate suffering during the Great Depression. (Blocker, 2006)

The effect of the Prohibition on alcohol consumption or its externalities vary. The official data on alcohol consumption were not collected during the Prohibition era between 1920 and 1933, but were proxied using indirect methods. Miron and Zweibel estimate, based on data about liver cirrhosis, alcohol-related mortality etc., that following the ban consumption fell by 70 % but has subsequently been growing, till it reached approximately 60-70 % of the initial value within 10 years. The consumption stayed

at this level for years, even after the ban was lifted. As stated by the authors, their results should counter the common misbeliefs that Prohibition encouraged more people to drink than before or the opposite claim, that it effectively reduced consumption to a small fraction. The abrupt drop after 1920 was mainly due to lack of supply, but alcohol was consumed again as soon as it became available on the black market. The composition of beverage types consumed, however, changed profoundly, shifting towards drinks with high alcohol content to facilitate logistics of illegal supply chains. (Miron, et al., 1991) In their later article, they conclude that Prohibition was a weak deterrent from drinking alcohol, many negative externalities of alcohol market were caused by the Prohibition itself and the externalities only rose with more Prohibition enforcement effort and spending. All the criminalization of alcohol was from consumer's perspective a form of tax, but demand for alcohol proved to be inelastic. Prohibition brought uncertainty about alcohol quality, financed criminals and incentivized them to use violence since they could not use the judicial system to settle disputes. This experience from the alcohol Prohibition should serve as an argument for ending the ban on many other currently illegal substances. (Miron, et al., 1995)

After the end of Prohibition in 1933, US alcohol market was still subject to some restrictions on where and when it can be gotten, but overall it became widely available. Black market was replaced by oligopolistic producers and competing distributors, allowing sale of alcohol in more places than before the Prohibition, when sale was restricted to saloons only. (Levine, et al., 1991) Alcohol consumption began to grow again slowly after World War II., returning to the pre-prohibition per capita level in 1970s (Blocker, 2006). The new system of collection of excise taxes on alcohol was a major success and black market disappeared. (Levine, et al., 1991)

The post-Prohibition regime of regulating alcohol respected the inelasticity of alcohol demand, proven by the failed Prohibition experiment, and rather shifted towards evaluation of efficiency of taxing. The excise tax on alcohol represented more than half of price of alcoholic beverages in 1950s, but, despite two increases, was gradually declining in real terms due to inflation. By 1980s, the tax represented only slightly over 20 % of price. (Kenkel, 1996) Kenkel estimates that optimal tax rate, which would minimize deadweight loss of moderate drinkers and maximize gains from cutting heavy drinking, is somewhere over 100 % of net-of-the-tax price. That is, the optimal policy in 1996 would have been more than doubling the real tax rate, i.e. returning to

1950s levels; other authors present similar results (Pogue, et al., 1989). The excise taxes on alcohol were raised for the last time in 1990, effective since 1991, raising the tax on spirits by a dollar from $12.50 to $13.50 per proof gallon[3]. Between 1951 and 1985, the tax rate was $10.50. The tax on beer was doubled as of 1991, from $9 to $18 per barrel (=31 gallons =117.35 liters). (TTB, 2012) These are only federal taxes, state and local governments can collect their own excise taxes, therefore alcohol is not taxed uniformly in the US.

The externalities produced by alcohol consumption are, in a Pigouvian fashion, internalized by a selective tax in most countries including the Czech Republic. Over 90 % of reporting countries use an excise tax. Other forms include minimum pricing policies or a flexible tax that is periodically adjusted for dynamics of inflation or income levels, but globally they are not very common. There are still countries with permanent prohibition on alcohol, especially countries with Muslim-majority and parts of India. (WHO, 2014)

The Czech Republic never saw a Prohibition, but has had a selective tax on alcohol since the era of the Habsburg monarchy. In the Czech Republic, excise tax is collected by the Customs Administration on all produced or imported alcohol and is currently set at: 28,500 Czech korunas (CZK) per hectoliter of pure alcohol for spirits; 32 CZK per degree Plato[4] and hectoliter for beer[5]; and 2 340 CZK/hl for wines[6]. The tax is paid by the producers and the burden is then shifted on the consumer. In their 2015 annual report, Customs Administration states that the excise tax on spirits brought 7.1bn CZK to Czech national budget. They also collected 4.7bn in tax on beer and 300mil in tax on wine. (MF ČR, 2016) All of them combined constituted approximately 1 % of total tax revenue in 2015. Combined with VAT, the taxes are a substantial part of retail price of any given alcoholic beverage. As the excise tax is flat, the proportion of taxes is the highest for the cheapest drinks. Especially for cheap spirits[7], which opens a gap for black

[3] A gallon (=3.785 liters) with 50 % of alcohol, actual rate is adjusted to the actual alcohol content.
[4] The relative density of wort to water, i.e. percentage of original gravity, in Czech commonly known as "degree".
[5] Moreover, this tax rate is progressive with annual production; starting at 16 CZK for breweries producing less than 10,000 hl and stopping at 32 CZK for producers of over 200,000 hl of beer annually.
[6] Non-sparkling (so called "silent") wines are, however, excluded from this tax.
[7] In sample case of a small bottle of 0.5 liter of liquor with 40 % ABV costing 100 CZK, the excise tax for this amount of alcohol is 28500/100/2*0.4=57 CZK and 21% VAT is 100*(21/121) = 17.35 CZK. Tax in this case represents almost 75 % of the retail price.

market. How much is the total revenue from taxing alcohol market is not published, but other major sources are VAT, customs on imported alcohol or income taxes from market agents.[8]

The excise tax is harmonized within European Union by a mandatory minimum tax set at €550 per hectoliter of pure alcohol in spirits and €0,748 per hectoliter and degree Plato. The actual rates are set by national governments and, as seen in Table 1, are usually much higher.

The complexity of taxing makes alcohol susceptible to tax evasion. The internal differences in taxing among member countries of the European Single Market create an incentive for cross-border shopping, where the low-tax country gains tax revenue at the expense of high-tax country. Such a practice is legal and is very common between Finland and Estonia or Denmark and Sweden. (Anderson, et al., 2006) In fact, a quarter of all alcohol consumed in Sweden in 2004 was purchased abroad. (SoRAD, 2005 as cited in Anderson, et al., 2006) However, more revenue is lost because of excise duty frauds when exported alcohol is taxed by the rate of the destination country, but is then illegally diverted to a different country with a higher rate. (Wells, et al., 2005 as cited in Anderson, et al., 2006) Informally produced alcohol is another consequence of high taxes in Europe, although it is most present in the Baltics, Slovenia, Poland and Bulgaria, i.e. countries with comparatively low taxes. The report concludes that the extent of the illicit market in these countries is likely due to their ineffective tax collection system. (Anderson, et al., 2006)

[8] Reduced pension payments due to premature mortality may be considered another fiscal benefit.

Table 1: Average excise duties in member countries of the EU in euros/hl

Country	Year[9]	Beer	Wine	Spirit
Austria	2013	24	0	1,000
Belgium	2013	20.53	52.75	1,962
Bulgaria	2009	9.20	0	562.43
Croatia	2012	25.86	0	706
Cyprus	2012	22.94	0	956.82
Czech Republic	2012	15.44	0	1,136.36
Denmark	2009	32.80	82.50	2,014.80
Estonia	2012	13.68	80.64	1,491
Finland	2012	143.52	312	4,340
France	2013	13.20	3.66	1,689.05
Germany	2013	9.40	0	1,303
Greece	2013	31.20	0	2,450
Hungary	2012	24.75	0	984
Ireland	2013	75.41	454.23	3,685
Italy	2012	28.20	0	800.01
Latvia	2012	15.03	64.64	1,325
Lithuania	2012	11.82	57.34	1,278.96
Luxembourg	2012	9.52	0	1,041.15
Malta	2012	9	0	1,250
Netherlands	2013	32.64	83.56	1,594
Poland	2012	22.52	38.48	1,132
Portugal	2012	18.43	0	1,109
Romania	2013	8.98	0	750
Slovakia	2012	17.22	0	1,080
Slovenia	2012	52.80	0	1,200
Spain	2013	9.96	0	830.25
Sweden	2013	94.04	254.69	5,474.39
United Kingdom	2013	23.95	334.11	3,535.01

Source: (WHO, 2016)

[9] The most recent year with available data in GISAH.

1.3 Informal market for alcohol in Czech Republic

In the countries of Eastern Europe, a thriving black market has been present at the latest since 1980s. In 1985, Mikhail Gorbachev, then General Secretary of the Communist Party of the Soviet Union, started an anti-alcohol campaign in Soviet Union, cutting state production of alcohol and raising prices. The alcohol consumption first declined, but the supply was soon after replaced by home production of samogon and an illegal distribution network. In the aftermath, tax revenue plummeted, drinking became uncontrollable, quality of alcohol declined, number of poisonings increased and there was an acute lack of sugar on the market as it was diverted to samogon production. The inefficiency of the anti-alcohol campaign led to its abandoning in 1988, but by then the informal market was already established and the relatively high prices of alcohol set by the state kept the industry profitable ever since. Since 1985, the official statistics on alcohol consumption in Russia are meaningless. (Treml, 1997)

The informal market in the Czech Republic, just like the rest of the Eastern bloc, was well established even before the fall of communism, at a time when black-market activities alleviated shortages of basic goods within centrally planned economy. Omnipresent bribery and reliance on the informal market created a culture of public acceptance towards the informal market. (Hignett, 2004) Since the transition to market economy, Czech Republic with other countries of Central Eastern Europe have seen a surge in illicit market activity, especially white collar crimes. The opportunities sprung from many loopholes in legislature and excise duties, e.g. the difference in excise tax on diesel fuels and light heating oils that were chemically identical. Countries in the region have also become an important part of smuggling routes to West, attracting many foreign criminal gangs. In 1990s, Czech Republic, Poland and Hungary were the key entrance points of heroin and cocaine into Europe and important logistic hub of arms and human trafficking. (Šelih, et al., 2012) Alcohol was a frequently smuggled commodity in Central Eastern Europe, but the domestic informal alcohol market in Czech Republic never grew into proportions as within former Soviet Union. That is mainly because of local beer-drinking culture as bootlegging beer was costlier and taxes on beer were much lower. (Lehto, 1995) Nevertheless, informal production of spirits has also established itself in the country.

First reports of the extent of the Czech black market in spirits were published in 2010. As one of the reports said, after years of stagnation, the black market had grown

into such dimensions that it was threatening the legal producers, which started to complain about the inactivity of the state and hired private investigators to uncover its scope. Parts of the investigators' findings were published by the newspapers. Their findings included an estimate of market share of bootlegged spirits of an unlikely 50 %. They also suggested huge tax avoidance, up to 10 billion CZK annually, and potential health risks. (Slonková, 2010a) (Slonková, 2010b) The black market was supposed to comprise of three tiers of production. The top one, measured by forgone tax revenue, was alcohol produced in formal facilities but untaxed due to weak enforcement of excise duties. The lower two were producing spirits out of denatured alcohol,[10] which, thanks to a legal loophole, could be purchased by almost anyone without any special permit. Moreover, the new penal code valid as of 2010 controversially omitted illicit alcohol production which downgraded it to a petty crime. In this lowest tier, bootleggers cleaned the denaturing agents, allegedly by sodium hypochlorite, used commonly as a disinfectant or a water pool cleaner, then mixed the spirits (usually simplest spirits such as vodka or rum) and distributed it to cheap pubs and convenience stores under made-up brands without paperwork or excise stamps. Production tended to be placed in abandoned agricultural facilities. (Slonková, 2010c) The cleaning process, however, must have left some residuals of the denaturing agents and the final product was much more detrimental than ethanol itself. In this tier, the roles were strictly divided and no one acted as both a producer and a distributor, making it safer in case of police intervention. (Slonková, 2010a) Finally, the middle tier was using the cleared denatured alcohol to counterfeit known brands of spirits with higher profit margins. They could get original bottles and fake excise stamps and, according to the investigators, were able to do so by bribing the authorities and the law enforcement. (Slonková, 2010c) The Distilleries Union of Czech Republic, which by market shares unites about 90 % of alcohol suppliers, estimated that the share of informal market on spirits was around 20 %. The Distilleries Union also deem the raise in excise tax (effective since 2010) counter-productive, as it was not followed by a raise in collected taxes. It rather shifted the consumption to the informal market, which then grew to historically highest proportion. In their official statement following the first poisonings, the members of the Union demand stricter

[10] Denatured ethanol is a form of ethanol that is exempt from excise duty but is made undrinkable by adding poisonous, foul smelling, bad tasting and coloring agents and is meant for industrial uses.

regulations (e.g. constant presence of customs officers at the production lines) and improved enforcement. (UVDL, 2012)

1.4 The case of 2012 methanol poisonings and ban on spirits

The Czech Republic experienced a temporary ban on spirits in September 2012 that lasted two weeks following a series of methanol poisonings. Unlike the previously mentioned cases of Prohibitions in USA in 1920's and Gorbachev's anti-alcohol campaign, the objective was not to lower the consumption or reduce the externalities of alcohol, but rather it was an emergency measure. The partial prohibition should have prevented more poisonings until the source of the poison was found and quality of the spirits could be guaranteed. Nevertheless, 121 people suffered from methanol poisoning between September and December 2012, out of whom 41 people died. During these two weeks when the ban was effective, sale of any beverage with over 20 % of alcohol by volume (ABV) was prohibited, meaning that beer, wine, etc., remained legal.

The events of September 2012, the epidemic of poisonings, ban on hard liquor and police raids on black market in alcohol, were caused by a production mistake of a group of bootleggers that fall into the lowest production tier from last section. Bootlegged spirits with varying contents of highly toxic methanol caused an epidemic of poisonings in 11 out of 14 Czech regions. (Zakharov, et al., 2014) The spirits were informally prepared by several independent bootleggers using toxic alcohol originating from a single source. That source were two entrepreneurs who were running a car cosmetics company. These two men prepared a batch of 10,000 liters of a mixture that contained 50 % of methanol and sold it onward through an intermediary. According to the original testimony given by one of them and read during his trial, they prepared such a mixture because they were seeking higher profits, as methanol at their disposal was much cheaper, and because of incompetence, i.e. they thought that keeping methanol in the mixture at the same proportion with ethanol would neutralize its toxicity. (ČTK, 2014) Both methanol and ethanol were legally purchased to produce windshield cleaners. The mixture was then turned into spirits of approximately 40 % of ABV by different bootleggers in northeastern Moravia. Majority of the toxic spirits was distributed in these regions, but smaller part was also taken to Bohemia and abroad to Slovakia.

Methanol has been the cause of many previous mass poisonings, recently it was in Estonia in 2001 or Norway 2002-2004. (Paasma, et al., 2007) (Hovda, et al., 2005) The toxicity is caused by methanol metabolizing to formaldehyde and then to formic acid, leading to dangerously high acidosis of blood. The mortality remains high especially because of late hospitalization and treatment because there is a delay between intoxication and first symptoms. (Hovda, et al., 2005) Those symptoms are visual disturbances and respiratory and cardiovascular failure. In Estonian Pärnu region, 111 patients were hospitalized in September 2001 with verified methanol exposure. 25 hospitalized patients died while another 43 victims died outside of hospitals, leaving the death toll at 68. Source of poisonings was bootlegged vodka prepared from stolen methanol mistaken for ethanol. (Paasma, et al., 2007) The outbreak in Norway was caused by alcohol smuggled from South Europe and sold in 10-liter plastic bottles. The poisonings occurred between 2002-2004 and were caused by the same batch of spirits, whose alcohol content was 80 % ethanol and 20 % methanol. Out of 51 hospitalized patients with methanol poisoning, 9 died. Other 8 died outside of hospitals. (Hovda, et al., 2005)

In the Czech Republic, the first three cases of poisoning occurred in northeastern Moravian-Silesian region on September 2nd and were hospitalized on September 3rd. All three resulted in death as no blood methanol was found upon admission and methanol poisoning was found to be the cause of death only after autopsies. Prior to these cases, methanol poisonings in the Czech Republic were scarce for the past 60 years. (Zakharov, et al., 2014) Since then, more patients were hospitalized on September 6th which is when Czech police in Moravian-Silesian region started investigating the outbreak and warned the public for the first time to refrain from drinking suspicious alcohol within the region. (PČR, 2012a) On September 10th, Ministry of Health started a general audit of all the alcoholic beverages and the next day warned all the Czech population to beware of alcohol of doubtful origin. (MZ ČR, 2012)

On September 12th, the severity of the situation led to the first restriction on sale of beverages with more than 30 % of ABV, but targeting only food stands and other mobile market places. Only two days later, on September 14th, the serving Czech Minister of Health Leoš Heger toughened the restriction by a nationwide ban on any alcoholic beverages with more than 20 % of ABV including all the bars and retail. Nevertheless, the week between September 10th and 16th had the highest number of cases of poisonings, 41 hospitalized out of whom 15 died. The effect of prohibition with media coverage led

to a widespread awareness and a decreasing number of new poisonings in the next week when 15 people got poisoned and 4 died. (MZ ČR, 2012) As of September 20th, the legal restrictions were further extended to include ban on any export of spirits.

Figure 1: Daily number of cases of methanol poisonings by date; vertical lines delimit the beginning and the end of ban on sale of spirits; September-December 2012 (Source: MZ ČR, 2012)

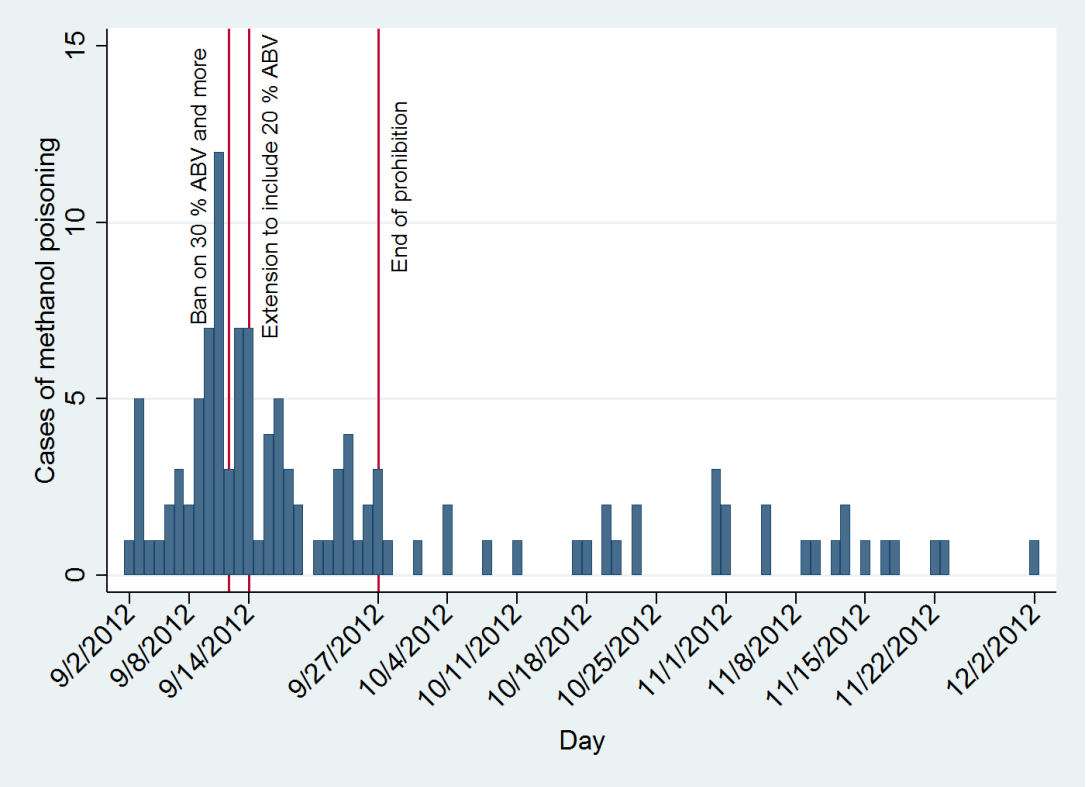
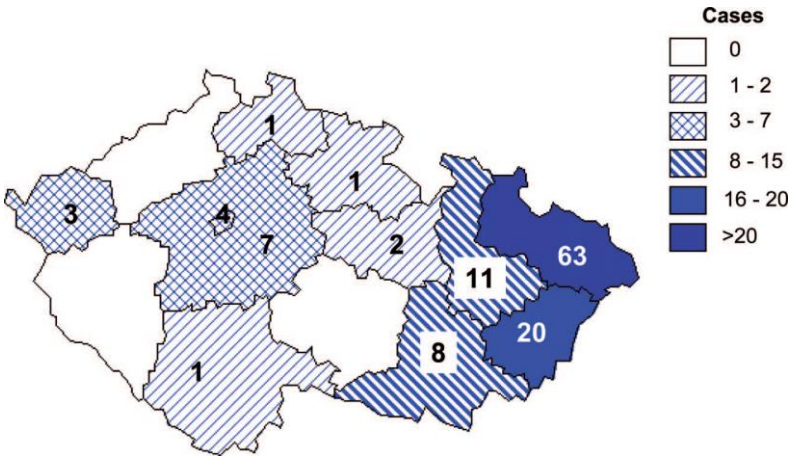


Figure 2: Regional distribution of the methanol poisonings; September-December 2012 (Source: Zakharov, et al., 2014)



Between September and December of 2012, there were 121 cases of methanol poisonings in the Czech Republic. The death toll by December 2012 was 41, out of which 20 died outside of hospital. Another 20 victims survived with sequelae. The evolution of the poisonings over time is in Figure 1 and their localization is in Figure 2. The prompt action of the police helped reduce the number of victims. By the end of September, the network of illegal production and distribution of toxic spirits had been exposed and about 80% of bottles with adulterated alcohol had been seized before being sold to customers. As in the case of Norwegian methanol poisoning in 2002 – 2004, sporadic cases of poisonings occurred even after the main bulk of the outbreak. (Zakharov, et al., 2014) Police report in November announced that since the end of prohibition on September 27th, another 11 people died after drinking alcohol with no excise stamp and that potentially up to 5,000 liters of toxic spirits might still be held in stock by households. (MZ ČR, 2012)

Since the beginning of the prohibition, government was working with the stakeholders on a new system to guarantee quality and regain the trust in the system. The result was a new type of excise stamp and "birth certificate" for any sold liquor. The ban on sale of spirits was lifted on September 27th, but the only spirits allowed to be sold were the ones currently in stock and produced prior to 2012. In the next days, also newly produced spirits were available on the market after verifying the compliance with the new regulations.

Between September 10th and November 29th there were in total 25,017 quality inspections of alcohol bottles within the country, supervised by some of the public health protection authorities belonging under Ministry of Health. (MZ ČR, 2012) However, even more human resources had to be displaced in the law enforcement. Not only did many police units accompany the quality controls, but they were also given the task of enforcing the partial prohibition on alcohol sale. In just the first two weeks following the ban, between September 12th and September 27th, there were almost 25,000 inspections of bars, gaming houses, supermarkets etc. in just the Moravian Silesian region alone. (PČR, 2012b)

The absolute ban on hard liquor was effective for two weeks only. The following section will summarize the theories behind alcohol-crime relationship and what effect the ban might have on crime rates.

1.5 Empirical analysis of crime

1.5.1 Economics of crime

The phenomenon of crime was first analyzed with economic method by Gary Becker in his article *Crime and Punishment: An Economic Approach*. Crime is seen as any other working activity that costs time and effort in exchange for economic benefits. Criminals are therefore also utility maximizers who allocate resources based on expected utility and reallocate them as either costs or benefits change. The main factors in determining the supply of crime, i.e. the number of people willing to engage in a crime, are the parameters of penal policy such as length of sentence, probability of conviction and alternative income in non-criminal activities. These factors vary for every individual so every individual is differently prone to crime, but on average the effects of either a booming economy, harsher punishments or any innovation leading to higher rates of discovering, unraveling crime or convicting of it at trial will lead to lower supply of crime. Moreover, the risk aversion of potential criminals determines whether value(=length) of the punishment or the probability of conviction will cut more crime. For a risk-averse individual, increase in the value would be a stronger deterrent, while a risk-preferers would react more on the chance of being convicted. (Becker, 1968)

While Becker's theory fits the best on white-collar and property crimes, the implications can also be extended to violent crimes. While there is usually no material gain and such crimes are rather motivated by spite or passion, it is also responsive to changes in costs of such actions. (Ehrlich, 1973) The implications of Becker's model were confirmed by multiple studies regarding the effect of increased police presence or deterrent effect of prison sentence, both of which help reduce crime. (Kessler, et al., 1999) (Levitt, 1997) Study by Grogger concludes that based on empirical evidence, criminals are likelier to respond to a higher chance of getting caught than to an increased severity of punishment. (Grogger, 1991) This may be either because of insufficient information or risk preference of criminals.

1.5.2 Determinants of crime

The long-term determinants of crime lay in socio-economic variables such as economic welfare and penal policy. Stricter policy will over time cut the crime rates either by deterring potential criminals from engaging in a crime or will incapacitate

the criminal from committing other crimes by jailing. The economic prosperity tends to lower the crime rates.

But apart from the long-term trends, crime oscillates considerably around it. Most crimes have a seasonally repeated pattern. The studies of these short-term variations in crime are linking them to changing opportunities for crime over time. For instance, the opportunity can be correlated with weather. Property crime rates tend to peak during the summer as more can be stolen on the streets or in the unguarded houses when the house owners are out. Heat is also correlated with violence, as rates of assaults or collective violence in the United States were in the studied period rising with the temperature. (Cohn, 1990) Another hypothesis is that crime is almost constant over time, but seasons are correlated with probability of crimes being detected and then reported. E.g. assaults may not happen more frequently during the summer, but the reason why they seem more frequent is that even the less grave assaults get recorded. That is because they happen outside in the public and get noticed by witnesses. (Block, 1984)

One of the leading sociological theories of crime is the routine activities theory. This simple theory says that for the direct-contact predatory crime to happen, a potential offender, suitable victim and absence of guardianship all need to occur at the same time and place. In the article where such theory was proposed, Cohen and Felson concluded that the crime rates have been steadily growing in the United States after World War II because of the changing activities of American households. More everyday travelling and preference for activities outside of home led to a surge of opportunities for crime. (Cohen, et al., 1979) The main characteristic of crime is that its spatial and timely distribution is non-random, but is centered around hotspots. The hotspots are either times or places where the three factors of the routine activity theory concentrate.

1.5.3 Link between alcohol and crime

A possible neurological explanation of link between alcohol and propensity to crime may be provided by the hormone serotonin, which regulates many chemical processes in the brain. The depletion of serotonin makes a person more prone to depression, impulsive and aggressive reactions and increases one’s probability of suicide or developing alcohol abuse habit. Drinking alcohol increases serotonin levels in the brain temporarily, but as soon as the drinking stops, serotonin levels also begin to

drop. Eventually the serotonin rebounds below baseline levels and such a reduction leads to increased feelings of aggression and worsened impulse control. Low serotonin levels also change the perception of threat of punishment, making one less likely to self-inhibit any action even if one was aware that it has severe consequences. (Peterson, et al., 1993)

Especially in case of assaults and homicides, alcohol is preceded in between 50 to 80 % of the cases. (Pernanen, 1991 as cited in Pernanen, 1998) The key factors in alcohol-violence relationship were studied in programs aiming at preventing the alcohol-related violence. The risk of alcohol leading to violence is again not random but is rather clustered around subgroups, drinking patterns and settings that led to higher risks of ending up in violence. The pattern is usually an alcohol binge, because both violent crime offenders and victims tend to have either high level of blood alcohol concentration (BAC), averaging 1.5 ‰ if present, or none. Young men are the subgroup most prone to violence and public drinking venues is the most high-risk setting. The type of beverage most associated with violence varies between cultures and is non-conclusive. It is usually the beverage that happens to be preferred by young men in that given locality. (Pernanen, 1998) The hotspots of alcohol-related crime were studied by British Home Office in 2003. They concluded that around half of alcohol-related assaults happened in or around bars and clubs and up to 70 % of them on weekend evenings. The weekends are a hotspot of alcohol-related crime. (Budd, 2003) Moreover, around university campuses the hotspot of alcohol-related crime appears to be also Wednesday. (Cho, 2012)

The leading socio-cultural factor in alcohol-crime relationship appears to be a widely-held belief that drunkenness serves as an excuse for violent action. If not an excuse at the court of law leading to milder sentence, which is misguided, it serves for the offender at least as an excuse to make the violent act less socially inacceptable. (Pernanen, 1998)

Unlike many other psychoactive substances, alcohol is legal and widely available in most of the world. That is why the alcohol's relationship to crime is different than those of illegal substances where the crimes are committed in its distribution and the elevated price also leads to increased criminality driven by abusers' desire to obtain the substance. (Miron, et al., 1995) The alcohol-related crime is mainly just the result of the psychopharmacological effect it induces, i.e. it provokes higher rates of aggression. On the other hand, the causal link is likely to be overestimated. The spurious relationship may be driven by circumstances. The motivated offenders and suitable targets might be selectively brought together to locations where alcohol is served. The link between

alcohol and crime is not straightforward and is likely interdependent as one's criminal deviance and substance abuse may be both caused by another unobserved variable of the environment. Also, the prevalence of alcohol among arrested suspects may arise from higher chance of drunk offenders to be caught. (Ensor, et al., 1993)

Alcohol-related crimes may be divided into two main groups. The primary alcohol crimes are those where alcohol is part of its definition. In Czech penal code, § 274 ("endangerment under influence") or § 360 ("drunkenness") are such crimes when the offender loses responsibility for his actions because of intoxication, but is prosecuted for allowing to get oneself to such state. The secondary alcohol-related criminality comprises all crimes committed under influence where alcohol intoxication was the primary cause. (Štefunková, 2012)

1.5.4 Previous empirical studies

Cross-sectional studies tend to find differences in levels of crime in places with diverse alcohol policies. Such setting can be applied for example in India where some states follow either restrictions or complete ban of alcohol sale. Comparing local availability of alcohol with surveys on domestic violence around India led to estimates of positive link. Higher availability generally produced higher overall consumption and women reported higher rates of domestic abuse. As it is routinely underreported by women, rates reported in anonymous surveys were used and not the police records. (Luca, et al., 2015) Another country with very diverse regulations of alcohol is the USA. In the city of Detroit, parts of the city with higher availability of alcohol measured by number of licenses to sell alcohol also experienced more of all crime categories. (Gyimah-Brempong, 2001) Studies based on spatial differences in alcohol availability of alcohol and its effect on crime do not necessarily provide a causal link between alcohol and crime. Such correlation can be driven mostly by selection bias as residential areas often have restrictions on alcohol sales and crime tends to happen around city centers where people interact the most. In addition, any alcohol outlets may attract crime that would otherwise happen elsewhere, but none of the studies showed that more alcohol outlets in any given area increased the overall crime rates. Regulating the hours when alcohol may be purchased also does not appear to reduce crime. (Carpenter, et al., 2010)

E. Bye, a Norwegian author, studied the correlation between alcohol consumption and homicide rates in Eastern European countries over several decades.

Just as the previous authors, she concluded that alcohol is linked positively to homicides; however, the strength of the effect varies among countries. The key factor, she says, is the pattern of drinking which is stronger within countries with a more hazardous drinking culture, i.e. high-alcoholic beverages consumed in binges. The countries where binges are not the dominant way of drinking share a weaker or insignificant link, while on the other hand the link is the strongest in Belorussia or Russia. Bye estimates that with every extra liter of pure alcohol consumed per capita, the homicide rate in former Czechoslovakia should increase by 0.16 homicides per 100,000 habitants. That is, given the current Czech population, approximately 17 homicides per year. For Russia, however, every extra liter of alcohol consumed is correlated with 1 extra homicide per 100,000 habitants. Her implication is that adopting anti-alcohol policies could potentially lower the homicide rate quite substantially in the countries with hazardous drinking pattern. On the other hand, in Western Europe or CEE, the effect wouldn't be that sizable. (Bye, 2008)

Unlike the spatial studies correlating crime with available alcohol, the observed correlations between crime and alcohol reflect the causality in studies of interventions that largely and starkly change the price or availability of alcohol. The lower availability of alcohol or higher price for it are increasing the full price of alcohol which by law of demand lowers the consumption and its externalities. E.g., when the employees of the Swedish state monopoly on alcohol sale entered a three-month long strike in 1972, the average alcohol consumption fell by 30 % and rates of assault, public drunkenness and resisting arrest all fell as well. (Lenke, 1982 as cited in Carpenter, et al., 2010) Similarly, other longitudinal studies link reduction in crime rates with higher excise duties on alcohol. (Carpenter, et al., 2010)

1.6 Hypotheses

The two-week long ban on spirits in the Czech Republic that followed the epidemic of methanol poisonings was a stark change in Czech alcohol market and large as well, although only selective. The intervention only forbade the sale of hard liquors, but left beverages with lower ABV widely available. The main hypothesis of this thesis is the negative effect of the ban on violent crimes that are often induced by the pharmacological effect of alcohol. Especially since high-alcoholic beverages were linked stronger to violence. (Bye, 2008) Fall in other alcohol-related crime categories may also be expected. The parameter estimates are likely to reflect the causal effect of the unavailable hard liquor, but may have also been driven by low detection capabilities of the law enforcement at the time where they were overwhelmed with the consequences of the poisonings. So, a separate chapter will be addressing this issue. Finally, the displacement of police forces might have also affected the rates of crimes which are susceptible to their presence, like property crimes.

2 The effect of 2012 ban on spirits on crime rates

2.1 Data and identification strategy

The dataset at my disposal is a complete database of the Czech police information system ESSK. I.e. for every crime reported, there is an entry into this system with specified details and another entry for every suspect. The records from the database are collapsed by the crime date to create time series of criminality known to police. The distinct categories of crime are not coded by the police exactly as they are in the penal code. The coding known as TSK which stands for "tactical and statistical classification" distinguishes certain crimes with more granularity by motivation or object while some categories within TSK would correspond to several distinct crimes in the penal code. The hypotheses of this thesis will be first tested on crime aggregates, violent crime aggregate comprising all the violent offences against a person and sexual or vice offences (TSK category 1 and 2) and property crime aggregate for both burglaries and larcenies (TSK category 3 and 4). Effects on relevant special types of crimes will also be studied more thoroughly.

The dataset allows me to study localization and evolution over time of not only different kinds of crime, but they also include certain details about the suspect victim, motivations or positive blood tests on substance presence. For the purpose of this thesis, I will only use the records from the 6-year period between 2010 and 2015, when the available records end. As of 2000, administrative division in Czech Republic changed from 8 regions to 14. The division of the police force followed accordingly 10 years later which is reflected in different police coding, i.e. making previous records inconsistent. Also, as of 2010 there is a new penal code which changed many legal definitions. The 6 years of data will work as controls of the affected year 2012.

Crime is conventionally expressed as crime rate per 100,000 habitants for regional comparison. The data about populations in Czech regions in given years was taken from the Czech Statistical Office. (ČSÚ, 2016a) The overall criminality has a decreasing trend in the Czech Republic. The total yearly counts of all the crimes in the Czech Republic, as they are recorded in the ESSK database, is in Table 2.

Table 2: Total offences recorded in ESSK by year

Year	Total offences recorded
2010	339,045
2011	339,620
2012	319,552
2013	337,087
2014	286,905
2015	216,390

Source: ESSK

The most important part of the response to methanol poisonings was that it forbade selling or serving spirits for 2 weeks in the whole country. At the same time, it meant a change in police presence which was rather local. While other cases of prohibitions of any good with inelastic demand proved to be ineffective and led to replacement of the legal market with the illicit one (Miron, et al., 1995), this case of prohibition is arguably different. The duration was short and only sale of beverages with more than 20 % of alcohol content were forbidden. This had to affect the drinking pattern within the country as substitution with spirits sold illegally despite the prohibition doesn't seem likely because of fear of its quality. However, only the sale of spirits was banned so people could keep their stocked spirits if they trusted its content. Also, substitution with higher doses of beer or wine might be expected for people with inelastic demand for alcohol which remained widely available and safe. To see the effect of these two weeks of exogenous shock to the alcohol-crime link, I will use standard linear regression. For the duration of the prohibition I will include a dummy prohibition which will equal one for the treatment period.

Crime rate levels differ among the regions of the Czech Republic and exhibits seasonal variation throughout seasons and even weeks. The estimates will control for seasonality by adding set of dummies for calendar weeks, i.e. to assume that every year there are cyclical factors influencing the crime rates. Crime rates have also evolved over time and to capture the trend, a yearly effect was added to all the equations. The effect will be captured either on a single nationwide crime rate time series or on a balanced panel consisting of 14 regional crime rates (13 regions and Prague) over time. The main regression equations will have a following form:

$$\ln(Crime\_rate_t) = \beta_0 + \beta_1 * Prohibition_t + \alpha_w + \alpha_y + \epsilon_t \quad (1)$$

for the time series and for the regional panels:

$$\ln(Crime\_rate_{rt}) = \beta_0 + \beta_1 * Prohibition_t + \alpha_r + \alpha_w + \alpha_y + \epsilon_{rt} \quad (2)$$

The crime rates are expressed as per 100,000 habitants. The independent variables are the dummy for treatment period and other 3 vectors of control dummies for regional, calendar week and year additive fixed effect on the crime rates. The dataset spans from week 1 of 2010 till week 52 of 2015.

The ban on spirits was nationwide so there is no proper counterfactual to it. However, I will split the regions of the Czech Republic into regions by number of cases of methanol poisonings, as regions in the epicenter could see a more imminent threat of risky alcohol consumption than those where methanol poisonings did not occur. The point is not to see them as unaffected counterfactual, but rather to see if any additional effect didn't take place in the regions that saw both prohibition and numerous poisonings in September 2012. As seen in the Figure 2, there were only 3 regions with 0 cases of methanol poisonings. However, for these estimates I will consider only the regions that were hit the hardest (11 cases of poisonings and more) as "treated" group. This group consists of following regions: Moravskoslezský with 63 cases, Zlínský with 20 and Olomoucký with 11.

$$\ln(Crime\_rate_{rt}) = \beta_0 + \beta_1 * Prohibition_t + \beta_2 * Prohibition_t * Treated_r + \alpha_r + \alpha_w + \alpha_y + \epsilon_{rt} \quad (3)$$

The regional differences in average consumption or drinking pattern within the Czech Republic are not available, but can be proxied by household expenditure on alcohol which is recorded by Czech Statistical Office in their Household Budget Survey. The statistic is only available at level of NUTS 2 regions, but e.g. Moravskoslezský region is a NUTS 2 region as well. The yearly expenditure on spirits of an average Czech household was 413 CZK per household member in 2015. In Moravskoslezský region it was 695 CZK per member and in standardized CZ 07 region (corresponding to Zlínský and Olomoucký regions) it was 432 CZK per member. In 2011 the average expenditures

per member were 629 CZK in Moravskoslezský region, 356 CZK in CZ 07 and 406 CZK as national average. In the next year, affected by the prohibition, it was only 533 CZK, 310 CZK and 355 CZK, respectively. These are self-reported surveys and do not include any information about price, but suggest that in the treated regions the consumption of spirits is above average and the effect might be greater. (ČSÚ, 2016b)

A secondary effect to include in this thesis is the increased police activity following the methanol poisonings outbreak and the announcement of the ban. A similar research by the setup, although different in circumstances, was the *Panic on the streets of London* by Mirko Draca et al. Just like the raid on black market and prohibition enforcement, the police operation Theseus that followed the London subway bombings of July 7th 2005 meant a massive temporary discontinuity in police presence. They correlate weekly time series of reported crime and police redeployment measured by number of hours the policemen spent on duty throughout London to show negative effect of police presence on crime rates in affected neighborhoods. Their findings are therefore consistent with the predictions of Becker's model of rational criminal as higher chance of getting caught makes crime costlier. (Draca, et al., 2011)

That is, for crimes that are susceptible to police presence, the effect of quasi-natural experiment of September 2012 may be illustrated on different trends between regions. The raids targeting illegal alcohol production and distribution network displaced police mostly in Moravskoslezský and Zlínský region that will be compared to the rest of the country. Draca et al. avoided complications of modelling the levels of crime and its seasonality by estimating the effect on yearly differences in weekly crime rates affecting only the regions treated with the increased guardianship of police. The equation adjusted for my thesis is as follows:

$$\Delta_{52} Crime\ rate_{rt} = \beta_0 + \beta_1 * Prohibition_t * Treated_r + \beta_2 * Prohibition_t + \Delta_{52} x_{rt} + \Delta_{52} \epsilon_{rt} \quad (4)$$

Parameter β_3 is what Draca et al. call the seasonally adjusted difference-in-differences. The downside of this approach is that it only looks back one year for comparison.

2.2 Functional form and estimation methods

Recorded crime rates are, by definition, non-negative counts for which Poisson distribution is assumed to be more appropriate than normal distribution. Poisson even derived this distribution when he studied crime convictions in 1820s. (Maltz, 1994 as cited in Osgood, 2000) Poisson distribution expresses the probability of some discrete events in certain population over given time period. I.e., given the mean event rate parameter λ, k events have a probability of occurring within a defined period equal to:

$$P(k;\lambda) = \frac{\lambda^k e^{-\lambda}}{k!} \quad (5)$$

Poisson distribution it is characteristic for its positive skewness and it is especially useful in case of variables that are counts of discrete events in small populations, i.e. can often be zero. Poisson regression is therefore preferable to OLS for cases where the dependent variable follows the Poisson distribution and where possibility of zero values for some observations complicates the use of logarithms in the regression equation. That has wide range of uses in studying crimes that are relatively scarce or crime rates aggregated for small populations only. (Osgood, 2000) The Poisson regression model is also a linear regression model based on maximum likelihood estimation. It assumes exponential relationship of independent variables to the dependent count variable. I.e., the model links the natural logarithms of the dependent variable to a linear combination of the independent variables:

$$E(Y|x) = e^{\beta_0 \beta x'} \quad (6)$$

$$\ln(E(Y|x)) = \beta_0 + \beta x' \quad (7)$$

The underlying assumption of the Poisson regression model is equidispersion of the dependent variable, i.e.:

$$E(Y) = Var(Y) = \lambda \quad (8)$$

This assumption is often violated and it is called overdispersion when the variance exceeds the mean. In opposite case, the model suffers from underdispersion. For these cases, other Poisson-based approaches were developed that explicitly model the overdispersion, such as negative-binomial regression. In case of my dataset, the dependent variables are mostly underdispersed, for which the estimates of standard

errors might be biased. Alternative method could be Generalized Poisson regression model which again relieves the assumption of equidispersion. However, as recommended by Cameron and Trivedi, the simple Poisson regression model remains consistent in estimating mean of parameters even without equidispersion. Then, the robust estimation of variance–covariance matrices prevents either overdispersion or underdispersed from biasing standard errors and therefore the significance levels of the estimate. For instance, the Huber/White/sandwich estimator integrated into Stata is not affected by violation of the assumption of equidispersion, homoscedasticity or serial independence. (Cameron, et al., 2009)

The count data rates can also be computed within the model from the count data if exposure is defined. I.e. crime rates can either be computed outside the model (as in this thesis), which is sometimes called the Poisson rate model, or alternatively exposure (in this case it would be population/100,000) can be logarithmically transformed and included as a dependent variable to model explaining total count number. Both approaches are appropriate alternatives and the results are identical, since this formula holds:

$$\ln(\mathrm{E}(\mathrm{Y}|\mathrm{x})) = \ln(exposure) + \beta_0 + \beta\mathrm{x}' \quad (9)$$

$$\ln(\mathrm{E}(\mathrm{Y}|\mathrm{x})) - \ln(exposure) = \ln(\frac{(\mathrm{E}(\mathrm{Y}|\mathrm{x}))}{exposure}) = \beta_0 + \beta\mathrm{x}' \quad (10)$$

However, standardizing crime counts into crime rates either way affects also the standard deviations. In Poisson distribution, $\mathrm{SD}_\lambda = \sqrt{\lambda}$. When the mean count λ is normed by population size n, the standard deviation of the crime rate C decreases by the square root of the population size.

$$SD_C = \frac{\sqrt{\lambda}}{n} = \frac{\sqrt{\mathrm{C} * \mathrm{n}}}{n} = \frac{\sqrt{C}}{\sqrt{\mathrm{n}}} \quad (11)$$

The difference between the two estimation methods is that OLS fits the data with regression line that minimizes the residual sum of squares, i.e. sum of squared vertical differences between the regression line and the observed data:

$$\mathrm{RSS}(\beta) = \sum_{i=1}^{n} (\mathrm{Y_i} - \hat{\mathrm{Y}}_\mathrm{i}) = \sum_{i=1}^{n} (\mathrm{Y_i} - \beta\mathrm{x'_i}) \quad (12)$$

while Poisson regression model as a maximum likelihood estimation model fits the data in the way that maximizes the likelihood that the observed data were generated by a process with these parameters. The likelihood function can be gotten by substituting equation (6) into (5) and noting that $\lambda = E(Y|x)$:

$$L((Y|x)|\beta) = \frac{(e^{\beta x'_i})^{Y_i} * e^{-e^{\beta x'_i}}}{Y_i!} \quad (13)$$

Where L is the likelihood of obtaining the observed data Y given the parameters of the linear regression β. Assuming independence between data units, the likelihood of all n units is the joint probability given by multiplying all probabilities together:

$$L\big((Y|x)\big|\beta\big) = \prod_{i=1}^{n} \frac{(e^{\beta x'_i})^{Y_i} * e^{-e^{\beta x'_i}}}{Y_i!} \quad (14)$$

The estimates are then based on log-likelihood because of easier calculation. So, the likelihood function is transformed into:

$$\log\Big(L\big((Y|x)\big|\beta\big)\Big) = l\big((Y|x)\big|\beta\big) = \sum_{i=1}^{n} (Y_i * (\beta x'_i) - e^{\beta x'_i}) \quad (15)$$

The log-likelihood function of the Poisson model is then maximized by iteration until:

$$\frac{\partial l\big((Y|x)\big|\beta\big)}{\partial \beta} = 0 \quad (16)$$

The value of maximized log-likelihood also serves to determine overall model significance.

The parameters of the regression equations with crime levels were estimated by both ordinary least squares and by Poisson regression model, both with robust standard errors. The methods make different assumptions about the distribution of the dependent variable, so while OLS assumes normal distribution of the residuals, Poisson regression assumes that the error term will follow Poisson distribution. OLS can be used to model count data if the sample size and mean are large enough, because the Poisson distribution can be to a certain degree approximated by the normal distribution, moreover without the equidispersion assumption. The positive skewness of the count data distribution can be

improved by logarithmic transformation. The OLS estimates are all taken on the natural logarithms of crime rates that were, in case of 0 crime committed in the given time-region unit, replaced by 0.001 before the transformation.

The parameter β_1 of the variable "Prohibition", which is the core of my thesis, has the following interpretation:

$$\%\Delta \text{ Crime rate} = 100 * \left(e^{\beta_1} - 1\right) \quad (17)$$

All the binary variables in the log-level models have such interpretation. For small values of β_1 it tends to be approximated to:

$$\%\Delta \text{ Crime rate} = 100 * \beta_1 \quad (18)$$

In Poisson regression model, the interpretation can be made similarly, i.e. the change of $100 * (e^{\beta_1} - 1)\,\%$ in probability of an event occurring during the defined time period of implies that the expected event count will also change by $100 * (e^{\beta_1} - 1)\,\%$. Parameter of a binary variable, such as β_1, is often referred to as relative risk ratio.

2.3 Effect on violent crime

The first effect to be studied is the main hypothesis of the thesis. Did the 2-week long liquor prohibition reduce the number of violent offences in the Czech Republic? The explanation for it might be that spirits are more powerful in inducing aggression and crime than beverages with lower alcohol content, which remained availabel. The drinking pattern including high-alcoholic beverages and binges are linked stronger to violence than others. (Bye, 2008) Also, the scandal, the uncertainty and the threat of poisoning might have led temporarily to a higher general avoidance of alcohol. O r the ban on spirits might simply cause lower attendance of bars and taverns, i.e. causing people to stay out of the hotspots, thus leading to a lower number of crimes committed.

In order to examine this hypothesis, I will regress the violent crime rates in various settings. Again, by violent crime I mean all of category 1 – violent crimes, i.e. crimes against a person – and category 2 – sexual and vice crimes. In the studied 6-year long period, there were in total 137,088 recorded offences falling to either one of these two categories. That includes 1086 cases of homicide, 35,117 cases of aggravated physical assault and other 5,714 assaults of law enforcement officers, 21,634 violent robberies, 15,960 cases of criminal threatening, 18,294 home invasions, 5,012 rapes and others.[11] That means that in Czech Republic, there are on average 22,848 such offences annually or 1904 on an average month.

Table 3: Summary of descriptive statistics for weekly violent crime rates in the Czech Republic

Mean	4.139
Standard deviation	1.088
Minimum	1.765
Maximum	11.719
Observations	312
Time period	2010w1-2015w52

Source: ESSK

[11] In Czech penal code, the terminology for these crimes is "Vražda" (§140, TSK 101-106), "Úmyslné ublížení na zdraví" (§145 and §146, TSK 151), "Násilí proti orgánu veřejné moci " and "Násilí proti úřední osobě" (§323 and §325, TSK 141-143), "Loupež" (§173, TSK 131), "Nebezpečné vyhrožování" (§353, TSK 173), "Porušování domovní svobody" (§178, TSK 183) and "Znásilnění" (§241, TSK 201), respectively.

The evolution of violent crime rates between 2011 and 2014 is shown in the Figure 3. As an illustration of the presumed effect of the Prohibition, weekly overlaid time series of crime rates for years 2011 and 2012 are shown in Figure 4. What can be noted is the apparent seasonality, especially on the last week of the year. Crime rates on the last or the first week of any year are influenced by the New Year's Eve celebration, arguably the biggest alcohol binge and hotspot of the year. For that reason, observations from the first and last week of the year will be omitted from further analysis as outliers.

First, I will estimate the effect on aggregate violent crime rate of the whole Czech Republic. As the periodicity of the data is weekly, it raises a problem of defining the time frame of the ban being in effect within the dataset. The partial ban on sale of spirits over 30 % alcohol was effective since September 12th, i.e. Wednesday of the 37th week of 2012. That was extended to the final form on September 14th, i.e. on Friday. Ban was canceled on September 27th, i.e. on Thursday of 39th week. Despite the imperfect overlap, in this part of the analysis I will consider the whole 3-week period between weeks 37 and 39 as the treatment period of the intervention (=1). To capture any possible effect of early poisonings since before the ban and to see if any effect is persisting in the following weeks after it was lifted, I also include dummy variables for two week periods between weeks 35-36, 40-41, 42-43 and 44-45. As control variables, the model includes seasonal effects for calendar weeks and yearly effects to absorb any trends. The equation to test the hypotheses will look like:

$$\ln(Crime\_rate_t) = \beta_0 + \beta_1 * Prohibition_t + \beta' * X_t + \alpha_w + \alpha_y + \epsilon_t \quad (19)$$

The first estimates try to capture overall effect on nationwide crime so there is only one aggregated time series. X_t are pre- and post-ban effect dummy variables. The resulting parameter estimates are in Table 4.

Figure 3: Weekly violent crime rates between 2011 and 2014; with vertical lines delimiting first weeks of the year (Source: ESSK)

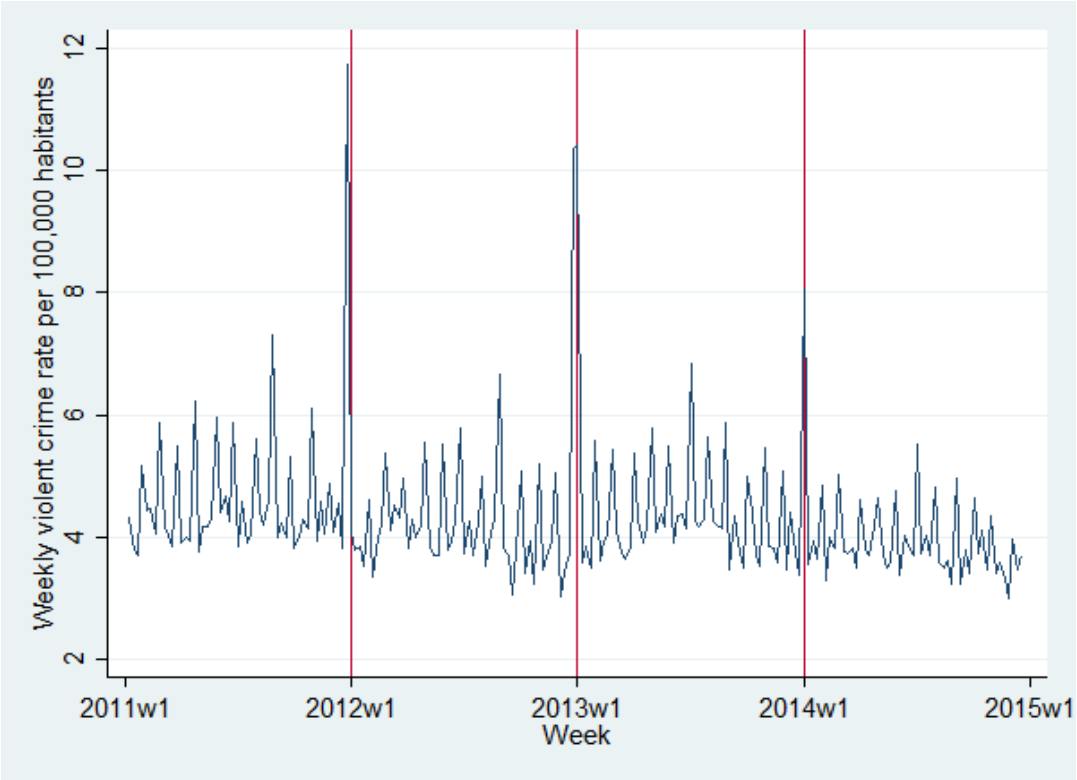


Figure 4: Violent crime rates by calendar weeks in 2012 and 2011; with the vertical lines delimiting the beginning and the end of ban on spirits (Source: ESSK)

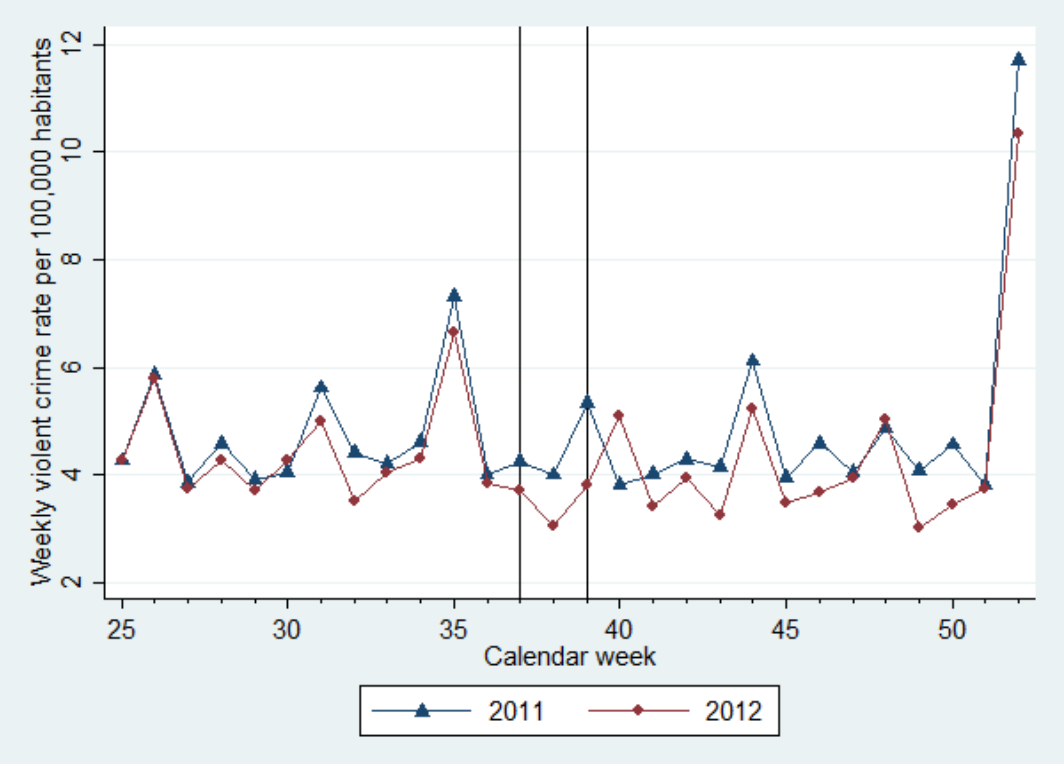


Table 4 Regression results for time series of natural logarithms of weekly aggregate violent crime rate

	(1)	(2)
Method	OLS	Poisson
Equation	(19)	(19)
Prohibition	-0.123*	-0.131**
	(0.0638)	(0.0588)
Pre-prohibition	0.0875	0.0853
	(0.123)	(0.0992)
Post-prohibition Week 1&2	0.0201	0.0320
	(0.126)	(0.111)
Post-prohibition Week 3&4	-0.0373	-0.0408
	(0.0604)	(0.0576)
Post-prohibition Week 5&6	-0.00391	-0.0169
	(0.0522)	(0.0477)
Weekly effects	Yes	Yes
Yearly effects	Yes	Yes
Observations	300	300
R-squared	0.531	
Pseudo R-squared		0.0368

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Full table in Appendix A and B

Both methods are estimating the average effect to be a decrease of 11.5 % below the predicted value given by cyclic weekly effects and yearly trend. Unlike the 3-week period with banned sale of spirits, crime rates in the periods after it or prior to it saw no statistically significant change in crime rates, i.e. the partial prohibition did not have a persistent effect. The full regression tables with all individual coefficients and significance tests are attached in the Appendices.

In the next step, to control for the effect of prohibition on alcohol binges that are more likely on weekends, I will separate the observations into weekdays (Monday-Thursday) and weekends (Friday-Sunday). Then, to insure mutual comparability, divide them by 4 and 3, respectively. That way, they become average daily crime rates and every week will have 2 observations, one for the average daily crime rate on workdays except for Friday and one for Friday and weekend. This separation also enables me to redefine the time frame of the prohibition. Hence, the beginning of the prohibition is the weekend of the 37th week and ends on weekdays' observation of the 39th week, a 2-week period. The graph of the transformed time series is in Figure 5. The distribution of the dependent variable before and after logarithmic transformation are in Appendix G and H.

$$\ln(Crime\_rate_t) = \beta_0 + \beta_1 * Prohibition_t + \beta_2 * Prohibition_t * Weekend_t$$

$$+\beta_3 * Weekend_t + +\alpha_w + \alpha_y + \epsilon_t \quad (20)$$

Then, to test whether there was an additional effect in the regions within the epicenter of the methanol poisonings, I will use a panel of crime rates aggregated on regional level. I will add variable "Treated" to the equation to intercept whether the crime patterns changed for the 3 regions where the most victims suffered from methanol poisonings and have above average expenditure on spirits. The third equation will therefore have a following form:

$$\ln(Crime\_rate_{rt}) = \beta_0 + \beta_1 * Prohibition_t + \beta_2 * Prohibition_t * Treated_r$$

$$+\beta_3 * Prohibition_t * Weekend_t + \beta_4 * Prohibition_t * Weekend_t * Treated_r$$

$$+\beta_5 * Weekend_t + \beta_6 * Weekend_t * Treated_r + \beta' * X_t + \alpha_r + \alpha_w + \alpha_y + \epsilon_{rt} \quad (21)$$

Figure 5: Detail on daily violent crime rates by weeks and weekends in 2012 and 2011; with the vertical lines delimiting the beginning and the end of ban on spirits (Source: ESSK)

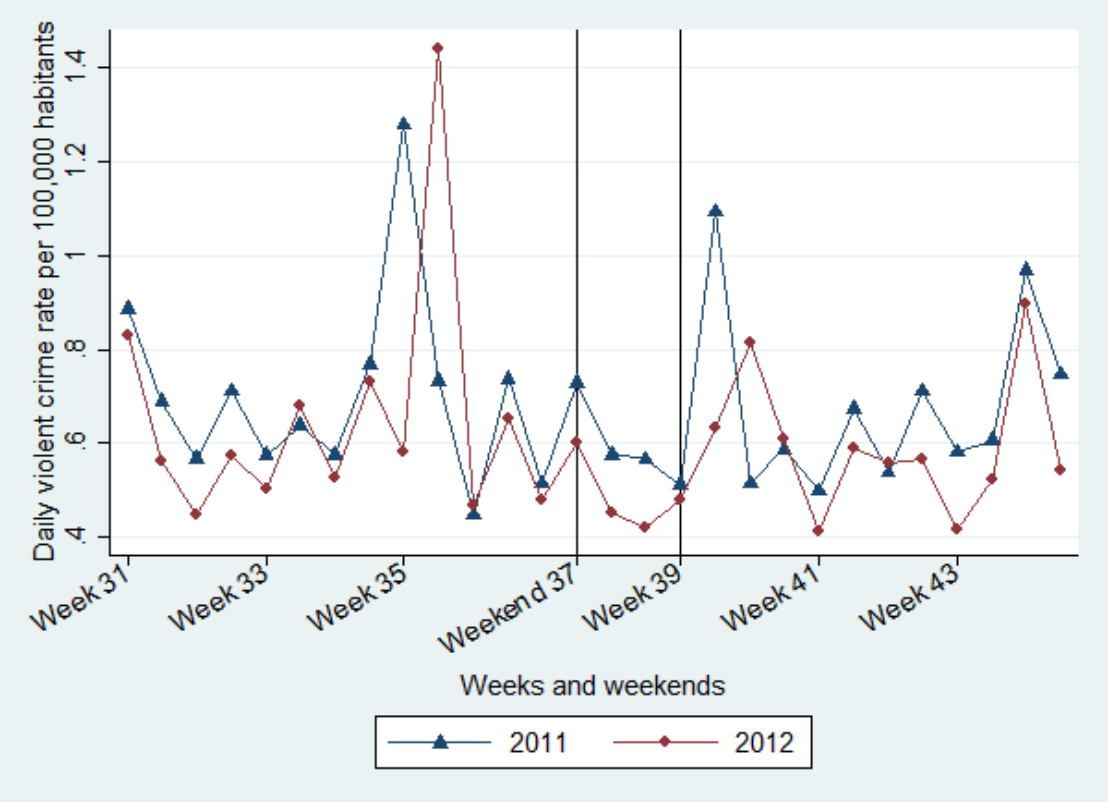


Table 5: Regression results for natural logarithms of aggregate violent crime rate

	(1)	(2)	(3)	(4)
Method	OLS	Poisson	OLS	Poisson
Equation	(20)	(20)	(21)	(21)
Prohibition	-0.0747	-0.130**	-0.0941	-0.139**
	(0.0697)	(0.0610)	(0.0809)	(0.0706)
Prohibition*Treated			0.0903	0.0446
			(0.117)	(0.112)
Prohibition*Weekend	-0.176*	-0.0867	-0.203*	-0.118
	(0.101)	(0.0873)	(0.115)	(0.102)
Prohibition*Treated*Weekend			0.129	0.126
			(0.204)	(0.177)
Weekend	0.220***	0.205***	0.206***	0.189***
	(0.0103)	(0.00850)	(0.0122)	(0.00996)
Weekend*Treated			0.0640***	0.0760***
			(0.0217)	(0.0185)
Pre-prohibition Week 1&2	-0.0239	-0.0355	-0.0239	-0.0355
	(0.0565)	(0.0538)	(0.0564)	(0.0536)
Post-prohibition Week 1&2	0.0546	0.0172	0.0546	0.0172
	(0.0632)	(0.0527)	(0.0635)	(0.0529)
Post-prohibition Week 3&4	0.0387	-0.0152	0.0387	-0.0152
	(0.0636)	(0.0516)	(0.0637)	(0.0516)
Post-prohibition Week 5&6	-0.0677	-0.0587	-0.0677	-0.0587
	(0.0718)	(0.0627)	(0.0718)	(0.0627)
Weekly effects	Yes	Yes	Yes	Yes
Yearly effects	Yes	Yes	Yes	Yes
Regional effects	N.A.	N.A.	Yes	Yes
Observations	600	600	8,400	8,400
Number of regions			14	14
R-squared	0.490		0.365	
Pseudo R-squared		0.0131		0.0367

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Full table in Appendices C-F.

The estimates of the redefined equations that are presented in Table 5 show selective effect on weekdays and weekends. The rate of violent crimes during the week days dropped, although insignificantly in case of the OLS estimates. But while these crime rates grow over weekends (Weekend=1) on average by about a fifth in the non-treated regions and by additional 7 to 8 % in the treated ones (Weekend=1; Weekend*Treated=1), the two weekends with banned sale of spirits saw much smaller week-weekend difference.

Differing in methods to fit the data, results based on OLS attribute most of the drop in crime on weekends, while Poisson regression estimates attribute the drop rather to the weekdays (Weekend=1. The results of estimating the parameters of equation (20) are shown in Table 5, the average crime rate fell during the defined 3-week prohibition period by over 11 %. Estimates of the equation (21) yield similar results as

$$\frac{4}{7} * 0 + \frac{3}{7} * (\frac{e^{(0.206-0.203)}}{e^{(0.206)}} - 1) = -0{,}078$$

I.e. the average weekly change over the course of ban on spirit, calculated as a weighted average of changes in daily weekend and workday violent crime rate, is -7.8 %. It is lower than the estimates of parameters of equation 17 because the parameter for workday observations during the prohibition (Prohibition=1) is statistically indistinguishable from zero. It however shows that the main reduction occurred in violent criminality over the weekends. The results support the hypothesis that the temporary ban on sale of hard liquor had a negative effect on rates of violent crimes. In addition, the reduction was mainly in weekend criminality.

To interpret the estimates in the 3rd column of Table 5, the levels of violent crime over weekends in the non-treated regions were almost no different from the weeks as the effect equals $e^{(0.206-0.203)} - 1 = 0.03$, i.e. were 3 % more frequent. The next part of the analysis was to test, whether the regions, which were hit the heaviest by the methanol poisonings, reacted any different in these two weeks. The estimate of the parameter mean by both estimation methods indicates that they, counterintuitively, saw a less profound change. However, due to high standard error of the estimate I cannot reject that null hypothesis that in fact, the parameter equals zero. So, due to estimated significance levels we cannot reject that the violent crime rate in treated regions was any different from the non-treated regions during the prohibition's effect.

2.4 Effect on the most alcohol-involving crimes

In this part I will refine the analysis from the previous section by applying it to a more detailed crime rates. The violent crime rate measured as an aggregate of all crimes in police's first and second category may not be specific enough for capturing the link with alcohol. For that purpose, I will estimate the effect again on an aggregate of the four crimes with the highest shares of suspects having a positive blood tests on alcohol presence. These are 4 secondary alcohol-related crimes, that is, presence of alcohol is not part of the definition. The primary alcohol crimes will be studied later on. These 4 crimes in this section are aggravated physical assault (TSK 151, §145-146 Ublížení na zdraví), criminal threatening (TSK 173, §353 Nebezpečné vyhrožování), property damage (TSK 589, §228 Poškozování cizí věci) and vandalism (TSK 611, §358 Výtržnictví).

There were 150,336 cases of these crimes reported in between 2010 and 2015, specifically 35,117 aggravated assaults, 15,960 cases of criminal threatening, 76,834 property damages and 22,425 cases of vandalism. For the whole studied period, the share of known offenders being under alcohol influence is 27.67 % for these 4 crimes, while it was 18.58 % for the whole violent crime aggregate from the last section. Nevertheless, those percentages are likely suffering from underreporting, e.g. because of delay before the testing. The measured levels of alcohol are not recorded in ESSK, there is only a field specifying what substances were tested positively. Other than alcohol, another 28 substances can be tested and reported. To see the evolution of shares of known offenders under influence of alcohol or other substances, see Figure 9. The descriptive statistics of this crime rate are in Table 6.

The analysis of the effect of the prohibition on these crimes will be identical to the former section. Again, the effect will be studied on time series with weekly frequencies and then every week will be split into two observations for Monday-Tuesday and Friday-Sunday averages. The time series and prohibition timeframe are shown in Figures 7 and 8. Once more, both week before and after the New Year's Eve are excluded as outliers. The estimates of the parameters as in equations (19) - (21), with the top 4 alcohol-related crimes as the dependent variable, are in Table 7.

Table 6: Summary of descriptive statistics for the weekly rates of the 4 most alcohol-involving crimes in the Czech Republic

Mean	4.568
Standard deviation	0.663
Minimum	2.752
Maximum	8,048
Observations	312
Time frame	2010w1-2015w52

Source: ESSK

Figure 6: Weekly top 4 alcohol-involving crime rates between 2011 and 2014; with vertical lines delimiting first weeks of the year (Source: ESSK)

Figure 7: Top 4 alcohol-involving crime rates by calendar weeks in 2012 and 2011; with the vertical lines delimiting the beginning and the end of ban on spirits (Source: ESSK)

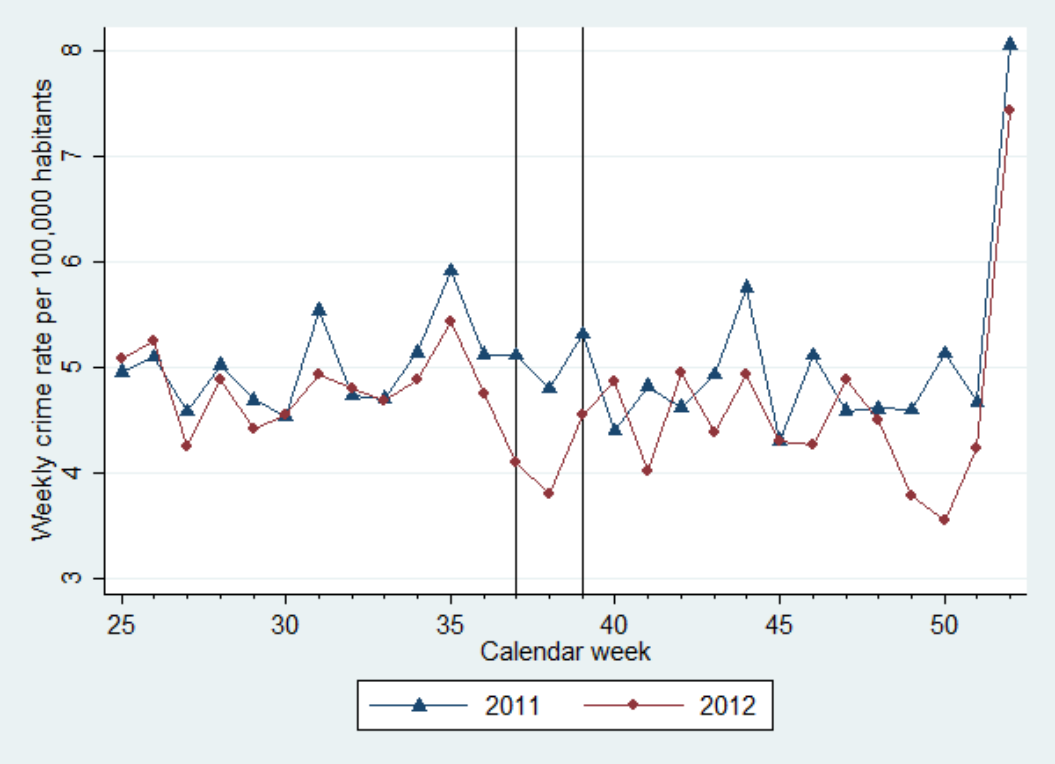


Figure 8: Detail on top 4 alcohol-involving daily crime rates by weekdays and weekends in 2012 and 2011; with the vertical lines delimiting the beginning and the end of the ban on spirits (Source: ESSK)

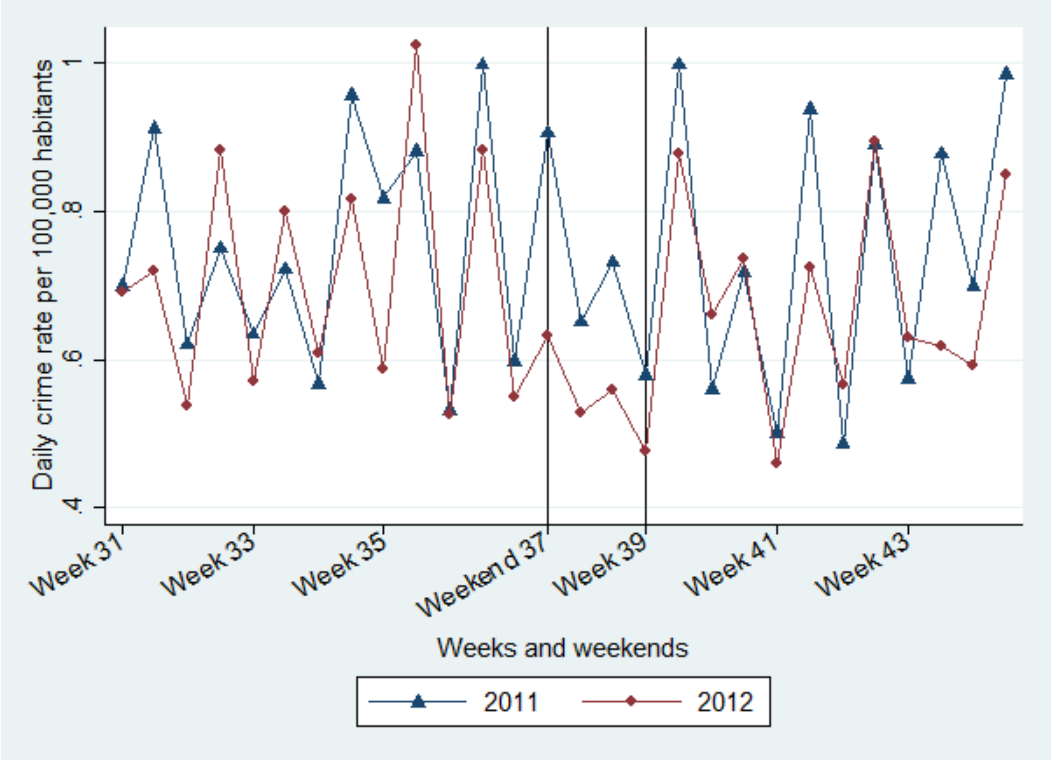


Table 7: Regression results for natural logarithms of the top 4 most alcohol-related crimes

	(1)	(2)	(3)	(4)	(5)	(6)
Equation	(19)	(19)	(20)	(20)	(21)	(21)
Method	OLS	Poisson	OLS	Poisson	OLS	Poisson
Prohibition	-0.0960*	-0.0970**	-0.0117	-0.0907*	-0.0471	-0.113**
	(0.0535)	(0.0475)	(0.0592)	(0.0479)	(0.0654)	(0.0545)
Prohibition*Treated					0.165	0.106
					(0.123)	(0.0974)
Prohibition*Weekend			-0.302***	-0.235***	-0.246***	-0.208**
			(0.0869)	(0.0761)	(0.0914)	(0.0830)
Prohibition*Treated*Weekend					-0.258	-0.128
					(0.238)	(0.199)
Weekend			0.441***	0.403***	0.423***	0.384***
			(0.00927)	(0.00708)	(0.0108)	(0.00823)
Weekend*Treated					0.0881***	0.0895***
					(0.0206)	(0.0153)
Pre-prohibition Week 1&2	0.0609	0.0585*	0.0232	0.0486	0.0232	0.0486
	(0.0370)	(0.0321)	(0.0783)	(0.0549)	(0.0787)	(0.0552)
Post-prohibition Week 1&2	-0.0540	-0.0506	0.0226	0.0119	0.0226	0.0119
	(0.0816)	(0.0734)	(0.0522)	(0.0429)	(0.0523)	(0.0429)
Post-prohibition Week 3&4	0.0210	0.0183	0.0927*	0.0333	0.0927*	0.0333
	(0.0435)	(0.0394)	(0.0510)	(0.0501)	(0.0509)	(0.0496)
Post-prohibition Week 5&6	0.0141	0.00637	-0.135**	-0.108**	-0.135**	-0.108**
	(0.0346)	(0.0299)	(0.0667)	(0.0479)	(0.0668)	(0.0481)
Yearly effects	Yes	Yes	Yes	Yes	Yes	Yes
Weekly effects	Yes	Yes	Yes	Yes	Yes	Yes
Regional effects	N.A.	N.A.	N.A.	N.A.	Yes	Yes
R-squared	0.6280		0.7862		0.511	
Pseudo R-squared		0.0120		0.0169		0.539
Observations	300	300	600	600	8400	8400

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Full tables in Appendices I–N

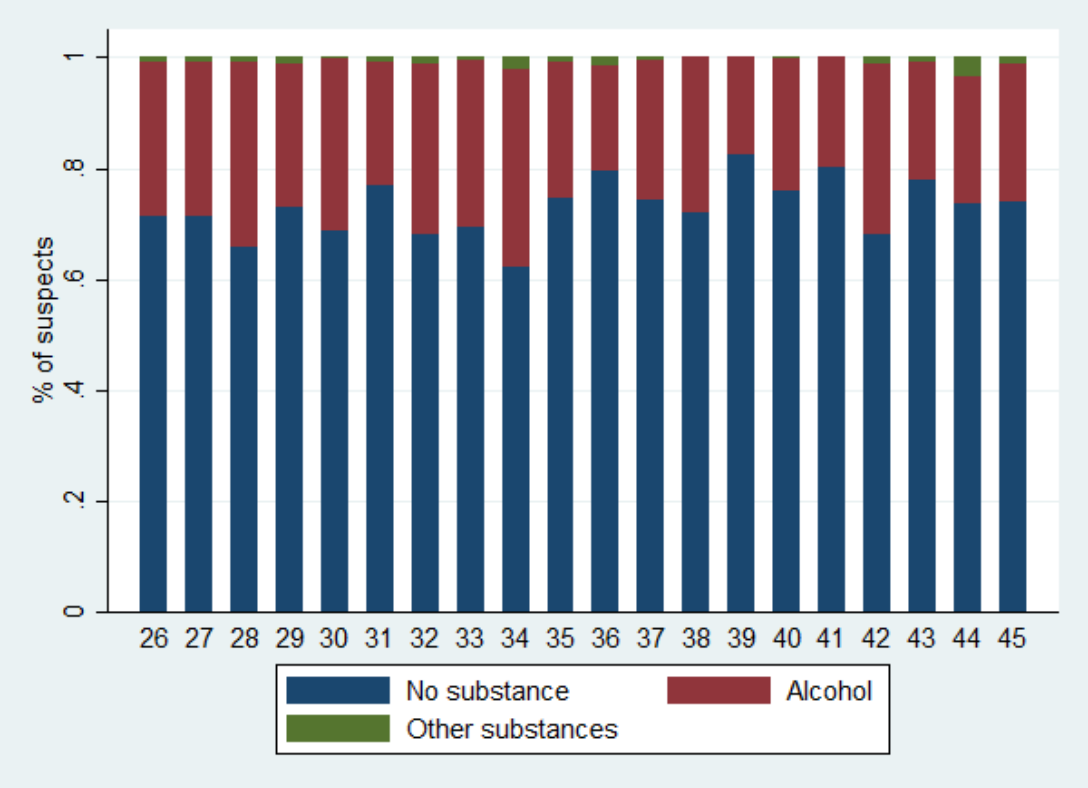
The coefficient estimates are in Table 7. Compared to the earlier aggregate, aggravated assaults, property damage, threatening and vandalism are even more common on weekends, coefficient means of by how much are ranging between 46 and 55 %. Without the distinction between weeks and weekends, the average drop during the 3-week period overlapping the ban on spirits was approximately 10 %. After the division into weekdays and weekends, it becomes apparent that the main reduction is again falling on the weekend criminality. The effect of the ban on spirits on both weekdays and weekends is negative, but the rate of these four crimes saw a more significant and noticeable reduction over the weekends. To interpret the result of the Poisson regression in the 4th column, the weekday crime rate fell by 9,5 % and over the weekend it fell by $\left(\frac{e^{(0.403-0.235)}}{e^{(0.403)}} - 1\right) = -0{,}209$, so the average weekly crime rate during the two weeks of the prohibition fell by:

$$\frac{4}{7} * (e^{(-0.0907)} - 1) + \frac{3}{7} * \left(\frac{e^{(0.403-0.235)}}{e^{(0.403)}} - 1\right) =$$

$$= \frac{4}{7} * -0.086 + \frac{3}{7} * -0.209 = -0.138 = -13.8\,\%$$

Again, the 3 regions in the epicenter of the methanol poisoning epidemic do not significantly differ from the rest. However, the main hypothesis seems to be proven, i.e. the Czech Republic during the two weeks with banned sale of hard liquor saw significantly less of these crimes. And unavailable hard liquor affected the weekend alcohol-related criminality the most, which saw a relative drop of 21–26 % in case of these 4 crimes.

Figure 9: Shares of known offenders under influence by weeks of 2012; only the 4 most alcohol-related crimes included (Source: ESSK)



Another approach how to test the effect on the alcohol-related criminality is to simply look at the number of known crime offenders under the influence of alcohol and test whether it changed with the ban on spirits or not. The database of known offenders in ESSK keeps a record on presence of alcohol, but does not specify the blood alcohol concentration. Therefore, I cannot test the possible changes in average blood concentration of offenders, etc., but I must treat all offenders with any reported presence of alcohol identically. The counts of offenders are collapsed by crime date, i.e. the date when the offence was committed not when the offender was found or detained. The time series of drunk known offenders shall be split into two categories, traffic-related and non-traffic related, as they represent different patterns in behavior and potentially different response to the intervention. The traffic offenses include driving under the influence of alcohol and traffic accidents caused by drunk drivers. The non-traffic offences include all the rest. Graphs of these two variables are in Figures 10 and 11 and their descriptive statistics are summarized in Table 8. As the time series of non-traffic offenders is once more spiking around the end of the year, observations of the first and the last week of every year will be omitted.

Table 8: Summary of descriptive statistics of weekly counts of known offenders under the influence of alcohol

Variable	Offenders in traffic-related crimes	Offenders in non-traffic related crimes
Mean	191.95	97.15
Stand. Dev.	33.56	22.84
Minimum	48	25
Maximum	300	220
Observations	312	312
Time frame	2010w1-2015w52	2010w1-2015w52

(Source: ESSK)

The effect on these two variables will be estimated based on the equation (19), but to quantify possible persisting effects of the ban, the post-prohibition periods will be 4-week long. The pre-prohibition period is two-week long. Estimates are presented in Table 9.

Figure 10: Weekly count of non-traffic offenders under the influence of alcohol by calendar weeks in 2012 and 2011; with the vertical lines delimiting the beginning and the end of ban on spirits (Source: ESSK)

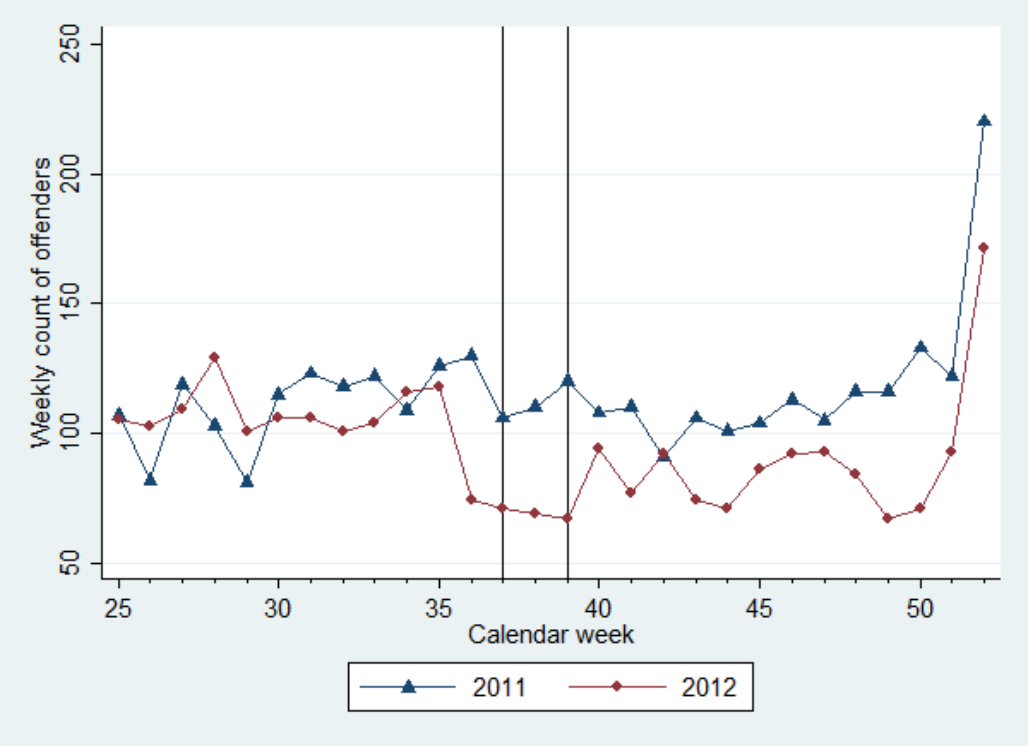


Figure 11: Weekly count of traffic offenders under the influence of alcohol by calendar weeks in 2012 and 2011; with the vertical lines delimiting the beginning and the end of ban on spirits (Source: ESSK)

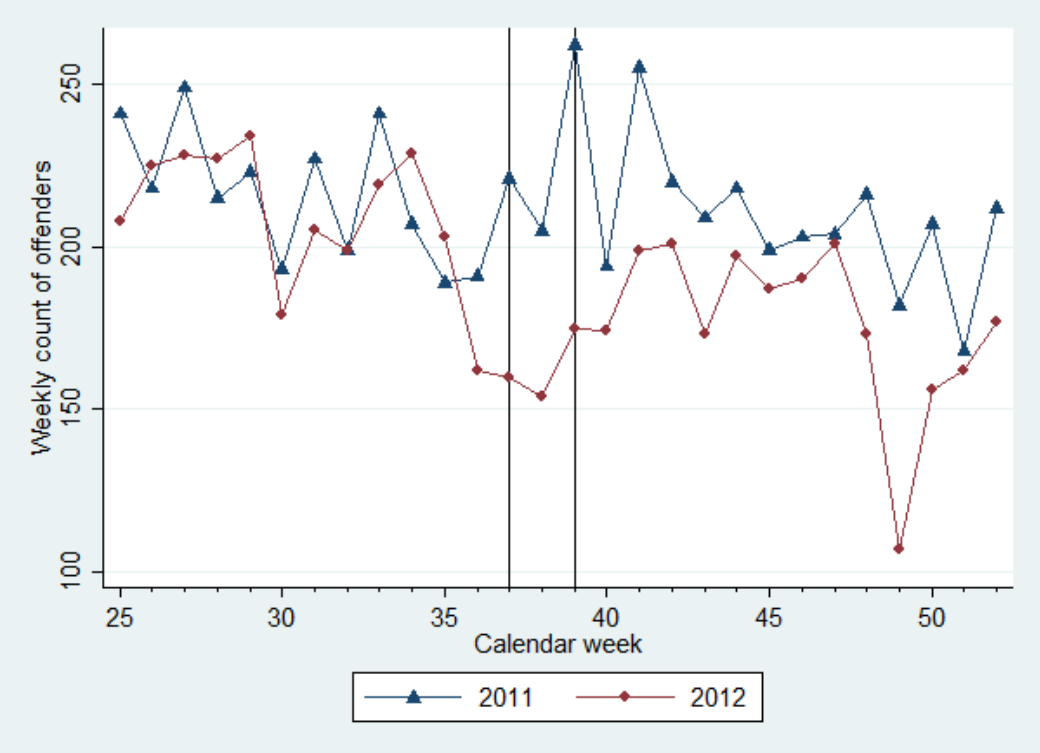


Table 9: Regression results for natural logarithms of counts of known offenders under influence of alcohol

Variable	Non-traffic offenders		Traffic offenders	
	(1)	(2)	(3)	(4)
Method	OLS	Poisson	OLS	Poisson
Prohibition	-0.320***	-0.330***	-0.196***	-0.198***
	(0.0429)	(0.0384)	(0.0605)	(0.0466)
Pre-prohibition Week 1-2	-0.0348	-0.0232	-0.0299	-0.0177
	(0.124)	(0.113)	(0.0953)	(0.0862)
Post-prohibition Week 1-4	-0.0733	-0.0833	-0.140***	-0.133***
	(0.0796)	(0.0734)	(0.0428)	(0.0360)
Post-prohibition Week 5-8	-0.0402	-0.0692	-0.0408	-0.0390
	(0.0730)	(0.0589)	(0.0391)	(0.0331)
Post-prohibition Week 9-12	-0.0329	-0.131*	-0.127	-0.120
	(0.107)	(0.0740)	(0.113)	(0.0914)
Weekly effect	Yes	Yes	Yes	Yes
Yearly effect	Yes	Yes	Yes	Yes
R-squared	0. 566		0.626	
Pseudo R-squared		0.234		0.296
Observations	300	300	312	312

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Full tables in Appendices O-R

The parameter estimates suggest large effect on the number of drunk offenders over the course of the ban on spirits. The count of drunk traffic offenders fell by approximately 18 % and number of non-traffic offenders by 28 %. But while the early effect before the ban was in effect is insignificant, there was a significant persisting effect on traffic offenders under influence even in the following 4 weeks after the ban was lifted, when the number of offenders was lower by 13 %. While the persisting effects on the number of non-traffic offenders have a negative mean, they are indistinguishable from zero except for fall by 12.2 % in post-prohibition weeks 9-12, which corresponds to December 2012.

The data about known offenders in the ESSK are different from the recorded crimes in that not all offenders are uncovered, i.e. from all the recorded crimes only a fraction has a known offender. So, the number of known offenders can be driven down either by lower criminality or lower rate of uncovering the crimes or finding the offender. Likewise, the reported criminality may be driven down by less crimes committed or by lower rate of reporting. Since the police forces can be expected to have been overwhelmed with investigating the poisonings, searching for the source of methanol and overseeing the enforcement of the prohibition, the crime reporting itself could have been affected. However, this does not seem to be the case for the 4 crimes studied in the beginning of this section. In this 6-year-long period, 125,081 out of those 150,336 cases of reported offenses were reported by citizens and another 15,509 by businesses. So, in total it is only about 7 % of these crimes that are reported by either law enforcement, other instances of the judicial system or any other branch of the government. For the offenses reported between 37th and 39th week of 2012, this share did fall to 5.5 %, but this cannot explain the whole drop in crime. Still, in the next section I will address the possibility of certain crimes being affected rather by the lower rates of police detection capabilities.

2.5 Effect on police detection activity and driving under influence

In this section I will focus on how much of the drop in reported crimes can be attributed to the ban on hard liquor and how much to the discontinuity in police presence, i.e. they were not reported because of low detection rates. Most crimes are reported by the victims, but some, as e.g. drunk driving, can only be reported when it is detected. The intensity of detection by police can be proxied by another crime, driving with a suspended license, which also requires detection by the police to be reported, but is unlikely to be further affected by the ban on spirits.

In Czech penal code, driving under influence of alcohol can either be classified as a petty crime or a serious offense. The benchmark when the driver is considered incapable of driving a car was legally set as 1 ‰ of BAC, so anything over that is an aggravated offense qualified as §274 of the penal code, i.e. "endangerment under influence" ("Ohrožení pod vlivem návykové látky"). Nevertheless, there is currently zero alcohol tolerance policy for drivers. Any alcohol levels beneath 1 ‰ are punishable by a fine from 2,500 CZK up to 20,000 CZK and suspended driving license for up to a year. When the driver's BAC is found out to be over the benchmark, the offense will always be examined by court. The driver may be sentenced to up to 3 years in jail and can have his driving license suspended for up to 10 years, with 1 year suspension being the mandatory minimum sentence. Also, there are occasions when the offense is qualified as an aggravated crime despite being tested below 1 ‰, e.g. based on testimonies by the witnesses or when other psychoactive substance is tested positive. The offenses defined by §274 of the Czech penal code are recorded within the ESSK, unlike the cases when the driver was only charged with a petty crime. I can therefore only test if the ban on spirits influenced the recorded rate of aggravated cases of drunk driving.

The proxy variable for the detection intensity will be § 337 of the penal code "Frustrating the execution of an official decision" ("Maření výkonu úředního rozhodnutí") which covers any disobeying of court orders or orders by any other authority. These cases are recorded under TSK 663 and include mostly driving with a suspended license, but covers also offences such as disobeying deportation order, avoiding prison sentence or attending cultural or sport events while being forbidden to. So, the individual traffic related cases of these offenses cannot be distinguished from the rest. Unfortunately, neither driving under influence has a special classification within ESSK. The § 274 of the Czech penal code also applies to cases of being impaired to work,

where one's intoxication could lead to damage to health or property. All such cases are reported under TSK 771, which also includes offenses defined in § 360 as drunkenness. So the way the records are kept in police's information system, I cannot distinguish the categories precisely, but I can still use them with caution as a proxy.

In the studied 6 years of available records, about 10 % of reported cases with TSK 663 (Frustrating the execution of an official decision) were reported by citizens and businesses and this ratio remained the same also during the weeks of partial prohibition. That is, assuming there are always offenders to be charged, the rate by which they are uncovered and reported as frustration can serve as a very good proxy of police detecting intensity.

Table 10: Summary of descriptive statistics of weekly rates of crimes recorded under TSK 663 and 771

Variable	"Frustrating the execution"	"Endangerment under influence"
Mean	2.498112	2.15599
Standard deviation	.4602	.3486921
Minimum	.5124179	.7138225
Maximum	3.642026	2.90133
Observations	312	312
Time frame	2010w1-2015w52	2010w1-2015w52

Source: ESSK

The effect of the intervention on the time series of natural logarithms of these crime rates will be estimated on equation (19) and to capture any additional effects in the regions of the epicenter of the poisonings and arguably with the most overwhelmed police, the equation for the regional panel is:

$$\ln(Crime\_rate_{rt}) = \beta_0 + \beta_1 * Prohibition_t + \beta_2 * Prohibition_t * Treated_r + \beta' * X_t + \alpha_r + \alpha_w + \alpha_y + \epsilon_{rt} \quad (22)$$

Figure 12: Reported rates of "endangerment under influence" by calendar weeks in 2012 and 2011; with the vertical lines delimiting the beginning and the end of ban on spirits (Source: ESSK)

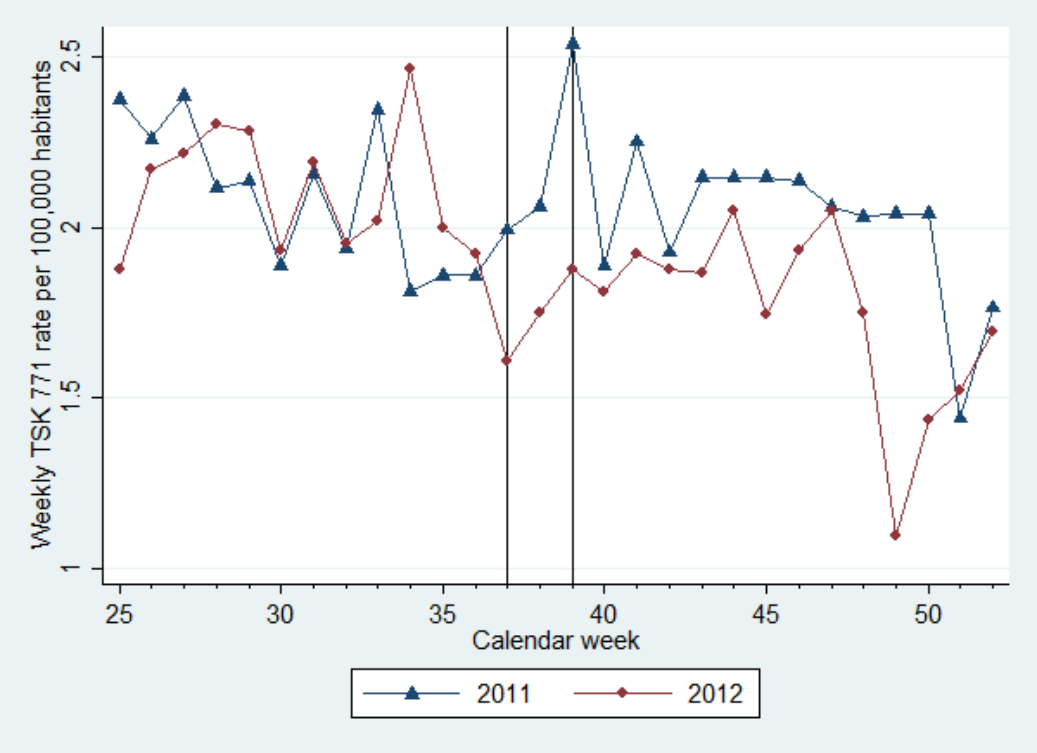


Figure 13: Reported rates of "frustrating the execution of an official decision" by calendar weeks in 2012 and 2011; with the vertical lines delimiting the beginning and the end of ban on spirits (Source: ESSK)

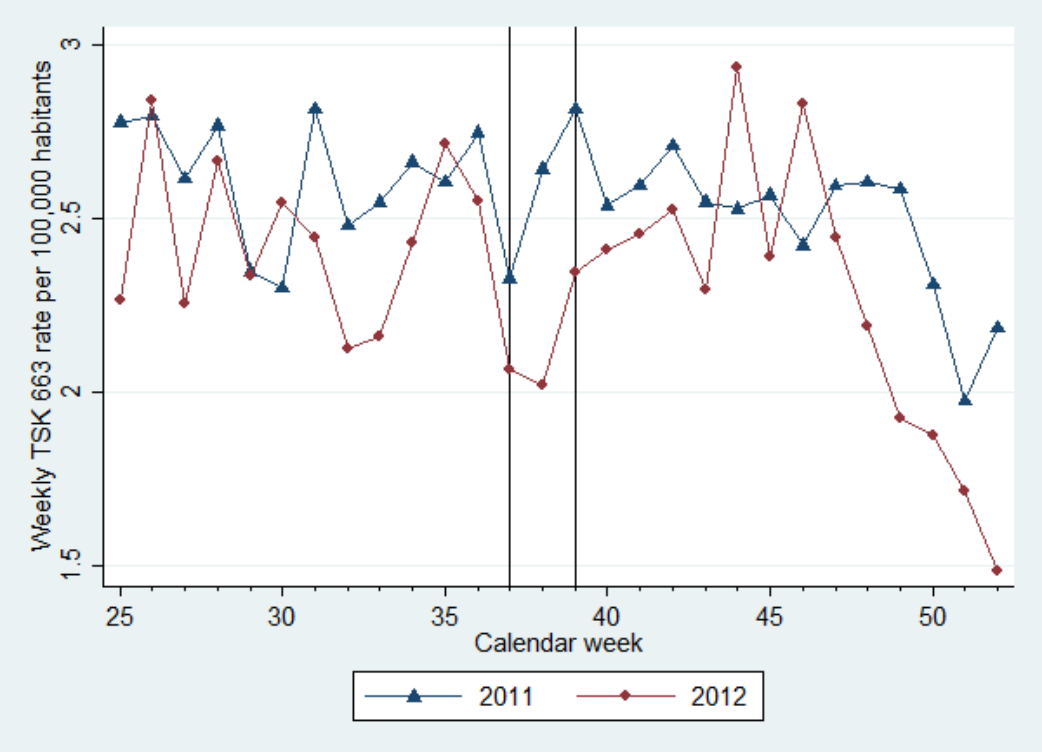


Table 11: Regression results for natural logarithms of weekly rates of endangerment under influence and frustrating the execution of an official decision

	ln(Endangerment under influence)				ln(Frustrating the execution)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Equation	(19)	(19)	(22)	(22)	(19)	(19)	(22)	(22)
Method	OLS	Poisson	OLS	Poisson	OLS	Poisson	OLS	Poisson
Prohibition	-0.108**	-0.102***	-0.0649	-0.0877	-0.0959***	-0.0909***	-0.129**	-0.0962*
	(0.0444)	(0.0390)	(0.0861)	(0.0707)	(0.0363)	(0.0295)	(0.0650)	(0.0563)
Prohibition*Treated			-0.242	-0.190			0.166	0.119
			(0.175)	(0.122)			(0.151)	(0.131)
Pre-prohibition Week 1&2	0.0690*	0.0737**	0.00893	0.0480	0.130***	0.129***	0.158***	0.147***
	(0.0386)	(0.0326)	(0.0794)	(0.0709)	(0.0353)	(0.0304)	(0.0583)	(0.0511)
Post-prohibition Week 1&2	-0.122***	-0.124***	-0.125*	-0.0902	-0.0394	-0.0410	-0.0385	-0.0487
	(0.0455)	(0.0387)	(0.0666)	(0.0620)	(0.0365)	(0.0321)	(0.0626)	(0.0618)
Post-prohibition Week 3&4	-0.146***	-0.142***	-0.201**	-0.143*	-0.000179	0.000143	0.0337	0.0194
	(0.0466)	(0.0407)	(0.0946)	(0.0771)	(0.0276)	(0.0254)	(0.0583)	(0.0483)
Post-prohibition Week 5&6	-0.0739	-0.0641	-0.104	-0.0595	0.159**	0.160***	0.208***	0.205***
	(0.0623)	(0.0549)	(0.0870)	(0.0801)	(0.0620)	(0.0544)	(0.0574)	(0.0575)
Yearly effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Weekly effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regional effects	N.A.	N.A.	Yes	Yes	N.A.	N.A.	Yes	Yes
R-squared	0.7810		0.5568		0.6163		0.3514	
Pseudo R-squared		0.0246		0.1041		0.0134		0.0691
Observations	312	312	4,368	4,368	312	312	4,368	4,368

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Full tables in Appendices S-Z

Estimated mean of the parameter Prohibition suggests that the recorded crime rates of both these categories decreased by approximately 10 % during the weeks of prohibition compared to the control years. Now let's imagine a perfect model, where all cases of "Frustration of execution of an official decision" represent uncovered cases of drivers with suspended license and that all the cases of "Endangerment under influence" are cases of driving under influence. Moreover, the variables rates represent true rates of drunk driving and the true reporting intensity of the police. Assuming that the ratio of these variables is constant, the intervention that would affect both the rates of drunk driving and the probability of it being uncovered by the police would affect it in these two ways:

$$\Delta DUI = \frac{DUI}{DWSL}\Delta DWSL + \Delta\left(\frac{DUI}{DWSL}\right) * DWSL \quad (23)$$

I.e., the observed change in recorded cases of driving under influence might be decomposed into change in detection rate $\frac{DUI}{DWSL}\Delta DWSL$ and the change in drunk driving ratio $\Delta\left(\frac{DUI}{DWSL}\right) * DWSL$, which would suggest an actual decrease in prevalence of drunk driving. On an average week, there are 231 recorded cases of endangerment under influence in ESSK and 262 cases of frustration of execution of an official decision. That means the average share was $\frac{231}{262} = 0.89$. This ratio remained almost the same during the prohibition in September 2012 as both variables dropped by approximately 10 % (the change is around -1 %). Substituting the results from the Table 11, Columns (1) and (5) into equation (23) would yield following results:

$$(e^{-0.108} - 1)* 231 \cong 0.89 * (e^{-0.096} - 1) * 262 + \left(\frac{e^{-0.108}}{e^{-0.096}} - 1\right) * 262$$

$$-0.102 * 231 \cong 0.89 * (-0.091) * 262 + (-0.012) * 262$$

$$-23.56 \cong -21.21 - 3.14$$

If the assumptions about these two variables hold, this decomposition example shows that most of the reduction in reported cases of driving under influence during the weeks of ban on spirits can be attributed to lower detection rates. While the relative drop in drunk driving of 10.8 % represents approximately 23 cases per week less, the lower detection rate (measured by rates of reported driving with a suspended driving license) in this case accounts for approximately 90 % of the decrease. These results, however, can

only be generalized for offenses that must be detected by the law enforcement, i.e. they are without a victim who would report it. But an actual reduction in drunk driving might have occurred after the end of ban. The rates of endangerment under influence are lower than predicted by control years while the rates of frustrating the execution do not differ.

2.6 Effect on property crime rates

In this final section, I will test whether there was a change in reported property crimes as a by-product of the increased police activity. Multiple previous studies show a negative correlation between police presence and different types of crime rates. The relationship between crime and policing intensity cannot be captured on random samples due to simultaneity between them, as in the long run higher criminality can be expected to lead to a higher number of hired policemen and vice versa. This simultaneity bias makes it impossible to capture the true relationship unless natural experiments are exploited. I.e., the relationship needs to be examined in a setting where the size of the police force rises exogenously.

The study of 59 cities in the USA by Steven Levitt exploits the effect of election cycle on police hiring, as the local politicians tend to increase the number of policemen during the election years. The impact of the increased hiring was a reduction in the rates of homicide, assaults and to a smaller degree property crimes. (Levitt, 1997) Other events where the activity of the police rises are terrorist attacks. Following the attacks on London's subway in July 2005, many policemen were redeployed between neighborhoods to guard public spaces and transport nodes. The visibility of the police force was estimated by Draca to affect especially street crime as thefts or violence. On the other hand, it left unaffected the rates of burglaries, criminal damage or sexual offenses, which usually happen outside main public spaces. So Draca's results conclude that increased policing does reduce crime, but only selectively for types of crime that are susceptible to the given change in policing. Another conclusion is that the effect is very local and in case of London did not spill over to any areas even few corners away. Finally, the effect was not persistent and returned to its baseline level after the end of Operation Theseus (Draca, et al., 2011)

The activity of the Czech police was shifted during September 2012 mainly towards looking for the source of poisonings in the affected regions, and to enforce the ban on spirits after the government had announced it. So, given the results by Draca, one would think that the crimes most affected by the selective focus on bars and restaurants, would be the violent offenses usually associated with bars, as shown in previous sections. I.e. the police activity may be one of the factors of the decrease. However, these facilities suffer from another crime, and that is burglary.

So, I will test how did the prohibition affect the overall property crime rate, i.e. both burglaries and larcenies. Most of the property crimes are defined by § 205 of the penal code, both burglaries and larcenies together, but the police keeps track of the distinct types and objects of crime. Therefore, the second crime of interest is the burglary into bars and restaurants which is recorded within ESSK under a specific TSK code. Their descriptive statistics are in Table 12. The regression equation is:

$$\Delta_{52} Crime\ rate_{rt} = \beta_0 + \beta_1 * Prohibition_t + \beta_2 * Prohibition_t * Treated_r + \Delta_{52} x_{rt} + \Delta_{52} \epsilon_{rt} \quad (4)$$

, where Δ_{52} is the time operator as the dependent variable being tested are year-to-year differences in recorded weekly crime rate between 2012 and 2011. Parameter β_1 will absorb all the relative change that is common for all the regions and parameter β_2 is the seasonally adjusted difference-in-differences parameter, i.e. the relative change only occurring in the regions treated with the intervention.

In this case, I will also use the same method of modelling the change to crime rate levels as so far to provide a comparison of the outcomes. The regression equation for levels is again (22). The parameter estimates of yearly differences as in Equation (4) are in Table 13 and the estimates of Equation (22) are in Table 14.

Table 12: Summary of descriptive statistics of weekly property crime rates

Variable	Aggregate property crime	Burglary into bars and restaurants
Mean	9.802	0.397
Standard deviation	2.114	0.111
Minimum	3.748	0.142
Maximum	14.635	0.704
Observations	312	312
Time frame	2010w1-2015w52	2010w1-2015w52

(Source: ESSK)

Figure 14: Weekly property crime rates by calendar weeks in 2012 and 2011; with the vertical lines delimiting the beginning and the end of ban on spirits (Source: ESSK)

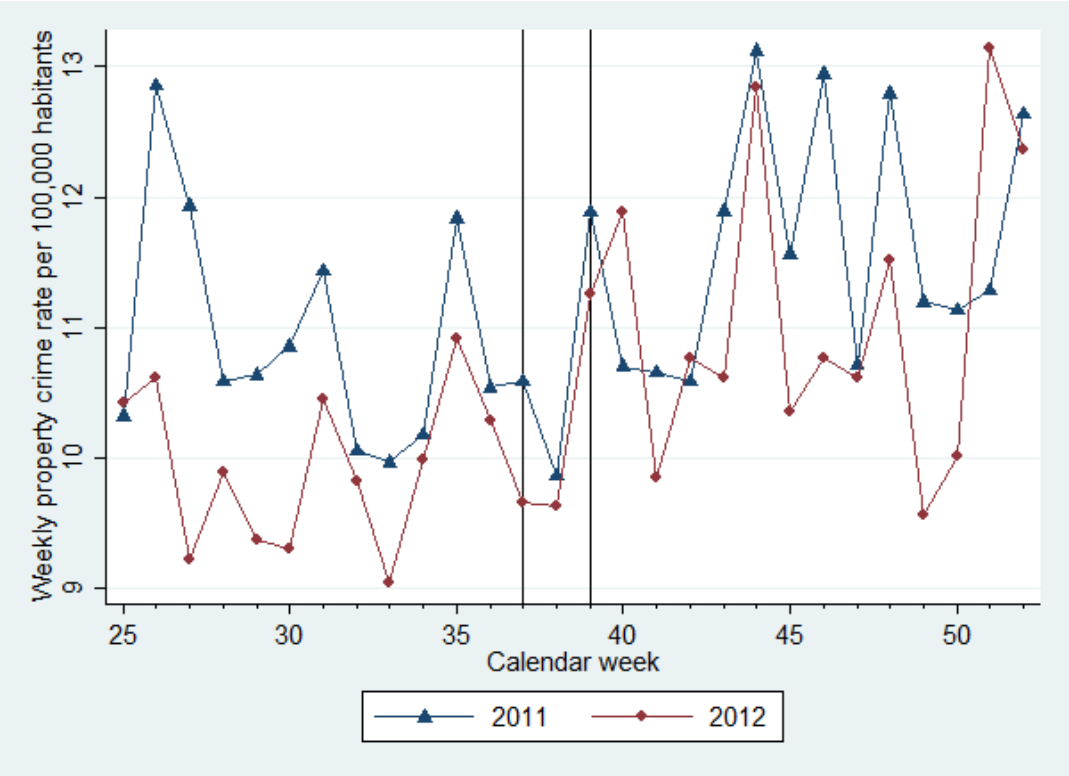


Figure 15: Weekly property crime rates between 2011-2015; vertical lines delimiting years (Source: ESSK)

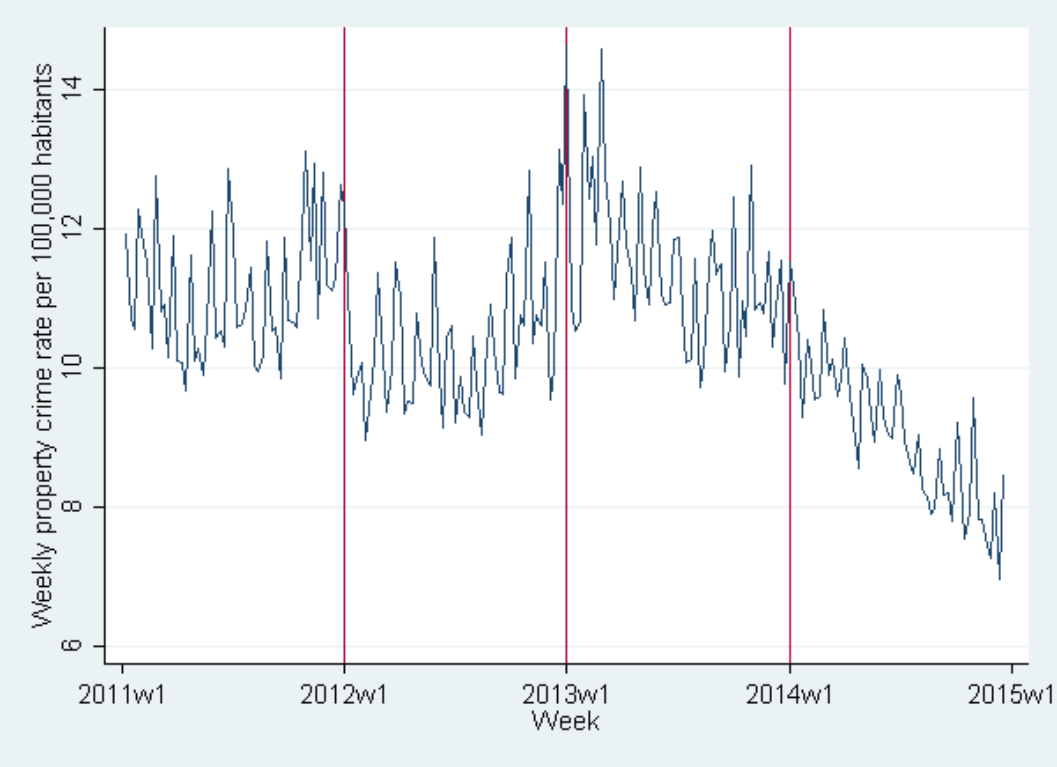


Figure 16: Weekly rates of burglaries into bars and restaurants by calendar weeks in 2012 and 2011; with the vertical lines delimiting the beginning and the end of ban on spirits Bars and restaurants (Source: ESSK)

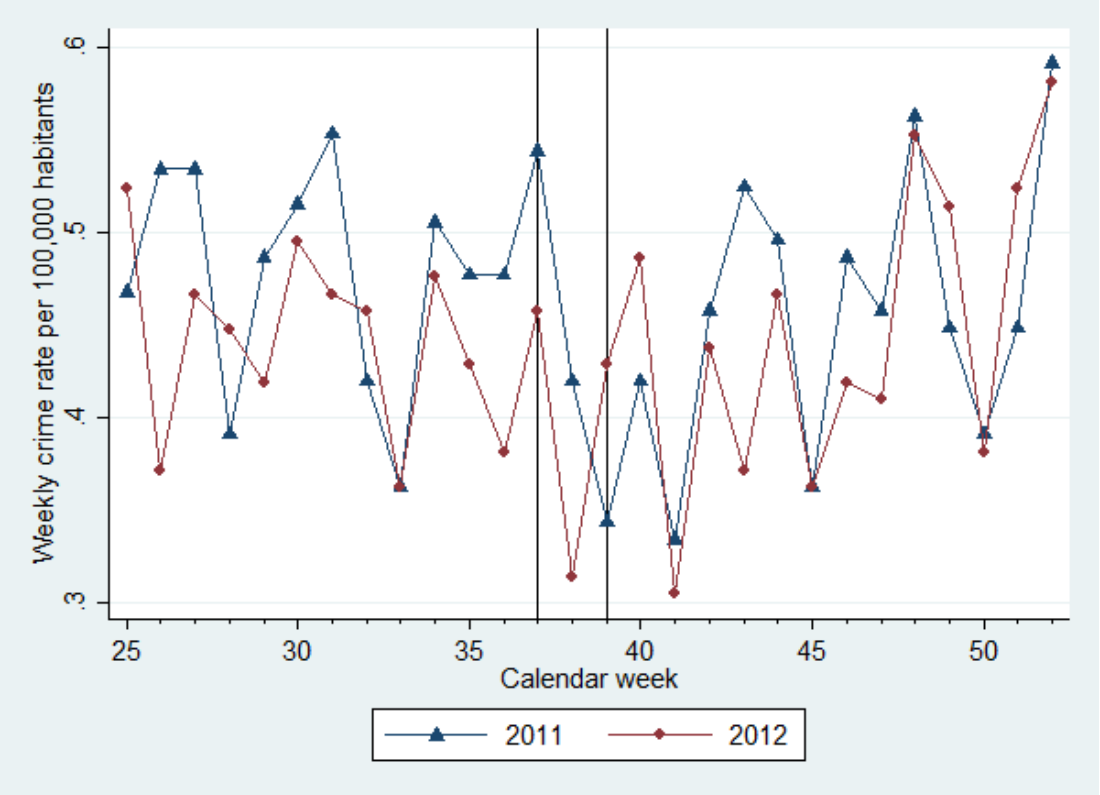


Figure 17: Weekly rates of burglaries into bars and restaurants between 2011-2015; vertical lines delimiting years (Source: ESSK)

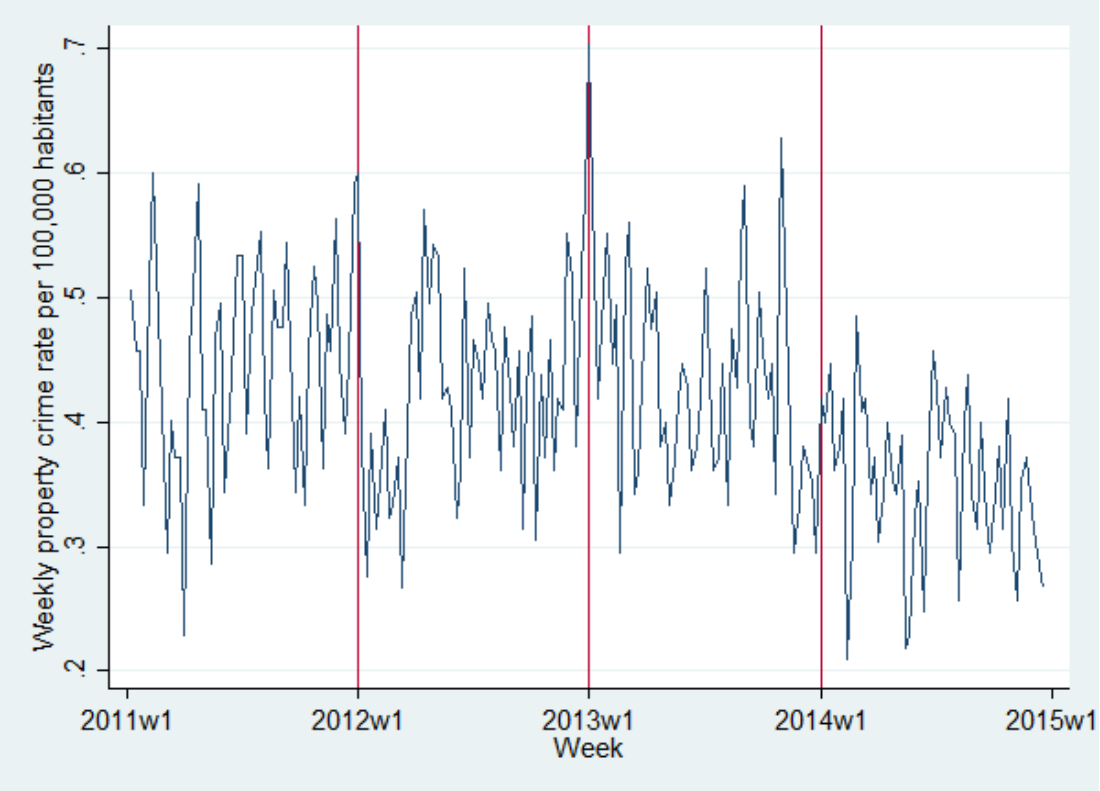


Table 13: Regression results for seasonally adjusted difference-in-differences

Variable	Property crime	Burglary into bars and restaurants
	(1)	(2)
Method	OLS	OLS
Prohibition*Treated	1.142	-0.323*
	(1.346)	(0.196)
Prohibition	-0.429	0.0424
	(0.637)	(0.0572)
Trends	Yes	Yes
R-squared	0.127	0.082
Observations	728	728

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Full tables in Appendices AA and AB

Table 14: Regression results for natural logarithms of property crimes

Variable	ln(Aggregate property crime)		ln(Burglary into bars and restaurants)	
	(1)	(2)	(3)	(4)
Method	OLS	Poisson	OLS	Poisson
Prohibition	-0.0649	-0.0877	0.403	0.0744
	(0.0861)	(0.0707)	(0.375)	(0.118)
Prohibition*Treated	-0.242	-0.190	-0.794	-0.374
	(0.175)	(0.122)	(0.669)	(0.280)
Pre-Prohibition Week 1&2	0.00893	0.0480	-0.908**	-0.325**
	(0.0794)	(0.0709)	(0.442)	(0.146)
Post-prohibition Week 1&2	-0.125*	-0.0902	0.223	0.0575
	(0.0666)	(0.0620)	(0.380)	(0.139)
Post-prohibition Week 3&4	-0.201**	-0.143*	0.425	0.0368
	(0.0946)	(0.0771)	(0.384)	(0.159)
Post-prohibition Week 5&6	-0.104	-0.0595	0.145	-0.00585
	(0.0870)	(0.0801)	(0.354)	(0.133)
Yearly effects	Yes	Yes	Yes	Yes
Weekly effects	Yes	Yes	Yes	Yes
Regional effects	Yes	Yes	Yes	Yes
R-squared	0.351		0.172	
Pseudo R-squared		0.0691		0. 0286
Observations	4,368	4,368	4,368	4,368

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Full tables in Appendices AC-AF

The recorded crime rates did not significantly change during the time frame of the treatment period. Conclusions of the previous studies were that property crimes are susceptible only to a visible presence of the police, but that presence was rather shifted to enforcing the ban on spirits and preventing further spreading of the methanol poisonings and uncovering its source. Nevertheless, the results of seasonally adjusted difference-in-differences are that there was no significant change in reported overall property crime rate between weeks 37 and 39 of 2012. On the other hand, there was a significant drop in reported rate of burglaries into bars and restaurants in Moravskoslezský, Olomoucký and Zlínský regions compared to the rest of the country. The rate dropped by 0.323 burglaries per 100,000, which is almost the whole average weekly rate (however Table 12 only presents national crime rate statistics, the mean crime rate in the 3 regions is 0.49) The results of the seasonally adjusted difference-in-differences are not confirmed by the estimates of crime levels with equation (21), because the parameter Prohibition*Treated, although sizeable in mean value (corresponding to a relative drop of 51 % in OLS estimates and drop of 31 % in Poisson model) is indistinguishable from 0 given the standard error.

The results suggest that the level of aggregate property crime rate remained unchanged over the course of the intervention time frame, but the consequences of methanol poisoning epidemic discouraged burglars from breaking into bars and restaurants. The reasons may by that all the places that also sold alcohol were in the spotlight of the police and, of course, that the ban on spirits probably negatively affected the attendance and the revenue of the bars, leading to both a lower expected reward from stealing in bars and/or higher probability of being punished for the offense due to increased supervision by the law enforcement. The estimates of the post-ban parameters in Table 14 suggest that some other events might have been driving the decrease in aggregate property crime after the treatment period. Finally, the only significant effect on the rates of burglaries into bars in Table 14 is the one overlapping the pre-ban period, suggesting drop of between 28–60 %, which might have been driven by the inspection of alcohol quality since before the ban.

2.7 Model diagnostics

The two estimation methods employed in this thesis were standard OLS and Poisson regression model. The main assumption of these two methods concern the distribution of the dependent variable. Typical examples of crime rate distribution are in Appendices G and H, the levels were estimated by Poisson regression as they resemble the Poisson distribution and the effect on the natural logarithms of crime rates were then estimated with OLS.

The assumptions of these methods also include constant and finite variance of the error term, while the error term must also not be serially correlated. Any violation of either homoscedasticity or serial independence would lead to biased estimates of the standard errors and both the significance tests of parameters and the whole model lose power. The estimated means of parameters remain unbiased, but the estimation method is no longer efficient. These violations have been to a certain degree overcome by methods of robust standard error estimators which use alternative methods of determining the variance-covariance matrix without the strict assumptions. The heteroscedasticity-consistent standard error estimator, also known as Huber/White/sandwich, is integrated into Stata, where I did all my estimations. This estimator has then been extended to also account for serial correlations by Newey and West (Newey, et al., 1987). These estimates are robust to underestimation of the standard error when the data are both heteroscedastic and autocorrelated, and are integrated into Stata as command "newey". This command fits the data using OLS with heteroscedasticity and up to n serial correlations consistent standard errors. The sandwich estimator is also a special case of Newey-West estimator with 0 autocorrelated lags. To determine the number of lags n, I took standard OLS and tested the serial correlation of the error term. For example, for the estimates of the prohibition effect on the aggregate of the top 4 alcohol-involving crimes, the residuals of simple OLS are as in Figure 18 where, due to logarithmic transformation of the crime rate, the residuals are percentage deviations of fitted values from the observed data. Then I estimated the autocorrelation function and the last lag to show a correlation higher than the critical value on 95% confidence level was lag 6. The plot of the autocorrelation function with the critical values are in Figure 19. I could therefore reject that the residuals are a white noise as assumed by OLS and the model for this variable will have the standard errors estimated by Newey-West robust estimator with up to 6 lags. While the

Figure 18: The residuals of equation (19) model regression explaining the top 4 alcohol-involving crimes (Source: author's own analysis)

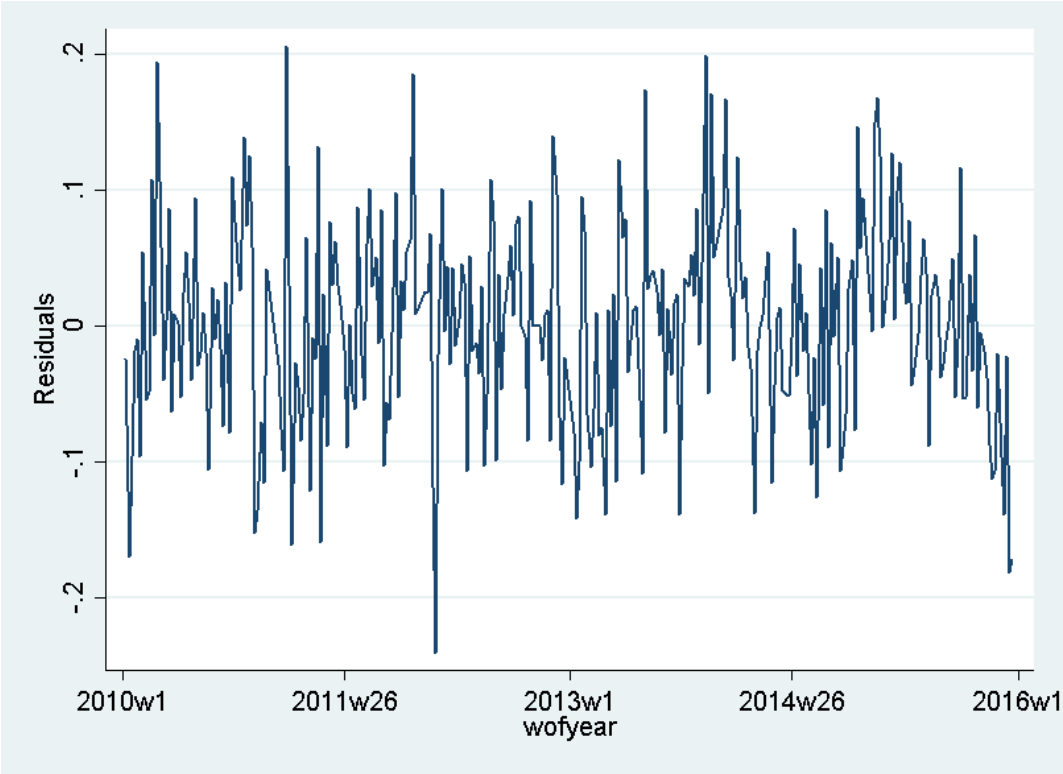
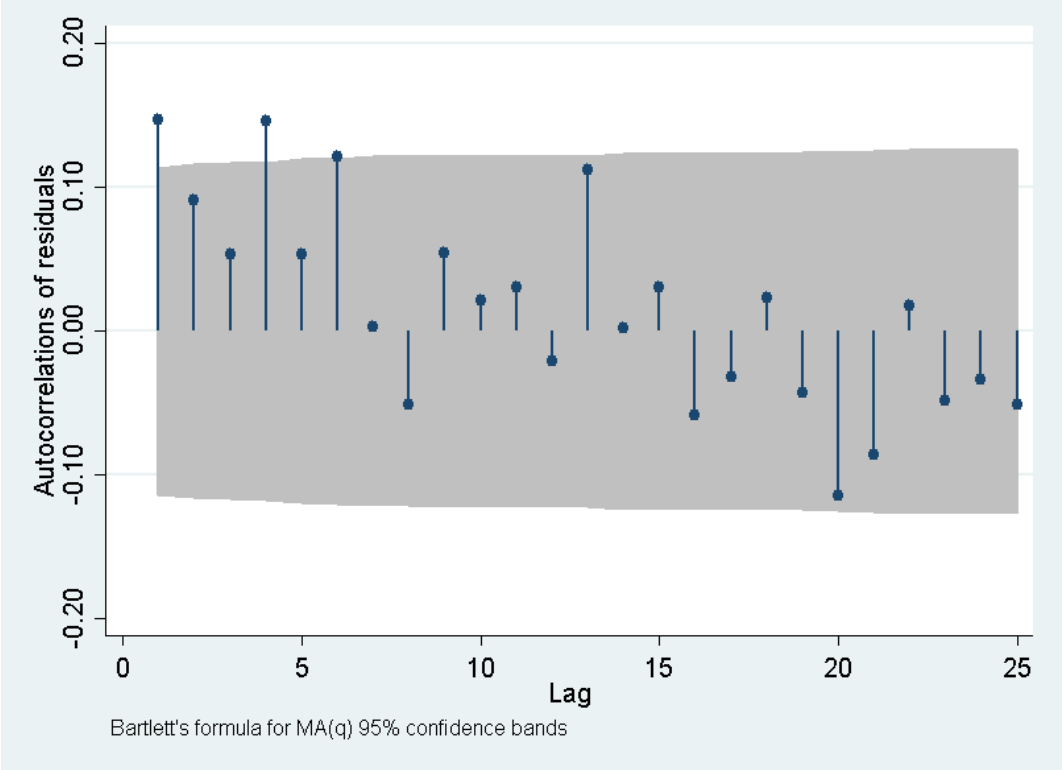


Figure 19: Autocorrelation function of the residuals of equation (19) model explaining the top 4 alcohol-involving crimes (Source: author's own analysis)



robust estimators correct the error for biases caused by violations of the underlying assumptions of the models, they cannot correct for any specification errors. I.e., the assumption of the robust standard error estimates is the correctness of the model to fit the parameters of the generating process. If the model is misspecified, then the robust standard errors are biased all the same. (Freedman, 2006)

The OLS estimates on time series also assume that such a time series is stationary, i.e. it has no unit root. Using the Dickey-Fuller test for the presence of a unit root in the error term of the models, each of the crime rates is either stationary or trend-stationary and so are the residuals. The models use only binary variables representing categorical dependent variables which are susceptible to perfect multicollinearity, sometimes called the dummy variable trap. That was prevented by always omitting one of them. Every model in this thesis was tested for presence of multicollinearity by variance inflation factors, and in all cases the collinearity between any given variables was low and the matrix had a full rank.

The models explaining evolution of crime in this thesis all employ only seasonal and trend adjustment in order to reduce the amount of noise in the data as much as possible, given the unavailability of suitable explicatory variables. The significance of the models employed in my analyses was supported by F-tests which in all cases I could reject the null hypothesis that the parameters of the model as a whole are insignificant. Although, the cases when one cannot reject such hypothesis are scarce. The significance of Poisson regression model is tested by likelihood ratio chi-square test, where the test statistic for x predictors is:

$$LR(x) = -2*\big(l(Null) - l(Model)\big) \qquad (24)$$

Where the $l(Model)$ is log-likelihood of the estimated model and $l(Null)$ is the log-likelihood of an intercept-only model. Using the likelihood ratio chi-square test, also the insignificance of all the Poisson regression estimates can be rejected. The fit of the data can be examined by R-squared, also called the coefficient of determination, in case of OLS, which is a ratio of the variability explained by the model. Poisson regression cannot be examined this way, but a similar measure was invented for it, the pseudo R-squared. However, it cannot be compared to the OLS R-squared. In Stata, Poisson regression outputs include McFadden's pseudo R-squared, which is defined as

$$Pseudo\ R^2 = 1 - \frac{l(Model)}{l(Null)} \quad (25)$$

So, while a larger value of pseudo R-squared suggests a better fit, it is common that values over 0.2 suggest an excellent fit of the data. These statistics are attached in Appendices with every regression table.

2.8 Limitations

My thesis uses the best available data, but has a very limited sample of 6 years. In this case in which I attempted to capture the effect of a short intervention on weekly data, that can substantially bias the estimates of seasonal weekly factors which are crucial for capturing the studied effect. The thesis depends on an assumption of cyclic additive effects that are common to the same calendar weeks over the years, which is also a strong assumption. There may be many factors in determining short-run variations of crime, which are unobserved in this thesis. The estimates only capture the effect that equals the difference between the observed crime rates and what would have been expected of the same period of time given the cyclic weekly effects and correcting the yearly mean to control for long-run trends. Such assumptions are strong and the estimates may be biased by omitting other significant explanatory variables of the crime function.

For the estimates of treatment effects to be considered causal, counterfactual analysis needs to be employed. As the treatment of the ban on spirit was nationwide, no valid control group may be used. Therefore, I have to assume that no other unobserved shock that would be also correlated with the dependent variable did not take place at the same time as the ban on spirits and other consequences associated with the methanol poisonings. A valid counterfactual that would follow the same trends and shocks and would not be affected by this intervention, would have allowed me check whether such shock did or did not occur at the same time and hence prove the causality.

3 Conclusions

The two weeks of prohibition and intensive police activity helped rapidly uncover the source of the mass poisoning and certainly reduced the number of casualties. Those two entrepreneurs from whom the methanol originated were both sentenced to life imprisonment. (ČTK, 2016a) The distributors and retailers that sold or mixed the poisonous mixture were all charged as well, thus making the methanol poisonings the criminal case with the highest number of defendants in Czech history. In total 60 people were accused till April 2013. (Pokorný, 2013) However, the police also uncovered huge tax evasion as a by-product of the raids targeting the sources of methanol. One of the leads from the methanol poisonings investigation brought the police to several warehouses throughout the country with hundreds of thousands of liters of untaxed spirits which were then linked to a single organization. The head of what came to be called by the media "the spirit mafia" was sentenced to 13 years in jail for avoiding taxes over the course of 15 years, totaling estimated 6.39 billion CZK. (ČTK, 2015)

Because of the methanol poisonings and the subsequent raid on the black market, the share of illicit spirits is estimated to have dropped to about 8 % of the market. New set of regulations that were passed by the government that put the alcohol producers under constant supervision. Also, all the businesses in alcohol industry face stricter licensing policy. The average consumption of spirits in the Czech Republic slightly decreased in the next years, but both the sales of legal producers and importers and the excise tax revenue rose. (ČTK, 2016b)

The ban on hard liquor was an emergency measure following the outbreak of poisonings. Such intervention provides a valuable experimental setting to capture the causal link between alcohol and crime, one of the many externalities attributed to alcohol consumption. Using methodology specified in Section 2.1, I estimated the effect on time series and regional panels of crime rates as they were reported in police information system ESSK.

The effect on nationwide aggregate violent crime rate was negative, approximately -10 %. This reduction falls mainly on weekend criminality, as this crime aggregate usually spikes on weekends but during the timeframe of the prohibition the spikes were largely mitigated. The same results were yielded after limiting the analysis on the rates of 4 crimes that, by the police records, have the highest share

of offenders under the influence of alcohol (of course, except for primary alcohol crimes like driving under influence). The average rate of these 4 crimes, i.e. aggravated assaults, property damage, vandalism and criminal threatening fell by approximately 9 %, but is again most attributable to the decrease in weekend crime rate, which fell by estimated 21–26 %, depending on estimation method.

These results are in accordance with previous body of research on alcohol-crime relationship. However, I cannot quantify the partial prohibition's effect on total alcohol consumption. While the ban only targeted hard liquor, drinkers could have substituted it with higher doses of beverages with less than 20 % ABV so I cannot tell by how much the average consumption went down if at all. Yet, the uncertainty about alcohol quality could also lead to higher general avoidance of alcohol as such. Also, any changes in alcohol consumption may have persisted even after the ban, but any of these claims are unsubstantiated as data about any of them are not available. Still, the binge drinking as a high-risk factor of ending up in a criminal offence was to a certain degree limited by the ban, which would explain the decrease. Also, some of the reduction may be attributed to lower attendance of bars or other public drinking venues which are the usual hotspots of crime.

A substantial effect was also observed on the time series of number of known offenders that were under the influence of alcohol. The total number of drunk offenders fell by approximately 18 % in traffic-related offences, while the number of non-traffic offenders under influence fell by estimated 28 %. The negative effect on this time series also showed persistence of the negative effect.

The assumption that one usually must make when studying reported crime rates is that the ratio between the reported and the actual crime is constant over time. The reporting patterns, however, were likely affected by the increased needs of police presence in the enforcement of the prohibition or poisonings investigation. For that, I suggested a model example where reported cases of driving under the influence of alcohol are used as a proxy variable susceptible both to lower availability of alcohol and lower police detection rates and reported cases of driving with a suspended license are a proxy susceptible only to the latter. The parameter estimates suggest that most of the reduction in cases of drunk driving could be attributed to lower detection rates. Yet, the result can explain the decrease in certain victimless crimes whose reporting is

dependent on it being detected, i.e. they could have just remained undetected, but cannot explain the reduction in crimes that are reported by its victims. The possible way how the reporting of crimes with victims may have been affected would be that, since the police was likely overwhelmed, the victims would see the reporting of a crime during the prohibition weeks as costlier, e.g. in terms of forgone time etc., but that is again a speculation.

The effect on the regions that were hit the heaviest by the methanol poisonings did not statistically differ from the rest of the country in any of the analyses regarding alcohol-related criminality. The exception was the analysis of property crimes, specifically the burglaries into bars and restaurants. The effect on this small niche of the property crimes (it accounts for about 4 % of the overall property crime aggregate) was significantly lower in the most affected regions, which also supports expectation of these crimes being susceptible to higher law enforcement presence. The aggregated property crime was otherwise unaffected.

The limitation of these estimates is the lack of potentially important control variables. The parameters are estimated on time series and regional panels of observed crime rates after correcting for estimates of yearly effects and cyclical seasonal variations based on 5 other control years. While it can never be ruled out that there were no other random shocks driving the change of studied offenses over the course of treatment period of the prohibition, the analyses in this thesis must assume it. Still, it would be unlikely that other events correlated with crime would occur at the same and/or would affect it more than the ban on spirits. The treatment effects would under these assumptions imply the causation of the unavailable hard liquor on crime.

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List of Abbreviations

AAF – Alcohol-attributable Fraction

ABV – Alcohol by Volume

BAC – Blood Alcohol Concentration

CEE – Central and Eastern Europe

CZK – Czech Koruna

ČSÚ – Český statistický úřad (Czech Statistical Office)

ESSK – Evidenčně statistický systém kriminality (Evidential and Statistical Criminality System)

GISAH – Global Information System on Alcohol and Health

HED – Heavy Episodic Drinking

MF ČR – Ministerstvo financí České republiky (Ministry of Finance of the Czech Republic)

MZ ČR – Ministerstvo zdravotnictví České republiky (Ministry of Health of the Czech Republic)

PČR – Policie České republiky

TTB – Alcohol and Tobacco Tax and Trade Bureau

UVDL – Unie výrobců a dovozců lihu (The Distilleries Union)

VAT – Value-added Tax

WHO – World Health Organization

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Appendices

Appendix A: Regression table of violent crime rates as specified in column (1) of Table 4

Number of obs = 300
F(59, 240) = 10.90
Prob > F = 0.0000
R-squared = 0.5310
Root MSE = .17228

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.123263	.0638389	-1.93	0.055	-.2489935	.0024676
Pre-prohibition Week 1&2	.0874558	.1229045	0.71	0.477	-.1546044	.3295159
Post-prohibition Week 1&2	.0201446	.1264671	0.16	0.874	-.2289321	.2692213
Post-prohibition Week 3&4	-.0373234	.0603758	-0.62	0.537	-.1562333	.0815866
Post-prohibition Week 5&6	-.0039055	.0521893	-0.07	0.940	-.1066923	.0988813
Year effects (2010=baseline)						
2011	.065661	.0358424	1.83	0.068	-.0049306	.1362525
2012	-.0071441	.0375098	-0.19	0.849	-.0810195	.0667314
2013	.0230187	.0322837	0.71	0.477	-.0405639	.0866013
2014	-.0823908	.0322203	-2.56	0.011	-.1458487	-.0189329
2015	-.2902957	.0341058	-8.51	0.000	-.3574671	-.2231244
Calendar week effect (4=baseline)						
2	.0480069	.0475087	1.01	0.313	-.0455614	.1415751
3	.045149	.0508607	0.89	0.376	-.0550211	.1453191
5	.3149182	.0436364	7.22	0.000	.2289764	.4008601
6	.0039891	.0486455	0.08	0.935	-.0918181	.0997964
7	.1189057	.0423974	2.80	0.005	.035404	.2024074
8	.1040196	.042722	2.43	0.016	.0198787	.1881605
9	.4171911	.0454846	9.17	0.000	.3276094	.5067729
10	.1019511	.0485597	2.10	0.037	.0063128	.1975894
11	.1287292	.0611519	2.11	0.036	.0082907	.2491677
12	.0929511	.0589017	1.58	0.116	-.0230558	.2089579
13	.2242573	.0820255	2.73	0.007	.0627082	.3858063
14	.1938877	.0796103	2.44	0.016	.0370954	.35068
15	.1162177	.0500363	2.32	0.021	.0176713	.214764
16	.0416109	.0385047	1.08	0.281	-.034224	.1174458
17	.2462779	.0743731	3.31	0.001	.0998003	.3927555
18	.2334692	.0963146	2.42	0.016	.0437777	.4231607
19	.0629155	.0375289	1.68	0.095	-.0109976	.1368285
20	.082398	.0480798	1.71	0.088	-.012295	.1770911
21	.0618772	.0377955	1.64	0.103	-.012561	.1363154
22	.3449115	.0660808	5.22	0.000	.2147654	.4750575
23	.117988	.0789105	1.50	0.136	-.0374261	.273402
24	.1454404	.0405267	3.59	0.000	.0656231	.2252576

25	.1247691	.0419617	2.97	0.003	.0421255	.2074126
26	.2789484	.1051574	2.65	0.008	.071841	.4860559
27	.2260558	.1170316	1.93	0.055	-.0044377	.4565493
28	.1303912	.0380095	3.43	0.001	.0555316	.2052508
29	.089536	.0522699	1.71	0.088	-.0134094	.1924814
30	.165086	.0650655	2.54	0.012	.0369396	.2932324
31	.260123	.0681747	3.82	0.000	.125853	.394393
32	.0853331	.0486007	1.76	0.080	-.0103859	.1810521
33	.0939752	.0470378	2.00	0.047	.0013343	.1866161
34	.1117891	.0395409	2.83	0.005	.0339134	.1896647
35	.3817439	.1195433	3.19	0.002	.1463035	.6171843
36	.0635632	.08653	0.73	0.463	-.1068575	.2339839
37	.0647887	.0476602	1.36	0.175	-.029078	.1586555
38	.0319554	.0477211	0.67	0.504	-.0620312	.125942
39	.1163814	.0868864	1.34	0.182	-.0547411	.2875039
40	.1498323	.0767354	1.95	0.052	-.0012979	.3009626
41	.0504941	.0488164	1.03	0.302	-.0456496	.1466379
42	.0405963	.0545654	0.74	0.458	-.0668702	.1480629
43	-.0394405	.0432578	-0.91	0.363	-.1246367	.0457557
44	.3189147	.0699931	4.56	0.000	.1810634	.4567659
45	-.0308152	.0443984	-0.69	0.488	-.1182578	.0566274
46	.0355241	.0421312	0.84	0.400	-.0474531	.1185014
47	-.0131332	.0403133	-0.33	0.745	-.0925302	.0662638
48	.1365865	.103227	1.32	0.187	-.0667188	.3398918
49	-.0562571	.0679523	-0.83	0.409	-.1900891	.0775749
50	.0011507	.0697031	0.02	0.987	-.1361294	.1384308
51	-.016125	.0651686	-0.25	0.805	-.1444744	.1122245
Constant	1.315607	.0410163	32.08	0.000	1.234826	1.396389

Appendix B: Regression table of violent crime rates as specified in column (2) of Table 4

Number of obs = 300
Wald chi2(59) = 914.66
Prob > chi2 = 0.0000
Log pseudolikelihood = -528.90333
Pseudo R2 = 0.0368

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.1308196	.0587961	-2.22	0.026	-.2460577	-.0155814
Pre-prohibition Week 1&2	.0853105	.0991612	0.86	0.390	-.1090419	.2796628
Post-prohibition Week 1&2	.032006	.1106331	0.29	0.772	-.1848308	.2488429
Post-prohibition Week 3&4	-.0407919	.0576112	-0.71	0.479	-.1537078	.0721241
Post-prohibition Week 5&6	-.016892	.0477404	-0.35	0.723	-.1104614	.0766774
Yearly effects						
2011	.0719217	.0385222	1.87	0.062	-.0035804	.1474237
2012	-.0023299	.0405009	-0.06	0.954	-.0817102	.0770504
2013	.0278238	.0365633	0.76	0.447	-.0438388	.0994865
2014	-.0857978	.0348261	-2.46	0.014	-.1540558	-.0175399
2015	-.2929248	.0351347	-8.34	0.000	-.3617875	-.2240621
Calendar week ef. (4=baseline)						
2	.0500752	.0409515	1.22	0.221	-.0301882	.1303386
3	.0457618	.0449109	1.02	0.308	-.042262	.1337856
5	.3205181	.03942	8.13	0.000	.2432563	.3977799
6	.010303	.0436188	0.24	0.813	-.0751884	.0957944
7	.1213013	.0374062	3.24	0.001	.0479866	.194616
8	.1061444	.0381037	2.79	0.005	.0314625	.1808263
9	.4193778	.0396739	10.57	0.000	.3416183	.4971373
10	.1020971	.0412855	2.47	0.013	.021179	.1830153
11	.1342256	.055881	2.40	0.016	.024701	.2437503
12	.093999	.0518168	1.81	0.070	-.0075601	.1955581
13	.245712	.0740465	3.32	0.001	.1005836	.3908404
14	.1993823	.0709602	2.81	0.005	.0603028	.3384618
15	.1168719	.0433885	2.69	0.007	.0318319	.2019118
16	.0471152	.0342873	1.37	0.169	-.0200867	.1143171
17	.2678396	.0706634	3.79	0.000	.129342	.4063373
18	.2492912	.0857224	2.91	0.004	.0812784	.4173041
19	.0660654	.0327934	2.01	0.044	.0017915	.1303393
20	.0850444	.0412494	2.06	0.039	.0041971	.1658918

21	.0677615	.0332278	2.04	0.041	.0026362	.1328867
22	.3680842	.0497267	7.40	0.000	.2706217	.4655466
23	.1207925	.0670448	1.80	0.072	-.0106129	.2521979
24	.1497455	.0357877	4.18	0.000	.0796029	.2198881
25	.1267838	.0364095	3.48	0.000	.0554224	.1981452
26	.3204021	.0940062	3.41	0.001	.1361533	.504651
27	.2544559	.1123153	2.27	0.023	.0343219	.47459
28	.1342653	.0327519	4.10	0.000	.0700727	.198458
29	.0899182	.0458858	1.96	0.050	-.0000163	.1798527
30	.1732176	.0616519	2.81	0.005	.052382	.2940532
31	.277941	.0581571	4.78	0.000	.1639551	.3919268
32	.0928603	.0433397	2.14	0.032	.007916	.1778047
33	.095645	.0394903	2.42	0.015	.0182454	.1730446
34	.1173757	.0343226	3.42	0.001	.0501047	.1846466
35	.42749	.0947042	4.51	0.000	.2418732	.6131068
36	.070575	.0818226	0.86	0.388	-.0897944	.2309444
37	.0723777	.0410762	1.76	0.078	-.0081302	.1528857
38	.0365097	.0413905	0.88	0.378	-.0446142	.1176337
39	.144505	.0809	1.79	0.074	-.014056	.303066
40	.1638644	.069755	2.35	0.019	.0271472	.3005816
41	.0528733	.0447899	1.18	0.238	-.0349133	.1406599
42	.0506935	.0489871	1.03	0.301	-.0453194	.1467065
43	-.0301984	.0386966	-0.78	0.435	-.1060424	.0456456
44	.3447231	.0553785	6.22	0.000	.2361833	.4532629
45	-.0177127	.0365919	-0.48	0.628	-.0894316	.0540061
46	.0441942	.0382601	1.16	0.248	-.0307942	.1191825
47	-.0048022	.0351875	-0.14	0.891	-.0737685	.064164
48	.1801516	.0783924	2.30	0.022	.0265054	.3337978
49	-.0385011	.0590427	-0.65	0.514	-.1542227	.0772205
50	.0265983	.0557255	0.48	0.633	-.0826217	.1358183
51	.003707	.0509931	0.07	0.942	-.0962376	.1036516
Constant	.4378246	.2707825	1.62	0.106	-.0928993	.9685485

Appendix C: Regression table of violent crime rates as specified in column (1) of Table 5

Number of obs = 600

F(61, 538) = 35.10

Prob > F = 0.0000

R-squared = 0.4889

MSE = .19465

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.0747391	.069716	-1.07	0.284	-.2113998	.0619216
Prohibition*Weekend	-.1756679	.1007681	-1.74	0.081	-.3731986	.0218627
Weekend	.2196403	.0103075	21.31	0.000	.1994351	.2398455
Pre-prohibition Week 1&2	-.0238832	.0564983	-0.42	0.673	-.134634	.0868676
Post-prohibition Week 1&2	.0545904	.0632314	0.86	0.388	-.0693589	.1785397
Post-prohibition Week 3&4	.038669	.0636232	0.61	0.543	-.0860483	.1633863
Post-prohibition Week 5&6	-.0676658	.0718052	-0.94	0.346	-.2084218	.0730902
Year effects (2010=baseline)						
2011	.0425926	.0161484	2.64	0.008	.0109378	.0742474
2012	-.0300466	.0175524	-1.71	0.087	-.0644536	.0043605
2013	.00312	.0165972	0.19	0.851	-.0294147	.0356547
2014	-.10772	.0173474	-6.21	0.000	-.1417253	-.0737148
2015	-.2995156	.0187305	-15.99	0.000	-.336232	-.2627992
Calendar week effect (2=baseline)						
3	-.0060447	.0571297	-0.11	0.916	-.118033	.1059437
4	.2728415	.0622004	4.39	0.000	.1509133	.3947698
5	-.021561	.0559072	-0.39	0.700	-.131153	.0880311
6	.1173033	.0558736	2.10	0.036	.0077771	.2268295
7	.0905877	.0574405	1.58	0.115	-.02201	.2031853
8	.3967263	.0597363	6.64	0.000	.2796284	.5138243
9	.0943433	.0571629	1.65	0.099	-.0177102	.2063968
10	.1444403	.0554456	2.61	0.009	.0357532	.2531275
11	.0805609	.0566124	1.42	0.155	-.0304135	.1915353
12	.2222217	.0577755	3.85	0.000	.1089673	.3354761
13	.1293352	.0630128	2.05	0.040	.0058144	.2528559
14	.1111018	.0558077	1.99	0.047	.0017047	.2204988
15	-.0394335	.0742554	-0.53	0.595	-.1849925	.1061255
16	.2312879	.0577211	4.01	0.000	.1181403	.3444355
17	.159494	.0745707	2.14	0.032	.013317	.3056711
18	.0239975	.0641341	0.37	0.708	-.1017212	.1497163
19	.1047816	.0549945	1.91	0.057	-.0030213	.2125844
20	.0407411	.0656112	0.62	0.535	-.0878733	.1693555
21	.3389876	.0590468	5.74	0.000	.2232411	.4547341
22	.1450371	.0553712	2.62	0.009	.0364958	.2535784
23	.1616108	.0552756	2.92	0.003	.0532568	.2699648
24	.1106245	.0573301	1.93	0.054	-.0017568	.2230058
25	.2643321	.063849	4.14	0.000	.1391722	.3894919
26	.2282864	.0603069	3.79	0.000	.1100698	.3465029
27	.150916	.0547857	2.75	0.006	.0435224	.2583096
28	.0954415	.0562817	1.70	0.090	-.0148847	.2057677
29	.1652191	.0577987	2.86	0.004	.0519192	.2785191
30	.2423227	.0589084	4.11	0.000	.1268476	.3577978
31	.0404012	.0658206	0.61	0.539	-.0886237	.169426
32	.0556148	.0661893	0.84	0.401	-.0741326	.1853623

33		.0546952	.0574859	0.95	0.341	-.0579914	.1673818
34		.3597859	.0633799	5.68	0.000	.2355455	.4840263
35		.0506038	.0606124	0.83	0.404	-.0682117	.1694192
36		.0618374	.0578929	1.07	0.285	-.0516471	.175322
37		.0252487	.0566216	0.45	0.656	-.0857437	.1362412
38		.0328487	.0709631	0.46	0.643	-.1062567	.1719541
39		.1249866	.0606846	2.06	0.039	.0060296	.2439436
40		.0116608	.0589072	0.20	0.843	-.1038119	.1271335
41		-.0260884	.0695392	-0.38	0.708	-.1624026	.1102258
42		-.0318167	.0581191	-0.55	0.584	-.1457445	.0821112
43		.294542	.0607966	4.84	0.000	.1753656	.4137185
44		-.0535464	.0660848	-0.81	0.418	-.1830891	.0759962
45		.0037916	.0565777	0.07	0.947	-.1071148	.1146979
46		-.0118064	.0539934	-0.22	0.827	-.1176469	.0940341
47		.0854799	.062788	1.36	0.173	-.0376002	.20856
48		-.0973585	.0586256	-1.66	0.097	-.2122794	.0175623
49		-.0059381	.0568824	-0.10	0.917	-.1174418	.1055656
50		-.0817617	.0680241	-1.20	0.229	-.2151057	.0515824
51		-.6809	.0493299	-13.80	0.000	-.7775989	-.584201
	Constant	-.0060447	.0571297	-0.11	0.916	-.118033	.1059437

Appendix D: Regression table of violent crime rates as specified in column (2) of Table 5

Number of obs = 600

Wald chi2(61) = 640.45

Prob > chi2 = 0.0000

Log pseudolikelihood = -473.97563

Pseudo R2 = 0.0131

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.1295757	.0609749	-2.13	0.034	-.2490844	-.0100671
Prohibition*Weekend	-.0867404	.0872926	-0.99	0.320	-.2578308	.08435
Weekend	.2051578	.0085011	24.13	0.000	.188496	.2218195
Pre-prohibition Week 1&2	-.0355054	.0537626	-0.66	0.509	-.1408781	.0698673
Post-prohibition Week 1&2	.0171628	.0527112	0.33	0.745	-.0861492	.1204748
Post-prohibition Week 3&4	-.0152287	.0516353	-0.29	0.768	-.1164321	.0859747
Post-prohibition Week 5&6	-.0586705	.0627473	-0.94	0.350	-.1816529	.064312
Year effects (2010=baseline)						
2011	.0426497	.0146751	2.91	0.004	.013887	.0714125
2012	-.0290824	.0157331	-1.85	0.065	-.0599187	.0017539
2013	.0079165	.0149157	0.53	0.596	-.0213177	.0371508
2014	-.1006003	.0149313	-6.74	0.000	-.129865	-.0713356
2015	-.271103	.0154416	-17.56	0.000	-.3013681	-.240838
Calendar week effect (2=baseline)						
3	-.0430307	.0369519	-1.16	0.244	-.115455	.0293937
4	.2722087	.0446826	6.09	0.000	.1846323	.359785
5	-.0506289	.037047	-1.37	0.172	-.1232398	.0219819
6	.0981751	.0360563	2.72	0.006	.0275061	.1688442
7	.0708855	.037851	1.87	0.061	-.0033011	.145072
8	.3756993	.0432181	8.69	0.000	.2909934	.4604052
9	.0610957	.0396564	1.54	0.123	-.0166294	.1388207
10	.0996206	.0374456	2.66	0.008	.0262285	.1730126
11	.0507825	.0379317	1.34	0.181	-.0235623	.1251272
12	.2177814	.0421971	5.16	0.000	.1350767	.3004861
13	.1224928	.0413816	2.96	0.003	.0413864	.2035993
14	.0582238	.0370212	1.57	0.116	-.0143364	.130784
15	.0049126	.037771	0.13	0.897	-.0691173	.0789425
16	.2422079	.0423239	5.72	0.000	.1592546	.3251612
17	.197378	.0455226	4.34	0.000	.1081553	.2866007
18	.0200904	.0381574	0.53	0.599	-.0546966	.0948774
19	.0726116	.037854	1.92	0.055	-.0015809	.1468042
20	.0375364	.0375597	1.00	0.318	-.0360793	.1111521
21	.3428882	.0411433	8.33	0.000	.2622488	.4235275
22	.0937509	.0362041	2.59	0.010	.0227922	.1647096
23	.1295058	.0363373	3.56	0.000	.058286	.2007257
24	.0943078	.0375363	2.51	0.012	.0207381	.1678776
25	.3260502	.0506941	6.43	0.000	.2266916	.4254088

26		.2088442	.0448259	4.66	0.000	.120987	.2967014
27		.105973	.0365182	2.90	0.004	.0343986	.1775473
28		.0466868	.036767	1.27	0.204	-.0253751	.1187487
29		.1475934	.0401254	3.68	0.000	.068949	.2262378
30		.2351346	.0412922	5.69	0.000	.1542033	.3160658
31		.0463123	.0376055	1.23	0.218	-.0273932	.1200178
32		.0634568	.0365343	1.74	0.082	-.0081491	.1350628
33		.0609003	.0376444	1.62	0.106	-.0128814	.1346819
34		.4100946	.0467519	8.77	0.000	.3184626	.5017266
35		.0372386	.0422219	0.88	0.378	-.0455148	.1199919
36		.0449531	.0387297	1.16	0.246	-.0309558	.120862
37		-.0035638	.0379958	-0.09	0.925	-.0780341	.0709066
38		.1077726	.0473974	2.27	0.023	.0148755	.2006698
39		.1036603	.0398757	2.60	0.009	.0255053	.1818153
40		.0141712	.0377188	0.38	0.707	-.0597563	.0880987
41		.007572	.0397435	0.19	0.849	-.0703238	.0854677
42		-.0497986	.0369696	-1.35	0.178	-.1222577	.0226605
43		.2978537	.044279	6.73	0.000	.2110685	.3846388
44		-.0471797	.0382433	-1.23	0.217	-.1221352	.0277758
45		-.0000851	.0377003	-0.00	0.998	-.0739763	.0738061
46		-.0572771	.0347295	-1.65	0.099	-.1253456	.0107915
47		.1382122	.0453077	3.05	0.002	.0494108	.2270136
48		-.1055842	.0399799	-2.64	0.008	-.1839435	-.027225
49		-.0031009	.0381728	-0.08	0.935	-.0779183	.0717165
50		-.0648126	.03792	-1.71	0.087	-.1391345	.0095093
51		-.6390529	.0312858	-20.43	0.000	-.7003719	-.5777339
	Constant	-.0430307	.0369519	-1.16	0.244	-.115455	.0293937

Appendix E: Regression table of violent crime rates as specified in column (3) of Table 5

Number of obs = 8400

F(77, 8322) = 66.23

Prob > F = 0.0000

R-squared = 0.3645

Root MSE = 0.47067

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.094094	.0809463	-1.16	0.245	-.2527689	.064581
Prohibition*Treated	.0903225	.1165456	0.77	0.438	-.1381359	.318781
Prohibition*Weekend	-.2034171	.1146009	-1.78	0.076	-.4280635	.0212292
Prohibition*Treated*Weekend	.1294963	.2040444	0.63	0.526	-.2704815	.5294741
Weekend	.2059349	.0121682	16.92	0.000	.1820822	.2297877
Weekend*Treated	.0639583	.0217133	2.95	0.003	.0213948	.1065218
Pre-prohibition Week 1&2	-.0238832	.056425	-0.42	0.672	-.1344903	.0867239
Post-prohibition Week 1&2	.0545904	.0635043	0.86	0.390	-.0698938	.1790746
Post-prohibition Week 3&4	.038669	.0637013	0.61	0.544	-.0862013	.1635393
Post-prohibition Week 5&6	-.0676658	.0718479	-0.94	0.346	-.2085056	.073174
Year effects (2010=baseline)						
2011	.0425926	.0161294	2.64	0.008	.010975	.0742102
2012	-.0300466	.017533	-1.71	0.087	-.0644157	.0043226
2013	.00312	.016599	0.19	0.851	-.0294182	.0356582
2014	-.10772	.0173399	-6.21	0.000	-.1417105	-.0737296
2015	-.2995156	.0187286	-15.99	0.000	-.3362283	-.2628029
Calendar week effect (2=baseline)						
3	.0501894	.0564601	0.89	0.374	-.0604865	.1608653
4	-.0060447	.0571081	-0.11	0.916	-.1179908	.1059015
5	.2728415	.0622183	4.39	0.000	.1508782	.3948048
6	-.021561	.0558228	-0.39	0.699	-.1309877	.0878657
7	.1173033	.055809	2.10	0.036	.0079037	.2267029
8	.0905877	.0573567	1.58	0.114	-.0218458	.2030211
9	.3967263	.059763	6.64	0.000	.279576	.5138767
10	.0943433	.0571698	1.65	0.099	-.0177238	.2064103
11	.1444403	.0554663	2.60	0.009	.0357126	.2531681
12	.0805609	.0565662	1.42	0.154	-.0303228	.1914447
13	.2222217	.0578124	3.84	0.000	.108895	.3355484
14	.1293352	.0629352	2.06	0.040	.0059666	.2527037
15	.1111018	.0558136	1.99	0.047	.0016931	.2205104
16	-.0394335	.0742878	-0.53	0.596	-.185056	.106189
17	.2312879	.0576832	4.01	0.000	.1182144	.3443614
18	.159494	.0745036	2.14	0.032	.0134483	.3055398
19	.0239975	.0641518	0.37	0.708	-.101756	.1497511
20	.1047816	.0548876	1.91	0.056	-.0028118	.2123749
21	.0407411	.0656283	0.62	0.535	-.0879067	.169389
22	.3389876	.0590341	5.74	0.000	.223266	.4547092
23	.1450371	.0552935	2.62	0.009	.0366481	.2534261

24	.1616108	.0552668	2.92	0.003	.0532741	.2699474
25	.1106245	.0573115	1.93	0.054	-.0017202	.2229693
26	.2643321	.0638331	4.14	0.000	.1392033	.3894609
27	.2282864	.0603608	3.78	0.000	.1099642	.3466086
28	.150916	.0547308	2.76	0.006	.04363	.258202
29	.0954415	.0561822	1.70	0.089	-.0146896	.2055726
30	.1652191	.0578029	2.86	0.004	.051911	.2785272
31	.2423227	.0588804	4.12	0.000	.1269025	.3577429
32	.0404012	.0658392	0.61	0.539	-.08866	.1694623
33	.0556148	.0661699	0.84	0.401	-.0740945	.1853242
34	.0546952	.0574911	0.95	0.341	-.0580017	.1673922
35	.3597859	.063423	5.67	0.000	.235461	.4841108
36	.0506038	.060593	0.84	0.404	-.0681737	.1693812
37	.0618374	.0578339	1.07	0.285	-.0515314	.1752063
38	.0252487	.0566281	0.45	0.656	-.0857564	.1362539
39	.0328487	.0709549	0.46	0.643	-.1062406	.1719381
40	.1249866	.0605883	2.06	0.039	.0062184	.2437548
41	.0116608	.0589673	0.20	0.843	-.1039298	.1272514
42	-.0260884	.0696073	-0.37	0.708	-.162536	.1103593
43	-.0318167	.0581884	-0.55	0.585	-.1458804	.0822471
44	.294542	.0608014	4.84	0.000	.1753561	.413728
45	-.0535464	.0660878	-0.81	0.418	-.1830949	.0760021
46	.0037916	.0565821	0.07	0.947	-.1071235	.1147067
47	-.0118064	.0539758	-0.22	0.827	-.1176124	.0939996
48	.0854799	.0627649	1.36	0.173	-.037555	.2085148
49	-.0973585	.0585665	-1.66	0.096	-.2121634	.0174463
50	-.0059381	.0568762	-0.10	0.917	-.1174295	.1055534
51	-.0817617	.0680446	-1.20	0.230	-.2151461	.0516228
Regional effect (Prague=baseline)						
Středočeský	-.17416	.017428	-9.99	0.000	-.2083233	-.1399968
Jihočeský	.0481922	.0190747	2.53	0.012	.010801	.0855834
Plzeňský	-.2441603	.0232744	-10.49	0.000	-.2897839	-.1985367
Ústecký	.27033	.0175833	15.37	0.000	.2358623	.3047976
Královehradecký	-.4290013	.0282967	-15.16	0.000	-.4844699	-.3735327
Jihomoravský	-.2075843	.0181411	-11.44	0.000	-.2431454	-.1720232
Moravskoslezský	.2097998	.0194672	10.78	0.000	.1716394	.2479603
Olomoucký	-.0461327	.0210736	-2.19	0.029	-.0874423	-.0048232
Zlínský	-.5719283	.0263196	-21.73	0.000	-.6235213	-.5203352
Vysočina	-.6051867	.0331012	-18.28	0.000	-.6700733	-.5403002
Pardubický	-.5853764	.0276421	-21.18	0.000	-.6395619	-.5311909
Liberecký	.235343	.0211613	11.12	0.000	.1938617	.2768243
Karlovarský	.0052203	.028458	0.18	0.854	-.0505644	.061005
Constant	-.6738258	.0492502	-13.68	0.000	-.7703685	-.5772831

Appendix F: Regression table of violent crime rates as specified in column (4) of Table 5

Number of obs = 8400

Wald chi2(77) = 5546.15

Prob > chi2 = 0.0000

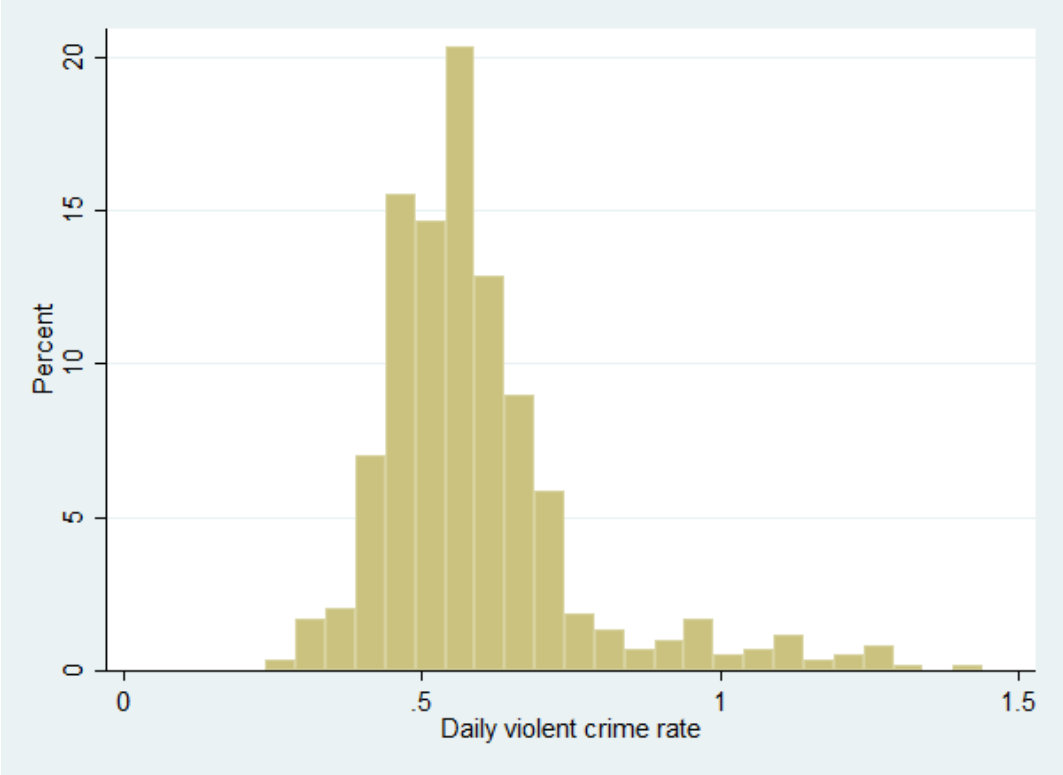
Pseudo R2 = 0.0366

Log pseudolikelihood = -6618.5345

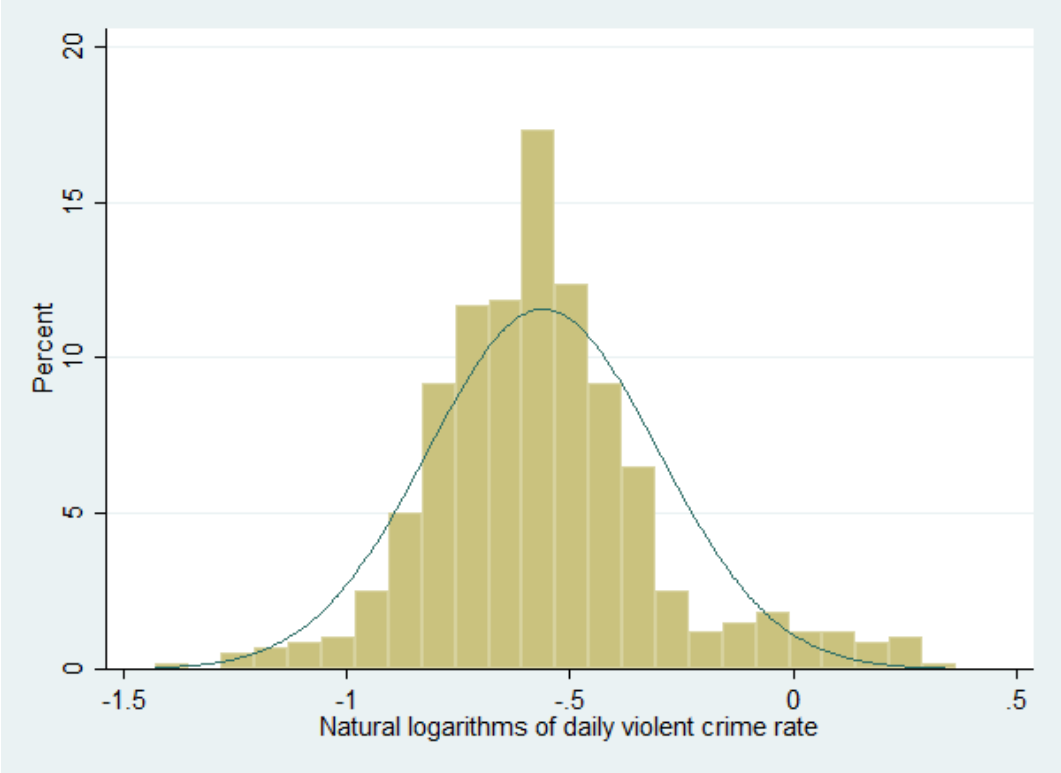
	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.13922	.0706358	-1.97	0.049	-.2776637	-.0007763
Prohibition*Treated	.044603	.111893	0.40	0.690	-.1747034	.2639093
Prohibition*Weekend	-.118203	.1021742	-1.16	0.247	-.3184608	.0820548
Prohibition*Treated*Weekend	.1260959	.1774461	0.71	0.477	-.2216921	.4738839
Weekend	.1885302	.0099641	18.92	0.000	.1690009	.2080594
Weekend*Treated	.0759567	.0184578	4.12	0.000	.0397801	.1121333
Pre-prohibition Week 1&2	-.0355054	.0535854	-0.66	0.508	-.1405309	.06952
Post-prohibition Week 1&2	.0171628	.0529012	0.32	0.746	-.0865216	.1208472
Post-prohibition Week 3&4	-.0152287	.051561	-0.30	0.768	-.1162864	.085829
Post-prohibition Week 5&6	-.0586705	.0627476	-0.94	0.350	-.1816535	.0643126
Year effects (2010=baseline)						
2011	.0426497	.0146482	2.91	0.004	.0139398	.0713596
2012	-.0290824	.0157021	-1.85	0.064	-.0598579	.001693
2013	.0079165	.0149015	0.53	0.595	-.0212898	.0371229
2014	-.1006003	.0149054	-6.75	0.000	-.1298143	-.0713863
2015	-.271103	.0154222	-17.58	0.000	-.30133	-.2408761
Calendar week effect (2=baseline)						
3	.0007067	.0377917	0.02	0.985	-.0733638	.0747771
4	-.0430307	.0370019	-1.16	0.245	-.1155531	.0294917
5	.2722087	.0447183	6.09	0.000	.1845624	.359855
6	-.0506289	.0369197	-1.37	0.170	-.1229902	.0217323
7	.0981751	.0359935	2.73	0.006	.0276292	.1687211
8	.0708855	.0377219	1.88	0.060	-.0030481	.1448191
9	.3756993	.0432667	8.68	0.000	.2908981	.4605004
10	.0610957	.0396486	1.54	0.123	-.0166141	.1388055
11	.0996206	.0374518	2.66	0.008	.0262165	.1730247
12	.0507825	.0378829	1.34	0.180	-.0234667	.1250316
13	.2177814	.0422593	5.15	0.000	.1349547	.3006081
14	.1224928	.0412846	2.97	0.003	.0415765	.2034092
15	.0582238	.0370026	1.57	0.116	-.0143	.1307477
16	.0049126	.0377308	0.13	0.896	-.0690385	.0788637
17	.2422079	.0423318	5.72	0.000	.1592392	.3251766
18	.197378	.0454486	4.34	0.000	.1083003	.2864557
19	.0200904	.0381734	0.53	0.599	-.0547282	.094909
20	.0726116	.0377725	1.92	0.055	-.001421	.1466443
21	.0375364	.03758	1.00	0.318	-.036119	.1111918
22	.3428882	.0411621	8.33	0.000	.262212	.4235644
23	.0937509	.0360714	2.60	0.009	.0230522	.1644496
24	.1295058	.0363693	3.56	0.000	.0582232	.2007885
25	.0943078	.0375006	2.51	0.012	.0208081	.1678076
26	.3260502	.0506659	6.44	0.000	.2267469	.4253535
27	.2088442	.0448516	4.66	0.000	.1209367	.2967518
28	.105973	.0364492	2.91	0.004	.0345339	.177412
29	.0466868	.0366483	1.27	0.203	-.0251426	.1185162

30	.1475934	.0401527	3.68	0.000	.0688955	.2262913
31	.2351346	.0412127	5.71	0.000	.1543592	.3159099
32	.0463123	.0376229	1.23	0.218	-.0274272	.1200519
33	.0634568	.0366497	1.73	0.083	-.0083752	.1352889
34	.0609003	.0376008	1.62	0.105	-.012796	.1345965
35	.4100946	.046815	8.76	0.000	.3183389	.5018503
36	.0372386	.042186	0.88	0.377	-.0454444	.1199215
37	.0449531	.0386469	1.16	0.245	-.0307935	.1206996
38	-.0035638	.038047	-0.09	0.925	-.0781344	.0710069
39	.1077726	.0474546	2.27	0.023	.0147634	.2007819
40	.1036603	.0398276	2.60	0.009	.0255997	.181721
41	.0141712	.0377668	0.38	0.707	-.0598504	.0881928
42	.007572	.0397923	0.19	0.849	-.0704195	.0855635
43	-.0497986	.0370178	-1.35	0.179	-.1223522	.022755
44	.2978537	.0442861	6.73	0.000	.2110546	.3846527
45	-.0471797	.0382806	-1.23	0.218	-.1222083	.0278488
46	-.0000851	.0377033	-0.00	0.998	-.0739821	.0738119
47	-.0572771	.034727	-1.65	0.099	-.1253407	.0107865
48	.1382122	.0453313	3.05	0.002	.0493644	.22706
49	-.1055842	.0398965	-2.65	0.008	-.1837799	-.0273886
50	-.0031009	.0381267	-0.08	0.935	-.077828	.0716261
51	-.0648126	.0379611	-1.71	0.088	-.139215	.0095898
Regional effect (Prague=baseline)						
Středočeský	-.1569001	.0180479	-8.69	0.000	-.1922732	-.121527
Jihočeský	.0825769	.0197427	4.18	0.000	.043882	.1212719
Plzeňský	-.2015964	.0201349	-10.01	0.000	-.24106	-.1621328
Ústecký	.2780382	.0176943	15.71	0.000	.243358	.3127183
Královehradecký	-.3174502	.0239408	-13.26	0.000	-.3643733	-.2705271
Jihomoravský	-.1876279	.0182872	-10.26	0.000	-.2234702	-.1517856
Moravskoslezský	.1953415	.0189699	10.30	0.000	.1581613	.2325218
Olomoucký	-.0335142	.0203269	-1.65	0.099	-.0733542	.0063258
Zlínský	-.5031865	.0253644	-19.84	0.000	-.5528998	-.4534733
Vysočina	-.4614923	.0241012	-19.15	0.000	-.5087298	-.4142547
Pardubický	-.465496	.0249291	-18.67	0.000	-.514356	-.4166359
Liberecký	.2828976	.0208502	13.57	0.000	.2420319	.3237633
Karlovarský	.1053933	.0225714	4.67	0.000	.0611543	.1496323
Constant	-.1569001	.0180479	-8.69	0.000	-.1922732	-.121527

Appendix G: Distribution of daily violent crimes in the 6-year-long sample



Appendix H: Distribution of natural logarithms of the daily violent crimes in the 6-year-long sample.



Appendix I: Regression table of top 4 alcohol-involving crime rates as specified in column (1) of Table 7

Number of obs = 300

F(59, 240) = 7.99

Prob > F = 0.0000

R-squared = 0.6280

Root MSE = .08492

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.0960102	.0534657	-1.80	0.074	-.2013323	.0093118
Pre-prohibition Week 1&2	.0609046	.0370023	1.65	0.101	-.0119861	.1337952
Post-prohibition Week 1&2	-.053962	.081594	-0.66	0.509	-.2146939	.1067698
Post-prohibition Week 3&4	.0209577	.0435335	0.48	0.631	-.0647988	.1067142
Post-prohibition Week 5&6	.0141128	.0346052	0.41	0.684	-.0540558	.0822815
Year effects (2010=baseline)						
2011	.1026698	.017549	5.85	0.000	.0681002	.1372395
2012	.0347889	.0184234	1.89	0.060	-.0015034	.0710812
2013	.0798461	.0176296	4.53	0.000	.0451176	.1145746
2014	.0253062	.0163109	1.55	0.122	-.0068246	.0574369
2015	-.0894533	.0173618	-5.15	0.000	-.1236543	-.0552523
Calendar week effect (2=baseline)						
3	-.0027669	.050804	-0.05	0.957	-.1028455	.0973118
4	.0368623	.0745919	0.49	0.622	-.1100762	.1838007
5	.1111778	.0617924	1.80	0.073	-.0105469	.2329024
6	.0059626	.0754785	0.08	0.937	-.1427222	.1546475
7	.1413217	.0560045	2.52	0.012	.0309985	.2516449
8	.1397562	.0634904	2.20	0.029	.0146865	.2648258
9	.2926096	.0537688	5.44	0.000	.1866905	.3985286
10	.2318349	.0482911	4.80	0.000	.1367064	.3269635
11	.2412451	.057508	4.19	0.000	.1279602	.3545299
12	.2177439	.0543344	4.01	0.000	.1107107	.3247771
13	.2628112	.0699112	3.76	0.000	.1250933	.400529
14	.276635	.0547428	5.05	0.000	.1687973	.3844727
15	.2649413	.050925	5.20	0.000	.1646243	.3652584
16	.2417222	.0469799	5.15	0.000	.1491766	.3342677
17	.2700637	.0619631	4.36	0.000	.1480028	.3921246
18	.2842434	.0616879	4.61	0.000	.1627245	.4057622
19	.2310297	.0523778	4.41	0.000	.1278507	.3342087
20	.257656	.0525167	4.91	0.000	.1542035	.3611086
21	.1663941	.0499073	3.33	0.001	.0680818	.2647063
22	.2629492	.0492645	5.34	0.000	.1659032	.3599952
23	.2010228	.052479	3.83	0.000	.0976445	.304401
24	.2204702	.0482535	4.57	0.000	.1254157	.3155246
25	.1786099	.052526	3.40	0.001	.075139	.2820808
26	.2405509	.0553066	4.35	0.000	.1316026	.3494992
27	.2055886	.0627784	3.27	0.001	.0819215	.3292556
28	.2066638	.046933	4.40	0.000	.1142106	.2991171
29	.1905356	.0483216	3.94	0.000	.095347	.2857243
30	.1673615	.0485988	3.44	0.001	.0716268	.2630962
31	.2180527	.0537618	4.06	0.000	.1121475	.3239579
32	.1700176	.0481925	3.53	0.001	.0750834	.2649518
33	.1973251	.0553428	3.57	0.000	.0883053	.3063448

34	.1720361	.0522782	3.29	0.001	.0690534	.2750187
35	.2606794	.0573319	4.55	0.000	.1477413	.3736174
36	.1923919	.050669	3.80	0.000	.0925792	.2922047
37	.1760342	.0497835	3.54	0.000	.0779658	.2741026
38	.1756755	.0544747	3.22	0.001	.068366	.282985
39	.1790315	.0650475	2.75	0.006	.0508945	.3071685
40	.1984182	.0567213	3.50	0.001	.086683	.3101535
41	.2031872	.051204	3.97	0.000	.1023205	.3040539
42	.2008583	.0505998	3.97	0.000	.1011819	.3005347
43	.1589195	.0622156	2.55	0.011	.0363612	.2814778
44	.2441466	.0600734	4.06	0.000	.1258081	.3624851
45	.1037757	.061963	1.67	0.095	-.0182852	.2258365
46	.1932333	.0499692	3.87	0.000	.094799	.2916675
47	.1063096	.0636569	1.67	0.096	-.0190881	.2317072
48	.0679472	.0734807	0.92	0.356	-.0768021	.2126966
49	.0572664	.0580093	0.99	0.325	-.0570061	.1715388
50	.0449255	.0803406	0.56	0.577	-.1133374	.2031883
51	.1281425	.0597184	2.15	0.033	.0105034	.2457816
cons	1.302413	.046701	27.89	0.000	1.210417	1.39441

Appendix J: Regression table of top 4 alcohol-involving crime rates as specified in column (2) of Table 7

Number of obs = 300
Wald chi2(59) = 590.81
Prob > chi2 = 0.0000
Log pseudolikelihood = -511.13856
Pseudo R2 = 0.0120

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.097039	.0474856	-2.04	0.041	-.190109	-.0039691
Pre-prohibition Week 1&2	.0585064	.032067	1.82	0.068	-.0043438	.1213566
Post-prohibition Week 1&2	-.0506008	.0734034	-0.69	0.491	-.1944689	.0932672
Post-prohibition Week 3&4	.0183166	.039361	0.47	0.642	-.0588295	.0954627
Post-prohibition Week 5&6	.0063686	.0299106	0.21	0.831	-.0522551	.0649924
Year effects (2010=baseline)						
2011	.0993691	.0154331	6.44	0.000	.0691208	.1296175
2012	.033058	.0159531	2.07	0.038	.0017905	.0643255
2013	.0771657	.015501	4.98	0.000	.0467842	.1075472
2014	.0204717	.0144715	1.41	0.157	-.0078918	.0488353
2015	-.0913941	.0154699	-5.91	0.000	-.1217146	-.0610735
Calendar week effect (2=baseline)						
3	-.0024214	.0453098	-0.05	0.957	-.091227	.0863842
4	.0410921	.065852	0.62	0.533	-.0879754	.1701596
5	.1121091	.0547873	2.05	0.041	.004728	.2194903
6	.0176179	.0681767	0.26	0.796	-.116006	.1512418
7	.1432175	.0501404	2.86	0.004	.0449442	.2414908
8	.1398794	.056408	2.48	0.013	.0293217	.2504372
9	.2911656	.0471829	6.17	0.000	.1986888	.3836425
10	.2318158	.0427811	5.42	0.000	.1479664	.3156651
11	.2397247	.0507987	4.72	0.000	.140161	.3392884
12	.2160236	.0477207	4.53	0.000	.1224927	.3095544
13	.2674851	.0624213	4.29	0.000	.1451416	.3898285
14	.2763429	.0485527	5.69	0.000	.1811814	.3715044
15	.2638807	.0448308	5.89	0.000	.176014	.3517475
16	.2424295	.0413543	5.86	0.000	.1613766	.3234824
17	.2748732	.0560543	4.90	0.000	.1650087	.3847377
18	.2877045	.0556221	5.17	0.000	.1786872	.3967217
19	.2324926	.0459222	5.06	0.000	.1424867	.3224985
20	.2573777	.0466714	5.51	0.000	.1659035	.3488518
21	.1672903	.0445575	3.75	0.000	.0799593	.2546213
22	.2652447	.0428761	6.19	0.000	.181209	.3492804
23	.2024902	.0463147	4.37	0.000	.1117151	.2932654
24	.2204595	.0424553	5.19	0.000	.1372487	.3036703
25	.1796267	.046834	3.84	0.000	.0878338	.2714196
26	.2417934	.0489825	4.94	0.000	.1457894	.3377973
27	.2109497	.0580234	3.64	0.000	.097226	.3246735
28	.2072657	.041397	5.01	0.000	.1261292	.2884022
29	.1903898	.0428909	4.44	0.000	.1063251	.2744545
30	.1665185	.042941	3.88	0.000	.0823558	.2506812
31	.222533	.0476087	4.67	0.000	.1292216	.3158443
32	.1701139	.0424577	4.01	0.000	.0868984	.2533293
33	.1969119	.0483085	4.08	0.000	.1022291	.2915948
34	.1744062	.0464044	3.76	0.000	.0834553	.265357
35	.2660698	.0512262	5.19	0.000	.1656682	.3664714

36		.1927437	.0447828	4.30	0.000	.104971	.2805164
37		.1779861	.0438325	4.06	0.000	.092076	.2638962
38		.1779023	.0479891	3.71	0.000	.0838453	.2719592
39		.1830182	.0578778	3.16	0.002	.0695799	.2964565
40		.1976758	.050325	3.93	0.000	.0990405	.2963111
41		.2042459	.0452526	4.51	0.000	.1155525	.2929394
42		.2021023	.0448192	4.51	0.000	.1142584	.2899463
43		.1642233	.0544053	3.02	0.003	.057591	.2708557
44		.251261	.052568	4.78	0.000	.1482296	.3542923
45		.1096705	.0542974	2.02	0.043	.0032495	.2160914
46		.1942435	.0440862	4.41	0.000	.1078362	.2806508
47		.1137595	.0556604	2.04	0.041	.0046671	.2228519
48		.0814478	.0658388	1.24	0.216	-.0475939	.2104896
49		.0611129	.0525951	1.16	0.245	-.0419715	.1641973
50		.062775	.0719895	0.87	0.383	-.0783219	.2038718
51		.1345202	.0505388	2.66	0.008	.035466	.2335745
	Constant	1.30521	.0411801	31.70	0.000	1.224498	1.385921

Appendix K: Regression table of top 4 alcohol-involving crime rates as specified in column (3) of Table 7

Number of obs = 600
F(61, 538) = 39.70
Prob > F = 0.0000
R-squared = 0.7862
Root MSE = .11591

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.0117478	.0592089	-0.20	0.843	-.1278119	.1043164
Prohibition*Weekend	-.3015156	.0869082	-3.47	0.001	-.4718773	-.1311539
Weekend	.441463	.009268	47.63	0.000	.4232954	.4596306
Pre-prohibition Week 1&2	.0231749	.0782628	0.30	0.767	-.1302397	.1765894
Post-prohibition Week 1&2	.0225616	.0521638	0.43	0.665	-.0796924	.1248156
Post-prohibition Week 3&4	.0927206	.05103	1.82	0.069	-.0073109	.1927522
Post-prohibition Week 5&6	-.1354666	.0666751	-2.03	0.042	-.2661664	-.0047668
Year effects (2010=baseline)						
2011	.1221358	.0143046	8.54	0.000	.0940952	.1501763
2012	.0367043	.0161071	2.28	0.023	.0051304	.0682782
2013	.0819236	.0157745	5.19	0.000	.0510018	.1128455
2014	.0264349	.0150421	1.76	0.079	-.0030513	.0559211
2015	-.1078917	.0170682	-6.32	0.000	-.1413497	-.0744337
Calendar week effect (2=baseline)						
3	.0694196	.0439781	1.58	0.114	-.0167884	.1556277
4	-.0385862	.0500314	-0.77	0.441	-.1366602	.0594878
5	.1224708	.0428364	2.86	0.004	.0385008	.2064407
6	.0040053	.045271	0.09	0.930	-.0847371	.0927478
7	.1493884	.0448122	3.33	0.001	.0615454	.2372314
8	.1589694	.0443934	3.58	0.000	.0719473	.2459916
9	.3258167	.0419584	7.77	0.000	.2435677	.4080657
10	.2509566	.0415768	6.04	0.000	.1694557	.3324574
11	.2466302	.0433865	5.68	0.000	.1615819	.3316785
12	.2005208	.0572735	3.50	0.000	.0882505	.3127911
13	.3192368	.0434052	7.35	0.000	.2341518	.4043218
14	.3000178	.0432916	6.93	0.000	.2151556	.3848801
15	.2980224	.0420922	7.08	0.000	.2155113	.3805336
16	.2045425	.0654223	3.13	0.002	.0762986	.3327865
17	.2985837	.041883	7.13	0.000	.2164827	.3806848
18	.3128202	.0453915	6.89	0.000	.2238415	.4017989
19	.263218	.0420178	6.26	0.000	.1808526	.3455834
20	.280578	.0412507	6.80	0.000	.1997165	.3614396
21	.175084	.04399	3.98	0.000	.0888527	.2613153
22	.3026259	.0415248	7.29	0.000	.2212271	.3840248
23	.2325333	.0427117	5.44	0.000	.1488077	.3162589
24	.2234896	.0432768	5.16	0.000	.1386563	.3083229
25	.1880701	.0442216	4.25	0.000	.1013849	.2747554
26	.283841	.0417028	6.81	0.000	.2020932	.3655888
27	.2518966	.0434527	5.80	0.000	.1667185	.3370748
28	.2511988	.040834	6.15	0.000	.1711539	.3312437
29	.2459305	.0430449	5.71	0.000	.1615518	.3303092
30	.1940429	.0420077	4.62	0.000	.1116974	.2763884
31	.2605984	.0422897	6.16	0.000	.1777	.3434968
32	.2142413	.0439404	4.88	0.000	.1281073	.3003754
33	.2383411	.0430778	5.53	0.000	.153898	.3227842
34	.1695227	.0553848	3.06	0.002	.0609546	.2780907

35		.3008398	.0423559	7.10	0.000	.2178117	.3838679
36		.1868391	.0466218	4.01	0.000	.0954488	.2782294
37		.1975114	.0431639	4.58	0.000	.1128995	.2821234
38		.2065876	.04293	4.81	0.000	.1224341	.290741
39		.1763658	.0434229	4.06	0.000	.0912461	.2614854
40		.2046675	.0451463	4.53	0.000	.1161694	.2931655
41		.1908887	.0424693	4.49	0.000	.1076383	.2741391
42		.1914367	.0450008	4.25	0.000	.103224	.2796494
43		.1854172	.0468479	3.96	0.000	.0935837	.2772507
44		.2776284	.044391	6.25	0.000	.1906111	.3646458
45		.0871362	.0572568	1.52	0.128	-.0251014	.1993737
46		.1853994	.0545614	3.40	0.001	.0784454	.2923534
47		.1252157	.0416131	3.01	0.003	.0436436	.2067878
48		.0341978	.045768	0.75	0.455	-.055519	.1239145
49		-.025191	.0610174	-0.41	0.680	-.1448003	.0944184
50		.0112222	.0575883	0.19	0.846	-.1016652	.1241095
51		.1472686	.0427697	3.44	0.001	.0634293	.2311079
	Constant						
		-.3635469	.0355358	-10.23	0.000	-.4332058	-.293888

Appendix L: Regression table of top 4 alcohol-involving crime rates as specified in column (4) of Table 7

Poisson regression Number of obs = 600
LR chi2(61) = 17.17
Prob > chi2 = 1.0000
Log likelihood = -498.28095 Pseudo R2 = 0.0169

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.0907065	.0479373	-1.89	0.058	-.1846618	.0032488
Prohibition*Weekend	-.2347433	.0760564	-3.09	0.002	-.3838111	-.0856755
Weekend	.4027427	.0070779	56.90	0.000	.3888703	.4166151
Pre-prohibition Week 1&2	.0486387	.0548755	0.89	0.375	-.0589154	.1561928
Post-prohibition Week 1&2	.0119399	.0429077	0.28	0.781	-.0721577	.0960375
Post-prohibition Week 3&4	.0333184	.0500625	0.67	0.506	-.0648023	.1314392
Post-prohibition Week 5&6	-.1081132	.0479119	-2.26	0.024	-.2020189	-.0142076
Year effects (2010=baseline)						
2011	.1091761	.0124777	8.75	0.000	.0847202	.1336319
2012	.0412305	.0131701	3.13	0.002	.0154176	.0670434
2013	.083557	.0124529	6.71	0.000	.0591498	.1079643
2014	.0264897	.0122616	2.16	0.031	.0024574	.050522
2015	-.0842949	.0129036	-6.53	0.000	-.1095854	-.0590044
Calendar week effect (2=baseline)						
3	.0535999	.0367258	1.46	0.144	-.0183813	.1255811
4	-.0012479	.0391189	-0.03	0.975	-.0779196	.0754237
5	.1012951	.0368064	2.75	0.006	.0291559	.1734342
6	.0132727	.0375555	0.35	0.724	-.0603348	.0868802
7	.1535785	.0359002	4.28	0.000	.0832155	.2239416
8	.1496358	.0368033	4.07	0.000	.0775026	.221769
9	.290171	.0352789	8.23	0.000	.2210257	.3593164
10	.2422772	.0347547	6.97	0.000	.1741592	.3103952
11	.2421034	.0337241	7.18	0.000	.1760052	.3082015
12	.2177563	.0350024	6.22	0.000	.1491529	.2863596
13	.2947193	.0359652	8.19	0.000	.2242287	.3652099
14	.2808716	.0353087	7.95	0.000	.2116679	.3500753
15	.2669673	.0355245	7.52	0.000	.1973407	.336594
16	.2526258	.0343267	7.36	0.000	.1853466	.3199049
17	.2976067	.0362904	8.20	0.000	.2264788	.3687346
18	.2831235	.0379228	7.47	0.000	.2087963	.3574508
19	.2485237	.0350124	7.10	0.000	.1799007	.3171468
20	.2789575	.033449	8.34	0.000	.2133987	.3445164
21	.172484	.035781	4.82	0.000	.1023545	.2426136
22	.280426	.0336442	8.34	0.000	.2144845	.3463674
23	.2129945	.0357563	5.96	0.000	.1429133	.2830756
24	.2285424	.0357748	6.39	0.000	.158425	.2986598
25	.1949484	.0353219	5.52	0.000	.1257188	.264178
26	.2630846	.0361069	7.29	0.000	.1923164	.3338528
27	.2254473	.0356288	6.33	0.000	.1556161	.2952784
28	.2294618	.0354523	6.47	0.000	.1599766	.298947
29	.2148554	.0358446	5.99	0.000	.1446014	.2851095
30	.1710571	.035398	4.83	0.000	.1016784	.2404358
31	.2354905	.0360581	6.53	0.000	.1648179	.3061631
32	.1924432	.0345968	5.56	0.000	.1246347	.2602517
33	.1979137	.0342115	5.79	0.000	.1308603	.264967
34	.1878918	.0344925	5.45	0.000	.1202877	.2554959
35	.2923478	.0346245	8.44	0.000	.2244851	.3602104

36	.2039187	.0366047	5.57	0.000	.1321748	.2756626
37	.2016401	.0355504	5.67	0.000	.1319625	.2713177
38	.2022443	.0355601	5.69	0.000	.1325478	.2719409
39	.1878867	.035637	5.27	0.000	.1180395	.2577338
40	.1929107	.0366754	5.26	0.000	.1210281	.2647932
41	.2010083	.0366393	5.49	0.000	.1291966	.27282
42	.2148753	.0371969	5.78	0.000	.1419706	.2877799
43	.1973836	.0364636	5.41	0.000	.1259163	.2688509
44	.2711898	.0347782	7.80	0.000	.2030257	.3393538
45	.1266449	.0356298	3.55	0.000	.0568119	.196478
46	.2117511	.0346198	6.12	0.000	.1438975	.2796046
47	.1151971	.0334024	3.45	0.001	.0497297	.1806645
48	.077444	.0387198	2.00	0.045	.0015546	.1533334
49	.0419404	.0386481	1.09	0.278	-.0338085	.1176893
50	.0874049	.0384377	2.27	0.023	.0120683	.1627414
51	.1305463	.034858	3.75	0.000	.0622259	.1988667
Constant	-.3516253	.0282703	-12.44	0.000	-.407034	-.2962166

Appendix M: Regression table of top 4 alcohol-involving crime rates as specified in column (5) of Table 7

Number of obs = 8400
F(77, 8322) = 134.86
Prob > F = 0.0000
R-squared = 0.5111
Root MSE = .42221

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.0471203	.0654372	-0.72	0.471	-.1753936	.081153
Prohibition*Treated	.1650721	.1232473	1.34	0.180	-.0765234	.4066675
Prohibition*Weekend	-.2461958	.091365	-2.69	0.007	-.425294	-.0670977
Prohibition*Treated*Weekend	-.2581587	.2375711	-1.09	0.277	-.7238572	.2075398
Weekend	.422578	.01077	39.24	0.000	.4014662	.4436898
Weekend*Treated	.0881297	.0205622	4.29	0.000	.0478227	.1284366
Pre-prohibition Week 1&2	.0231749	.078704	0.29	0.768	-.1311046	.1774543
Post-prohibition Week 1&2	.0225616	.0523444	0.43	0.666	-.0800465	.1251697
Post-prohibition Week 3&4	.0927206	.0508594	1.82	0.068	-.0069764	.1924177
Post-prohibition Week 5&6	-.1354666	.0668301	-2.03	0.043	-.2664703	-.0044629
Year effects (2010=baseline)						
2011	.1221358	.0142816	8.55	0.000	.0941403	.1501312
2012	.0367043	.0160873	2.28	0.023	.0051691	.0682394
2013	.0819236	.0157714	5.19	0.000	.0510078	.1128395
2014	.0264349	.0150241	1.76	0.079	-.0030161	.0558859
2015	-.1078917	.017062	-6.32	0.000	-.1413375	-.0744459
Calendar week effect (2=baseline)						
3	.0694196	.0440468	1.58	0.115	-.016923	.1557623
4	-.0385862	.0500261	-0.77	0.441	-.1366499	.0594775
5	.1224708	.0429383	2.85	0.004	.038301	.2066405
6	.0040053	.0451209	0.09	0.929	-.0844429	.0924535
7	.1493884	.0447382	3.34	0.001	.0616903	.2370865
8	.1589694	.0443999	3.58	0.000	.0719347	.2460042
9	.3258167	.042062	7.75	0.000	.2433646	.4082688
10	.2509566	.0416352	6.03	0.000	.1693413	.3325719
11	.2466302	.0434708	5.67	0.000	.1614167	.3318437
12	.2005208	.0571954	3.51	0.000	.0884035	.3126381
13	.3192368	.0433946	7.36	0.000	.2341726	.4043011
14	.3000178	.0433048	6.93	0.000	.2151297	.3849059
15	.2980224	.0420774	7.08	0.000	.2155402	.3805047
16	.2045425	.0654376	3.13	0.002	.0762686	.3328165
17	.2985837	.0418504	7.13	0.000	.2165465	.3806209
18	.3128202	.0453366	6.90	0.000	.2239491	.4016913
19	.263218	.0420951	6.25	0.000	.1807012	.3457348
20	.280578	.0411929	6.81	0.000	.1998297	.3613264
21	.175084	.0439902	3.98	0.000	.0888522	.2613158
22	.3026259	.0416353	7.27	0.000	.2210105	.3842414
23	.2325333	.0425783	5.46	0.000	.1490692	.3159973
24	.2234896	.0432172	5.17	0.000	.138773	.3082061
25	.1880701	.0442546	4.25	0.000	.1013201	.2748202
26	.283841	.0417408	6.80	0.000	.2020187	.3656633
27	.2518966	.0437057	5.76	0.000	.1662226	.3375707
28	.2511988	.0408811	6.14	0.000	.1710616	.331336
29	.2459305	.0429482	5.73	0.000	.1617413	.3301197
30	.1940429	.0420169	4.62	0.000	.1116793	.2764065

31	.2605984	.0422765	6.16	0.000	.1777259	.3434709
32	.2142413	.0440104	4.87	0.000	.12797	.3005127
33	.2383411	.0431464	5.52	0.000	.1537633	.3229188
34	.1695227	.055327	3.06	0.002	.0610679	.2779774
35	.3008398	.0424941	7.08	0.000	.2175409	.3841388
36	.1868391	.0467613	4.00	0.000	.0951753	.278503
37	.1975114	.0432115	4.57	0.000	.1128061	.2822168
38	.2065876	.0429833	4.81	0.000	.1223296	.2908456
39	.1763658	.0433108	4.07	0.000	.0914659	.2612656
40	.2046675	.0450728	4.54	0.000	.1163136	.2930213
41	.1908887	.0425168	4.49	0.000	.1075452	.2742322
42	.1914367	.0451231	4.24	0.000	.1029842	.2798892
43	.1854172	.0469891	3.95	0.000	.0933068	.2775275
44	.2776284	.0444538	6.25	0.000	.1904879	.3647689
45	.0871362	.0572207	1.52	0.128	-.0250307	.1993031
46	.1853994	.054398	3.41	0.001	.0787659	.292033
47	.1252157	.0416449	3.01	0.003	.0435813	.2068502
48	.0341978	.0457058	0.75	0.454	-.055397	.1237925
49	-.025191	.0609622	-0.41	0.679	-.1446922	.0943102
50	.0112222	.0576587	0.19	0.846	-.1018032	.1242475
51	.1472686	.0428012	3.44	0.001	.0633675	.2311697
Regional effect (Prague=baseline)						
Středočeský	-.5929612	.0148857	-39.83	0.000	-.622141	-.5637815
Jihočeský	-.5800224	.017924	-32.36	0.000	-.6151578	-.5448869
Plzeňský	-.9754441	.0201126	-48.50	0.000	-1.01487	-.9360183
Ústecký	-.4482337	.0154123	-29.08	0.000	-.4784457	-.4180217
Královehradecký	-1.069511	.0254235	-42.07	0.000	-1.119347	-1.019674
Jihomoravský	-.7103886	.0146706	-48.42	0.000	-.7391466	-.6816306
Moravskoslezský	-.3547108	.0168321	-21.07	0.000	-.387706	-.3217156
Olomoucký	-.6964354	.0194524	-35.80	0.000	-.734567	-.6583038
Zlínský	-1.235092	.0276762	-44.63	0.000	-1.289344	-1.180839
Vysočina	-1.005405	.0238073	-42.23	0.000	-1.052073	-.9587368
Pardubický	-1.217126	.0291455	-41.76	0.000	-1.274258	-1.159994
Liberecký	-.3261093	.0178199	-18.30	0.000	-.3610407	-.2911778
Karlovarský	-.5620318	.025665	-21.90	0.000	-.6123416	-.5117221
Constant	-.354053	.0355883	-9.95	0.000	-.4238149	-.2842911

Appendix N: Regression table of the top 4 alcohol-involving crime rates as presented in column (6) of Table 7

Number of obs = 8400
Wald chi2(77) = 13027.12
Prob > chi2 = 0.0000
Log pseudolikelihood = -6768.7626
Pseudo R2 = 0.0539

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.1126838	.0544712	-2.07	0.039	-.2194454	-.0059221
Prohibition*Treated	.1063398	.0973583	1.09	0.275	-.084479	.2971587
Prohibition*Weekend	-.208225	.0829987	-2.51	0.012	-.3708995	-.0455505
Prohibition*Treated*Weekend	-.1278777	.1989449	-0.64	0.520	-.5178025	.2620471
Weekend	.3843772	.008234	46.68	0.000	.3682387	.4005156
Weekend*Treated	.0894671	.0152572	5.86	0.000	.0595634	.1193707
Pre-prohibition Week 1&2	.0486387	.0552063	0.88	0.378	-.0595637	.1568411
Post-prohibition Week 1&2	.0119399	.0428715	0.28	0.781	-.0720867	.0959665
Post-prohibition Week 3&4	.0333184	.0495994	0.67	0.502	-.0638946	.1305315
Post-prohibition Week 5&6	-.1081132	.04806	-2.25	0.024	-.202309	-.0139174
Year effects (2010=baseline)						
2011	.1091761	.012446	8.77	0.000	.0847823	.1335699
2012	.0412305	.013144	3.14	0.002	.0154688	.0669922
2013	.083557	.0124393	6.72	0.000	.0591765	.1079375
2014	.0264897	.0122354	2.16	0.030	.0025087	.0504708
2015	-.0842949	.0128816	-6.54	0.000	-.1095424	-.0590473
Calendar week effect (2=baseline)						
3	.0535999	.0368405	1.45	0.146	-.0186061	.1258059
4	-.0012479	.0391802	-0.03	0.975	-.0780398	.0755439
5	.1012951	.0369394	2.74	0.006	.0288952	.1736949
6	.0132727	.0374295	0.35	0.723	-.0600877	.0866331
7	.1535785	.0358431	4.28	0.000	.0833273	.2238297
8	.1496358	.0367984	4.07	0.000	.0775123	.2217593
9	.290171	.0353762	8.20	0.000	.220835	.3595071
10	.2422772	.0347506	6.97	0.000	.1741673	.3103871
11	.2421034	.033741	7.18	0.000	.1759722	.3082345
12	.2177563	.0349706	6.23	0.000	.1492151	.2862975
13	.2947193	.0359936	8.19	0.000	.2241731	.3652655
14	.2808716	.0352366	7.97	0.000	.2118091	.3499341
15	.2669673	.0354292	7.54	0.000	.1975274	.3364073
16	.2526258	.0343099	7.36	0.000	.1853797	.3198718
17	.2976067	.0362894	8.20	0.000	.2264808	.3687327
18	.2831235	.0378532	7.48	0.000	.2089325	.3573145
19	.2485237	.0350491	7.09	0.000	.1798287	.3172188
20	.2789575	.0334448	8.34	0.000	.213407	.3445081
21	.172484	.0356871	4.83	0.000	.1025387	.2424294
22	.280426	.0336849	8.32	0.000	.2144048	.3464472
23	.2129945	.0356268	5.98	0.000	.1431672	.2828218
24	.2285424	.0356638	6.41	0.000	.1586426	.2984421
25	.1949484	.0352728	5.53	0.000	.1258149	.2640819
26	.2630846	.0361246	7.28	0.000	.1922818	.3338875
27	.2254473	.03576	6.30	0.000	.155359	.2955356
28	.2294618	.0354436	6.47	0.000	.1599936	.2989299
29	.2148554	.0357649	6.01	0.000	.1447576	.2849533
30	.1710571	.0353769	4.84	0.000	.1017196	.2403946
31	.2354905	.035992	6.54	0.000	.1649474	.3060335
32	.1924432	.0346515	5.55	0.000	.1245275	.2603588

33	.1979137	.0342429	5.78	0.000	.1307989	.2650285
34	.1878918	.0343872	5.46	0.000	.1204941	.2552895
35	.2923478	.0346448	8.44	0.000	.2244451	.3602504
36	.2039187	.0365994	5.57	0.000	.1321851	.2756523
37	.2016401	.0355832	5.67	0.000	.1318982	.271382
38	.2022443	.0355794	5.68	0.000	.13251	.2719787
39	.1878867	.0355771	5.28	0.000	.1181568	.2576165
40	.1929107	.0365669	5.28	0.000	.121241	.2645804
41	.2010083	.0366507	5.48	0.000	.1291744	.2728423
42	.2148753	.0372753	5.76	0.000	.1418171	.2879334
43	.1973836	.0365323	5.40	0.000	.1257816	.2689856
44	.2711898	.0348047	7.79	0.000	.2029738	.3394057
45	.1266449	.0356349	3.55	0.000	.0568018	.196488
46	.2117511	.0345719	6.12	0.000	.1439915	.2795107
47	.1151971	.033445	3.44	0.001	.0496461	.1807481
48	.077444	.0387333	2.00	0.046	.0015282	.1533598
49	.0419404	.0385692	1.09	0.277	-.0336538	.1175347
50	.0874049	.0384593	2.27	0.023	.0120261	.1627837
51	.1305463	.0348379	3.75	0.000	.0622652	.1988274
Regional effect (Prague=baseline)						
Středočeský	-.5476663	.0143127	-38.26	0.000	-.5757187	-.519614
Jihočeský	-.5037589	.0165074	-30.52	0.000	-.5361128	-.471405
Plzeňský	-.8880521	.0180151	-49.29	0.000	-.923361	-.8527431
Ústecký	-.410086	.0142306	-28.82	0.000	-.4379773	-.3821946
Královehradecký	-.9370475	.0205678	-45.56	0.000	-.9773597	-.8967353
Jihomoravský	-.6753318	.013988	-48.28	0.000	-.7027478	-.6479159
Moravskoslezský	-.3400576	.015132	-22.47	0.000	-.3697158	-.3103995
Olomoucký	-.6428379	.0172586	-37.25	0.000	-.6766641	-.6090118
Zlínský	-1.116104	.0209396	-53.30	0.000	-1.157145	-1.075063
Vysočina	-.8661388	.0206023	-42.04	0.000	-.9065186	-.825759
Pardubický	-1.054919	.0206211	-51.16	0.000	-1.095336	-1.014503
Liberecký	-.2596089	.0168035	-15.45	0.000	-.2925433	-.2266746
Karlovarský	-.44771	.0192965	-23.20	0.000	-.4855305	-.4098895
Constant	-.3406242	.0283166	-12.03	0.000	-.3961236	-.2851247

Appendix O: Regression table for the natural logarithms of weekly count of offenders under the influence of alcohol as presented in column (1) of Table 9

Number of obs = 300

F(59, 240) = 11.46

Prob > F = 0.0000

R-squared = 0.5659

Root MSE = .18274

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.3202504	.0428828	-7.47	0.000	-.4047252	-.2357756
Pre-prohibition Week 1&2	-.0347689	.1237902	-0.28	0.779	-.278623	.2090851
Post-prohibition Week 1-4	-.0732686	.0795686	-0.92	0.358	-.2300105	.0834733
Post-prohibition Week 5-8	-.0401717	.0730435	-0.55	0.583	-.18406	.1037165
Post-prohibition Week 9-12	-.0328748	.1067509	-0.31	0.758	-.2431632	.1774136
Year effects (2010=baseline)						
2011	.1033087	.0354516	2.91	0.004	.0334726	.1731448
2012	-.0162638	.0350303	-0.46	0.643	-.08527	.0527423
2013	-.0211495	.0275088	-0.77	0.443	-.075339	.03304
2014	-.0929222	.032075	-2.90	0.004	-.1561067	-.0297377
2015	-.3577696	.0477445	-7.49	0.000	-.4518215	-.2637177
Calendar week effect (2=baseline)						
3	.1057895	.0755623	1.40	0.163	-.0430605	.2546395
4	.1419611	.083511	1.70	0.090	-.022547	.3064692
5	.1821495	.0837794	2.17	0.031	.0171127	.3471863
6	.1691608	.1016131	1.66	0.097	-.0310066	.3693282
7	.2854906	.0725816	3.93	0.000	.1425123	.4284689
8	.309696	.0738907	4.19	0.000	.1641388	.4552531
9	.225922	.1056746	2.14	0.034	.0177538	.4340902
10	.327669	.0833441	3.93	0.000	.1634897	.4918483
11	.3437807	.0823913	4.17	0.000	.1814783	.5060831
12	.2114445	.0912492	2.32	0.021	.0316929	.3911962
13	.257626	.0885462	2.91	0.004	.083199	.432053
14	.306603	.0995771	3.08	0.002	.1104462	.5027597
15	.3942506	.0818782	4.82	0.000	.2329589	.5555423
16	.2692721	.0997626	2.70	0.007	.0727499	.4657943
17	.381999	.0936842	4.08	0.000	.1974507	.5665473
18	.3305199	.1185099	2.79	0.006	.0970676	.5639723
19	.2803496	.0897016	3.13	0.002	.1036466	.4570526
20	.2854101	.0740856	3.85	0.000	.139469	.4313512
21	.2679929	.0802808	3.34	0.001	.1098478	.4261379
22	.1567613	.0757079	2.07	0.039	.0076245	.3058982
23	.2650824	.0750013	3.53	0.000	.1173375	.4128274
24	.3524081	.0810921	4.35	0.000	.192665	.5121512
25	.2774179	.0721994	3.84	0.000	.1351925	.4196433
26	.2042599	.0986343	2.07	0.039	.0099604	.3985594
27	.3148314	.0610796	5.15	0.000	.1945108	.435152
28	.3557533	.087048	4.09	0.000	.1842776	.5272289
29	.2929726	.1102522	2.66	0.008	.0757871	.5101582
30	.3411164	.0781718	4.36	0.000	.187126	.4951068
31	.3114599	.074161	4.20	0.000	.1653704	.4575495
32	.2765679	.0624054	4.43	0.000	.1536357	.3995001
33	.3418022	.0704157	4.85	0.000	.2030906	.4805138
34	.2250954	.0718844	3.13	0.002	.0834905	.3667002
35	.2820806	.0774531	3.64	0.000	.129506	.4346552

36	.0946498	.0969236	0.98	0.330	-.0962798	.2855794
37	.2362312	.0706575	3.34	0.001	.097043	.3754193
38	.1396396	.0668646	2.09	0.038	.0079232	.271356
39	.1350237	.0771901	1.75	0.082	-.017033	.2870803
40	.128328	.0817501	1.57	0.118	-.0327114	.2893674
41	.1244812	.1015766	1.23	0.222	-.0756144	.3245767
42	.0815871	.0727602	1.12	0.263	-.061743	.2249172
43	.1365171	.0827172	1.65	0.100	-.0264273	.2994614
44	.0741656	.1020791	0.73	0.468	-.1269198	.275251
45	.1015296	.063788	1.59	0.113	-.0241263	.2271855
46	.118786	.099997	1.19	0.236	-.0781978	.3157699
47	.1025059	.111226	0.92	0.358	-.1165979	.3216096
48	-.0136408	.1555239	-0.09	0.930	-.320007	.2927253
49	-.1052504	.1780781	-0.59	0.555	-.4560461	.2455453
50	.0134186	.1552432	0.09	0.931	-.2923947	.3192319
51	.1326458	.2069665	0.64	0.522	-.2750571	.5403487
Constant	4.400043	.0610969	72.02	0.000	4.279688	4.520397

Appendix P: Regression table for the natural logarithms of weekly count of offenders under the influence of alcohol as presented in column (2) of Table 9

Number of obs = 300
Wald chi2(59) = 902.82
Prob > chi2 = 0.0000
Log pseudolikelihood = -1264.9734
Pseudo R2 = 0.2343

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.330293	.0383858	-8.60	0.000	-.4055279	-.2550582
Pre-prohibition Week 1&2	-.0231571	.1126899	-0.21	0.837	-.2440252	.1977111
Post-prohibition Week 1-4	-.083308	.0734325	-1.13	0.257	-.2272331	.060617
Post-prohibition Week 5-8	-.0691544	.058934	-1.17	0.241	-.1846629	.046354
Post-prohibition Week 9-12	-.1310961	.0739855	-1.77	0.076	-.276105	.0139128
Year effects (2010=baseline)						
2011	.1040625	.0286608	3.63	0.000	.0478883	.1602367
2012	-.0052412	.0302571	-0.17	0.862	-.0645441	.0540616
2013	-.0244715	.0227075	-1.08	0.281	-.0689774	.0200343
2014	-.0889429	.0277531	-3.20	0.001	-.143338	-.0345479
2015	-.3174715	.0366502	-8.66	0.000	-.3893046	-.2456384
Calendar week effect (2=baseline)						
3	.0980376	.0688441	1.42	0.154	-.0368944	.2329696
4	.1324579	.076072	1.74	0.082	-.0166405	.2815562
5	.1765827	.0790027	2.24	0.025	.0217401	.3314252
6	.1837511	.0959555	1.91	0.055	-.0043182	.3718205
7	.2741793	.0658074	4.17	0.000	.1451992	.4031594
8	.2967609	.0666093	4.46	0.000	.1662091	.4273127
9	.2171168	.0924136	2.35	0.019	.0359894	.3982443
10	.3404496	.0762041	4.47	0.000	.1910922	.489807
11	.3404496	.0757304	4.50	0.000	.1920207	.4888785
12	.1979358	.0797698	2.48	0.013	.0415898	.3542818
13	.2643432	.0904854	2.92	0.003	.086995	.4416913
14	.3062848	.0919751	3.33	0.001	.126017	.4865526
15	.3823092	.0708971	5.39	0.000	.2433535	.5212649
16	.2823028	.0934477	3.02	0.003	.0991486	.465457
17	.386692	.088061	4.39	0.000	.2140957	.5592883
18	.3297051	.1020444	3.23	0.001	.1297017	.5297084
19	.2692733	.077087	3.49	0.000	.1181856	.420361
20	.2790613	.0694939	4.02	0.000	.1428558	.4152669
21	.2544093	.0726025	3.50	0.000	.1121111	.3967075
22	.1547636	.0721284	2.15	0.032	.0133945	.2961327
23	.2659892	.0715111	3.72	0.000	.12583	.4061485
24	.3434984	.071491	4.80	0.000	.2033785	.4836183
25	.2643432	.0646921	4.09	0.000	.137549	.3911374
26	.2101844	.0921063	2.28	0.022	.0296593	.3907095
27	.3078633	.0592814	5.19	0.000	.191674	.4240527
28	.3450193	.079288	4.35	0.000	.1896177	.5004209
29	.2839196	.0959661	2.96	0.003	.0958296	.4720097
30	.3281607	.0708481	4.63	0.000	.1893009	.4670204
31	.2999456	.0663196	4.52	0.000	.1699615	.4299297
32	.2741793	.0614437	4.46	0.000	.1537518	.3946068
33	.3281607	.0625801	5.24	0.000	.2055058	.4508155
34	.2274262	.0678372	3.35	0.001	.0944677	.3603848
35	.2765334	.0692031	4.00	0.000	.1408978	.412169
36	.1020244	.0973271	1.05	0.295	-.0887333	.2927821
37	.230301	.0671635	3.43	0.001	.0986629	.3619391

38	.1324787	.063225	2.10	0.036	.00856	.2563975
39	.1442667	.0746556	1.93	0.053	-.0020556	.2905889
40	.1217091	.0726241	1.68	0.094	-.0206316	.2640498
41	.1351065	.0882223	1.53	0.126	-.037806	.3080189
42	.0824113	.0705137	1.17	0.243	-.0557931	.2206158
43	.1502011	.0794308	1.89	0.059	-.0054804	.3058826
44	.101907	.0857896	1.19	0.235	-.0662375	.2700514
45	.1058209	.0613287	1.73	0.084	-.0143811	.2260228
46	.1478921	.0818351	1.81	0.071	-.0125017	.3082859
47	.1365925	.0849873	1.61	0.108	-.0299795	.3031645
48	.0656659	.109432	0.60	0.548	-.1488169	.2801488
49	-.0067061	.1214669	-0.06	0.956	-.2447768	.2313647
50	.0960019	.116465	0.82	0.410	-.1322654	.3242692
51	.2404299	.125485	1.92	0.055	-.0055162	.486376
Constant	4.399666	.058526	75.17	0.000	4.284957	4.514375

Appendix Q: Regression table for the natural logarithms of weekly count of offenders under the influence of alcohol as presented in column (3) of Table 9

Number of obs = 312
F(61, 250) = 7.63
Prob > F = 0.0000
R-squared = 0.6255
Root MSE = .13517

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.1959304	.0604764	-3.24	0.001	-.3150386	-.0768222
Pre-prohibition Week 1&2	-.0298994	.0952656	-0.31	0.754	-.2175249	.1577261
Post-prohibition Week 1-4	-.1400682	.0428455	-3.27	0.001	-.2244523	-.0556841
Post-prohibition Week 5-8	-.0408319	.0391026	-1.04	0.297	-.1178444	.0361805
Post-prohibition Week 9-12	-.1268229	.1127202	-1.13	0.262	-.3488251	.0951793
Year effects (2010=baseline)						
2011	-.0103264	.0254185	-0.41	0.685	-.060388	.0397353
2012	-.0638816	.0269618	-2.37	0.019	-.1169828	-.0107804
2013	-.1474634	.0259803	-5.68	0.000	-.1986315	-.0962952
2014	-.1246906	.0239168	-5.21	0.000	-.1717948	-.0775864
2015	-.2585867	.031451	-8.22	0.000	-.3205294	-.196644
Calendar week effect (1=baseline)						
2	.1678569	.1146785	1.46	0.145	-.0580021	.393716
3	.089975	.1275339	0.71	0.481	-.1612028	.3411529
4	.1505587	.1172506	1.28	0.200	-.0803663	.3814837
5	.1725144	.1090409	1.58	0.115	-.0422415	.3872703
6	.1628528	.1174183	1.39	0.167	-.0684024	.3941079
7	.2269284	.1080814	2.10	0.037	.0140623	.4397945
8	.3339032	.132276	2.52	0.012	.0733858	.5944205
9	.2698123	.1094982	2.46	0.014	.0541558	.4854688
10	.2683699	.1101269	2.44	0.016	.0514751	.4852648
11	.3634255	.1147697	3.17	0.002	.1373868	.5894642
12	.3402554	.1157649	2.94	0.004	.1122566	.5682542
13	.2274691	.119648	1.90	0.058	-.0081774	.4631156
14	.3222909	.1102294	2.92	0.004	.1051942	.5393876
15	.369228	.1092154	3.38	0.001	.1541283	.5843276
16	.3241642	.111772	2.90	0.004	.1040294	.5442989
17	.361321	.1101557	3.28	0.001	.1443695	.5782724
18	.2901051	.1167923	2.48	0.014	.0600828	.5201274
19	.3041601	.1209804	2.51	0.013	.0658895	.5424307
20	.3248087	.1176641	2.76	0.006	.0930695	.5565478
21	.3429391	.1097041	3.13	0.002	.1268771	.5590011
22	.2666399	.1132013	2.36	0.019	.0436901	.4895896
23	.4505993	.1124306	4.01	0.000	.2291674	.6720312
24	.4678325	.1187696	3.94	0.000	.2339159	.701749
25	.4297796	.1117562	3.85	0.000	.2096759	.6498834
26	.4189285	.1095028	3.83	0.000	.2032629	.6345941
27	.3819989	.1097433	3.48	0.001	.1658596	.5981382
28	.4374299	.112098	3.90	0.000	.2166532	.6582067
29	.4030418	.1099453	3.67	0.000	.1865047	.6195788
30	.2579639	.114999	2.24	0.026	.0314735	.4844543
31	.3505994	.1109787	3.16	0.002	.1320272	.5691717
32	.3817783	.1158085	3.30	0.001	.1536937	.609863
33	.4123742	.1090528	3.78	0.000	.1975949	.6271535
34	.3401075	.1133329	3.00	0.003	.1168985	.5633165
35	.2292298	.1094444	2.09	0.037	.0136793	.4447803
36	.2303254	.1156597	1.99	0.048	.0025338	.4581171

37	.2831456	.1097933	2.58	0.010	.0669079	.4993833
38	.3088441	.1104066	2.80	0.006	.0913984	.5262897
39	.2711445	.1393856	1.95	0.053	-.0033752	.5456641
40	.3007806	.1154157	2.61	0.010	.0734696	.5280915
41	.417562	.1149963	3.63	0.000	.191077	.644047
42	.3734963	.1117447	3.34	0.001	.1534153	.5935774
43	.3752981	.111842	3.36	0.001	.1550256	.5955707
44	.3340518	.1100375	3.04	0.003	.1173331	.5507706
45	.2590655	.1190531	2.18	0.030	.0245907	.4935403
46	.3428775	.117152	2.93	0.004	.1121468	.5736081
47	.2898816	.1140357	2.54	0.012	.0652884	.5144748
48	.1024299	.1448719	0.71	0.480	-.1828949	.3877548
49	.0827412	.1277585	0.65	0.518	-.168879	.3343614
50	.1919651	.1346868	1.43	0.155	-.0733004	.4572306
51	.091636	.1495119	0.61	0.540	-.2028274	.3860994
52	-.2300558	.2264173	-1.02	0.311	-.6759844	.2158728
Constant	5.064405	.1066279	47.50	0.000	4.854401	5.274408

Appendix R: Regression table for the natural logarithms of weekly count of offenders under the influence of alcohol as presented in column (4) of Table 9

Number of obs = 312
Wald chi2(61) = 690.02
Prob > chi2 = 0.0000
Log pseudolikelihood = -1454.398
Pseudo R2 = 0.2961

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.1976884	.0465741	-4.24	0.000	-.2889718	-.1064049
Pre-prohibition Week 1&2	-.0177223	.0862004	-0.21	0.837	-.1866719	.1512274
Post-prohibition Week 1-4	-.1332551	.0359619	-3.71	0.000	-.203739	-.0627711
Post-prohibition Week 5-8	-.0389716	.0331427	-1.18	0.240	-.1039302	.025987
Post-prohibition Week 9-12	-.1204204	.0914132	-1.32	0.188	-.2995869	.0587461
Year effects (2010=baseline)						
2011	-.0259449	.0192627	-1.35	0.178	-.0636991	.0118094
2012	-.0806038	.0200009	-4.03	0.000	-.1198049	-.0414028
2013	-.1599884	.0205025	-7.80	0.000	-.2001726	-.1198042
2014	-.1414559	.019289	-7.33	0.000	-.1792616	-.1036501
2015	-.2548258	.0229769	-11.09	0.000	-.2998596	-.209792
Calendar week effect (1=baseline)						
2	.1507551	.1008939	1.49	0.135	-.0469934	.3485036
3	.0677114	.1107468	0.61	0.541	-.1493484	.2847713
4	.1231671	.1017863	1.21	0.226	-.0763304	.3226646
5	.1449071	.0949896	1.53	0.127	-.041269	.3310833
6	.1458842	.1045183	1.40	0.163	-.0589679	.3507362
7	.1991287	.0944345	2.11	0.035	.0140405	.3842168
8	.3177344	.1107461	2.87	0.004	.1006761	.5347927
9	.2426138	.0952959	2.55	0.011	.0558373	.4293903
10	.2417269	.0951275	2.54	0.011	.0552805	.4281733
11	.3445109	.0991526	3.47	0.001	.1501753	.5388465
12	.3177344	.1003228	3.17	0.002	.1211054	.5143635
13	.2074275	.1021251	2.03	0.042	.0072659	.407589
14	.2986388	.0958435	3.12	0.002	.1107891	.4864885
15	.3461109	.0953718	3.63	0.000	.1591855	.5330362
16	.2986388	.0969403	3.08	0.002	.1086392	.4886383
17	.337279	.0956379	3.53	0.000	.1498321	.5247259
18	.2601889	.1014526	2.56	0.010	.0613455	.4590324
19	.2817322	.1038055	2.71	0.007	.0782772	.4851872
20	.3028211	.1016701	2.98	0.003	.1035514	.5020909
21	.3185564	.0950073	3.35	0.001	.1323456	.5047673
22	.2470366	.0989338	2.50	0.013	.05313	.4409433
23	.4289168	.0984208	4.36	0.000	.2360155	.621818
24	.4507517	.1030023	4.38	0.000	.2488709	.6526325
25	.4028251	.0963201	4.18	0.000	.2140411	.5916091
26	.3906669	.0948447	4.12	0.000	.2047746	.5765591
27	.3572398	.0964988	3.70	0.000	.1681056	.5463739
28	.4110989	.0971338	4.23	0.000	.2207202	.6014776
29	.3814502	.0960596	3.97	0.000	.1931769	.5697235
30	.231022	.0990145	2.33	0.020	.0369571	.4250869
31	.3242918	.0957864	3.39	0.001	.1365539	.5120297
32	.35803	.1010938	3.54	0.000	.1598897	.5561702
33	.3853008	.0953024	4.04	0.000	.1985116	.5720901
34	.3185564	.0989611	3.22	0.001	.1245962	.5125167
35	.2012122	.095444	2.11	0.035	.0141454	.3882791
36	.2076788	.1014137	2.05	0.041	.0089116	.4064459

37	.2594978	.0953831	2.72	0.007	.0725504	.4464451
38	.2826099	.0952799	2.97	0.003	.0958647	.4693551
39	.2720091	.1190086	2.29	0.022	.0387564	.5052618
40	.2712569	.0999754	2.71	0.007	.0753088	.467205
41	.3983858	.0999496	3.99	0.000	.2024881	.5942835
42	.3483158	.0972727	3.58	0.000	.1576647	.5389668
43	.3499444	.097677	3.58	0.000	.158501	.5413879
44	.3085469	.0953518	3.24	0.001	.1216608	.4954331
45	.2411639	.1032061	2.34	0.019	.0388836	.4434442
46	.3242953	.1020798	3.18	0.001	.1242225	.5243681
47	.2658783	.1001907	2.65	0.008	.0695083	.4622484
48	.0936287	.1283785	0.73	0.466	-.1579886	.345246
49	.0670455	.111516	0.60	0.548	-.1515218	.2856128
50	.1790648	.1186158	1.51	0.131	-.0534178	.4115475
51	.0873129	.127108	0.69	0.492	-.1618143	.33644
52	-.1509543	.1863301	-0.81	0.418	-.5161546	.214246
Constant	5.100626	.0931012	54.79	0.000	4.918151	5.283101

Appendix S: Regression table for the natural logarithms of weekly rates of endangerment under influence as presented in column (1) of Table 11

Number of obs = 312
F(61, 250) = 8.02
Prob > F = 0.0000
R-squared = 0.6163
Root MSE = .12665

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.1077004	.0444128	-2.42	0.016	-.1951713	-.0202294
Pre-prohibition Week 1&2	.0689638	.0386183	1.79	0.075	-.0070949	.1450224
Post-prohibition Week 1&2	-.1221151	.0454703	-2.69	0.008	-.2116687	-.0325615
Post-prohibition Week 3&4	-.1458741	.0466497	-3.13	0.002	-.2377506	-.0539976
Post-prohibition Week 5&6	-.0738892	.0622615	-1.19	0.236	-.1965131	.0487348
Year effects (2010=baseline)						
2011	-.0182273	.0265426	-0.69	0.493	-.0705029	.0340482
2012	-.0507296	.030822	-1.65	0.101	-.1114335	.0099743
2013	-.0116761	.0266854	-0.44	0.662	-.064233	.0408809
2014	.1238965	.0258672	4.79	0.000	.072951	.174842
2015	.0846046	.0282841	2.99	0.003	.0288992	.1403101
Calendar week effect (1=baseline)						
2	.2620758	.1131027	2.32	0.021	.0393201	.4848314
3	.2434763	.1252978	1.94	0.053	-.0032975	.4902501
4	.2670957	.1229493	2.17	0.031	.0249472	.5092441
5	.2847391	.1082136	2.63	0.009	.0716126	.4978656
6	.2822946	.1177983	2.40	0.017	.0502911	.5142982
7	.325215	.1105759	2.94	0.004	.107436	.542994
8	.4022299	.1273878	3.16	0.002	.1513398	.6531201
9	.3696892	.1077761	3.43	0.001	.1574243	.5819541
10	.3904104	.1084635	3.60	0.000	.1767917	.6040291
11	.4403975	.1128346	3.90	0.000	.21817	.6626251
12	.4127196	.1125518	3.67	0.000	.1910491	.6343902
13	.3048829	.1151176	2.65	0.009	.078159	.5316068
14	.3871879	.1103636	3.51	0.001	.169827	.6045489
15	.4242193	.1143134	3.71	0.000	.1990792	.6493594
16	.3869343	.1149172	3.37	0.001	.1606051	.6132635
17	.3843106	.1181365	3.25	0.001	.151641	.6169801
18	.3227262	.1127462	2.86	0.005	.1006728	.5447796
19	.3574265	.1190204	3.00	0.003	.1230159	.591837
20	.3333771	.1152462	2.89	0.004	.1063998	.5603543
21	.3735618	.1073649	3.48	0.001	.1621068	.5850168
22	.3126062	.110968	2.82	0.005	.0940548	.5311576
23	.4573358	.1120612	4.08	0.000	.2366313	.6780402
24	.4630255	.119664	3.87	0.000	.2273474	.6987035
25	.4099884	.1112249	3.69	0.000	.1909312	.6290456
26	.4302542	.1098152	3.92	0.000	.2139734	.646535
27	.3797109	.1088976	3.49	0.001	.1652372	.5941847
28	.426556	.1103759	3.86	0.000	.2091709	.6439412
29	.3932196	.1088528	3.61	0.000	.1788342	.6076051
30	.2598996	.1101059	2.36	0.019	.0430463	.476753
31	.3397087	.1104427	3.08	0.002	.122192	.5572253
32	.3324555	.1121874	2.96	0.003	.1115026	.5534083
33	.3515409	.1135785	3.10	0.002	.1278482	.5752336
34	.3136072	.1213373	2.58	0.010	.0746337	.5525808
35	.2192176	.1092424	2.01	0.046	.004065	.4343703
36	.2469137	.1064572	2.32	0.021	.0372464	.4565809

37	.2613356	.1090426	2.40	0.017	.0465763	.4760949
38	.3034772	.1088339	2.79	0.006	.0891289	.5178255
39	.3093519	.1207499	2.56	0.011	.0715351	.5471686
40	.3164903	.1167421	2.71	0.007	.086567	.5464136
41	.4317153	.111255	3.88	0.000	.2125987	.6508318
42	.3652665	.110644	3.30	0.001	.1473534	.5831796
43	.4364838	.1123387	3.89	0.000	.2152328	.6577347
44	.3571347	.1102417	3.24	0.001	.1400138	.5742555
45	.3194514	.1164973	2.74	0.007	.0900101	.5488927
46	.3815617	.1142503	3.34	0.001	.1565459	.6065775
47	.3267467	.1149189	2.84	0.005	.1004142	.5530792
48	.1357004	.1374074	0.99	0.324	-.1349232	.4063241
49	.067501	.141418	0.48	0.634	-.2110215	.3460235
50	.1766695	.1250434	1.41	0.159	-.0696032	.4229422
51	.032107	.1265909	0.25	0.800	-.2172136	.2814275
52	-.2553876	.1975091	-1.29	0.197	-.6443814	.1336062
Constant	.421909	.1058992	3.98	0.000	.2133407	.6304773

Appendix T: Regression table for the natural logarithms of weekly rates of endangerment under influence as presented in column (2) of Table 11

Number of obs = 312
Wald chi2(61) = 693.41
Prob > chi2 = 0.0000
Log pseudolikelihood = -420.16382
Pseudo R2 = 0.0134

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.1017545	.0389939	-2.61	0.009	-.1781812	-.0253278
Pre-prohibition Week 1&2	.0737385	.0325786	2.26	0.024	.0098855	.1375914
Post-prohibition Week 1&2	-.1236751	.0387349	-3.19	0.001	-.1995941	-.0477562
Post-prohibition Week 3&4	-.1422344	.040675	-3.50	0.000	-.2219559	-.0625128
Post-prohibition Week 5&6	-.064111	.0548812	-1.17	0.243	-.1716763	.0434542
Year effects (2010=baseline)						
2011	-.0384708	.0202583	-1.90	0.058	-.0781764	.0012348
2012	-.07019	.0229241	-3.06	0.002	-.1151205	-.0252595
2013	-.0285342	.0211891	-1.35	0.178	-.0700641	.0129957
2014	.1039976	.0201973	5.15	0.000	.0644116	.1435836
2015	.0770659	.0206848	3.73	0.000	.0365245	.1176073
Calendar week effect (1=baseline)						
2	.2443643	.0980034	2.49	0.013	.0522811	.4364475
3	.2410458	.1091236	2.21	0.027	.0271674	.4549241
4	.2596476	.1063698	2.44	0.015	.0511667	.4681285
5	.2658456	.0921853	2.88	0.004	.0851656	.4465255
6	.2726752	.1000837	2.72	0.006	.0765147	.4688356
7	.3077487	.0941249	3.27	0.001	.1232672	.4922302
8	.3973022	.1055496	3.76	0.000	.1904287	.6041756
9	.3506989	.092188	3.80	0.000	.1700137	.531384
10	.3708902	.0925689	4.01	0.000	.1894584	.5523219
11	.4263508	.0962873	4.43	0.000	.2376311	.6150704
12	.394621	.0961431	4.10	0.000	.2061839	.5830581
13	.2914573	.0978405	2.98	0.003	.0996934	.4832213
14	.3681103	.0941808	3.91	0.000	.1835193	.5527014
15	.4066347	.0977939	4.16	0.000	.2149623	.5983072
16	.3715314	.0980559	3.79	0.000	.1793454	.5637174
17	.3707884	.1003888	3.69	0.000	.17403	.5675468
18	.30691	.0961315	3.19	0.001	.1184956	.4953244
19	.3436313	.1016581	3.38	0.001	.1443852	.5428774
20	.3157079	.0985359	3.20	0.001	.1225811	.5088346
21	.3549095	.0916493	3.87	0.000	.1752801	.5345389
22	.2944978	.094887	3.10	0.002	.1085227	.4804729
23	.4392601	.0959028	4.58	0.000	.251294	.6272262
24	.4456779	.1022846	4.36	0.000	.2452037	.646152
25	.3946325	.0941695	4.19	0.000	.2100637	.5792013
26	.4132153	.0936138	4.41	0.000	.2297356	.596695
27	.3591839	.0934484	3.84	0.000	.1760283	.5423395
28	.4112133	.0943296	4.36	0.000	.2263307	.5960958
29	.373615	.0927824	4.03	0.000	.1917647	.5554652
30	.2442608	.0940237	2.60	0.009	.0599778	.4285439
31	.3229878	.0948022	3.41	0.001	.1371789	.5087967
32	.3157849	.0961491	3.28	0.001	.1273361	.5042337
33	.336689	.0993798	3.39	0.001	.1419081	.5314699
34	.2974811	.1054472	2.82	0.005	.0908083	.5041539
35	.2008883	.0943152	2.13	0.033	.0160339	.3857426
36	.2270757	.0907506	2.50	0.012	.0492077	.4049436
37	.2427285	.0933189	2.60	0.009	.0598269	.4256301
38	.2854085	.0935675	3.05	0.002	.1020196	.4687974
39	.2901555	.1063341	2.73	0.006	.0817445	.4985666

40	.3049935	.1009696	3.02	0.003	.1070967	.5028903
41	.4154002	.0965881	4.30	0.000	.2260909	.6047095
42	.3450209	.0943849	3.66	0.000	.16003	.5300118
43	.4192554	.0967694	4.33	0.000	.2295908	.6089199
44	.3340397	.0941341	3.55	0.000	.1495404	.5185391
45	.3003685	.0996395	3.01	0.003	.1050786	.4956584
46	.3674622	.0988777	3.72	0.000	.1736655	.5612589
47	.312861	.0998418	3.13	0.002	.1171747	.5085474
48	.1330967	.116467	1.14	0.253	-.0951743	.3613678
49	.0719044	.117956	0.61	0.542	-.1592852	.303094
50	.1715059	.1079504	1.59	0.112	-.0400731	.3830848
51	.027341	.1121546	0.24	0.807	-.1924779	.2471599
52	-.2219454	.1675682	-1.32	0.185	-.550373	.1064822
Constant	.4557812	.0906999	5.03	0.000	.2780127	.6335497

Appendix U: Regression table for the natural logarithms of weekly rates of endangerment under influence as presented in column (3) of Table 11

Number of obs = 4368
F(75, 4292) = 43.02
Prob > F = 0.0000
R-squared = 0.3514
Root MSE = .48863

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.0649368	.0861142	-0.75	0.451	-.2337652	.1038915
Prohibition*Treated	-.2421076	.1750425	-1.38	0.167	-.5852813	.1010662
Pre-prohibition Week 1&2	.0089288	.0793733	0.11	0.910	-.1466838	.1645414
Post-prohibition Week 1&2	-.1254309	.0665709	-1.88	0.060	-.2559443	.0050825
Post-prohibition Week 3&4	-.2011062	.094576	-2.13	0.034	-.3865241	-.0156882
Post-prohibition Week 5&6	-.1037394	.0870353	-1.19	0.233	-.2743736	.0668949
Year effects (2010=baseline)						
2011	.0087055	.0234587	0.37	0.711	-.0372858	.0546967
2012	-.0365467	.0253686	-1.44	0.150	-.0862822	.0131889
2013	.0030106	.0248385	0.12	0.904	-.0456857	.0517068
2014	.1100681	.0247966	4.44	0.000	.0614539	.1586824
2015	.0065305	.0312653	0.21	0.835	-.0547657	.0678267
Calendar week effect (1=baseline)						
2	.2613474	.0799401	3.27	0.001	.1046235	.4180714
3	.2543667	.0783333	3.25	0.001	.1007931	.4079404
4	.3074958	.074827	4.11	0.000	.1607961	.4541954
5	.2736967	.0743934	3.68	0.000	.1278472	.4195463
6	.2978726	.0764162	3.90	0.000	.1480573	.4476879
7	.3843108	.0725487	5.30	0.000	.2420779	.5265437
8	.4545625	.0716347	6.35	0.000	.3141215	.5950036
9	.4206878	.0704496	5.97	0.000	.2825702	.5588054
10	.442175	.0712428	6.21	0.000	.3025022	.5818478
11	.5129713	.0758568	6.76	0.000	.3642528	.6616899
12	.4635076	.0715167	6.48	0.000	.3232978	.6037173
13	.343479	.0730469	4.70	0.000	.2002693	.4866888
14	.4108837	.0724117	5.67	0.000	.2689194	.552848
15	.4668193	.0715567	6.52	0.000	.3265313	.6071074
16	.4178415	.0680166	6.14	0.000	.2844937	.5511892
17	.4363139	.0716279	6.09	0.000	.2958863	.5767416
18	.3998869	.0707252	5.65	0.000	.261229	.5385448
19	.4286225	.0717829	5.97	0.000	.2878909	.5693541
20	.3903899	.0696607	5.60	0.000	.253819	.5269608
21	.4700794	.0691106	6.80	0.000	.334587	.6055719
22	.3548428	.0712299	4.98	0.000	.2151954	.4944903
23	.4839845	.0731595	6.62	0.000	.3405541	.627415
24	.5126964	.0716963	7.15	0.000	.3721346	.6532582
25	.5013823	.067102	7.47	0.000	.3698276	.632937
26	.5184473	.0674616	7.69	0.000	.3861877	.6507068
27	.4813572	.0670934	7.17	0.000	.3498194	.612895
28	.4943117	.0690975	7.15	0.000	.3588448	.6297786
29	.4566147	.0703372	6.49	0.000	.3187175	.594512
30	.3349662	.0706469	4.74	0.000	.1964619	.4734706
31	.3864665	.0733323	5.27	0.000	.2426973	.5302356
32	.4194449	.0682683	6.14	0.000	.2856037	.5532861
33	.4124375	.0705028	5.85	0.000	.2742156	.5506594
34	.3632751	.0709264	5.12	0.000	.2242226	.5023276
35	.2527959	.0725206	3.49	0.000	.110618	.3949737

36	.3263691	.0719029	4.54	0.000	.1854022	.467336
37	.3065231	.0723331	4.24	0.000	.1647127	.4483334
38	.3254909	.072007	4.52	0.000	.1843199	.4666618
39	.2823296	.1220831	2.31	0.021	.0429835	.5216757
40	.3587228	.0704197	5.09	0.000	.2206637	.4967818
41	.487161	.0701416	6.95	0.000	.3496471	.6246749
42	.3831456	.0764355	5.01	0.000	.2332925	.5329987
43	.4893844	.0693621	7.06	0.000	.3533988	.6253699
44	.4062425	.0746201	5.44	0.000	.2599485	.5525364
45	.3279451	.0765574	4.28	0.000	.177853	.4780373
46	.4270307	.0694687	6.15	0.000	.2908362	.5632253
47	.3488385	.074344	4.69	0.000	.2030858	.4945912
48	.0734524	.1137295	0.65	0.518	-.1495161	.2964209
49	.0542563	.0745284	0.73	0.467	-.091858	.2003705
50	.1801584	.079204	2.27	0.023	.0248777	.3354392
51	-.0385803	.1156944	-0.33	0.739	-.265401	.1882405
52	-.5443919	.1834209	-2.97	0.003	-.9039917	-.1847921
Regional effect (Prague=baseline)						
Středočeský	-.4627934	.0224288	-20.63	0.000	-.5067656	-.4188213
Jihočeský	-.7636591	.0344167	-22.19	0.000	-.8311337	-.6961845
Plzeňský	-.6346846	.0367834	-17.25	0.000	-.7067991	-.56257
Ústecký	-.82089	.0232905	-35.25	0.000	-.8665515	-.7752285
Královehradecký	-1.096824	.0293657	-37.35	0.000	-1.154396	-1.039252
Jihomoravský	-.4779931	.0245476	-19.47	0.000	-.526119	-.4298672
Moravskoslezský	-.6357125	.0222768	-28.54	0.000	-.6793866	-.5920385
Olomoucký	-.6297464	.0250688	-25.12	0.000	-.6788942	-.5805986
Zlínský	-.6786748	.0286911	-23.65	0.000	-.7349242	-.6224255
Vysočina	-.885143	.042457	-20.85	0.000	-.9683807	-.8019053
Pardubický	-1.270042	.0393919	-32.24	0.000	-1.347271	-1.192814
Liberecký	-.6327853	.0372737	-16.98	0.000	-.7058609	-.5597096
Karlovarský	-.2856722	.0372423	-7.67	0.000	-.3586864	-.2126581
Constant	.8952351	.062359	14.36	0.000	.7729793	1.017491

Appendix V: Regression table for the natural logarithms of weekly rates of endangerment under influence as presented in column (4) of Table 11

Number of obs = 4368
Wald chi2(75) = 4438.88
Prob > chi2 = 0.0000
Log pseudolikelihood = -6099.5443
Pseudo R2 = 0.0691

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.0876653	.0706829	-1.24	0.215	-.2262012	.0508706
Prohibition*Treated	-.1897861	.1224523	-1.55	0.121	-.4297881	.050216
Pre-prohibition Week 1&2	.0479637	.0708907	0.68	0.499	-.0909796	.186907
Post-prohibition Week 1&2	-.0902404	.0619526	-1.46	0.145	-.2116653	.0311846
Post-prohibition Week 3&4	-.1433253	.077112	-1.86	0.063	-.294462	.0078114
Post-prohibition Week 5&6	-.0595282	.0800635	-0.74	0.457	-.2164498	.0973935
Year effects (2010=baseline)						
2011	-.0325157	.0189392	-1.72	0.086	-.0696359	.0046045
2012	-.0778309	.0208507	-3.73	0.000	-.1186975	-.0369644
2013	-.0209233	.0191852	-1.09	0.275	-.0585255	.016679
2014	.0877881	.0187724	4.68	0.000	.0509949	.1245814
2015	.0469472	.0198559	2.36	0.018	.0080303	.0858642
Calendar week effect (1=baseline)						
2	.25771	.069086	3.73	0.000	.122304	.3931161
3	.2651566	.0652021	4.07	0.000	.1373629	.3929503
4	.2756082	.0674392	4.09	0.000	.1434299	.4077866
5	.2555127	.065463	3.90	0.000	.1272077	.3838178
6	.277945	.0642611	4.33	0.000	.1519956	.4038945
7	.3254178	.0619472	5.25	0.000	.2040035	.4468321
8	.3969541	.0636038	6.24	0.000	.2722929	.5216152
9	.3632781	.0635206	5.72	0.000	.2387801	.4877762
10	.3859455	.0599042	6.44	0.000	.2685355	.5033555
11	.4772882	.0666136	7.17	0.000	.346728	.6078483
12	.3952131	.0622491	6.35	0.000	.2732071	.517219
13	.2981674	.0640845	4.65	0.000	.1725641	.4237706
14	.3577137	.0642254	5.57	0.000	.2318343	.4835931
15	.4188945	.0635686	6.59	0.000	.2943022	.5434867
16	.3643962	.0616717	5.91	0.000	.2435219	.4852705
17	.3767616	.062651	6.01	0.000	.2539678	.4995553
18	.3295191	.0635767	5.18	0.000	.2049111	.4541272
19	.3698884	.0598825	6.18	0.000	.2525209	.487256
20	.3212383	.0610735	5.26	0.000	.2015365	.4409401
21	.3705176	.0613859	6.04	0.000	.2502034	.4908318
22	.2961327	.064386	4.60	0.000	.1699384	.422327
23	.4326418	.0643742	6.72	0.000	.3064708	.5588128
24	.4652079	.0634058	7.34	0.000	.3409348	.589481
25	.4177068	.06014	6.95	0.000	.2998346	.5355789
26	.4311588	.0594285	7.26	0.000	.3146811	.5476364
27	.4058235	.0594537	6.83	0.000	.2892964	.5223506
28	.4366711	.0598031	7.30	0.000	.3194591	.553883
29	.3917004	.0613219	6.39	0.000	.2715117	.5118891
30	.2705193	.0621799	4.35	0.000	.148649	.3923896
31	.3349806	.0642279	5.22	0.000	.2090961	.460865
32	.3482308	.0624717	5.57	0.000	.2257885	.470673
33	.3740918	.0651803	5.74	0.000	.2463408	.5018428
34	.3213713	.0617075	5.21	0.000	.2004268	.4423158
35	.1927356	.0648614	2.97	0.003	.0656097	.3198615

36	.2599297	.062937	4.13	0.000	.1365755	.3832839
37	.2488479	.062429	3.99	0.000	.1264893	.3712065
38	.2871127	.0629214	4.56	0.000	.1637891	.4104362
39	.3189029	.0673292	4.74	0.000	.18694	.4508657
40	.2985239	.0608145	4.91	0.000	.1793296	.4177182
41	.4151462	.0607946	6.83	0.000	.295991	.5343013
42	.34454	.0669526	5.15	0.000	.2133154	.4757646
43	.4327315	.06044	7.16	0.000	.3142712	.5511918
44	.3658046	.0656925	5.57	0.000	.2370497	.4945595
45	.3166558	.066957	4.73	0.000	.1854225	.4478891
46	.3695593	.0608443	6.07	0.000	.2503067	.488812
47	.3352061	.0638767	5.25	0.000	.2100101	.4604021
48	.1142774	.0670617	1.70	0.088	-.0171612	.2457159
49	.0440881	.066076	0.67	0.505	-.0854185	.1735946
50	.1668414	.0677282	2.46	0.014	.0340967	.2995861
51	.0166614	.067446	0.25	0.805	-.1155303	.1488531
52	-.2049803	.0830177	-2.47	0.014	-.367692	-.0422686
Regional effect (Prague=baseline)						
Středočeský	-.4346634	.020924	-20.77	0.000	-.4756738	-.393653
Jihočeský	-.6904184	.0234857	-29.40	0.000	-.7364495	-.6443872
Plzeňský	-.5398663	.0272389	-19.82	0.000	-.5932535	-.486479
Ústecký	-.7881571	.021234	-37.12	0.000	-.829775	-.7465393
Královehradecký	-1.025839	.025032	-40.98	0.000	-1.074901	-.9767775
Jihomoravský	-.428582	.0223522	-19.17	0.000	-.4723914	-.3847726
Moravskoslezský	-.608943	.0194306	-31.34	0.000	-.6470264	-.5708597
Olomoucký	-.5898608	.0222801	-26.47	0.000	-.6335291	-.5461926
Zlínský	-.5954242	.0254856	-23.36	0.000	-.6453749	-.5454734
Vysočina	-.7716854	.0263921	-29.24	0.000	-.8234129	-.7199578
Pardubický	-1.146036	.0291709	-39.29	0.000	-1.20321	-1.088862
Liberecký	-.551891	.0248253	-22.23	0.000	-.6005477	-.5032344
Karlovarský	-.1863611	.0247606	-7.53	0.000	-.2348911	-.1378311
Constant	.9610288	.0539062	17.83	0.000	.8553746	1.066683

Appendix W: Regression table for the natural logarithms of weekly rates of frustrating the execution of an official decision as presented in column (5) of Table 11

Number of obs = 312
F(61, 250) = 14.91
Prob > F = 0.0000
R-squared = 0.7810
Root MSE = .11519

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.0958687	.0363008	-2.64	0.009	-.1673631	-.0243744
Pre-prohibition Week 1&2	.129851	.0353312	3.68	0.000	.0602662	.1994357
Post-prohibition Week 1&2	-.0394302	.0365248	-1.08	0.281	-.1113657	.0325053
Post-prohibition Week 3&4	-.0001788	.0275699	-0.01	0.995	-.0544778	.0541202
Post-prohibition Week 5&6	.1593614	.0619698	2.57	0.011	.037312	.2814108
Year effects (2010=baseline)						
2011	.0144967	.0184574	0.79	0.433	-.0218551	.0508484
2012	-.0758586	.0206395	-3.68	0.000	-.116508	-.0352091
2013	.0741386	.0161765	4.58	0.000	.0422789	.1059982
2014	-.0644142	.0153727	-4.19	0.000	-.0946907	-.0341376
2015	-.3455559	.0284679	-12.14	0.000	-.4016233	-.2894885
Calendar week effect (1=baseline)						
2	.1726104	.1305382	1.32	0.187	-.0844843	.4297052
3	.2010596	.137572	1.46	0.145	-.0698882	.4720074
4	.1641106	.1398201	1.17	0.242	-.1112648	.439486
5	.2192161	.1332158	1.65	0.101	-.0431523	.4815844
6	.1425528	.1437886	0.99	0.322	-.1406387	.4257442
7	.1913553	.141375	1.35	0.177	-.0870826	.4697932
8	.2122241	.134557	1.58	0.116	-.0527856	.4772339
9	.26739	.1321277	2.02	0.044	.0071647	.5276154
10	.2476838	.1317298	1.88	0.061	-.0117579	.5071254
11	.2617677	.1319425	1.98	0.048	.0019071	.5216282
12	.2094128	.1318975	1.59	0.114	-.0503591	.4691847
13	.178842	.1341769	1.33	0.184	-.0854191	.4431031
14	.1391896	.1383548	1.01	0.315	-.1332999	.411679
15	.1895641	.1299748	1.46	0.146	-.0664211	.4455493
16	.1452788	.1376591	1.06	0.292	-.1258406	.4163982
17	.1430373	.1309921	1.09	0.276	-.1149514	.401026
18	.0924427	.1323433	0.70	0.486	-.1682071	.3530926
19	.0757529	.1330956	0.57	0.570	-.1863787	.3378846
20	.1127583	.132715	0.85	0.396	-.1486237	.3741403
21	.1442741	.1299927	1.11	0.268	-.1117463	.4002945
22	.1373162	.1291686	1.06	0.289	-.1170811	.3917135
23	.1497245	.1382184	1.08	0.280	-.1224964	.4219454
24	.1061031	.129587	0.82	0.414	-.1491184	.3613245
25	.0701224	.1353219	0.52	0.605	-.1963939	.3366387
26	.1449263	.1361823	1.06	0.288	-.1232845	.4131371
27	.1271033	.1360186	0.93	0.351	-.1407852	.3949917
28	.1222628	.130217	0.94	0.349	-.1341994	.3787249
29	.0204256	.1304484	0.16	0.876	-.2364923	.2773435
30	.0391845	.1342172	0.29	0.771	-.2251562	.3035251
31	.0653448	.1333454	0.49	0.625	-.1972787	.3279683
32	.0066796	.1293412	0.05	0.959	-.2480578	.261417
33	.0284672	.1311884	0.22	0.828	-.2299082	.2868425
34	.0305514	.1358813	0.22	0.822	-.2370665	.2981693

35	.0399972	.1303283	0.31	0.759	-.2166841	.2966785
36	.0159808	.134285	0.12	0.905	-.2484933	.2804549
37	.0502333	.1328601	0.38	0.706	-.2114345	.311901
38	-.0022397	.1313434	-0.02	0.986	-.2609203	.2564409
39	.0897335	.1315302	0.68	0.496	-.1693149	.348782
40	.1055996	.1356393	0.78	0.437	-.1615418	.3727409
41	.1318136	.1327339	0.99	0.322	-.1296056	.3932328
42	.1030227	.1287679	0.80	0.424	-.1505855	.3566309
43	.0340655	.1310043	0.26	0.795	-.2239474	.2920783
44	.0405478	.1319968	0.31	0.759	-.2194196	.3005152
45	-.0315142	.1340461	-0.24	0.814	-.2955178	.2324895
46	-.0013765	.1402613	-0.01	0.992	-.2776208	.2748679
47	.00656	.135817	0.05	0.962	-.2609314	.2740514
48	-.109955	.1362584	-0.81	0.420	-.3783156	.1584057
49	-.1387185	.1432878	-0.97	0.334	-.4209235	.1434865
50	-.1625793	.1385761	-1.17	0.242	-.4355047	.1103462
51	-.2568847	.139767	-1.84	0.067	-.5321556	.0183862
52	-.5873818	.1980697	-2.97	0.003	-.9774796	-.1972839
Constant	.8852779	.1262174	7.01	0.000	.6366929	1.133863

Appendix X: Regression table for the natural logarithms of weekly rates of frustrating the execution of an official decision as presented in column (6) of Table 11

Number of obs = 312
Wald chi2(61) = 1522.82
Prob > chi2 = 0.0000
Log pseudolikelihood = -440.35683
Pseudo R2 = 0.0246

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.0908795	.0294965	-3.08	0.002	-.1486915	-.0330674
Pre-prohibition Week 1&2	.1289894	.0304427	4.24	0.000	.0693229	.188656
Post-prohibition Week 1&2	-.0410379	.0321198	-1.28	0.201	-.1039916	.0219158
Post-prohibition Week 3&4	.0001434	.0254416	0.01	0.996	-.0497212	.0500079
Post-prohibition Week 5&6	.1599873	.0544435	2.94	0.003	.05328	.2666946
Year effects (2010=baseline)						
2011	.0067454	.0142747	0.47	0.637	-.0212325	.0347234
2012	-.0797926	.0176754	-4.51	0.000	-.1144357	-.0451496
2013	.0708665	.0136502	5.19	0.000	.0441127	.0976204
2014	-.0677929	.0132254	-5.13	0.000	-.0937142	-.0418715
2015	-.3223783	.0225195	-14.32	0.000	-.3665156	-.278241
Calendar week effect (1=baseline)						
2	.1168837	.0922375	1.27	0.205	-.0638984	.2976659
3	.141043	.0973293	1.45	0.147	-.0497188	.3318049
4	.1032479	.0990232	1.04	0.297	-.0908339	.2973297
5	.1630418	.0934543	1.74	0.081	-.0201252	.3462089
6	.0876935	.1031938	0.85	0.395	-.1145627	.2899497
7	.1393598	.1000847	1.39	0.164	-.0568026	.3355223
8	.1547288	.0965519	1.60	0.109	-.0345094	.3439671
9	.2077823	.0919554	2.26	0.024	.027553	.3880116
10	.1938446	.0926147	2.09	0.036	.0123231	.3753661
11	.2072311	.0932983	2.22	0.026	.0243697	.3900925
12	.1529848	.0923334	1.66	0.098	-.0279853	.3339549
13	.1197684	.0941393	1.27	0.203	-.0647412	.304278
14	.0786589	.097897	0.80	0.422	-.1132157	.2705335
15	.1342221	.090951	1.48	0.140	-.0440387	.3124828
16	.0901526	.0984246	0.92	0.360	-.102756	.2830612
17	.0896038	.092369	0.97	0.332	-.0914362	.2706437
18	.042915	.0954909	0.45	0.653	-.1442437	.2300738
19	.0328766	.0951273	0.35	0.730	-.1535695	.2193227
20	.0597709	.0940008	0.64	0.525	-.1244674	.2440091
21	.0920305	.0916383	1.00	0.315	-.0875773	.2716383
22	.0860874	.0908453	0.95	0.343	-.0919661	.264141
23	.0920542	.0997413	0.92	0.356	-.1034351	.2875436
24	.0498574	.091056	0.55	0.584	-.128609	.2283238
25	.0109862	.095799	0.11	0.909	-.1767765	.1987488
26	.084803	.0968535	0.88	0.381	-.1050264	.2746323
27	.0738322	.0976213	0.76	0.449	-.1175021	.2651665
28	.0702761	.0920165	0.76	0.445	-.110073	.2506252
29	-.0375993	.0914712	-0.41	0.681	-.2168795	.141681
30	-.0200465	.0950201	-0.21	0.833	-.2062825	.1661894
31	.0077544	.0941707	0.08	0.934	-.1768167	.1923255
32	-.0464571	.0906856	-0.51	0.608	-.2241976	.1312834
33	-.0206256	.0930309	-0.22	0.825	-.2029629	.1617116
34	-.0105597	.0969178	-0.11	0.913	-.2005151	.1793957

35	-.0085514	.0917632	-0.09	0.926	-.1884039	.171301
36	-.0341429	.0958379	-0.36	0.722	-.2219817	.153696
37	-.0091665	.092652	-0.10	0.921	-.1907611	.172428
38	-.0579374	.0935473	-0.62	0.536	-.2412868	.125412
39	.0420815	.0924366	0.46	0.649	-.1390909	.2232539
40	.0595685	.0975213	0.61	0.541	-.1315697	.2507067
41	.0798755	.095007	0.84	0.400	-.1063347	.2660858
42	.0511013	.0900385	0.57	0.570	-.1253708	.2275735
43	-.0146635	.0937214	-0.16	0.876	-.198354	.169027
44	-.0052129	.0934652	-0.06	0.956	-.1884013	.1779755
45	-.0790949	.0962814	-0.82	0.411	-.267803	.1096133
46	-.0450074	.1034256	-0.44	0.663	-.2477178	.1577031
47	-.0340578	.0952176	-0.36	0.721	-.2206809	.1525653
48	-.1536963	.0999001	-1.54	0.124	-.3494968	.0421042
49	-.1722064	.104142	-1.65	0.098	-.3763211	.0319082
50	-.2023452	.0997234	-2.03	0.042	-.3977995	-.006891
51	-.2932254	.1037397	-2.83	0.005	-.4965514	-.0898994
52	-.56428	.1462083	-3.86	0.000	-.850843	-.277717
Constant	.9398005	.0882835	10.65	0.000	.766768	1.112833

Appendix Y: Regression table for the natural logarithms of weekly rates of frustrating the execution of an official decision as presented in column (7) of Table 11

Number of obs = 4368
F(75, 4292) = 74.87
Prob > F = 0.0000
R-squared = 0.5568
Root MSE = .35506

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.1290517	.0649634	-1.99	0.047	-.2564135	-.0016899
Prohibition*Treated	.1661448	.1512848	1.10	0.272	-.1304517	.4627412
Pre-prohibition Week 1&2	.1583822	.0582778	2.72	0.007	.0441275	.2726369
Post-prohibition Week 1&2	-.0385041	.0625713	-0.62	0.538	-.1611762	.084168
Post-prohibition Week 3&4	.0336735	.0582849	0.58	0.563	-.080595	.147942
Post-prohibition Week 5&6	.2077878	.0573779	3.62	0.000	.0952973	.3202783
Year effects (2010=baseline)						
2011	.0130958	.0169328	0.77	0.439	-.0201013	.0462928
2012	-.0922381	.0184546	-5.00	0.000	-.1284187	-.0560576
2013	.0528764	.0169789	3.11	0.002	.019589	.0861639
2014	-.06525	.0174268	-3.74	0.000	-.0994156	-.0310845
2015	-.357888	.0206315	-17.35	0.000	-.3983364	-.3174396
Calendar week effect (1=baseline)						
2	.1522885	.0595079	2.56	0.011	.0356222	.2689548
3	.1775903	.0600202	2.96	0.003	.0599197	.2952609
4	.1222144	.0677134	1.80	0.071	-.0105389	.2549678
5	.213368	.0580255	3.68	0.000	.0996079	.327128
6	.1329527	.0619836	2.14	0.032	.0114328	.2544727
7	.1795373	.0614798	2.92	0.004	.059005	.3000696
8	.2019038	.0618688	3.26	0.001	.080609	.3231986
9	.2330461	.0607964	3.83	0.000	.1138538	.3522384
10	.217638	.0591442	3.68	0.000	.1016847	.3335913
11	.2742139	.0571379	4.80	0.000	.162194	.3862337
12	.2108854	.0579839	3.64	0.000	.097207	.3245638
13	.1676711	.059919	2.80	0.005	.0501989	.2851433
14	.1546306	.0588247	2.63	0.009	.0393039	.2699574
15	.2018952	.0584305	3.46	0.001	.0873412	.3164491
16	.1230853	.0591937	2.08	0.038	.0070351	.2391356
17	.1023755	.0620884	1.65	0.099	-.0193499	.224101
18	.0709213	.0581931	1.22	0.223	-.0431674	.1850099
19	.0303558	.063224	0.48	0.631	-.0935958	.1543075
20	.089091	.060472	1.47	0.141	-.0294654	.2076475
21	.1457794	.0599938	2.43	0.015	.0281604	.2633984
22	.1150096	.0606327	1.90	0.058	-.0038619	.2338811
23	.1332591	.0591185	2.25	0.024	.0173563	.2491619
24	.128896	.0571608	2.25	0.024	.0168312	.2409608
25	.0488195	.0580416	0.84	0.400	-.0649721	.1626111
26	.1341987	.0592361	2.27	0.024	.0180652	.2503322
27	.0961677	.0623623	1.54	0.123	-.0260948	.2184301
28	.1351246	.0562125	2.40	0.016	.024919	.2453303
29	.0308348	.0594815	0.52	0.604	-.0857796	.1474492
30	.0175792	.0625954	0.28	0.779	-.1051401	.1402986
31	.051012	.0652747	0.78	0.435	-.0769601	.1789841
32	-.0010496	.057425	-0.02	0.985	-.1136322	.1115331
33	.023527	.0619477	0.38	0.704	-.0979226	.1449767
34	.0048491	.0614871	0.08	0.937	-.1156975	.1253957

35	.0070247	.059243	0.12	0.906	-.1091223	.1231717
36	-.0252451	.0623303	-0.41	0.685	-.1474447	.0969545
37	.0156281	.0627172	0.25	0.803	-.1073301	.1385864
38	-.0001059	.0580955	-0.00	0.999	-.1140031	.1137914
39	.0815606	.0652689	1.25	0.212	-.0464003	.2095215
40	.0978043	.0656534	1.49	0.136	-.0309102	.2265189
41	.1164997	.0591501	1.97	0.049	.0005348	.2324645
42	.1047625	.0578225	1.81	0.070	-.0085996	.2181246
43	.0236606	.0592585	0.40	0.690	-.0925167	.1398379
44	.015903	.0608277	0.26	0.794	-.1033507	.1351568
45	-.0780128	.0585626	-1.33	0.183	-.1928259	.0368003
46	-.0473313	.0612026	-0.77	0.439	-.16732	.0726574
47	-.0156517	.0663061	-0.24	0.813	-.145646	.1143427
48	-.1308017	.0632675	-2.07	0.039	-.2548388	-.0067646
49	-.2030046	.0672065	-3.02	0.003	-.3347642	-.071245
50	-.2386437	.0668386	-3.57	0.000	-.3696819	-.1076056
51	-.3027704	.063416	-4.77	0.000	-.4270986	-.1784422
52	-.6461924	.0758829	-8.52	0.000	-.7949622	-.4974225
Regional effect (Prague=baseline)						
Středočeský	-.1990234	.0173509	-11.47	0.000	-.23304	-.1650067
Jihočeský	-.5374074	.0248361	-21.64	0.000	-.5860989	-.4887159
Plzeňský	-.2618413	.0225926	-11.59	0.000	-.3061344	-.2175482
Ústecký	.1418396	.0189127	7.50	0.000	.1047608	.1789183
Královehradecký	-.6859658	.0258657	-26.52	0.000	-.7366759	-.6352557
Jihomoravský	-.6714295	.0211418	-31.76	0.000	-.7128784	-.6299805
Moravskoslezský	-.4648602	.0200145	-23.23	0.000	-.504099	-.4256214
Olomoucký	-.7999669	.0254149	-31.48	0.000	-.8497933	-.7501405
Zlínský	-.904606	.0279201	-32.40	0.000	-.9593439	-.8498682
Vysočina	-.8035254	.0278199	-28.88	0.000	-.8580668	-.7489839
Pardubický	-.8792892	.0289891	-30.33	0.000	-.9361229	-.8224556
Liberecký	-.1480597	.0234131	-6.32	0.000	-.1939615	-.1021578
Karlovarský	-.1064384	.0283992	-3.75	0.000	-.1621156	-.0507612
Constant	1.235776	.0496922	24.87	0.000	1.138354	1.333199

Appendix Z: Regression table for the natural logarithms of weekly rates of frustrating the execution of an official decision as presented in column (8) of Table 11

Number of obs = 4368
Wald chi2(75) = 6434.92
Prob > chi2 = 0.0000
Log pseudolikelihood = -6366.2223
Pseudo R2 = 0.1041

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.0961864	.0562561	-1.71	0.087	-.2064464	.0140736
Prohibition*Treated	.1191534	.1306166	0.91	0.362	-.1368505	.3751573
Pre-prohibition Week 1&2	.1470497	.051111	2.88	0.004	.0468739	.2472255
Post-prohibition Week 1&2	-.0486982	.0617662	-0.79	0.430	-.1697578	.0723614
Post-prohibition Week 3&4	.0194444	.0482896	0.40	0.687	-.0752016	.1140903
Post-prohibition Week 5&6	.2052342	.0574743	3.57	0.000	.0925867	.3178817
Year effects (2010=baseline)						
2011	.0074682	.015135	0.49	0.622	-.0221958	.0371322
2012	-.0889572	.0159995	-5.56	0.000	-.1203156	-.0575988
2013	.065147	.0153964	4.23	0.000	.0349706	.0953234
2014	-.0688227	.0156689	-4.39	0.000	-.0995333	-.0381122
2015	-.3269688	.0174799	-18.71	0.000	-.3612289	-.2927088
Calendar week effect (1=baseline)						
2	.1189408	.0491954	2.42	0.016	.0225196	.2153621
3	.1396364	.0519832	2.69	0.007	.0377511	.2415217
4	.1073378	.052985	2.03	0.043	.0034891	.2111865
5	.1860024	.0496646	3.75	0.000	.0886615	.2833432
6	.1117345	.0521581	2.14	0.032	.0095065	.2139625
7	.1586843	.0540044	2.94	0.003	.0528376	.2645309
8	.173091	.0551792	3.14	0.002	.0649419	.2812402
9	.2014593	.0480093	4.20	0.000	.1073628	.2955558
10	.1895265	.0502322	3.77	0.000	.0910733	.2879798
11	.2157873	.0486472	4.44	0.000	.1204406	.3111341
12	.1656022	.0505838	3.27	0.001	.0664597	.2647447
13	.1279834	.0517045	2.48	0.013	.0266445	.2293223
14	.0886395	.0498122	1.78	0.075	-.0089906	.1862697
15	.1518424	.0496242	3.06	0.002	.0545807	.2491041
16	.0910086	.0519763	1.75	0.080	-.0108631	.1928802
17	.0792727	.0508319	1.56	0.119	-.0203559	.1789014
18	.0398705	.0502291	0.79	0.427	-.0585767	.1383176
19	.0461042	.0518137	0.89	0.374	-.0554488	.1476572
20	.060727	.0510409	1.19	0.234	-.0393113	.1607653
21	.1337626	.0517829	2.58	0.010	.0322701	.2352552
22	.1001656	.0549638	1.82	0.068	-.0075616	.2078927
23	.0893522	.051419	1.74	0.082	-.0114273	.1901316
24	.061636	.0491177	1.25	0.210	-.0346329	.1579048
25	.0203864	.05155	0.40	0.692	-.0806497	.1214225
26	.0963196	.050482	1.91	0.056	-.0026233	.1952625
27	.0643145	.0492637	1.31	0.192	-.0322405	.1608695
28	.0872734	.0486594	1.79	0.073	-.0080974	.1826441
29	-.0097959	.0533034	-0.18	0.854	-.1142687	.0946768
30	-.0084042	.0502488	-0.17	0.867	-.1068901	.0900817
31	.00723	.0514372	0.14	0.888	-.0935851	.108045
32	-.0434886	.0476893	-0.91	0.362	-.1369579	.0499808
33	-.0053087	.0509366	-0.10	0.917	-.1051427	.0945252
34	-.006422	.0500072	-0.13	0.898	-.1044342	.0915903

35	-.0134447	.050028	-0.27	0.788	-.1114977	.0846084
36	-.0464792	.0521459	-0.89	0.373	-.1486833	.0557249
37	-.0142963	.0530362	-0.27	0.788	-.1182453	.0896526
38	-.0446467	.0490465	-0.91	0.363	-.1407761	.0514827
39	.0579172	.0526379	1.10	0.271	-.0452513	.1610857
40	.0822837	.05486	1.50	0.134	-.02524	.1898074
41	.070683	.0505266	1.40	0.162	-.0283473	.1697134
42	.0574833	.0499516	1.15	0.250	-.0404201	.1553866
43	-.01684	.0529619	-0.32	0.751	-.1206434	.0869634
44	-.003143	.0552534	-0.06	0.955	-.1114376	.1051517
45	-.1135281	.0518799	-2.19	0.029	-.2152108	-.0118454
46	-.0452164	.0525641	-0.86	0.390	-.1482401	.0578074
47	-.0166217	.0515616	-0.32	0.747	-.1176805	.0844371
48	-.1488619	.0508924	-2.93	0.003	-.2486091	-.0491147
49	-.1814051	.05461	-3.32	0.001	-.2884386	-.0743715
50	-.2149139	.0503162	-4.27	0.000	-.3135319	-.1162959
51	-.3198577	.0567025	-5.64	0.000	-.4309925	-.2087229
52	-.5842839	.0634566	-9.21	0.000	-.7086566	-.4599112
Regional effect (Prague=baseline)						
Středočeský	-.2010172	.0166962	-12.04	0.000	-.2337411	-.1682933
Jihočeský	-.5071347	.02227	-22.77	0.000	-.550783	-.4634864
Plzeňský	-.237409	.0203913	-11.64	0.000	-.2773753	-.1974427
Ústecký	.1494732	.0182022	8.21	0.000	.1137976	.1851488
Královehradecký	-.6446301	.0231852	-27.80	0.000	-.6900723	-.599188
Jihomoravský	-.6503284	.0199852	-32.54	0.000	-.6894986	-.6111582
Moravskoslezský	-.4667387	.018697	-24.96	0.000	-.503384	-.4300933
Olomoucký	-.7595892	.0233169	-32.58	0.000	-.8052895	-.7138889
Zlínský	-.8553615	.0244155	-35.03	0.000	-.9032151	-.8075079
Vysočina	-.7340221	.0253483	-28.96	0.000	-.7837038	-.6843405
Pardubický	-.8207534	.0266861	-30.76	0.000	-.8730572	-.7684497
Liberecký	-.1183912	.0210805	-5.62	0.000	-.1597082	-.0770742
Karlovarský	-.0225543	.0252543	-0.89	0.372	-.0720518	.0269433
Constant	1.279178	.0423461	30.21	0.000	1.196181	1.362175

Appendix AA: Regression table for the yearly differences in aggregate property crime as presented in column (1) of Table 13

Number of obs = 728
F(15, 712) = 7.37
Prob > F = 0.0000
R-squared = 0.1268
Root MSE = 4.2402

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf. Interval	Coefficient
Prohibition*Treated	1.142371	1.346267	0.85	0.396	-1.500757	3.7855
Prohibition	-.42924	.6370867	-0.67	0.501	-1.680033	.8215532
Regional trend (Prague=baseline)						
Středočeský	1.819034	.9774889	1.86	0.063	-.1000711	3.73814
Jihočeský	1.539479	.9939101	1.55	0.122	-.4118657	3.490824
Plzeňský	.863714	.9805981	0.88	0.379	-1.061496	2.788924
Ústecký	-.8671824	1.115487	-0.78	0.437	-3.057219	1.322854
Královehradecký	3.372339	.9613343	3.51	0.000	1.48495	5.259728
Jihomoravský	3.724652	.9650869	3.86	0.000	1.829895	5.619408
Moravskoslezský	.9075878	1.13979	0.80	0.426	-1.330163	3.145339
Olomoucký	3.004858	1.005875	2.99	0.003	1.030023	4.979694
Zlínský	3.392022	.95485	3.55	0.000	1.517363	5.26668
Vysočina	4.604543	.9453288	4.87	0.000	2.748577	6.460508
Pardubický	3.676419	.956614	3.84	0.000	1.798297	5.55454
Liberecký	3.344176	1.199866	2.79	0.005	.9884768	5.699876
Karlovarský	3.80866	1.143897	3.33	0.001	1.562845	6.054475
Constant	-3.992139	.863298	-4.62	0.000	-5.687053	-2.297225

Appendix AB: Regression table for the yearly differences in burglaries into bars and restaurants as presented in column (2) of Table 13

Number of obs = 728
F(15, 712) = 4.60
Prob > F = 0.0000
R-squared = 0.0821
Root MSE = .40521

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf. Interval	Coefficient
Prohibition*Treated	-.3231642	.1956446	-1.65	0.099	-.7072735	.060945
Prohibition	.0424477	.0572159	0.74	0.458	-.0698844	.1547797
Regional trend (Prague=baseline)						
Středočeský	.1613533	.0651727	2.48	0.014	.0333996	.2893071
Jihočeský	.2894781	.0803337	3.60	0.000	.1317589	.4471973
Plzeňský	.2426717	.091434	2.65	0.008	.0631591	.4221842
Ústecký	.0614939	.0721852	0.85	0.395	-.0802273	.2032152
Královehradecký	.1338724	.0811071	1.65	0.099	-.0253654	.2931101
Jihomoravský	.3286789	.0719044	4.57	0.000	.1875089	.4698489
Moravskoslezský	.0309742	.0751443	0.41	0.680	-.1165566	.178505
Olomoucký	.419643	.0924588	4.54	0.000	.2381185	.6011675
Zlínský	.3293829	.0806076	4.09	0.000	.171126	.4876398
Vysočina	.2599601	.0707842	3.67	0.000	.1209893	.3989309
Pardubický	.1697812	.0762989	2.23	0.026	.0199835	.319579
Liberecký	.2130445	.0778562	2.74	0.006	.0601893	.3658996
Karlovarský	.1398528	.1028374	1.36	0.174	-.0620479	.3417535
Constant	-.1984044	.0579526	-3.42	0.001	-.3121827	-.084626

Appendix AC: Regression table for the natural logarithms of weekly rates of aggregate property crime as presented in column (1) of Table 14

Number of obs = 4368
F(75, 4292) = 43.02
Prob > F = 0.0000
R-squared = 0.3514
Root MSE = .48863

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.0649368	.0861142	-0.75	0.451	-.2337652	.1038915
Prohibition*Treated	-.2421076	.1750425	-1.38	0.167	-.5852813	.1010662
Pre-prohibition Week 1&2	.0089288	.0793733	0.11	0.910	-.1466838	.1645414
Post-prohibition Week 1&2	-.1254309	.0665709	-1.88	0.060	-.2559443	.0050825
Post-prohibition Week 3&4	-.2011062	.094576	-2.13	0.034	-.3865241	-.0156882
Post-prohibition Week 5&6	-.1037394	.0870353	-1.19	0.233	-.2743736	.0668949
Year effects (2010=baseline)						
2011	.0087055	.0234587	0.37	0.711	-.0372858	.0546967
2012	-.0365467	.0253686	-1.44	0.150	-.0862822	.0131889
2013	.0030106	.0248385	0.12	0.904	-.0456857	.0517068
2014	.1100681	.0247966	4.44	0.000	.0614539	.1586824
2015	.0065305	.0312653	0.21	0.835	-.0547657	.0678267
Calendar week effect (1=baseline)						
2	.2613474	.0799401	3.27	0.001	.1046235	.4180714
3	.2543667	.0783333	3.25	0.001	.1007931	.4079404
4	.3074958	.074827	4.11	0.000	.1607961	.4541954
5	.2736967	.0743934	3.68	0.000	.1278472	.4195463
6	.2978726	.0764162	3.90	0.000	.1480573	.4476879
7	.3843108	.0725487	5.30	0.000	.2420779	.5265437
8	.4545625	.0716347	6.35	0.000	.3141215	.5950036
9	.4206878	.0704496	5.97	0.000	.2825702	.5588054
10	.442175	.0712428	6.21	0.000	.3025022	.5818478
11	.5129713	.0758568	6.76	0.000	.3642528	.6616899
12	.4635076	.0715167	6.48	0.000	.3232978	.6037173
13	.343479	.0730469	4.70	0.000	.2002693	.4866888
14	.4108837	.0724117	5.67	0.000	.2689194	.552848
15	.4668193	.0715567	6.52	0.000	.3265313	.6071074
16	.4178415	.0680166	6.14	0.000	.2844937	.5511892
17	.4363139	.0716279	6.09	0.000	.2958863	.5767416
18	.3998869	.0707252	5.65	0.000	.261229	.5385448
19	.4286225	.0717829	5.97	0.000	.2878909	.5693541
20	.3903899	.0696607	5.60	0.000	.253819	.5269608
21	.4700794	.0691106	6.80	0.000	.334587	.6055719
22	.3548428	.0712299	4.98	0.000	.2151954	.4944903
23	.4839845	.0731595	6.62	0.000	.3405541	.627415
24	.5126964	.0716963	7.15	0.000	.3721346	.6532582
25	.5013823	.067102	7.47	0.000	.3698276	.632937
26	.5184473	.0674616	7.69	0.000	.3861877	.6507068
27	.4813572	.0670934	7.17	0.000	.3498194	.612895
28	.4943117	.0690975	7.15	0.000	.3588448	.6297786
29	.4566147	.0703372	6.49	0.000	.3187175	.594512
30	.3349662	.0706469	4.74	0.000	.1964619	.4734706
31	.3864665	.0733323	5.27	0.000	.2426973	.5302356
32	.4194449	.0682683	6.14	0.000	.2856037	.5532861
33	.4124375	.0705028	5.85	0.000	.2742156	.5506594
34	.3632751	.0709264	5.12	0.000	.2242226	.5023276

35	.2527959	.0725206	3.49	0.000	.110618	.3949737
36	.3263691	.0719029	4.54	0.000	.1854022	.467336
37	.3065231	.0723331	4.24	0.000	.1647127	.4483334
38	.3254909	.072007	4.52	0.000	.1843199	.4666618
39	.2823296	.1220831	2.31	0.021	.0429835	.5216757
40	.3587228	.0704197	5.09	0.000	.2206637	.4967818
41	.487161	.0701416	6.95	0.000	.3496471	.6246749
42	.3831456	.0764355	5.01	0.000	.2332925	.5329987
43	.4893844	.0693621	7.06	0.000	.3533988	.6253699
44	.4062425	.0746201	5.44	0.000	.2599485	.5525364
45	.3279451	.0765574	4.28	0.000	.177853	.4780373
46	.4270307	.0694687	6.15	0.000	.2908362	.5632253
47	.3488385	.074344	4.69	0.000	.2030858	.4945912
48	.0734524	.1137295	0.65	0.518	-.1495161	.2964209
49	.0542563	.0745284	0.73	0.467	-.091858	.2003705
50	.1801584	.079204	2.27	0.023	.0248777	.3354392
51	-.0385803	.1156944	-0.33	0.739	-.265401	.1882405
52	-.5443919	.1834209	-2.97	0.003	-.9039917	-.1847921
Regional effect (Prague=baseline)						
Středočeský	-.4627934	.0224288	-20.63	0.000	-.5067656	-.4188213
Jihočeský	-.7636591	.0344167	-22.19	0.000	-.8311337	-.6961845
Plzeňský	-.6346846	.0367834	-17.25	0.000	-.7067991	-.56257
Ústecký	-.82089	.0232905	-35.25	0.000	-.8665515	-.7752285
Královehradecký	-1.096824	.0293657	-37.35	0.000	-1.154396	-1.039252
Jihomoravský	-.4779931	.0245476	-19.47	0.000	-.526119	-.4298672
Moravskoslezský	-.6357125	.0222768	-28.54	0.000	-.6793866	-.5920385
Olomoucký	-.6297464	.0250688	-25.12	0.000	-.6788942	-.5805986
Zlínský	-.6786748	.0286911	-23.65	0.000	-.7349242	-.6224255
Vysočina	-.885143	.042457	-20.85	0.000	-.9683807	-.8019053
Pardubický	-1.270042	.0393919	-32.24	0.000	-1.347271	-1.192814
Liberecký	-.6327853	.0372737	-16.98	0.000	-.7058609	-.5597096
Karlovarský	-.2856722	.0372423	-7.67	0.000	-.3586864	-.2126581
Constant	.8952351	.062359	14.36	0.000	.7729793	1.017491

Appendix AD: Regression table for the natural logarithms of weekly rates of aggregate property crime as presented in column (2) of Table 14

Number of obs = 4368
Wald chi2(75) = 4438.88
Prob > chi2 = 0.0000
Log pseudolikelihood = -6099.5443
Pseudo R2 = 0.0691

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	-.0876653	.0706829	-1.24	0.215	-.2262012	.0508706
Prohibition*Treated	-.1897861	.1224523	-1.55	0.121	-.4297881	.050216
Pre-prohibition Week 1&2	.0479637	.0708907	0.68	0.499	-.0909796	.186907
Post-prohibition Week 1&2	-.0902404	.0619526	-1.46	0.145	-.2116653	.0311846
Post-prohibition Week 3&4	-.1433253	.077112	-1.86	0.063	-.294462	.0078114
Post-prohibition Week 5&6	-.0595282	.0800635	-0.74	0.457	-.2164498	.0973935
Year effects (2010=baseline)						
2011	-.0325157	.0189392	-1.72	0.086	-.0696359	.0046045
2012	-.0778309	.0208507	-3.73	0.000	-.1186975	-.0369644
2013	-.0209233	.0191852	-1.09	0.275	-.0585255	.016679
2014	.0877881	.0187724	4.68	0.000	.0509949	.1245814
2015	.0469472	.0198559	2.36	0.018	.0080303	.0858642
Calendar week effect (1=baseline)						
2	.25771	.069086	3.73	0.000	.122304	.3931161
3	.2651566	.0652021	4.07	0.000	.1373629	.3929503
4	.2756082	.0674392	4.09	0.000	.1434299	.4077866
5	.2555127	.065463	3.90	0.000	.1272077	.3838178
6	.277945	.0642611	4.33	0.000	.1519956	.4038945
7	.3254178	.0619472	5.25	0.000	.2040035	.4468321
8	.3969541	.0636038	6.24	0.000	.2722929	.5216152
9	.3632781	.0635206	5.72	0.000	.2387801	.4877762
10	.3859455	.0599042	6.44	0.000	.2685355	.5033555
11	.4772882	.0666136	7.17	0.000	.346728	.6078483
12	.3952131	.0622491	6.35	0.000	.2732071	.517219
13	.2981674	.0640845	4.65	0.000	.1725641	.4237706
14	.3577137	.0642254	5.57	0.000	.2318343	.4835931
15	.4188945	.0635686	6.59	0.000	.2943022	.5434867
16	.3643962	.0616717	5.91	0.000	.2435219	.4852705
17	.3767616	.062651	6.01	0.000	.2539678	.4995553
18	.3295191	.0635767	5.18	0.000	.2049111	.4541272
19	.3698884	.0598825	6.18	0.000	.2525209	.487256
20	.3212383	.0610735	5.26	0.000	.2015365	.4409401
21	.3705176	.0613859	6.04	0.000	.2502034	.4908318
22	.2961327	.064386	4.60	0.000	.1699384	.422327
23	.4326418	.0643742	6.72	0.000	.3064708	.5588128
24	.4652079	.0634058	7.34	0.000	.3409348	.589481
25	.4177068	.06014	6.95	0.000	.2998346	.5355789
26	.4311588	.0594285	7.26	0.000	.3146811	.5476364
27	.4058235	.0594537	6.83	0.000	.2892964	.5223506
28	.4366711	.0598031	7.30	0.000	.3194591	.553883
29	.3917004	.0613219	6.39	0.000	.2715117	.5118891
30	.2705193	.0621799	4.35	0.000	.148649	.3923896
31	.3349806	.0642279	5.22	0.000	.2090961	.460865
32	.3482308	.0624717	5.57	0.000	.2257885	.470673
33	.3740918	.0651803	5.74	0.000	.2463408	.5018428
34	.3213713	.0617075	5.21	0.000	.2004268	.4423158

35	.1927356	.0648614	2.97	0.003	.0656097	.3198615
36	.2599297	.062937	4.13	0.000	.1365755	.3832839
37	.2488479	.062429	3.99	0.000	.1264893	.3712065
38	.2871127	.0629214	4.56	0.000	.1637891	.4104362
39	.3189029	.0673292	4.74	0.000	.18694	.4508657
40	.2985239	.0608145	4.91	0.000	.1793296	.4177182
41	.4151462	.0607946	6.83	0.000	.295991	.5343013
42	.34454	.0669526	5.15	0.000	.2133154	.4757646
43	.4327315	.06044	7.16	0.000	.3142712	.5511918
44	.3658046	.0656925	5.57	0.000	.2370497	.4945595
45	.3166558	.066957	4.73	0.000	.1854225	.4478891
46	.3695593	.0608443	6.07	0.000	.2503067	.488812
47	.3352061	.0638767	5.25	0.000	.2100101	.4604021
48	.1142774	.0670617	1.70	0.088	-.0171612	.2457159
49	.0440881	.066076	0.67	0.505	-.0854185	.1735946
50	.1668414	.0677282	2.46	0.014	.0340967	.2995861
51	.0166614	.067446	0.25	0.805	-.1155303	.1488531
52	-.2049803	.0830177	-2.47	0.014	-.367692	-.0422686
Regional effect (Prague=baseline)						
Středočeský	-.4346634	.020924	-20.77	0.000	-.4756738	-.393653
Jihočeský	-.6904184	.0234857	-29.40	0.000	-.7364495	-.6443872
Plzeňský	-.5398663	.0272389	-19.82	0.000	-.5932535	-.486479
Ústecký	-.7881571	.021234	-37.12	0.000	-.829775	-.7465393
Královehradecký	-1.025839	.025032	-40.98	0.000	-1.074901	-.9767775
Jihomoravský	-.428582	.0223522	-19.17	0.000	-.4723914	-.3847726
Moravskoslezský	-.608943	.0194306	-31.34	0.000	-.6470264	-.5708597
Olomoucký	-.5898608	.0222801	-26.47	0.000	-.6335291	-.5461926
Zlínský	-.5954242	.0254856	-23.36	0.000	-.6453749	-.5454734
Vysočina	-.7716854	.0263921	-29.24	0.000	-.8234129	-.7199578
Pardubický	-1.146036	.0291709	-39.29	0.000	-1.20321	-1.088862
Liberecký	-.551891	.0248253	-22.23	0.000	-.6005477	-.5032344
Karlovarský	-.1863611	.0247606	-7.53	0.000	-.2348911	-.1378311
Constant	.9610288	.0539062	17.83	0.000	.8553746	1.066683

Appendix AE: Regression table for the natural logarithms of weekly rates of burglaries into bars and restaurants as presented in column (3) of Table 14

Number of obs = 4368
F(75, 4292) = 13.39
Prob > F = 0.0000
R-squared = 0.1723
Root MSE = 2.0352

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	.4032824	.374667	1.08	0.282	-.3312585	1.137823
Prohibition*Treated	-.7937861	.6694431	-1.19	0.236	-2.106241	.5186684
Pre-prohibition Week 1&2	-.9082899	.4422817	-2.05	0.040	-1.775391	-.0411893
Post-prohibition Week 1&2	.2232966	.3803993	0.59	0.557	-.5224827	.969076
Post-prohibition Week 3&4	.4248185	.3835476	1.11	0.268	-.327133	1.17677
Post-prohibition Week 5&6	.1445941	.3535457	0.41	0.683	-.5485382	.8377264
Year effects (2010=baseline)						
2011	-.37191	.1003803	-3.71	0.000	-.5687072	-.1751128
2012	-.2123832	.1026265	-2.07	0.039	-.4135842	-.0111823
2013	-.225278	.0962125	-2.34	0.019	-.4139043	-.0366517
2014	-.7865116	.1047688	-7.51	0.000	-.9919127	-.5811105
2015	-1.668101	.1121325	-14.88	0.000	-1.887939	-1.448263
Calendar week effect (1=baseline)						
2	-.1086902	.313575	-0.35	0.729	-.7234593	.5060788
3	-.1602482	.3083579	-0.52	0.603	-.7647892	.4442927
4	-.1549835	.3046946	-0.51	0.611	-.7523425	.4423754
5	-.0653809	.3092809	-0.21	0.833	-.6717314	.5409695
6	-.2985155	.3166748	-0.94	0.346	-.9193617	.3223307
7	-.1828508	.307962	-0.59	0.553	-.7866156	.4209139
8	.0537172	.2856739	0.19	0.851	-.5063514	.6137857
9	-.2468054	.3076992	-0.80	0.423	-.8500549	.3564441
10	-.4118047	.3139862	-1.31	0.190	-1.02738	.2037705
11	-.1243675	.3025663	-0.41	0.681	-.7175539	.4688189
12	-.5869327	.324667	-1.81	0.071	-1.223448	.0495825
13	.094037	.2976822	0.32	0.752	-.489574	.677648
14	-.2483275	.2976339	-0.83	0.404	-.8318437	.3351887
15	-.1983151	.311887	-0.64	0.525	-.8097748	.4131446
16	-.2472922	.3110103	-0.80	0.427	-.8570331	.3624487
17	.1830572	.2876695	0.64	0.525	-.3809237	.7470382
18	.0156864	.2827921	0.06	0.956	-.5387322	.570105
19	-.3259013	.3126768	-1.04	0.297	-.9389094	.2871067
20	-.4566218	.3125215	-1.46	0.144	-1.069326	.156082
21	-.2930995	.3166183	-0.93	0.355	-.913835	.327636
22	-.0262458	.2946825	-0.09	0.929	-.6039759	.5514843
23	-.6731666	.3350366	-2.01	0.045	-1.330011	-.0163217
24	-.6534765	.3253396	-2.01	0.045	-1.29131	-.0156427
25	-.1663902	.307785	-0.54	0.589	-.7698078	.4370274
26	.1357688	.286006	0.47	0.635	-.4249507	.6964883
27	-.1254056	.3082223	-0.41	0.684	-.7296807	.4788695
28	-.0763901	.2963429	-0.26	0.797	-.6573753	.5045951
29	-.1481313	.3132948	-0.47	0.636	-.762351	.4660884
30	-.0949761	.3094245	-0.31	0.759	-.701608	.5116558
31	.2117686	.27677	0.77	0.444	-.3308437	.7543809
32	-.3817128	.3079444	-1.24	0.215	-.9854429	.2220174
33	-.0443595	.2993177	-0.15	0.882	-.631177	.542458
34	-.1017248	.3035776	-0.34	0.738	-.6968938	.4934442

35	.3991704	.2868543	1.39	0.164	-.1632123	.961553
36	.162631	.3170648	0.51	0.608	-.4589799	.7842418
37	-.2222558	.3135501	-0.71	0.478	-.8369761	.3924645
38	-.6920724	.3368799	-2.05	0.040	-1.352531	-.0316138
39	-.4996237	.3199251	-1.56	0.118	-1.126842	.1275948
40	-.0868215	.3106033	-0.28	0.780	-.6957646	.5221215
41	-.412302	.319659	-1.29	0.197	-1.038999	.2143949
42	-.6157806	.3354286	-1.84	0.066	-1.273394	.0418329
43	-.1858552	.325685	-0.57	0.568	-.8243661	.4526556
44	-.0327536	.3162122	-0.10	0.918	-.6526929	.5871858
45	-.2064308	.3098023	-0.67	0.505	-.8138033	.4009418
46	.0438563	.2865172	0.15	0.878	-.5178655	.6055781
47	-.5404619	.3168461	-1.71	0.088	-1.161644	.0807203
48	.0041548	.2923456	0.01	0.989	-.5689937	.5773033
49	-.7035064	.3244849	-2.17	0.030	-1.339665	-.0673483
50	-.2298943	.2847108	-0.81	0.419	-.7880746	.3282861
51	-.1845216	.2982295	-0.62	0.536	-.7692056	.4001625
52	-.2064505	.3173048	-0.65	0.515	-.8285319	.415631
Regional effect (Prague=baseline)						
Středočeský	-.3656371	.0708608	-5.16	0.000	-.5045609	-.2267133
Jihočeský	-.9025062	.1256328	-7.18	0.000	-1.148811	-.6562011
Plzeňský	-1.193031	.1428566	-8.35	0.000	-1.473103	-.9129578
Ústecký	-.8114066	.1097437	-7.39	0.000	-1.026561	-.5962522
Královehradecký	-1.782842	.1478739	-12.06	0.000	-2.072752	-1.492933
Jihomoravský	-.427749	.085541	-5.00	0.000	-.5954535	-.2600445
Moravskoslezský	.0972406	.0682235	1.43	0.154	-.0365128	.230994
Olomoucký	-.5292246	.1116503	-4.74	0.000	-.7481169	-.3103323
Zlínský	-1.245004	.1360986	-9.15	0.000	-1.511827	-.9781799
Vysočina	-2.019278	.1553737	-13.00	0.000	-2.32389	-1.714665
Pardubický	-1.592392	.1445571	-11.02	0.000	-1.875799	-1.308986
Liberecký	-1.556854	.152536	-10.21	0.000	-1.855904	-1.257805
Karlovarský	-2.041176	.1703868	-11.98	0.000	-2.375222	-1.707129
Constant	-.1417623	.2230223	-0.64	0.525	-.5790013	.2954768

Appendix AF: Regression table for the natural logarithms of weekly rates of burglaries into bars and restaurants as presented in column (4) of Table 14

Number of obs = 4368
Wald chi2(75) = 937.98
Prob > chi2 = 0.0000
Log pseudolikelihood = -2843.9099
Pseudo R2 = 0.0286

	Coefficient	Robust Std. Err.	t	P>|t|	95% Conf.	Interval
Prohibition	.074404	.1180178	0.63	0.528	-.1569067	.3057146
Prohibition*Treated	-.3735416	.2796363	-1.34	0.182	-.9216188	.1745355
Pre-prohibition Week 1&2	-.3251115	.1460232	-2.23	0.026	-.6113117	-.0389112
Post-prohibition Week 1&2	.0575241	.1390588	0.41	0.679	-.2150261	.3300742
Post-prohibition Week 3&4	.0367899	.159064	0.23	0.817	-.2749698	.3485497
Post-prohibition Week 5&6	-.0058522	.1325364	-0.04	0.965	-.2656188	.2539144
Year effects (2010=baseline)						
2011	-.1187541	.0346641	-3.43	0.001	-.1866944	-.0508138
2012	-.1119434	.0390432	-2.87	0.004	-.1884667	-.0354202
2013	-.1112276	.0354172	-3.14	0.002	-.180644	-.0418111
2014	-.3749959	.0373388	-10.04	0.000	-.4481785	-.3018132
2015	-.7551878	.0421813	-17.90	0.000	-.8378616	-.672514
Calendar week effect (1=baseline)						
2	-.1276922	.104891	-1.22	0.223	-.3332749	.0778904
3	-.2039794	.1074725	-1.90	0.058	-.4146217	.0066628
4	-.0998319	.1087222	-0.92	0.358	-.3129234	.1132597
5	-.1243601	.1092765	-1.14	0.255	-.3385381	.0898179
6	-.1914886	.1054215	-1.82	0.069	-.3981109	.0151338
7	-.1355967	.1084363	-1.25	0.211	-.3481278	.0769345
8	-.2087403	.1032744	-2.02	0.043	-.4111545	-.0063261
9	-.1961319	.1028643	-1.91	0.057	-.3977422	.0054784
10	-.2325186	.1048691	-2.22	0.027	-.4380583	-.0269789
11	-.2018391	.1117149	-1.81	0.071	-.4207963	.0171182
12	-.286892	.1154613	-2.48	0.013	-.513192	-.0605919
13	-.1134556	.1038505	-1.09	0.275	-.3169989	.0900877
14	-.2131482	.1066527	-2.00	0.046	-.4221836	-.0041128
15	-.1471135	.1069682	-1.38	0.169	-.3567674	.0625405
16	-.0705061	.1032315	-0.68	0.495	-.2728361	.1318239
17	-.0856027	.1009816	-0.85	0.397	-.283523	.1123176
18	-.1234539	.0983445	-1.26	0.209	-.3162056	.0692979
19	-.2204195	.1045135	-2.11	0.035	-.4252622	-.0155767
20	-.3173757	.1169021	-2.71	0.007	-.5464996	-.0882517
21	-.1682383	.121153	-1.39	0.165	-.4056938	.0692171
22	-.1359765	.0991832	-1.37	0.170	-.330372	.0584189
23	-.2201022	.1271479	-1.73	0.083	-.4693076	.0291032
24	-.2806241	.1161359	-2.42	0.016	-.5082462	-.053002
25	-.1157325	.1094023	-1.06	0.290	-.3301571	.0986922
26	-.0676699	.1016141	-0.67	0.505	-.2668298	.1314901
27	-.071266	.1076293	-0.66	0.508	-.2822156	.1396836
28	-.2025557	.1018673	-1.99	0.047	-.4022119	-.0028996
29	-.1342753	.1052525	-1.28	0.202	-.3405664	.0720159
30	-.0926985	.1088665	-0.85	0.394	-.3060729	.1206758
31	-.0128809	.1045586	-0.12	0.902	-.2178119	.1920502
32	-.2482114	.1075341	-2.31	0.021	-.4589744	-.0374484
33	-.1132017	.1080689	-1.05	0.295	-.3250129	.0986094
34	-.0491354	.107776	-0.46	0.648	-.2603725	.1621017

35	.0278072	.1031264	0.27	0.787	-.1743167	.2299312
36	.0488965	.1046824	0.47	0.640	-.1562772	.2540702
37	-.1184471	.1061849	-1.12	0.265	-.3265658	.0896716
38	-.2362893	.1183558	-2.00	0.046	-.4682624	-.0043163
39	-.2630655	.1105046	-2.38	0.017	-.4796506	-.0464804
40	-.1308989	.1089718	-1.20	0.230	-.3444798	.0826819
41	-.3400829	.1188646	-2.86	0.004	-.5730533	-.1071125
42	-.2497746	.1132618	-2.21	0.027	-.4717637	-.0277855
43	-.0758019	.1135842	-0.67	0.505	-.2984229	.146819
44	-.020303	.1014087	-0.20	0.841	-.2190605	.1784545
45	-.2048959	.1148471	-1.78	0.074	-.4299922	.0202003
46	-.1476694	.1013924	-1.46	0.145	-.3463948	.051056
47	-.2563686	.1061387	-2.42	0.016	-.4643967	-.0483405
48	-.1353909	.1053931	-1.28	0.199	-.3419577	.0711758
49	-.2641637	.1246929	-2.12	0.034	-.5085574	-.0197701
50	-.3431347	.106034	-3.24	0.001	-.5509574	-.135312
51	-.1899644	.1138597	-1.67	0.095	-.4131253	.0331965
52	-.0722239	.1114674	-0.65	0.517	-.290696	.1462481
Regional effect (Prague=baseline)						
Středočeský	-.3588128	.0414486	-8.66	0.000	-.4400506	-.277575
Jihočeský	-.266272	.052523	-5.07	0.000	-.3692153	-.1633287
Plzeňský	-.2575424	.0551538	-4.67	0.000	-.3656418	-.149443
Ústecký	-.2917848	.047249	-6.18	0.000	-.3843912	-.1991784
Královehradecký	-.5646707	.0582001	-9.70	0.000	-.6787407	-.4506006
Jihomoravský	-.320759	.0448921	-7.15	0.000	-.4087458	-.2327722
Moravskoslezský	.0894415	.038725	2.31	0.021	.0135418	.1653412
Olomoucký	-.0945687	.0499055	-1.89	0.058	-.1923817	.0032443
Zlínský	-.4596805	.0529935	-8.67	0.000	-.5635458	-.3558152
Vysočina	-.6505315	.0603237	-10.78	0.000	-.7687639	-.5322992
Pardubický	-.4692267	.0574251	-8.17	0.000	-.5817777	-.3566756
Liberecký	-.4134984	.0582503	-7.10	0.000	-.5276668	-.2993299
Karlovarský	-.3742126	.0632712	-5.91	0.000	-.498222	-.2502033
Constant	-.3085736	.0807117	-3.82	0.000	-.4667656	-.1503816