

Illicit drug policies and social outcomes: a cross-country analysis

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Preliminary methodological analysis on the lexicometric assessment of laws and drugs policies and evaluation of social outcomes of Italy

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Leximetric assessment of laws and drugs policies

In the framework of the second transnational call of ERANID, an international research group is developing a project called 'Illicit drug policies and social outcomes: a cross-country analysis' (IDPSO, <https://www.eranid.eu/projects/idpso/>). In this project, especially in the WP2, we are developing a new methodology to analyze the drug policies through 'leximetric approach'. The analysis focuses on illicit drug laws and policies in seven countries, including Italy, during the last twenty years. This kind of analysis is based on a quantitative study of law that has never been applied before in the drug policy field. The first step consists in identifying the most significant criminal conduct common to the laws of the different countries and the most relevant court decisions (in particular for common law country). Then, each conduct is evaluated by assigning to it a value – either on a binary system or on a scale out of ten – that can express the degree of severity of the related punishment. If from one side, the binary system is more certain, from the other side it is not able to reflect the different shades of the legal language. For this reason, we have decided to use the decimal system, also in order to mark the differences between the criminal and the administrative offenses related to drugs. The final aim is to create a tool that, by assigning a degree to the law, facilitates cross-country analysis of drug policies, allows to compare the evolutions of the laws in a same country throughout the years and, finally, measures the impact of the different drug related policies on key indicators. We have identified ten core variables to measure the degree of severity of the law and the consequences that prohibitionist drug policies have on specific indicators.

Main indicators to measure social costs

The cost of "illegal" drugs measures the social cost of the consequences of the trafficking and selling of illegal drugs and the consumption of them. Most are "unintended" consequences, given the widespread ideological approach, largely prohibitionist, to anti-drug laws and policies that most countries still use (https://www.rand.org/pubs/technical_reports/TR706.html). The social cost is composed of the external cost (value of lost human lives, loss of quality of life, production losses,) and the cost to public finances (prevention, repression and care expenditures, ...).

External costs: indicators and data

The main indicators, related to external costs, are based on data of drug-related deaths, the distribution of age and gender of deceased consumers, as the average of age, or the age group, of deceased males and females makes it possible to assess the average number of years of life lost; then also appeals to care institutions for health problems caused by drug use, in particular hospitalizations, stratified by age and gender, provide an important indicator related to morbidity and, indirectly, to quality of life.

A further indicator relates to the estimate of the size of the global illegal market and, possibly, the market of the various substances, in particular the most problematic ones. Also the prevalence of problems drug users is essential in particular relating to substances with the highest damage score to health: heroin and crack (33) followed by methamphetamine (28), cocaine (18) and cannabis (17), as defined in van Amsterdam et al. (2015), and recently used in the report of the Global Commission on Drug Policy (<http://www.globalcommissionondrugs.org/reports/classification-psychoactive-substances>), as a suggestion for anti-drug policies based on scientific evidences, on the basis of quite similar scores (Nutt, 2010, [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(07\)60464-4/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(07)60464-4/fulltext)).

Some preliminary results related to these indicators

The Central Directorate of Anti-Drug Services (DCSA) in Italy annually provides data on overdose deaths which it officially communicates to the European Drug and Drug Addiction Monitoring Centre in Lisbon (EMCDDA) for the Drug Related Deaths (DRD) epidemiological indicator. The data is provided in the annual reports of the DCSA stratified by sex and by age group. A summary is shown in Figure 1.

Figure 1. Time series of overdose deaths (M = males and F = females on right axis).



Source: Anti-drug services central management (DCSA)

It must be noted that DCSA source drug-related deaths refer to the confirmed cases of drug-related death that the Police Forces became aware of. It should be noted that the Police Force receives only reports of cases in which death was attributed directly to drug taking while escaping all cases in which the drug represents an indirect, albeit decisive, cause of death: as diseases resulting from the use of drugs or accidental deaths of subjects under the effect of psychotropic substances (indirect, induced or connected causes). It should also be noted that these data that are not always supported by expert assessments or by autopsy and / or toxicological examinations arranged possibly by the Judicial Authority. For those checked, it appears that heroin is between 80% and 90% of cases, which is a fairly general result. (<http://www.emcdda.europa.eu/publications/topic-overviews/content/faq-drug-overdose-deaths-in-europe-en>).

If we also want to consider the number of years lost due to early death, we can refer to the DCSA data related to the percentage of deaths for subjects (male and female) in different age groups and, as an example, we consider subjects with younger age of 20 years, which are shown in Figure 2.

There is an important growth in the percentage of females (<20) after 2006, for males the growth is subsequent, after 2009, and lower. For females, and also for males, an average growth is observed again from 2014. This effect is probably related to the second epidemic

Justice cost indicators

Here we present the first results of the estimates of direct costs, i.e. public finances related to the application of Italian legislation on drugs in the three sectors of law enforcement and criminal justice:

- imprisonment costs;
- law enforcement agency costs;
- costs of criminal courts.

In particular, to refine the estimates, here we have chosen to use, where available and usable, the cost for Missions and Programs reported in the Italian Budget Laws. This choice, in perspective, could pave the way for a comparison at European level using the Cofig classification with which the classification for Missions and Programs at national level is connected.

Imprisonment costs

For the reclusion sector, the analysis conducted has made it possible to estimate the cost of prisoners resulting from the application of the legislation on drugs in Italy.

Figure 7 shows that in Italy a very large proportion of the cost of detention is determined by the legislation on drugs. In 2011 the total expenditure for detainees imprisoned for drugs reached a peak of € 1.2 billion, equal to 40.6% of total expenditure on prisoners and then decreased in recent years slightly above 30% (€ 0.9 billion).

Furthermore, Figure 1 shows that in the period 2007-2013, there was an increase in drug inmates that peaked in 2011 due to the entry into force of the Law 49/2006 (Italian drug policy legislation), in force from 2006 to 2014 that has been the most prohibitionist period Italy has lived. The sharp decrease in the total number of prisoners between 2006 and 2007 (including drug-related detainees) can be explained by a pardon for crimes committed up to 2 May of the same year, approved by Law 241/2006. However, in the following years, even following the L. 49/2006, there was a rapid increase in the prison population.

Law enforcement agency costs

The estimate on the costs of Italian police forces related to the repression of the drug phenomenon is represented in Figure 8 which shows that since 2006, the costs of law enforcement have increased progressively to stand in 2016 around € 220 million.

The estimate of police costs was obtained by dividing the cost of employees in the police sector (excluding the prison police whose costs are already included in the estimate for detention) for the total number of crimes reported by the police to courts of justice. The average cost was then multiplied by the number of crimes related to the drug legislation. The estimate of the cost of police related to cannabis trafficking was obtained, as for other sectors (detention and courts) using data on drug complaints (with indication of the substance) of the law enforcement authorities to the judicial authority.

REFERENCES

- Van Amsterdam J., Nutt D., Phillips L., van den Brink W., (2015). *European rating of drug harms*. J Psychopharmacol, 29(6), 655-660.
Kopp P. (2015). *Le coût social des drogues en France*. Observatoire Français des Drogues et des Toxicomanies, Paris.
Mascioli F., Rossi C. (2015). *Useful supply indicators for evaluating law enforcement efficacy, the size of the drug market and other issues*. Proceedings of the Eighth ISSDP Conference, Università di Onorati s.r.l., Roma, 189-209.

We declare no conflict of interest in the present work.

Objectives The objective of this project is to assess how differences in national drug laws and policies related to illicit drug production, distribution/trafficking, and consumption impact on key social indicators. To do so, this project involves four steps: (i) the use of lexicometrics to allow cross-country comparison of national drug policies (measuring 'law in books'); (ii) a quantitative and qualitative study to assess the perceptions of key actors regarding those policies (capturing perceptions of 'law in books' and 'law in action'); (iii) a careful analysis of key social indicators directly or indirectly related to illicit drug use (e.g., health indicators, such as HIV or hepatitis infection rates; demand indicators, such as illicit drug consumption rates; or justice system indicators, such as number of drug-related offences or imprisonments); and (iv) an in-depth understanding of the relationship between national drug laws and policies (steps (i) and (iii)) and social indicators (step (iv)).

Methodology The project proposes to analyse 7 countries – Portugal, France, Italy, the Netherlands, England, Canada and Australia – over time, that is, we propose to look at each country's drug laws and policies ideally over twenty years (1996-2016). In order to allow for cross-country comparisons, we will use a comparative law state-of-the-art technique (leximetrics), as well as a carefully designed quantitative and qualitative study on drug policy perceptions. Using advanced quantitative techniques (econometrics and simultaneous equations methods, text mining techniques), we will then carefully explore the intricate and complex relationships that exist between drug law and key social indicators.

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We have focused on the following variables: consumption, possession, traffic, cultivation, production and distribution, differentiating each of them in two sub variables if they are related to "hard" drugs or "cannabis" and also money laundering, harm reduction, treatment and prevention. Then we have highlighted the conducts and/or the law provisions, the court decisions and the policies' guidelines from 1990 to 2017 that take into account the variables that we have chosen. From this analysis – on which we are still working to assign a specific mark to each variable – we can anyway deduct a general trend of the degree of severity of the drug policies in the last 30 years that can be summarized as follows:

- The L. 162/1990 started a period of increased repression compared to the previous one, we detected this trend especially from the conduct of detention for personal use that, both for cannabis and hard drugs, was considered a criminal offence if the amount held exceeded the "daily average dose".
- In the 1993, it intervened a referendum that abolished the limit of the "daily average dose" so that personal consumption was decriminalized regardless the amount owned. It also abolished the article 72 of the law mentioned: a "manifesto norm" that expressed the policy climate of the 'war on drugs'.
- It started a period that lasted until 2006 that, even in a general prohibitionist framework, we can define characterized by a less severe degree of repression against the drug related behaviors, at least for personal use.
- The 2006 represents a turning point in the Italian drug policy legislation due to the L. 49/2006 that provided the same criminal penalties for all the conducts of possession,

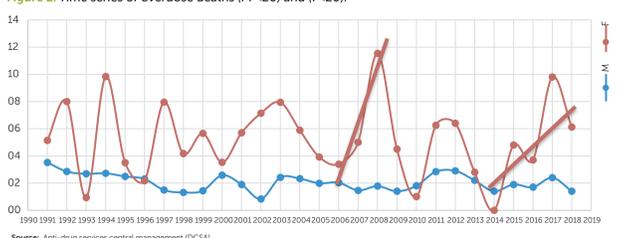
traffic, cultivation, production and distribution regardless the kind of drug the conducts were related to. It means that the cultivation of cannabis also for personal use was potentially punished with a period of prison from 6 to 20 years. From 2006 to 2014 it has been the most prohibitionist period Italy has lived.

In 2014 the Constitutional Court with the sentence n. 32 declared anti-constitutional the L. 49/2006 so that now is once again applied the law that comes out from the referendum of 1993, partially modified by the L. 79/2014. Therefore in the very few last years we mark a decrease in the degree of severity of the law. At this stage, it is relevant to verify if and how the different drug policies and the related degree of criminal enforcement are linked with some key indicator.

Suitable measures of the social outcomes are essential to provide drug policy evaluation and to be related to the leximetric. Social outcome measures shall be based on administrative data and on survey data, to be properly collected, and organised to calculate indicators; then different drug laws and policies can be compared and quantitative evaluation obtained.

The examples of evaluation of social outcomes reported here are only a small advance of what will be addressed and developed in the project. In fact, given the long duration of the observation of the policies and the leximetric evaluation, some indicators, among which the epidemiological ones developed and adopted at European level (EMCDDA epidemiological 5 indicators), are no longer suitable on their own to monitor the situation regarding use of illegal substances, given that there have been profound changes in supply and, therefore, in the demand for substances.

Figure 2. Time series of overdose deaths (M <20) and (F <20).



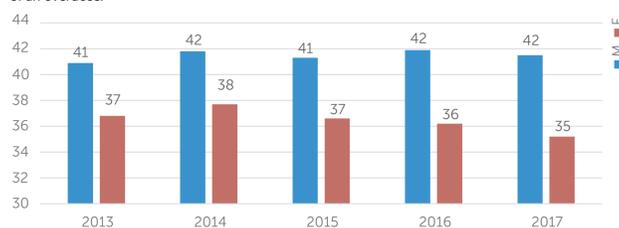
Source: Anti-drug services central management (DCSA)

wave of heroin (and opioids) use that is occurring in western countries in the last decade, as reported in a June 2019 OECD volume (<https://www.oecd.org/health/addressing-problematic-opioid-use-in-oecd-countries-a18286f0-en.htm>).

The growth in percentages around 2007 can be linked, with adequate data analysis, to the modification of the 2006 anti-drug law, but this will be reported elsewhere. Considering the trend of the average age at death in recent years there is a similar result for females (Figure 3) showing a decrease in the age at death.

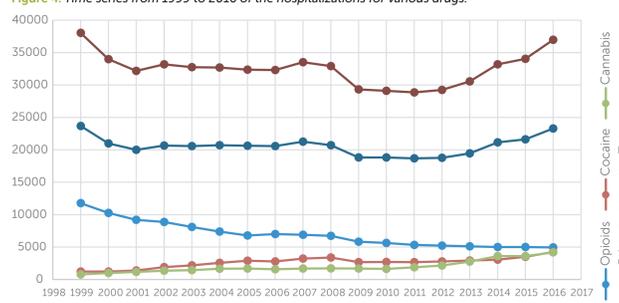
Let us now analyse the data relating to hospital admissions due to consequences of drug use with analyses similar to those seen for data relating to deaths. The hospitalization data, shown in Figure 4 and covering the years from 1999 to 2016, are provided by National Statistical Institute (ISTAT).

Figure 3. Time series from 2013 to 2017 of the average age of males and females who died of an overdose.



Source: Anti-drug services central management (DCSA)

Figure 4. Time series from 1999 to 2016 of the hospitalizations for various drugs.

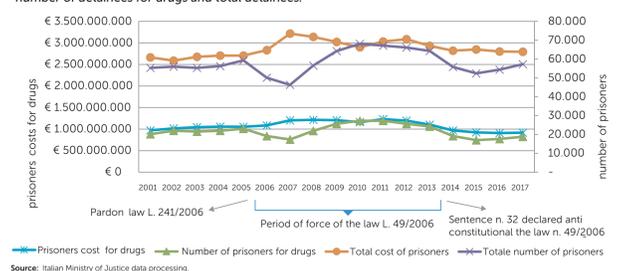


Source: ISTAT

There are many cases in which information on the substance is not available, therefore the preliminary analyses should be carried out on the total cases.

Also for these data we can observe an increase in correspondence with 2007, probably again related to the anti-drug law, then a decrease and then again an almost linear increase since 2011, possibly linked to the second heroin epidemic wave.

Figure 7. Estimate of the annual cost of detention relating to prisoners for drugs, number of detainees for drugs and total detainees.



Source: Italian Ministry of Justice data processing.

The cost of repression related to the fight against cannabis trafficking, records the same trend and represents about half of the total cost. Moreover, the total number of crimes reported has dropped sharply since 2013 while the number of reported crimes related to the legislation on drugs has grown, an element that justifies the growth of the estimated costs of the law enforcement related to the law enforcement activity to drug trafficking.

Criminal courts costs

The estimate on the costs of criminal courts is only indicative and susceptible to further investigation. The costs relating to criminal proceedings on drug legislation remain substantially stable over the period considered (2011-2016), coming to just over 120 million euro in 2016. About half of these costs are attributable to proceedings concerning cannabis.

Conclusion: justice costs

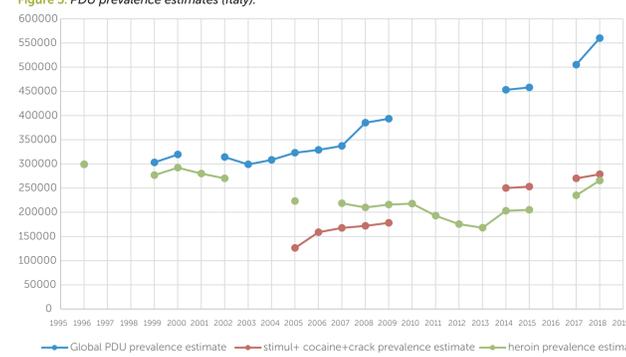
Summing up the estimates of costs about the three sectors of the law enforcement and criminal justice area: prison costs; police costs and costs of criminal courts., we obtain the estimate of the total costs for Italy relating to the contrast and repression of the drug phenomenon. With all the cautions already indicated above with regard to the estimate of the costs, which for some sectors (criminal courts and police) will be further refined, the estimates produced for the years 2011-2016 record an average annual cost (years

Estimates of PDU population prevalence can provide important information on social costs, as PDU prevalence is estimated, at least in Italy, using data from different sources (trendspotter analysis).

Figure 5 shows the PDU prevalence estimates, officially provided by Italy to EMCDDA, in the years 1996 to 2018, although in some years they are missing. Again a global increase in 2008 is evident and also the second heroin epidemic wave starting in 2013.

The prevalence of the PDU user population is closely related to the size of the medium-low level workforce of the illegal drug market. We verify that the trends

Figure 5. PDU prevalence estimates (Italy).



Source: European Monitoring Centre for Drugs and Drug Addiction (EMCDDA)

observed in the PDU prevalence show the same behavior of the estimated annual prevalence of the medium-low level workforce at risk of incarceration, when identified by the police, which depends on the anti-drug law in force.

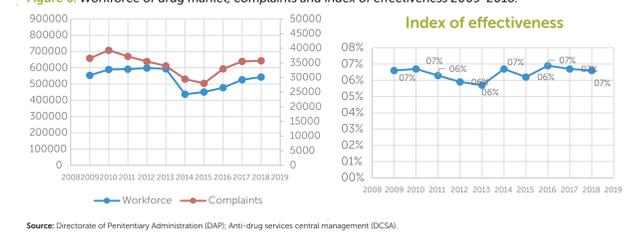
The source of the data used for estimation is the Directorate of Penitentiary Administration (DAP) and the used method is the truncated Poisson (Mascioli and Rossi, 2015). The results are shown in Figure 6, which also reports complaints made by police officers (data source DCSA) in the same year and the index of effectiveness of repression, defined as the ratio between the number of complaints and the estimated prevalence of the population at risk of reporting and incarceration.

As can be seen from the index of effectiveness, every year just 6%-7% of the subjects working in the black market are reached with complaints at the most; that obviously, when they end up in jail (not all those reported enter it), they are immediately and easily replaced in their "work".

The decrease in the workforce estimated in 2014 depends on the changes introduced in the law by the Constitutional Court ruling that has reduced the real prevalence of the workforce at risk of incarceration. In any case, the workforce increases in number both in the period before 2014 and from 2014 onwards.

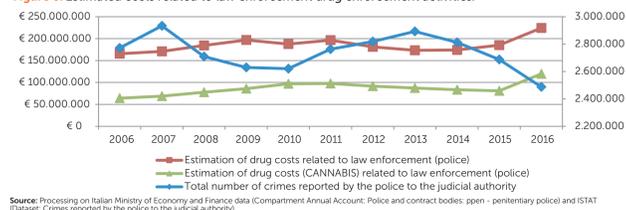
The PDU population growth trend since 2014 (Figure 5) is similar to the growth trend of the market workforce (Figure 6) as also in the period 2009-2013.

Figure 6. Workforce of drug market, complaints and index of effectiveness 2009-2018.



Source: Directorate of Penitentiary Administration (DAP); Anti-drug services central management (DCSA).

Figure 8. Estimated costs related to law enforcement drug enforcement activities.



Source: Processing on Italian Ministry of Economy and Finance data (Compartament Annual Account; Police and contract bodies: open - penitentiary police) and ISTAT (Dataset: Crimes reported by the police to the judicial authority)

2011-2016) of 1.36 billion or 0.08% of GDP. The highest expenditure was recorded in 2011 with over 1.5 billion and then stood at over 1.2 billion in 2016.

Figure 9 shows the percentage incidence of the sectors: imprisonment, police and criminal courts on the total direct costs for the contrast and repression of the drug phenomenon. As you can see, the detention sector absorbs most of the resources destined to combat and suppress the drug phenomenon (76% in 2016).

Figure 9. Percentages and total costs related to the activities of contrast and repression of the drug phenomenon: Law enforcement and criminal justice costs.



Source: our elaboration on previous data

Two different types of estimates were used to define the annual cost of criminal proceedings relating to drugs: the first estimation method used data relating to expenditure for Missions and Programs reported in the Italian State Budget laws. The average cost of the criminal and civil proceedings was determined in advance, multiplied by the number of criminal proceedings related to the legislation on drugs, which determined the estimate of the annual cost of criminal proceedings relating to narcotic drugs and psychotropic substances (Law 309/90). However, given that the first method described above, underestimates the cost of the criminal trial, for reasons linked to the greater refinement and reliability of the estimates, it was decided to use the method based on the average cost. Chart of the criminal trial (inferred to the proceedings pursuant to art. 72 of the Presidential Decree 309/1990) presented in the Annual Report to the Parliament on drugs and dependencies 2012 referred to the year 2010



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