

A preliminary application of leximetric analysis on the drug policy in Italy

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Abstract

The leximetric is a quantitative analysis method that can be applied to any law, with the aim of evaluating the policy object of the study and the effects of it, but also to compare policies adopted in the same State during the years or in different States and the different impact that they have on social factors.

In the present work we apply for the first time this methodology to the laws on the sale and consumption of psychotropic substances to assess quantitatively the "a priori" level of repression that they express.

The object of the study are the three different "anti-drug" laws in force in Italy in the period 1991-2018, so we firstly choose the variable that could express in abstract the degree of severity of those laws, then we elaborate a neutral scale in which we explain how we assign every score (on a decimal or binary system) and then we evaluate the laws using the variable chosen.

Key words: leximetric evaluation, drug policy, social-health indicators, law enforcement indicators

1. Introduction

In this work our aim is to develop an effective analysis of the legislative policies, to evaluate their capacity of persecuting their scopes and the effects generated on the society, also in term of social costs.

From the criminal law point of view, the Italian legislation against drugs generates moments of friction with various constitutional principles, especially the principle of offensiveness. Indeed, the protected legal value (*bene giuridico tutelato*) at the core of this regulation has been found in different categories – public order; the security of the society, the normal growth of new generations¹ -, that can't be considered respectful of the personalized and constitutional conception of the protected legal value, drifting to forms of protection typical of a paternalistic policy.

This is especially the case of the conducts of consumption or cultivation of 'soft drugs' (e.g. marijuana), banned by State laws, on the basis of the persuasion that those conducts are not healthy, and therefore clearly interfering in the sphere of self-determination of each

¹ Probably one of the last sentence in which the legal protected value was identified in the categories mentioned was the Constitutional Court n. 109/2016.

citizen². In addition, this interference realizes an irrational discrimination between the use of 'soft drugs' and the consumption of alcohol – which is instead fully liberalized -, even though the latter is much more dangerous for human health.

In the present work, however, the aim is not to dwell just on the multiple reasons that, already in abstract, deny any legitimation of the 'war on drugs' that the Italian Government brought over the last century, but rather trying to analyse the social costs of the above mentioned policy. In this way we want to understand whether there are practical arguments that support this legislative policy.

For those reasons in this paper we choose to use a relatively new methodology of quantitative analysis – the leximetrics – that has never been used before in the field of drug's law. We aim, in this way, to evaluate the degree of severity of the regulation that, during the last 20 years, has criminalized the production, the sale, the purchase and the consumption of drugs to make a comparison between this regulation and the changes that the enforcement of those laws determined on some crucial social variables.

Leximetrics is a word firstly coin by La Porta, Lopez-de-Silanes and Shleifer in their work of the 1998³ in which they examined legal rules covering protection of corporate shareholders and creditors. During the last year this methodology has been mainly applied in the field either of corporate law⁴ or labour law⁵.

2. How the methodology works

To make this quantitative analysis of the regulation the first step is to identify some core variables through which we can observe the severity of each single law, then we have to assign a value to every variable using a binary or a decimal system, or even combining them together. In the end, considering all the variables, we can extrapolate the final value of each law and then compare them together and their impact on the evolution of 'social costs'. In this way we meant to verify different hypothesis of connection between law enforcement and other social factors.

Interpreting the legal rules by numbers allows to examine the evolution of the drug's regulation in Italy during time – our work examines it since 1990 – and, by applying the same methodology also to other States, it would be even possible to make a cross-country analysis.

² FEINBERG J., *Harm to self. The moral limits of the criminal law*, Oxford 1986.

³ LA PORTA R. (et al.), *Law and finance*, in *Journal of Political Economy*, 1998, vol. 106, no. 6, pp. 1113-1155.

⁴ ANDERSON H. (et al.), *Shareholder and creditor protection in Australia: A leximetric analysis*, in *Company and Securities Law Journal*, 2012, 30 (6), pp. 366-390; SIEMS M. M., *Taxonomies and Leximetrics*, Durham Law School Working Paper October 2014, pp. 1-30.

⁵ ADAMS Z. (et al.), *Labour regulation and employment patterns*, in *World Employment and Social Outlook: The Changing Nature of Jobs*, 2015, pp. 111-129; DEAKIN S. (et al.), *Labour Law and Inclusive Development: The Economic Effects of Industrial Relations Laws in Middle-Income Countries*, in University of Cambridge working paper n. 13/2014, pp. 1-30.

Obviously this method also presents some critical issue: firstly, it is extremely complex to translate a legal text into numbers, so that it is impossible to annul all the risks of an excessive simplification of the analysed concepts; secondly, the analysis is mainly based on the 'law in books' while we lose the point of the 'law in action'; finally, the election of the variables, as the construction of the scale of values to assign them, is subjective.

Despite the problems underlined, thanks to this methodology we can put together a perspective that was never explored before in designing the evolution of the degree of severity of the drug's regulation, so to immediately appreciate the impact of that regulation on the health of consumers, on the jurisdictional costs and on social outcomes. Also, this typology of comparison – between the scores attributed to the 'law in books' and the 'social costs' variables - consents to partially appreciate the real impact of the law, giving an idea of how works the 'law in action'.

Moreover, we tried to minimize the subjectivity of the analysis building first a neutral scale to score the variables. Thus, we combine two different ways of scoring the variables: when we analyse the sanctions related to the forbidden conducts – both criminal and administrative ones – we use a scale out of ten, that consents us to better describe the complexity of the legislative solution adopted in each case; on the other hand, for the variables related to the access to treatment for drug's addicted – as you can see *infra* - we prefer to score them using a binary system, that naturally leaves much less space to the subjectivity of the authors.

Anyway, it is easy to switch to different scales, as long as all the proposals are appropriate to represent the approaches of the different laws. Mathematically the leximetric scale, applied to various policies, is just a positive component vector and, as a length, it can be modified to an infinity level, it is only necessary to keep the ratios of the levels related to the different policies unchanged with respect to those identified above through scores with natural numbers, more easily understood by politicians.

Having evaluated laws a priori by assigning leximetric scores, then it became important to verify, through appropriate indicators, the *a posteriori* results of the corresponding policies that should be consistent with the scores. It is also important to verify if the conducts evaluated (e.g. the sale or the use of illegal substances) are not altered by laws, but by other causes, such as the policy of criminal organizations in drug trafficking.

3. Object of the study

The object of the study are the laws passed in Italy from 1990 until today regulating the drug phenomenon. Before explaining how we choose the variables that should reflect the degree of severity of each law, we think it could be useful to present a quick overview of those laws. None of them has ever been characterized by a liberal approach to the production, the sale, the purchase and the consumption of drugs, but there is nonetheless a

difference in how, during the last decades, these laws have punished the personal consumption of drugs and the behaviours related to soft or hard drugs.

In this brief overview, we underline just some of the main articles and provisions through how it is possible to elaborate a general tendency of the policies.

Law n. 162/1990⁶, that later became the T.U. n. 309/90, is the first law to be analyzed. The art. 72 T.U. of this law was considered a kind of 'manifesto' of the drug policy of that period, because it provided an absolute prohibition for the consumption of drugs, but the ban was not associated to any sanction. The aim was to remark the negative consideration that the legislator had towards the consumption of drugs.

The main provision was (and still is) art 73 T.U. that pointed out all the conducts that led to a criminal sanction: "whoever purchases, offers, offers for sale, possession ...". In 1990 when the mentioned behaviors were related to 'hard drugs', the sanction provided were of prison detention from 8 to 20 years and a fine from about 25.000 to 250.000 euros; while if they were related to 'soft drugs', the prison detention was of 2 to 6 years and the fine from about 5.000 to 25.000 euros. This provision also provided that the possession of psychoactive substances under a "daily average dose" (that corresponded to the average amount of drugs consumed by a drug user per day), as it was supposed to be for personal use, was considered an administrative offence, therefore subjected to the administrative sanctions provided by art. 75 T.U..

During 1993 an important change was brought from the referendum. The citizens in that occasion voted for the abolition of the art. 72 TU (the 'manifesto' norm) and the possession for personal consumption was decriminalized regardless the amount owned, thus the dividing line between criminal and administrative conducts laid on the purpose of the detention.

The more permissive trend of the law policy that came out from the popular votation, radically changed in 2006 with the law n. 49, also known as law "Fini-Giovanardi" from the name of the proponents. This law - probably the most repressive in the Italian panorama of drug policy⁷ - introduced several changes. The most important innovation that had a great impact on the consumers was the modification of the art. 73, par. 1 T.U., that didn't differentiate anymore "hard drugs" from "soft drugs", and introduced for all the criminally relevant conducts (e.g. to cultivate, to purchase, to produce ...) just one sanction: detention from 6 to 20 years and a fine from 26.000 to 260.000 euros.

Also the criteria to determine whether the conducts were realized with the aim of personal consumption were much more restrictive. Art. 73, par. 1 *bis* T.U., introduced by this law, provided a list of conducts considered abstractly compatible with personal use, and that were punishable just as administrative offences in case the personal use was

⁶ PALAZZO F., *Consumo e traffico degli stupefacenti (Profili penali)*, II ed., Padova 1994.

⁷ INSOLERA G., MANES V. (eds.), *La disciplina penale degli stupefacenti*, II ed., Milano 2012.

verified; in case the personal use was not the 'exclusive' reason that motivated the conduct, instead, the punishment would have been the same established for the par. 1 of the same article.

Therefore, under the new law provided at art. 73, par. 1, there were some conducts that were considered *ex se* criminal offences, regardless of the possibility that the conducts would have been realized just for personal use, for instance cultivation and transportation, that already in abstract were considered incompatible with personal use even if they are, in practice, absolutely compatible with personal use.

Some crucial changes intervened also on the side of the administrative offences, art. 75 T.U. provided all the administrative sanctions in case of being caught with a determined amount of drug for personal use and art. 75 *bis* T.U., introduced by this law, provided heavy administrative sanctions to protect the public security (*a tutela della sicurezza pubblica*) from who has already been condemned for any drugs related crime, even if the conviction was not defined yet. But even worst, this article established that if the person sanctioned would have not respected the administrative sanctions imposed, they could have been transformed to criminal sanctions (i.e. prison).

This law remained in place during 12 years until a crucial change was brought from the Constitutional Court that with the decision n. 32/2014⁸ partially declared unconstitutional the law n. 49/2006 (that converted the law decree n. 272/2005). The Court stated that the Government didn't respect the enabling act when adopted the law decree above mentioned. The most relevant consequence was that it was once again applied art. 73 as it was formulated in the previous legislation, so that it was reintroduced the difference between the offences related to soft and to hard drugs.

After the Court decision the Legislator reorganized, with the law n. 79/2014, part of the provisions regarding the drug legislation: art. 73 T.U. provides the same penalties of the law introduced in the 1990. Also on the side of administrative offences the wording of artt. 75 and 75 *bis* T.U. has been changed, but the heavy (and criticized) administrative sanctions remained the same.

During the recent years the most relevant changes to the drug's regulation have been the result of two judgments of the Constitutional and the Supreme Courts. The first, n. 40/2019, that declares unconstitutional art. 73, par. 1, T.U. in the part where it provided for the behaviors of "selling, import, produce..." hard drugs the minimum penalty of 8 years of detention. The Court observed that the spread between the maximum penalty for the conducts considered of minor entity punished by art. 73, par. 5 (4 years of detention) and the minimum penalty of the art. 73, par. 1 was too wide. For this reason, the Court considered that all the cases that were in the grey area, between the application of the former

⁸ CAVALIERE A., *Il controllo del traffico di stupefacenti tra politica criminale e dogmatica*, in *Dir. pen. proc.* n. 5/2014, pp. 586 ss.

and that of the latter article, could have been punished with an unjust sanction, in excess or in deficiency, also leading to a violation of the principles of articles 3 and 27 Const. For these reasons, they opted for reducing the minimum of penalty of the art. 73, par. 1 T.U. from 8 to 6 years of detention.

The second important judgement/decision, in this case of the Supreme Court (*Corte di Cassazione a sez. un.*), is the n. 12348/20⁹ that reinterpreted art. 73, par. 1 T.U. excluding from the criminally relevant conducts the domestic cultivation of marijuana's plants for personal use, delimiting the area of the criminal relevance of the conducts of cultivation to the ones realized with agrotechnical means.

Those last changes in the regulation, however, are not considered in the present paper, because the relative 'social costs' data are still unavailable, and it is therefore impossible to evaluate their social impact.

4. Identification of the variables and the elaboration of a scale

We decided to concentrate the analysis of the variables in two macro areas:

- a) **Conducts considered by law, either as criminal or administrative offences;**
- b) **Provisions that facilitate access to treatment paths for drugs' addicted who have committed crimes.**

Regarding the variables related to group a) [annex 1], the main behaviours considered as a criminal or administrative offence are included in articles 73 and 75 of Presidential Decree 309/90 (T.U. stup.). Therefore, in order to facilitate the understanding of the analysis, we decided to select just some of the behaviours specified in those articles: cultivation, consumption and selling.

For example, the conducts of "selling, offering or offering for sale, giving, distributing, trading, transporting, procuring to others, sending, delivering for any purpose" have all been summarized in one: "selling", because all of them are subjected to the same punishment.

Cultivation, consumption and selling, corresponding to three variables of the group a), are then observed in relation both to personal and non-personal use and in relation to soft and hard drugs as well.

In this way, we aim to preserve a wide spectrum of analysis that, even using a quantitative methodology, can better reflect the legislative choices about how to regulate the circulation and the consumption of drugs.

⁹ E. CONTIERI, *Coltivazione di piante da cui sono ricavabili sostanze stupefacenti*, in *Pen. dir. proc.* del 28.4.2020.

As we anticipated before, this group of variables will be evaluated with a scale out of ten [see annex 1], while the group b) will be evaluated with a binary system.

The 'neutral' scale for the group a) has been divided as follows: scores from 1 to 5 are reserved to the administrative offences, on the other hand the criminal offences presented a score from 6 to 10.

The conducts considered criminal offences are scored on the base of the associated sanction; it must be underlined that we are taking into account just the custodial penalties calculated on the maximum period of detention that can be applied, while we are not taking in consideration the monetary penalties that can also be applied jointly with the formers.

For the conducts considered as administrative offences in case they are punished with different sanctions, we are going to score the variables considering just the most repressive sanction associated.

Regarding the variables of group b) [annex 2], we selected them because we are persuaded that the degree of severity of a law is also expressed by the possibility for drug addicts, who committed crimes, to access to treatment paths, because this testimony the relevance of the health of drugs' consumers in the policies.

For this reason, we elaborated three 'yes or no' questions, that will be our variables: to the answer 'yes', it will be associated the score 0; if the answer is 'no', it will be associated the score 1. For those variables than it will be used a binary system of evaluation.

Annex 1 The scale of variables of group a)

<i>Scores</i>	1	2	3	4	5	6	7	8	9	10
<i>Sanctions</i>	Withdrawal of any administrative licence (e.g. driving licence; gun licence).	Prohibition of expatriation (e.g. withdrawal of passport or of the touristic visa).	Obligation to remain in a certain territory (e.g. obligation of presenting himself to the police on determined hours during the week).	Prohibition of going out from the city of residence or obligation to come back home at a certain hour and to remain there during a determined time.	If it is established some form of conversion into a custodial penalty	until 3 years of detention	until 5 years of detention	until 10 years of detention	until 15 years of detention	until 24 years of detention or life imprisonment
<i>Explanation</i>	In this case the sanction barely	This sanction partially	This sanction has an	This sanction has an	In case the observance	In this case the judge can	Because it is one of the	This sanction has an	This sanction has an	This is the maximum of the

	affects the primary rights of human beings.	reduces the freedom of circulation.	increasing impact on the freedom of circulation and movement.	increasing impact on the freedom of circulation and movement.	of the administrative prescriptions leads to the possibility of prison detention it moves closer administrative and criminal offences.	apply 'substitutive penalties', as semi-detention; controlled liberty; monetary sanction, that engender a reduction of the personal freedom.	conditions for the application of art. 131-bis c.p. It consents the extinction of the crime if it is considered of a slight entity.	increasing impact on the restriction of personal freedom.	increasing impact on the restriction of personal freedom.	custodial penalty, as established by the art. 23 c.p. (Italian criminal code).
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Annex 2 variables of group b)

1. Who is caught detaining drug for personal use, can voluntarily start a therapeutic treatment, avoiding any administrative sanction? (art. 75)
Yes 0 – No 1
2. If someone who is drugs' addict committed a crime, can he/she benefit of a suspension of the sentence in case of starting a therapeutic programme? (art. 90)
Yes 0 – No 1
3. If someone who is drugs' addict committed a crime, during or before the execution of the sentence, can he/she access a therapeutic programme out of the jail? (art. 94)
Yes 0 – No 1

5. Comparison between the laws during time: leximetric scores

While the sale of 'hard drugs' since 1990 has always been punished with a maximum detention of 20 years, the sale of 'soft drugs', from when the law n. 49/2006 was in force until 2014, has been assimilated to the former.

By the way, it is worth to mention that due to this assimilation between the above-mentioned conducts, the minimum detention period for 'hard drugs' was reduced to six years, to leave judges the chance to graduate the criminal penalties to be applied.

The conduct of cultivation, even if it is logically fully compatible with personal use, has always been equated to the conduct of selling on the argument that by cultivating, the amount of drug in the market can potentially increase. Therefore, the changes of the legislation, and of the associated penalties, sanctioning the conduct of selling were also extended to the conduct of cultivation.

On the other hand, the personal consumption has always been considered just as an administrative offence, even though the sanctions provided during the last twenty years have been really different in terms of how they reduce the personal freedom of the consumers. While before 2006 the most severe sanction applicable was the withdrawal of the passport or of the touristic visa, under law n. 49/2006 was introduced the art. 75-*bis* that still allows apply much more severe sanctions. To whom is caught detaining drug - both 'soft' or 'hard' – and who has already been condemned (even if the trial is not yet defined) for any crime against the person, the property or others crimes related to drug's law, can be applied a preventive measure with a much wider impact on the freedom of movement and circulation of the subject. Moreover, in case the subject omits to observe the administrative

prescriptions given, art. 75-bis, par. 6 established the conversion of the administrative sanctions into prison detention from 3 to 18 months.

Regarding the provisions that facilitate access to treatment paths for drugs' addicted who committed crimes, we focused our analysis on art. 75 (par. 9 until 2006 and par. 11 after the entrance in force of law n. 49/2006); art. 75-bis, par. 4; art. 90 that regulates the suspension of the sentence (*sospensione della condanna*) in case of enrolling an health treatment and art. 94 that regulates the suspension of the detention penalty for 'probation' (*affidamento in prova*).

For the latter, even if the regulation of the probation slightly changed during the years, it has always been granted the possibility for someone that is drug addicted, caught committing a crime, to accede - during or before the execution of the sentence - to a therapeutic programme. On the contrary, from 2006 to date, the possibility of suspending the criminal sentence as the one of avoiding administrative sanctions depends from the positive completion of the therapeutic programme. In other words, before 2006 administrative or criminal sanctions were suspended waiting for the results of the therapeutic programme; currently, the sanctions are firstly applied and then, if the programme is positively completed, lifted. Those changes in the treatment policy – as we explained *infra* - lead to an increase of incarceration and to a reduction in the number of programmes enrolled because the eventuality of avoiding sanctions became remote. The leximetric scores are reported in Table 1.

Table 1. Leximetric scores corresponding to different aspects of the laws in force for sellers and users of illegal drugs.

<i>Variables</i>	D.P.R. n. 309/90 (from 1990 to 2006)	Law n. 49/2006 (from 2006 to 2014)	Law n. 79/2014 (from 20014 to 2018)
How is it punished the sale of 'hard drugs'?	10	10	10
How is it punished the sale of 'soft drugs'?	8	10	8
How is it punished the cultivation of 'hard drugs'?	10	10	10
How is it punished the cultivation of 'hard drugs' for personal use?	10	10	10

How is it punished the cultivation of 'soft drugs'?	8	10	8
How is it punished the cultivation of 'soft drugs' for personal use?	8	10	8
How is it punished the consumption (i.e. detention for personal use) of 'hard drugs'?	2	5	5
How is it punished the consumption (i.e. detention for personal use) of 'soft drugs'?	2	5	5
Who is caught detaining drug for personal use can voluntarily start a therapeutic treatment, avoiding any administrative sanction?	0	1	1
If someone that is drugs' addicted committed a crime can benefit of a suspension of the sentence in case of starting a therapeutic programme?	0	1	1
If someone that is drugs' addicted committed a crime, during or before the	0	0	0

execution of the sentence, can accede to a therapeutic programme out of the jail?			
<i>Total, degree of severity of the law</i>	58	72	66

Summing up all the values of the variables we obtain a unified score that expresses the degree of severity of the laws; from 1990 to 2006 the final value of the regulation is 58, it is due to two main factors: the administrative sanctions associated to detention and consumption of drugs were less severe and there were also more opportunities for drugs' addicted to avoid sanctions, either detention or administrative, enrolling an anti-addiction programme.

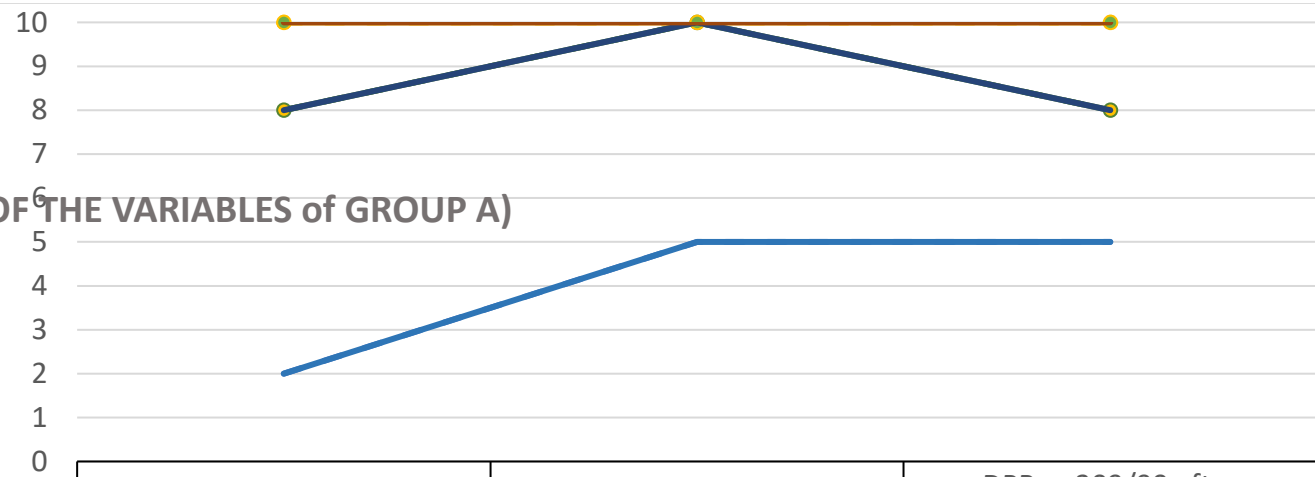
On the contrary, the value associated to law n. 49/2006, which has been in force for all the period until 2014, is 72. This increased value, as we briefly mentioned before, is due to the equation imposed between the conducts of selling and cultivating of 'soft' or 'hard' drugs; to the introduction of the art. 75-*bis* T.U. stup. that establishes more pervasive administrative sanctions for drugs' consumers and, finally, to the more complex procedures to access to anti-addiction programmes.

The value associated to the most recent period, from 2014, after the declaration of unconstitutionality of the law n. 49/2006, decreased to 66 although it doesn't reach the value we had between 1990-2006. It depends from the fact that some of the articles introduced by the law n. 49/2006 hasn't been interested by the statement of the Constitutional Court. In particular, art. 75-*bis* T.U. stup. remained in force regarding the administrative sanctions for drugs' users and some restrictions to the access to treatment programmes.

The trend of the individual leximetric values, depending on the laws in force during the period considered, is shown in Figure 1 and the level of repression in Figure 2.

A graphic representation of the level of repression, which highlights the specific difference in the setting of Law 49/2006 compared to the other two, is evident in Figure 3.

Figure 1. LEXIMETRIC EVOLUTION OF THE VARIABLES of GROUP A)



	DPR n. 309/90 in 2000	Law n. 49/2006	DPR n. 309/90 after Constitutional Court sentence n. 32/2014
— Consumption for personal use of 'soft drugs'	2	5	5
— Consumption for personal use of 'hard drugs'	2	5	5
— Cultivation of 'soft drugs'	8	10	8
— Cultivation for personal use of 'soft drugs'	8	10	8
— Cultivation of 'hard drugs'	10	10	10
— Cultivation for personal use of 'hard drugs'	10	10	10
— Sale of 'soft drugs'	8	10	8
— Sale of 'hard drugs'	10	10	10

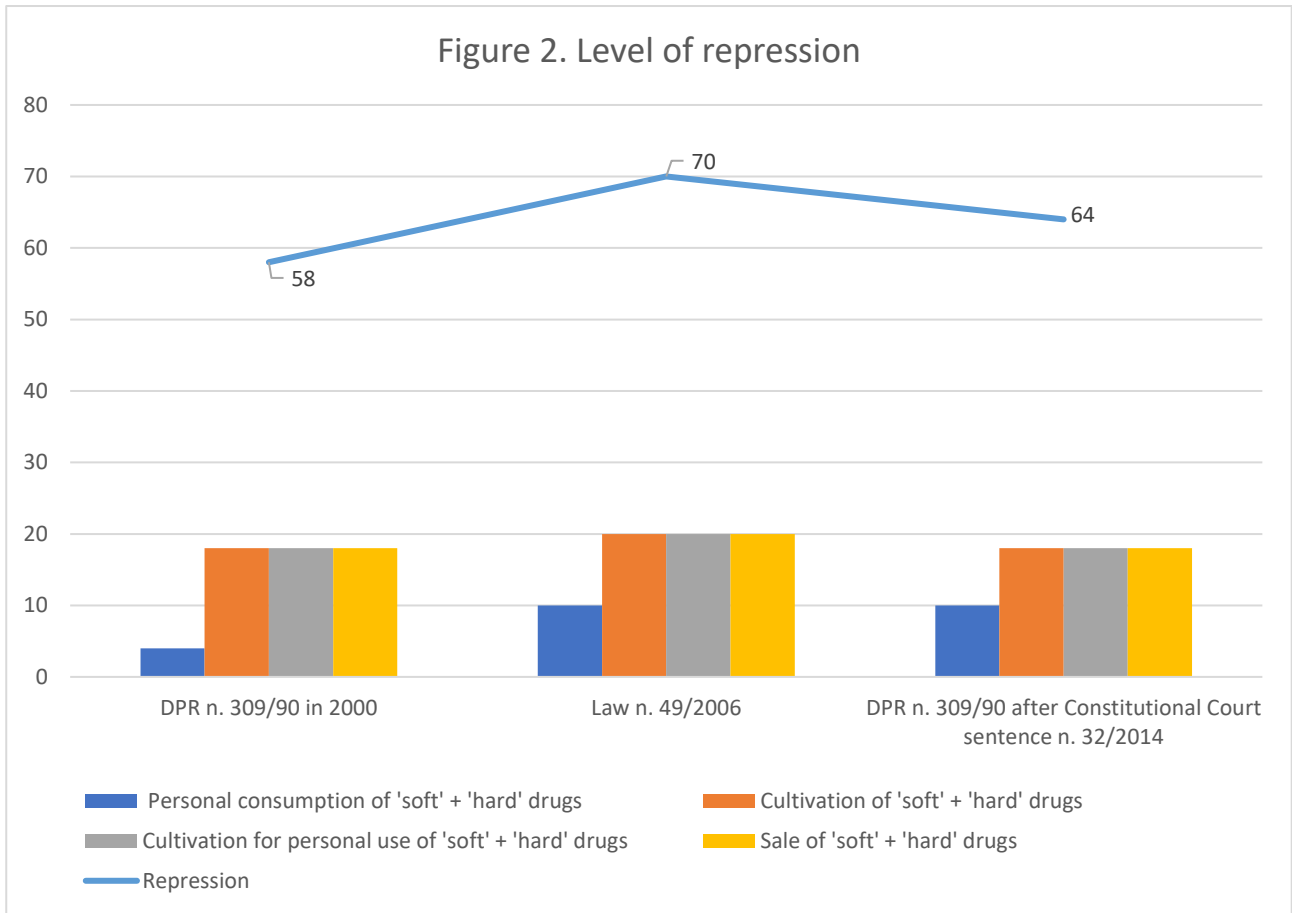
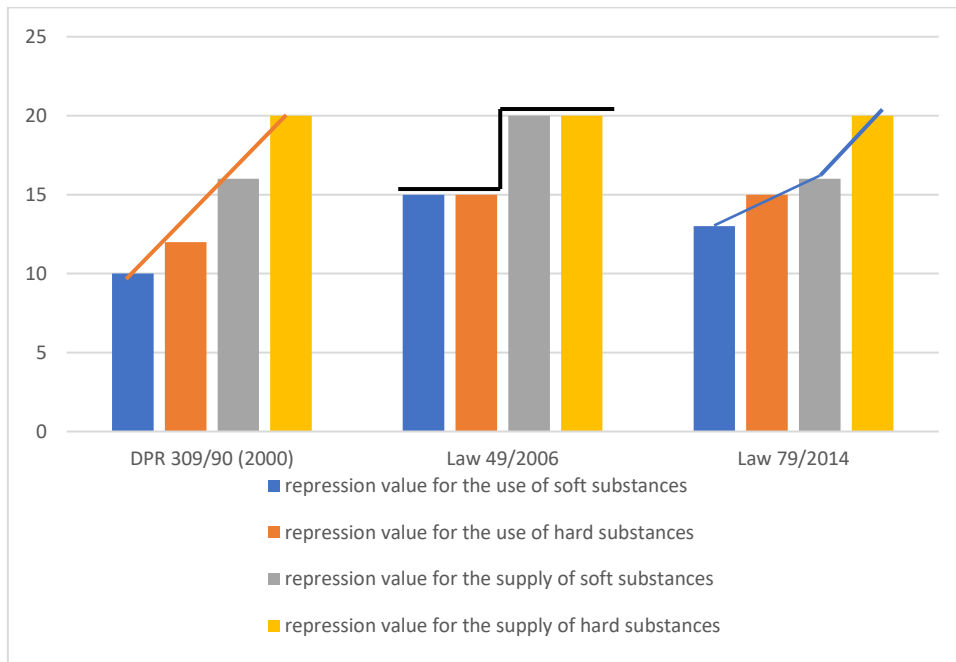


Figure 3. Development of repression values for the use and supply of soft and hard substances.



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Appendix