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A cannabis reader: global issues and local
experiences

Perspectives on cannabis controversies, treatment and
regulation in Europe

Editors

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Chapter 16

An analysis of the significance of supply and market factors for variations in European cannabis use

Keywords: cannabis – seizures – supply – market modelling – trafficking

Setting the context

The chapter by Carpentier et al. (this monograph) discussed the broad concept of ‘availability’ as applied to the cannabis market in Europe. The chapters by Ballotta et al., Korf and Asmussen also suggest that governments across Europe are placing emphasis upon the stronger enforcement of the supply of cannabis. Despite this, our understanding of the cannabis market remains limited, as does our understanding of how variations in supply-side factors may influence demand. This short chapter provides a postscript to the previous chapter by Gamella and Jiménez Rodrigo on Moroccan cannabis resin, by describing an innovative approach to modelling the cannabis resin market. It analyses some recent initiatives that may increase our knowledge of supply-side factors, and discusses some differences between the markets for cannabis and those for other illicit drugs, in particular heroin and cocaine.

While correlations can be identified, there remains considerable work to be done in the area of mapping availability. It may prove useful to identify whether there are any regional correlations between prevalence and resin seizures, and to determine any cross-border patterns that are linked to supply lines.

Further reading

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An analysis of the significance of supply and market factors for variations in European cannabis use

Leif Lenke

Introduction

Various studies have noted that national cannabis policies, be they liberal or repressive, do not show a constant impact on demand (Reuband, 1998; Korf, 2002). It is therefore important to explore other factors that may contribute to the different patterns of cannabis use we find in Europe today. This chapter takes as its basis a co-authored study of heroin supply factors and market conditions, on which the author worked for the Council of Europe (Lenke and Olsson, 1998).

Developing a supply model for illicit psychoactive substances

The analysis for the Council of Europe study was based on a number of assumptions. These include:

- the geographical distribution of seizures is not random;
- some correlation exists between heroin consumption and distribution;
- the accumulation of large amounts of heroin at distribution points is generally avoided;
- the seizure of large consignments of narcotics is given priority, irrespective of the type of drug policy pursued; and
- a positive correlation would be expected over the longer term between quantities seized and quantities distributed.

The study suggested that it was possible to show a strong positive correlation for western Europe whereby increases in the amount of heroin seizures in a given country tended to be followed by an immediate increase in consumption, as measured by some indirect indicators, including fatal overdoses. Moreover, this model allowed conclusions to be drawn about the impact on these indicators of changes in the supply situation.

The development of a seizures-based model for analysing cannabis markets may not be as straightforward as that for heroin. The cannabis market is much broader than that

for heroin, and the profile of consumers more mixed. Further to this, important changes may be occurring in the nature of the European cannabis market. The long-term domination in many countries of Moroccan-produced resin trafficked through Spain is now called into question by data suggesting increases in home-grown or domestically cultivated herbal cannabis. This trend is likely to have shortened the distance between product source and consumer, and the extent to which cannabis is trafficked across borders. Nonetheless, cannabis resin still accounts for the bulk of the cannabis that is seized in Europe (Pietschmann and Legget, this monograph) and the analysis presented here focuses solely on resin and is therefore partial by definition.

In the Council of Europe heroin case study it was possible to show that the supply of heroin was a central factor for understanding consumption patterns. For example, proximity of different countries to the Balkan route was important: countries along the route had particularly serious heroin problems, while those at a greater distance, for example the Scandinavian countries, had been to some extent shielded. As cannabis resin consumed in Europe is largely produced in North Africa and imported via the Iberian peninsula, it is possible to explore the extent to which geographical proximity to resin trafficking routes is reflected in cannabis consumption indicators.

If the quantity of cannabis seized in proportion to the population size is analysed, it is possible to identify differences between countries, with those countries in Europe that have close contacts with Morocco tending to report larger seizures. For this purpose, 'close contact' refers not only to geographical proximity, but also social proximity resulting from colonialism and migration. This has been referred to in the American literature as 'pipelines', with reference to the Colombian involvement in the American cocaine market (Reuter and Kleiman, 1986). For the purposes of this exploratory analysis, each country has been allocated an 'exposure score', which was found to have a strong positive correlation (approaching $r = 0.90$) with the population-adjusted seizure total. Spain was excluded from the analysis as it was an extreme outlier due to its atypically high values for both seizures and cannabis consumption.

Important differences exist between the organisation of the cannabis market and that of other drugs. Among these is the involvement of a large number of actors, lack of clear hierarchy, and relative ease in which new operations can be established (see Gamella and Jiménez Rodrigo, this monograph). Profits can be substantial and relatively low investment is required to establish new operations. This low degree of organisation and the absence of a monopoly may manifest itself in relatively low and stable prices found for cannabis resin (see Carpentier et al., this monograph). However, again a geographical effect is apparent: prices reported in Norway and Iceland are over four times higher than those found in Spain and Portugal, for example.

Another important difference in the structural organisation of the cannabis market, as opposed to some other drug types, is that its operations tend to be European based, often involving nationals from or with good contacts in the target market. This means that trafficking networks have 'natural' contacts with the local distribution networks. This has often been a problem for the distributors on the heroin market where 'outsiders' can face difficulties in selling consignments of drugs directly on the local markets, and success is dependent on having reliable contacts with networks in both the production or trans-shipment country and the country of consumption.

How does drug supply impact on the consumption of cannabis?

In order to explore the question of how drug supply impacts on consumption an indicator of the extent of current or recent cannabis use is required. Methods to access the size and nature of the cannabis market are described elsewhere in this monograph (Vicente et al.). For the purposes of the exploratory analysis presented here, a good proxy measure, even if it is somewhat partial, is provided by the ESPAD data set (see Hibell et al., this monograph). The advantage of ESPAD is that it is conducted in a systematic fashion and guarantees anonymity to the participants and thus the level of comparability can be regarded as relatively high. The disadvantage is that the data is only available for 15–16 year-old students and patterns of use in the broader population may differ. However, as changes in deviant behaviour tend to manifest themselves earlier among the youngest age groups (Carlsson, 1972) this group may provide a useful window on changes in overall consumption patterns.

The result is that a clear — although not particularly strong — positive statistical correlation exists between last-month prevalence from the ESPAD studies and seizures. For 16 west European countries, the strength of the correlation lies at $r = 0.56$ ($F = 6.02$). Given the uncertainties involved in the measure of supply in particular (i.e. quantities seized), this can be interpreted as providing support for the hypothesis on the significance of supply for cannabis consumption.

The correlation between the supply of cannabis and 'recent use' is relatively strong among students; in countries with high prevalence, the quantities of cannabis seized are also high. Spain has again been excluded from the analysis as an extreme outlier. It is not as easy to comment on the correlation between quantities seized and recent use over time. This is due in large part to the absence of robust and comparable time series in which contrasts can be made. However, a general impression that emerges from the data that are available does suggest a relationship between seizures and consumption. It can be noted that the most substantial increases in cannabis use appear to have

occurred during the first half of the 1990s (UNODC, 2004). This was also the period that saw the greatest increases in the production of cannabis in Morocco and also the greatest increases in the quantities seized in Spain (Gamella and Jiménez Rodrigo, this monograph).

Concluding remarks

To summarise, the correlations reported here support the conclusion that a relationship exists between indicators of cannabis supply and the extent of cannabis use in western Europe. This factor has relevance for the discussion on the significance of drug policy choices in influencing the extent and trends in cannabis use over time. As such, the analysis offered here, although preliminary, supports the conclusions made by Reuband (1998) and Korf (2002) that the 'level of repression' found in different national cannabis policies does not appear to be a consistent central factor for explaining the variations found in the epidemiological data on cannabis consumption patterns.

That said, in the context of a discussion on the factors that do determine national variations in levels of cannabis use, it is not helpful to simply shift the point of focus from drug policy to drug supply. Clearly other factors are also likely to be important. The structure of the correlations provides little if any support for the contention that cannabis use is determined by demand at the macro level, however.

One factor that is often presented as an explanation of variations in cannabis use is that the drug is associated with specific cultural patterns, and in particular with specific patterns of youth subculture. These subcultural patterns arguably then determine the patterns of demand and consumption. Testing a hypothesis of this kind is difficult, although some types of drug consumption, at some periods of time, do appear to be closely linked with particular subcultural groups, for example ecstasy (MDMA) was associated with the emergence of rave culture in Europe. Linking today's widespread patterns of cannabis use to any specific subcultural group would appear, however, more problematic. A more reasonable interpretation of the relationships is that the supply of, and access to, drugs contributes to and intensifies the establishment of consumption behaviours. Such a relationship is exemplified by, for example, the drinking cultures described in the field of alcohol research, which are also, at least in part, determined by supply-side factors.

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