

## Studies on public drug expenditure in Europe: possibilities and limitations

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### ABSTRACT

*The number of studies on public expenditure is growing in view of the growing importance of the evaluation of drug policies. Public expenditure is an important indicator of government efforts to tackle the drug problem.*

*Studying public expenditure and comparing the methodology and the results of existing research is challenging. In the present article, the concepts and methodologies used in studies of public expenditure are reviewed. Public expenditure and social cost models are compared to determine their scope. The possibilities and limitations of studying drug budgets are discussed. A workable methodology for estimating public expenditure on drugs is proposed.*

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### Introduction

Since the 1990s, the evaluation of drug policy and policy programmes has become increasingly important in western societies. An essential step in the evaluation of drug policy is the estimation of public expenditure, since that makes it possible to evaluate the commitments of governments in the field of drug policy.

Canada and the United States of America have a long tradition of studying public expenditure on drugs [1-9]. Since the start of the decade of the 2000s, the importance of this research theme has been increasingly recognized by researchers and policymakers in Europe as well [10, 11]. The European Union action plan on drugs for the period 2000-2004 stated that evaluation was to be

an integral part of the European approach to the drug phenomenon and that the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) should be an important contributor to that evaluation. Since 2001, EMCDDA has underlined the importance of studies on public expenditure on drug policy in States members of the European Union. In the most recent European Union action plans on drugs, for the periods 2005-2008 and 2009-2012, the estimation of public expenditure became one of the special points of interest.

The first European studies on public expenditure on drugs were published in Sweden [12] and Luxembourg [13]. Since then, studies have followed in the Netherlands [14], Belgium [15, 16], France [17] and Germany [18]. Parallel to the studies of national public expenditure, some studies have tried to compare public expenditure on drugs in all European Union member States [19, 20]. In 2004, Reuter, Ramstedt and Rigter proposed guidelines for the estimation of public expenditure on drug policy throughout the European Union [21].

Studying public expenditure, in particular comparing the methodology and the results of existing studies conducted in different countries of the European Union, is challenging. The existing studies use differing definitions of public expenditure, and consequently, the object of analysis and the methodology applied differ.

The aim of the present article is to untangle the existing confusion with regard to public expenditure studies in the European Union. To that end, this article reviews the concepts and methodologies used in studies on European public expenditure on drug policy. Such an undertaking might stimulate the development of evidence-based policies in the European Union.

## **Method**

The objective of the present article is to clarify the concept of public expenditure and examine existing methodologies used to calculate public expenditure on drug policy in the European Union. To that end, European studies dealing with the estimation of public expenditure were searched for by consulting search engines and online scientific databases. The databases of the Web of Science, PubMed and Sociological Abstracts were consulted. In addition, the websites of EMCDDA and the World Health Organization were searched. The terms “public expenditure”, “public expenditure study”, “public expenditure drugs”, “public expenditure on drug policy”, “budget”, “spending”, in combination with the terms “drugs” and “substances”, were used to screen the databases. Time periods were not determined. The focus was placed on studies estimating public expenditures in European countries.

The search resulted in the identification of 10 studies on public expenditure [12-21]. Table 1 presents an overview of the studies reviewed in this article.

**Table 1. Ten studies on public expenditure in Europe**

Study	Countries studied	Research scope	Methodology		Results, division of the public expenditures
			(a) Collection of data	(b) Classification	
Origer (2002)	Luxembourg	Illicit drugs	(a) Top-down approach. (b) Demand and harm reduction, supply-side reduction, research, European Union drug budget.		Demand and harm reduction: 59%; supply-side reduction: 39%; research: 1%; European Union drug budget: 1%.
Kopp and Fenoglio (2003)	European Union	Illicit drugs	(a) Bottom-up approach. (b) Health care and law enforcement.		Health care: 25-30%; law enforcement: 70-75%.
Ramstedt (2004)	Sweden	Illicit drugs	(a) Top-down approach. (b) Prevention, treatment, harm reduction, law enforcement.		Treatment: 24%; enforcement: 75%; prevention: 1%; harm reduction: 0%.
Rigter (2004)	Netherlands	Illicit drugs	(a) Top-down approach. (b) Prevention, treatment, harm reduction, law enforcement.		Under its drugs policy, the Netherlands spends much more on enforcement than on prevention, treatment and harm reduction combined.
De Ruyver, Casselman and Pele (2004)	Belgium	Illicit drugs	(a) Bottom-up and top-down approaches. (b) Research/epidemiology, prevention, treatment, law enforcement, policy.		Research/epidemiology: 1%; prevention: 4%; treatment: 38%; law enforcement: 54%, policy: 3%.
Postma (2004)	European Union	Illicit drugs	(a) Bottom-up and top-down approaches. (b) Prevention and research, treatment, law enforcement, cost of illness.		High-quality information on drug expenditure is urgently needed but is lacking in many countries.

Table 1. Ten studies on public expenditure in Europe (continued)

Study	Countries studied	Research scope	Methodology		Results, division of the public expenditures
			(a) Collection of data	(b) Classification	
Reuter, Ramstedt and Rigter (2004)	European Union	Illicit drugs	(a) Top-down approach. (b) Prevention, treatment, harm reduction, law enforcement.		The precision of current expenditure estimates is very low. Comparisons of the expenditure estimates of different countries lack credibility.
Kopp and Fenoglio (2006)	France	Illicit drugs, alcohol and tobacco	(a) Top-down approach. (b) Classification according to different ministries, police forces.		Illicit drugs: 80.24%; alcohol: 15.08%; tobacco 4.69%.
De Ruyver and others (2007)	Belgium	Illicit drugs	(a) Bottom-up and top-down approaches. (b) Prevention, treatment, law enforcement, others.		Prevention: 3.82%; treatment: 39.58%; law enforcement: 56.24%; other: 0.36%.
Mostardt and others (2010)	Germany	Illicit drugs	(a) Top-down approach. (b) Classification of the Functions of Government (COFOG).		Public order and safety: 65-70%; health: 30-35%; general public services: <1%.

## **Results**

On the basis of the review of European public expenditure studies, it is clear that there is no common understanding of the meaning of “public expenditure” in the European Union. Very different concepts are used interchangeably, or the same terminology is used but with definitions and interpretations that can differ widely [20].

### *Definition of public expenditure in reviewed studies in Europe*

The drug phenomenon is multidimensional, consisting of many aspects ranging from health (e.g. epidemiology, prevention and treatment) and legal problems, drug-related crime and security issues (e.g. use of drugs in traffic and drug-related public nuisance) to economic problems (e.g. loss of productivity and absenteeism in the workplace). All these different problems bear costs for the individual and the community [15]. A part of those costs is borne by the public authorities responsible for the different policy areas in the field of drugs. The key element in public expenditure is the financial contribution of public authorities to drug policy [13, 16, 17]. European studies on public expenditure use different concepts and definitions to define the term “public expenditure”. In order to compare public expenditure studies throughout Europe, it is important to be clear about the conceptual framework used. It is equally important to define which areas of expenditure lie within and outside the scope of a given public expenditure study. This implies that a public expenditure analysis proceeds from the perspective of the different public authorities that are competent for the respective aspects of the drug policy [16, 20].

Kopp and Fenoglio [17] and Origer [13] refer to expenditure emanating from the public authorities and used for the different policy sectors of the drug policy (law enforcement, treatment, prevention).

Kopp and Fenoglio and De Ruyver and others define the term “drug budget” as being synonymous with public expenditure on drug policy [16, 19, 22]. The drug budget of the public authorities at each different level of competency is analysed. European States are characterized by their various State structures, and those authors stress the importance of taking into account the different levels of competence (national, regional and local) in estimating public expenditure, because in each country the division of areas of competence in the field of drug issues differs and is spread over different policy domains (epidemiology, prevention, treatment, law enforcement). Given the different State structures of France and Germany, for instance, we would not be able to compare the public expenditure of those two countries if we count only expenditure stemming from the national Government.

The key criterion in determining what counts as public expenditure for drug policy is whether the expenditure is directly related to drug policy actions [12, 13, 15, 16, 20]. Such expenditure can be described as investments or budget lines of public authorities for actions expressly and directly aimed at implementing drug policy. Postma states that public expenditures are a part of the “direct costs such as expenditures on prevention, research, treatment, rehabilitation, law enforcement and cost of illness” [20, p. 9]. Ramstedt defines public expenditure as “specific expenditures” or “expenditures directly related to actions targeted at some drug-related consequences or [...] prevention” [12, p. 330]. Origer excludes the indirect costs and the costs of indirect consequences and defines public expenditures as direct costs only [13]. De Ruyver and others refer to “expenditures expressly and directly labelled for drug policy actions” [16, p. 5].

Consequently, expenditures related to the consequences of drug use are excluded in most European public expenditure studies [13, 15, 16, 17]. Those excluded expenditures are referred to as “external expenditures”. Two categories of external expenditure are distinguished: (a) external expenditure that is not explicitly aimed at drug policy actions but that indirectly supports the drug policy (e.g. expenditure on drug-related crime such as theft, and spending on drug-related treatment such as treatment of infections contracted through use of contaminated needles); and (b) external expenditure arising from loss of productivity and absenteeism in the workplace.

Some authors, however, include a certain degree of external expenditure. Ramstedt and Rigter, both as cited in Reuter, Ramstedt and Rigter (2004), and Postma (2004) include specific consequences of the drug problem [20, 21]. Postma includes the cost of illness for drug-related diseases (such as infections, heart disease, retroviruses and mental disorders) in his analysis. In the studies of Ramstedt (2004) and Rigter (2004), expenditures relating to the consequences of the drug problem are limited to drug-related crime such as theft, robbery and traffic offences, and treatment [12, 14]. Ramstedt explicitly states that in addition to the estimation of “specific expenditures”, he also considers “a broader definition of costs where expenditures not specifically defined as drug-related but nevertheless connected to the drug policy are taken into account (e.g. other criminality or morbidity among drug abusers)” [12, p. 330].

Obviously, comparisons between studies including external expenditures and studies not including external expenditures are meaningless if the studies of the former group do not clearly indicate the amount of such expenditure.

The concept of external expenditure is not always presented in studies. Such studies may refer rather implicitly to external expenditure by stating that the various governmental agencies and the drug budget spent by public authorities are the key elements of public expenditure and that consequently, expenditure that goes beyond calculating the drug budget is excluded [12, 14, 19, 21].

In line with the definition of public expenditure, private expenditure is excluded from studies of public expenditure. Private expenditure is the spending of individuals and private organizations, such as the expenditure of drug users and the expenditure of charity funds [14-16].

In studies of public expenditure in Europe, public expenditure is partly defined by distinguishing public expenditure analysis from social cost analysis. Public expenditure is one element of the social cost of the drug problem. The sum of public expenditure, private expenditure and external expenditure constitute the total social cost of drugs in society (see table 2) [13, 15-17, 22, 23].

**Table 2. Concept of public expenditure**

<i>Public expenditure +</i>	<i>Private expenditure +</i>	<i>External expenditure</i>	<i>= Social cost</i>
Direct expenditure by public authorities on drug policy actions, e.g. street-corner work, prevention work, drug treatment, guidance for drug users, reintegration programmes (employment) for (former) drug users, expenditure for personnel such as police officers working in drug investigation units, customs officers specialized in detecting drug trafficking and magistrates dealing with drug cases, expenditure for drug coordinators, expenditure on research, annual financial contributions to the Pompidou Group of the Council of Europe.	Expenditure of individuals and private organizations, e.g. expenditure of drug users, expenditure by private organizations not subsidized by public authorities and expenditure of charity funds.	Expenditure related to the consequences of drug use, e.g. expenditure on drug-related nuisance, drug-related crime such as theft, robbery, traffic offences committed by drug users, expenditure on the treatment of infections due to contaminated needles, treatment of illness contracted through drug use, such as AIDS and hepatitis, expenditure due to loss of productivity, absenteeism in the workplace.	Total expenditure on the drug problem at the expense of the community.

### *Methodological frameworks used in the European studies reviewed*

The following section describes the various methodological steps taken to estimate public expenditure, drawing on the studies reviewed. As shown, the methodological steps taken and choices made vary from study to study.

#### *Step I. Defining the research scope*

In the public expenditure studies reviewed, the scope of research is limited to illicit drugs, with the single exception of the study of Kopp and Fenoglio (2006), which also focuses on alcohol and tobacco [17].

There are good arguments for broadening the scope of research to include licit drugs in public expenditure studies [24]. First, the drug phenomenon is considered a health problem. The distinction between legal and illegal drugs is relevant only from a juridical-criminological point of view. Second, with respect to calculating the total cost of drugs to society, studies show that, for the greater part, costs are related to the alcohol problem, followed by tobacco and, finally, by illicit drugs [23, 25, 26, 27].

*Step II. Identifying the major players responsible for drug policy*

In a public expenditure study, insight is needed into where the expenditure stems from. To that end, the major players involved in drug policy have to be identified.

Thus, the public authorities competent for aspects of the drug policy are identified. This is important since the specific State and governmental structure in each country differs [15, 16, 19]. The reviewed studies take into account the specific State and governmental structure and analyse expenditure on drug policy by the different public authorities responsible for the policy areas.

In addition to the identification of the public authorities involved in drug policy, the organizations working in the drug field can also be identified. Once those organizations are identified, information can be collected on the financial means of the private (non-governmental) organizations and public organizations and the public authority responsible for their payment. The studies of Kopp and Fenoglio (2003) and De Ruyver and others are the only ones to identify those organizations [15, 16, 19].

*Step III. Collection of data: top-down and bottom-up approaches*

Once the sources of the expenditure are known, one can start collecting data on budgets. To do so, two methods of analysis are used: a top-down approach and a bottom-up approach. The top-down approach starts with the resources or overall budgets made available by the various public authorities involved in the drug policy. Data on the public authorities' drug budgets are collected, and the budget lines of the public administrations are analysed [15, 16, 20]. The top-down approach has the advantage of not relying on secondary data: the budgets can be retrieved and analysed directly.

The bottom-up approach starts with the activities carried out in the work field and traces the money flow back to the funding from public authorities. Data are examined on the basis of the means of the private (non-governmental) organizations and public organizations and yearly reports, complemented by questionnaires and interviews with those organizations [15, 16]. The bottom-up approach allows for a detailed identification of the existing activities in the work field and the public authority responsible for payment.



The advantage of combining the top-down and bottom-up approaches is that it makes verification possible: the data gathered using the top-down approach can be double-checked and completed with the data retrieved from the project actors in the field.

Most public expenditure studies apply a top-down approach. The only study that is exclusively bottom-up is the study of Kopp and Fenoglio (2003) [19]. The Belgian studies of De Ruyver and others are the only studies that combine both approaches [15, 16].

#### *Step IV. Classification of public expenditure*

The classification of expenditure is needed in order to gain insight into the sources and the purpose for which the expenditure is intended [21].

As is the case with the definition of public expenditure, differences were found in the studies reviewed with regard to classification according to drug policy sectors.

In the public expenditure studies of Ramstedt (2004), Rigter (2004) and Reuter, Ramstedt and Rigter (2004), expenditure is classified according to the conventional drug policy areas or sectors: “prevention”, “treatment”, “harm reduction” and “law enforcement” [12, 14, 21]. Postma (2004) makes use of the sectors of prevention, treatment and enforcement but creates an additional sector: the cost of illness [20]. In the study of Kopp and Fenoglio (2003), the only distinction is between expenditure related to health care and that related to law enforcement [19]. The studies of Origer and Mostardt and others do not classify expenditure according to the conventional drug policy areas [13, 18]. Origer classifies public expenditure using the categories of spending for demand reduction and that for harm reduction, expenditure for supply-side reduction, expenditure for research and expenditure for the European Union drug budget [13]. Mostardt and others use the Classification of the Functions of Government (COFOG) classification\* and therefore make a distinction between general public services, public order and safety, health and social protection [18].

In the studies of De Ruyver and others, expenditure on harm reduction is not presented as an independent sector but is allocated to the sector of “treatment” [15, 16]. Rigter (as cited in Reuter, Ramstedt and Rigter (2004)) underlines that harm reduction is difficult to define and that some policy actions included in the sectors of prevention and treatment overlap with the harm reduction sector [21]. Moreover, it is not always feasible to separate harm reduction aspects from a treatment programme [28]. This is, for instance, the case for low-threshold methadone

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\*Classification of the Functions of Government (COFOG) is a detailed classification of functions or socio-economic objectives that general government units aim to achieve through a range of outlays. COFOG is used for making international comparisons within the European Union.

maintenance programmes. A political reason for not studying a harm reduction sector separately may be found in the drug policy aims or intentions of the public authorities. In the drug budget of Sweden, for example, no data on harm reduction as such are available since the goal of a drug-free society is being pursued, and consequently, harm reduction as an outcome is explicitly rejected [29]. Nonetheless, this does not imply that specific harm reduction programmes are non-existent.

Reuter, Ramstedt and Rigter (2004) suggest that it could be useful to split up the conventional sectors into narrower categories, and they point to expenditure on law enforcement, where distinctions can be made between the different levels of the criminal justice system [21]. The two Belgian studies of De Ruyver and others present the results of expenditure on law enforcement according to the different levels of the criminal justice system [15, 16]. All the other studies reviewed contain data collected on expenditure at the different levels of the criminal justice system but do not present the results separately.

Some expenditure cannot be attributed to a conventional policy sector because the purpose of the expenditure does not correspond to any of those sectors [15, 16, 29]. In the Belgian study of De Ruyver and others (2007), the category of "other" is created. This is merely a miscellaneous sector designated for expenditure that cannot be classified under the conventional sectors. Examples are expenditure for drug coordinators and expenditure on non-sector-related research and policy [16].

Studies also differ with respect to the classification of similar expenditures in different policy sectors. Kopp and Fenoglio (2003) point out that treatment of detainees may be classified under treatment in one country and under law enforcement in another [19]. In the study of Rigter (2006), expenditure on treatment programmes for drug users in prison is classified as belonging to the sector of treatment [30]. In the other reviewed studies, it is not explicitly indicated whether prison-based treatment is allocated to the sector of treatment or the sector of law enforcement. Rigter (as cited in Reuter, Ramstedt and Rigter (2004)) refers to expenditure on social cohesion and public safety [21]. This expenditure is intended to protect the community against nuisance caused by drug users and drug dealers. Rigter classified this expenditure under the sector of treatment although he acknowledges that such spending could have been classified as law enforcement. The starting point for deciding to which sector expenditure should be allocated is to determine the intended purpose of that expenditure. Following this line of reasoning, expenditure on the treatment of detainees should be allocated to the sector of treatment.

#### *Step V. Calculating the data*

The vast majority of expenditure intended for illicit drugs is embedded in expenditure intended for broader policy domains. Kopp and Fenoglio found that

90 per cent of the drug budget in the European Union reflects spending by bodies not specialized in the drug issue [23].

Some expenditure is exclusively used for initiatives on illegal drugs, e.g. syringe-exchange programmes. To estimate such expenditure, no additional calculation is needed, as the results obtained are drug-specific forms of expenditure.

Because public expenditure on drug policy is often embedded in policy projects with broader objectives, it is important to look beyond the expenditure used exclusively for drug policy and include spending intended for broader policy domains. For example, in the budget of the Ministry of Justice, the expenditure component intended for dealing with drug offences has to be isolated from the total budget spent on the criminal justice system [19, 23]. In this respect, EMCDDA refers to “labelled” and “non-labelled” expenditure [31].

All the reviewed studies attempt to estimate these two types of public expenditure. Nevertheless, all studies emphasize the difficulty in calculating expenditure that is embedded in a broader budgetary structure.

The application of repartition keys is needed to isolate spending embedded into a broader budgetary structure. Kopp and Fenoglio point out that there is no general methodology to determine repartition keys. Determination of the repartition key depends on the case (on the basis of information from registration systems, annual reports, contacts with the work field, etc.) [32]. Use of a repartition key is required, for instance, in the case of health promotion. To isolate public expenditure on illicit drugs in this budget, the number of projects for the prevention of illicit drug use is divided by the total number of prevention projects. This calculation produces a percentage that reflects the proportion of projects designated for illicit drugs. However, when estimating expenditure on all drugs, regardless of their legal status, a repartition key is no longer needed in the case of health promotion. Another example of where the use of a repartition key is needed is in estimating the expenditure on enforcement by police, judicial and customs authorities. The repartition key can be formulated as the fraction of the total number of offences that are offences related to violations of drug laws. For example, in the study of De Ruyver and others (2007), the drug-related expenditure of the local police in the sector of enforcement is calculated as follows [16]:

$$\text{total budget of local police} \times \frac{\text{number of registered "narcotic substance" offences}}{\text{number of all registered offences}}$$

In this case, the total budget of the local police is multiplied by the repartition key, namely, the fraction of total registered offences that are drug-related

registered offences. The result of this formula gives us the public expenditure made by the local police with respect to drug policy. In this method, the proportion of working hours of police staff devoted to criminal cases has to be calculated in order to determine the proportion of working hours spent on violations of drug laws [15, 16, 23]. The repartition key method ensures that all resources deployed—personnel, overhead, equipment and operation—are taken into account [33]. A disadvantage of this method is that it implicitly assumes that the expenditure per unit of activity is the same for all activities (e.g. the expenditure related to a drug user is equal to the expenditure for other clients and the expenditure for a drug case is equal to the expenditure for cases of other types). Differences in the expenditure per unit of activity are ignored [12, 21]. It is therefore essential to study whether the investment in terms of working hours for the treatment of drug users and other clients is comparable [16].

In some cases, it is impossible to apply a repartition key as no detailed data on budgets are available. In such cases, a calculation on the basis of unit expenditure is required [16]. This type of calculation is used, for example, in studies to measure public expenditure for the hospitalization of drug users in a non-drug-specific service. The average expenditure for hospitalization per day is multiplied by the average number of days a drug user is hospitalized. However, this method should be used with caution, since the researcher, in order to determine a unit expenditure, has to depend on the institutions/actors involved, leading to a possible contestation of the reliability of the data. Secondly, the determination of unit expenditure is restricted to spending on personnel.

All the studies reviewed make use of repartition keys to estimate expenditure intended for broader policy domains. When no detailed data are available, studies fall back on the use of unit expenditure. Both methods have disadvantages, and therefore the results can be treated only as estimates of public expenditure.

## **Discussion**

Research into public expenditure in Europe is gaining momentum, in view of the growing realization of the importance of the evaluation of drug policy. Public expenditure is an indication of the resources dedicated by government to drug policy and shows whether a Government's priorities for that drug policy are reflected in the corresponding budget. The study of drug budgets does not enable researchers to draw conclusions about the level (or change in the level) of drug consumption in a given region or country. Rather, they inform us of the priorities that a Government has set. A drug budget provides insight into the level of public expenditure in the drug field and into the composition of those expenditures, in other words, the so-called "policy mix" decided on by the public authorities. Consequently, the prevailing balance between the various sectors of illicit drug policy (prevention, treatment and law enforcement) also becomes

visible. In the Belgian Federal Drug Policy Note of 2001, for example, prevention is said to be the priority in drug policy, followed by treatment and, as a last resort, law enforcement. In fact, with regard to public expenditure, the opposite became clear from the public expenditure studies: the most substantial expenditures relate to law enforcement, followed by treatment and then prevention [15, 16].

Furthermore, a comparison of the drug expenditures of different countries could be of use to a Government. For example, the performance of a drug policy can be improved if the treatment expenditures per problematic drug user are too high in comparison with the corresponding amount in other countries [28].

The results of public expenditure studies can thus be used to modify or rationalize public expenditure. Research into public expenditure is an important element to meet the requirements of an evidence-based policy, and it is the first step towards cost-effectiveness research. A precise estimate of public expenditures will enable Governments to use their drug budget more effectively to implement strategies [3].

The methodology necessary to study public expenditure on drugs is complex because different policy areas (prevention, treatment and law enforcement) and different levels of government (local, regional and federal) are involved. Ideally, two methods of analysis are combined: a top-down approach analysing the funding sources of the private and public organizations and a bottom-up approach analysing the activities in the work field. To calculate public expenditure, a distinction has to be made between explicitly labelled drug-related expenditure and expenditure not labelled as drug-related.

The study of public expenditure has some important limitations. First, the quality of public expenditure studies is only as good as the quality and timeliness of the available data. For instance, the study of Rigter (2006) calculates the drug policy spending in the Netherlands in 2003 [30]. The estimates of drug expenditures on public prosecution, courts and detention are based partly on old data. The author uses the share of offences under the Opium Act in the total number of cases leading to detention verdicts in courts, although the registration of those Opium Act offences is from the period 1997–2001.

Second, a drug budget is a fragile construction that is liable to variance depending on calculation method. The importance of using a single, clear methodology applied in a uniform manner cannot be stressed enough, particularly when the comparison of different time periods or, especially, of different countries is the aim [3]. A small change in methodology (e.g. a change in the qualification or in a repartition key) might ultimately lead, through a misinterpretation of the change in results, to a decision to increase or decrease public expenditure, even though there was no actual change in the drug budget [34]. For example, between their first study (2004) and the second study (2007), De Ruyver and

others changed their methodology for estimating public expenditures for law enforcement [15, 16]. In the 2007 study, expenditures were no longer limited to personnel costs, as costs for investment and functioning were taken into account, making the results more accurate. Consequently, public expenditure for law enforcement appeared to increase by 64 per cent over a period of two years. But the reported increase was owing to the change in methodology, not an actual increase in the public expenditures.

Third, two types of public expenditure exist: spending used exclusively for drug policy and expenditure intended for broader policy domains. To calculate the expenditure on drug policy contained in a general budget (which is where approximately 90 per cent of the total drug budget is contained), it is necessary to apply a repartition key to the obtained amount or make a unit expenditure calculation. Both methods have disadvantages, and therefore the results can be no more than estimates of the public expenditure. In particular, the use of a unit expenditure should be used with caution, since in order to determine unit expenditure, the researcher has to rely on the data provided by institutions/actors involved, leading to a possible contestation of the reliability of the data.

Furthermore, public expenditure studies do not allow for a full policy evaluation. These studies are, in themselves, not a quality measurement of policy. To achieve policy evaluation, an elaborated plan is needed, with clear statements on goals, operational action points, budgets and time frames. Ideally, the policy plan should be evidence-based, that is, based on epidemiological data about new trends in drug use and groups of drug users, including problem drug users, on data about target groups insufficiently reached by prevention, early intervention and treatment efforts and data on evaluation and effectiveness studies.

Finally, studying public expenditure, especially for a delicate subject such as drugs, is potentially hazardous [35]. Public authorities are markedly interested in and concerned about the results of studies of this type. They want the results to be positive, that is, to show that they are investing a substantial amount of government funds in the drug policy priorities that they want to achieve. Conversely, they do not want to invest in policy areas that they do not want the drug policy to be associated with. The latter is clear in the example of Sweden, where harm reduction strategies, although they exist in the country, were not separately reported in the budget's results.

Public expenditure studies are mostly initiated and financed by public authorities; that situation requires researchers to maintain scientific rigour in the execution and presentation of the results of those studies. Therefore, the EMCDDA initiative of developing a uniform methodology for calculating the public expenditures of all European Union member States is laudable.

## References

1. Kora DeBeck and others, "Canada's new federal 'National Anti-Drug Strategy': an informal audit of reported funding allocation", *International Journal of Drug Policy*, vol. 20, No. 2 (2009), pp. 188-191.
2. Patrick Murphy, "Keeping score: the frailties of the Federal Drug Budget", RAND Issue Paper, January 1994.
3. Patrick Murphy and others, *Improving Anti-Drug Budgeting* (Santa Monica, California, RAND, 2000).
4. United States of America, Office of National Drug Control Policy, *State and Local Spending on Drug Control Activities* (Washington, D.C., United States Government Printing Office, 1993).
5. United States of America, Office of National Drug Control Policy, *National Drug Control Strategy* (Washington, D.C., United States Government Printing Office, 1989-2010).
6. Jürgen Rehm, "The costs of public policies to fight illegal drugs", summary report prepared for the Special Committee on Illegal Drugs meeting, Ottawa, 14 May 2001.
7. Jürgen Rehm and others, "The costs of alcohol, illegal drugs, and tobacco in Canada, 2002", *Journal of Studies on Alcohol and Drugs*, vol. 68, No. 6 (2007), pp. 886-895.
8. Eric Single and others, *The Economic Costs of Alcohol, Tobacco and Illicit Drug Abuse in Ontario: 1992* (Toronto, Addiction Research Foundation, 1996).
9. Eric Single and others, "The economic costs of alcohol, tobacco and illicit drugs in Canada, 1992", *Addiction*, vol. 93, No. 7 (1998), pp. 991-1006.
10. European Monitoring Centre for Drugs and Drug Addiction, EMCDDA 2008 Selected Issue: Towards a Better Understanding of Drug-Related Public Expenditure in Europe (Luxembourg, Office for Official Publications of the European Communities, 2008).
11. L. Prieto, "Drug-related public expenditure in Europe: the budget impact of illegal drugs", *Value in Health*, vol. 11, No. 6 (2008), p. A582.
12. Mats Ramstedt, "Estimating drug policy expenditures in Sweden, 2002", in *Developing a Framework for Estimating Government Drug Policy Expenditures*, Peter Reuter, Mats Ramstedt and Henk Rigter, eds. (Lisbon, European Monitoring Centre for Drugs and Drug Addiction, 2004), pp. 74-90.
13. Alain Origer, *Le coût économique direct de la politique et des interventions publiques en matière d'usage illicite de drogues au Grand-Duché de Luxembourg*, (Luxembourg, OEDT Focal Point Luxembourg, 2002).
14. Henk Rigter, "Drug policy expenditures in the Netherlands, 2003", in *Developing a Framework for Estimating Government Drug Policy Expenditures*, Peter Reuter, Mats Ramstedt and Henk Rigter, eds. (Lisbon, European Monitoring Centre for Drugs and Drug Addiction, 2004), pp. 37-73.
15. Brice De Ruyver, Joris Casselman and Isidor Pelc, *Drug Policy in Figures: Study of the Actors Involved, Cost Price Calculation and Population Reached* (Ghent, Academia Press, 2004).

16. B. De Ruyver and others, *Drug Policy in Figures II: Follow-up Research into the Actors, Public Spending and Reached Target Groups* (Ghent, Academia Press, 2007).
17. Pierre Kopp and Philippe Fenoglio, *Le coût social des drogues en 2003: les dépenses publiques dans le cadre de la lutte contre les drogues en France en 2003* (Paris, Observatoire français des drogues et des toxicomanies, 2006).
18. S. Mostardt and others, "Schätzung der Ausgaben der öffentlichen Hand durch den Konsum illegaler Drogen in Deutschland", *Gesundheitswesen*, 2010.
19. Pierre Kopp and Philippe Fenoglio, *Public Spending on Drugs in the European Union During the 1990s* (Lisbon, European Monitoring Centre for Drugs and Drug Addiction, 2003).
20. Maarten J. Postma, *Public Expenditure on Drugs in the European Union 2000-2004* (Lisbon, European Monitoring Centre for Drugs and Drug Addiction, 2004).
21. Peter Reuter, Mats Ramstedt and Henk Rigter, eds., *Developing a Framework for Estimating Government Drug Policy Expenditures* (Lisbon, European Monitoring Centre for Drugs and Drug Addiction, 2004).
22. Pierre Kopp and Christophe Palle, *Vers l'analyse du coût des drogues illégales: un essai de mesure du coût de la politique publique de la drogue et quelques réflexions sur la mesure des autres coûts* (Paris, Observatoire français des drogues et des toxicomanies, 1998).
23. Pierre Kopp and Philippe Fenoglio, *Calculating the Social Cost of Illicit Drugs: Methods and Tools for Estimating the Social Cost of the Use of Psychotropic Substances* (Strasbourg, Council of Europe Publishing, 2001).
24. European Monitoring Centre for Drugs and Drug Addiction, *Annual Report 2006: Selected Issues* (Luxembourg, Office for Official Publications of the European Communities, 2006).
25. Eric Single, "International guidelines for estimating the economic costs of substance abuse", paper presented at the 2nd Window of Opportunity National Congress, 1995.
26. Eric Single and others, *International Guidelines for Estimating the Costs of Substances Abuse*, 2nd ed. (Geneva, World Health Organization, 2003).
27. Johan Jarl and others, "The societal cost of alcohol consumption: an estimation of the economic and human cost including health effects in Sweden, 2002", *European Journal of Health Economics*, vol. 9, No. 4 (2008), pp. 351-360.
28. Peter Reuter, "What drug policies cost. Estimating government drug policy expenditures", *Addiction*, vol. 101, No. 3 (2006), pp. 315-322.
29. Mats Ramstedt, "What drug policies cost. Estimating drug policy expenditures in Sweden, 2002: work in progress", *Addiction*, vol. 101, No. 3 (2006), pp. 330-338.
30. Henk Rigter, "What drug policies cost. Drug policy spending in the Netherlands in 2003", *Addiction*, vol. 101, No. 3 (2006), pp. 323-329.
31. European Monitoring Centre for Drugs and Drug Addiction, paper presented at the Reitox Academy on public expenditure analysis in the field of drugs, Luxembourg, 11 May 2007.



32. Pierre Kopp and Philippe Fenoglio, Le coût social des drogues licites (alcool, tabac) et illicites en France, Observatoire français des drogues et des toxicomanies, Étude No. 22, 2000.
33. World Health Organization, United Nations International Drug Control Programme and European Monitoring Center for Drugs and Drug Addiction, *Workbook 5: Cost Evaluations, Evaluation of Psychoactive Substance Use Disorder Treatment Workbook Series* (Geneva, 2000).
34. Sara Van Malderen, Freya Vander Laenen and Brice De Ruyver, "Public expenditures", in *Belgian National Report on Drugs 2007: New Developments, Trends and In-depth Information on Selected Issues*, Bahija Lamkaddem and Marc Roelands, eds. (Brussels, Scientific Institute of Public Health, 2007), pp. 119-131.
35. Michael H. Agar and Heather Schacht Reisinger, "Read all about it: media construction of a heroin epidemic", *Substance Use and Misuse*, vol. 35, No. 11 (2000), pp. 1551-1571.

### Bibliography

Brice De Ruyver, Sara Van Malderen and Freya Vander Laenen, "Study into public expenditure with regard to national drug policies: a feasible plan for the national focal points", paper prepared for the Expert Meeting on the Methodology to Estimate Drug-Related Expenditures in the European Union, Lisbon, 13-14 December (2007).

Börje Olson, Caroline Adamsson Wahren and Siv Byqvist, *Det tunga narkotikamissbrukets omfattning i Sverige 1998* (The prevalence of heavy drug use in Sweden) (Stockholm, Swedish Council for Information on Alcohol and Other Drugs (CAN), 2001).