BUDGET AND NON-BUDGET SOCIAL COSTS OF DRUG ABUSE IN LATVIA IN 2008

ANALYTICAL REPORT

by BICEPS for the Centre of Health Economics

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List of abbreviations

AIDS	Acquired Immune Deficiency Syndrome
COFOG	Classification of the Functions of the Government
COI	Cost of Illness
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
EU	European Union
GDP	Gross Domestic Product
GNP	Gross National Product
HIV	Human Immuno-deficiency Virus
ICL	Infectology Centre of Latvia
LPA	Latvian Prison Administration
MoI	Ministry of Interior
PDU	Problem Drug Use
SRS	State Revenue Service

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Kopsavilkums

Šī pētījuma mērķis ir novērtēt narkotiku lietošanas sociālās izmaksas Latvijā 2008. gadā. Pētījumu veido divas daļas: pirmajā daļā tiek novērtētas narkomānijas radītās valsts budžeta izmaksas, bet otrajā daļā tiek veikts nebudžeta izmaksu novērtējums. Budžeta izdevumu novērtējums ir balstīts uz Latvijas datiem un aptver praktiski visas ar narkomānijas problēmu saistītās budžeta izmaksu kategorijas. Nebudžeta izmaksu novērtējums ir balstīts uz Latvijas datiem tikai novērtējot izlaides samazinājumu, kas rodas no narkotiku lietotāju zemā nodarbinātības līmeņa, priekšlaicīgās mirstības un ieslodzījumā esošām personām. Pārējās nebudžeta izmaksas, piemēram, izmaksas, kas rodas narkotiku lietotāju augstā absentisma dēļ, tiek novērtētas, daļēji balstoties uz pētījumu rezultātiem par citām valstīm.

Par **budžeta izmaksu** novērtējuma sākumpunktu tika ņemts Iekšlietu ministrijas 2009. gadā sagatavotais Informatīvais ziņojums par „Narkotisko un psihotropo vielu atkarības un izplatības ierobežošanas un kontroles valsts programmas 2005. – 2008.gadam" īstenošanu, kurā tika iekļauta iesaistīto valsts institūciju sniegtā informācija par budžeta izmaksām, saistītām ar narkomānijas problēmu. Papildus tika veikts šādu budžeta izdevumu novērtējums: (i) uzturēšanas izdevumi ieslodzītām personām, kuras notiesātas par noziedzīgiem nodarījumiem, saistītiem ar narkotiku nelegālo apriti, (ii) ar narkotiku lietošanu saistīto infekcijas slimību profilakses un ārstēšanas izmaksas, (iii) narkotiku lietošanas profilakse pamatizglītības un vidējās izglītības programmas ietvaros un (iv) Valsts Probācijas Dienesta izdevumi pacientu ar atkarības sindromu sociālai rehabilitācijai. Bez valsts budžeta izdevumiem, tika novērtēti arī valsts budžeta zaudētie ieņēmumi, kas ir radušies dēļ tā, ka narkotikām izlietotie naudas līdzekļi varētu tikt tērēti legālām aktivitātēm, kas nodrošinātu papildus ieņēmumus budžetā.

Rezultāti liecina, ka kopumā 2008. gadā valsts un pašvaldību budžetā narkomānijas radītās izmaksas bija 6,5 – 10,6 milj. latu jeb 0,1 – 0,2% no kopbudžeta izdevumiem. Budžetā nesaņemtie ieņēmumi bija 3,1 – 3,8 milj. latu (0.06 – 0.07% no kopbudžeta ieņēmumiem). Tādējādi, saskaņā ar pētījuma rezultātiem, kopbudžeta deficīts 2008. gadā ar narkomāniju saistīto problēmu dēļ bija par 9,6 – 14,4 milj. latu augstāks.

Pēc COFOG izdevumu klasifikācijas nozīmīgāko vietu izdevumu struktūrā ieņēma izdevumi sabiedriskās kārtības un drošības uzturēšanai – 59% no visiem ar narkomāniju saistītiem izdevumiem, kā arī izdevumi veselībai (25%). Pēc Roitera klasifikācijas nozīmīgāko izdevumu kategoriju veidoja izdevumi likumu izpildīšanas kontrolei (ap 70% no visiem izdevumiem), kā arī izdevumi kaitīguma mazināšanai (ap 20%). Pētījumā tika secināts, ka izdevumu struktūra Latvijā ir līdzīga izdevumu struktūrai citās ES valstīs, par kurām ir pieejama informācija, savukārt izdevumu līmenis ir krietni zemāks nekā citās valstīs. Salīdzinājumam: Latvijā 2008. gadā uz vienu problemātisko narkotiku lietotāju tika tērēts aptuveni 382 – 763 eiro, bet Čehijā 2006. gadā šīs izmaksas bija aptuveni 10 reizes lielākas.

Nebudžeta izmaksu ietvaros šajā pētījumā tika novērtētas nozīmīgākās taustāmo izmaksu pozīcijas – zaudējumi, kas rodas narkotiku lietotāju zemākas nodarbinātības un produktivitātes dēļ. Izmantojot Latvijas datus, tika novērtēti izlaides zaudējumi, kas rodas šādu faktoru dēļ: (i) narkotiku lietotājiem ir raksturīgs daudz zemāks nodarbinātības līmenis nekā vidēji iedzīvotāju vidū, (ii) ieslodzījumā esošie cilvēki nesaražo produkciju, ko viņi varētu saražot, ja būtu nodarbināti, (iii) narkotiku lietotājiem ir raksturīga augstāka mirstība, nekā cilvēkiem tajā pašā vecuma grupā, kas narkotikas nelieto. Turklāt, balstoties daļēji uz Latvijas datiem un daļēji uz pētījumu rezultātiem par citām valstīm, tika novērtētas izmaksas, kas rodas narkotiku lietotāju augstāka absentisma un zemākas produktivitātes dēļ, kā arī zaudējumi no ārpus darbaspēka esošo cilvēku augstākas mirstības un saslimstības. Saskaņā ar novērtējumu, kopējie nebudžeta zaudējumi 2008. gadā bija 61,5 milj. latu jeb 0.38% no IKP.

Lielākus nebudžeta zaudējumus (ap 23,4 milj. latu) noteica tas, ka narkotiku lietotāju nodarbinātības līmenis ir daudz zemāks nekā nodarbinātības līmenis visu iedzīvotāju vidū tādā pašā vecuma grupā.

Kopējās (budžeta un nebudžeta) narkotiku lietošanas sociālās izmaksas Latvijā 2008. gadā, saskaņā ar novērtējumu, bija 68 -72 milj. latu jeb aptuveni 0,4% no IKP.

Introduction

The aim of this report is to provide an estimate of the social costs of illegal drug use in Latvia for 2008. International practice e.g. as outlined in the International Guidelines for Estimating the Costs of Substance Abuse, produced by the World Health Organization (Single et al., 2003) divides costs according to several criteria: tangible/intangible; health and welfare/productivity and output loss; law enforcement and criminal justice costs. In this report we make two basic distinctions: budget cost and non-budget costs. Budget costs are further subdivided into direct budgetary costs and indirect ones. By definition budget costs are *tangible* costs i.e. resources used directly or indirectly in connection with drug abuse that could have been used for something else i.e. consumption or investment. Non-budget costs however may be tangible or intangible, where *intangible* means something that cannot be transferred e.g. the reduction of pain and suffering that lower use of drugs might generate cannot be translated into resources available to society for other uses.

The report is divided into two parts: the first part deals with budget costs and the second part with non-budget costs. For budget costs we have estimates based on Latvian data for almost all the relevant components but for non-budget costs this is the case only for the loss of output resulting from a lower employment rate of drug users, from premature death and from incarceration. For other components such as the loss of output from unpaid work or the losses from absenteeism we have made guesstimates based on results from Australia reported by Collins and Lapsley (2008).

The numbers reported here represent a cost of illness (COI) methodology based on a demographic approach to defining costs and hence are to be interpreted as indicating the scale of drug abuse as an economic problem in Latvia. If the intention were, for example, to evaluate the costs and benefits of say a particular narcotic policy initiative then a different approach e.g. the human capital approach would be more appropriate.

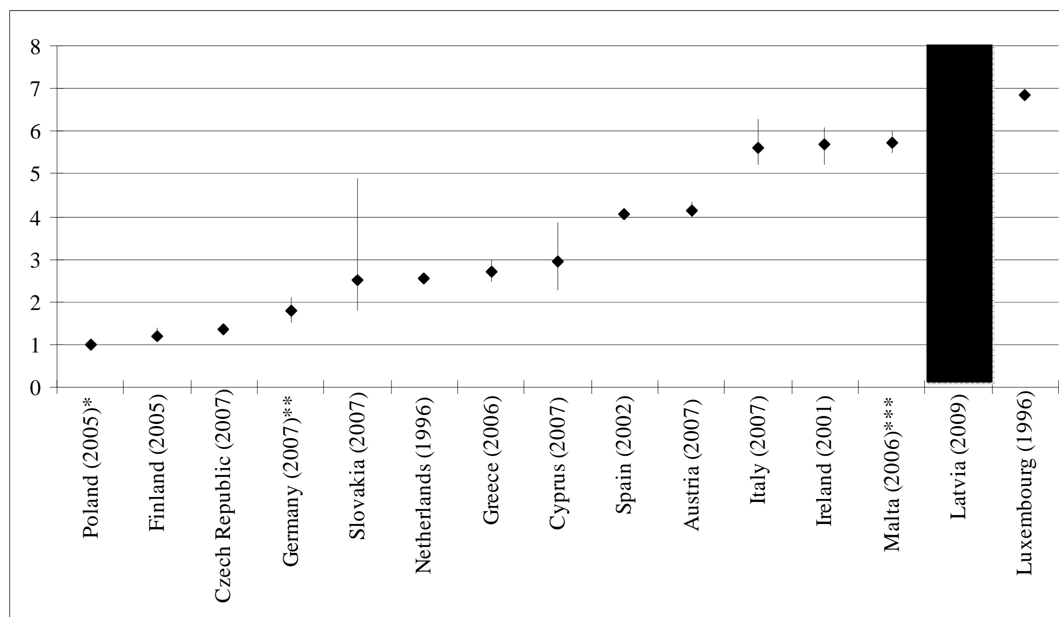
Drug abuse patterns in EU and Latvia

Figure 1.1 shows prevalence of problem drug use (PDU)[1] for opioid drugs in selected EU countries for which data is available. It should be kept in mind that comparison of PDU rates across countries should be made with great caution because of differences in the underlying methodologies. Therefore, small differences in the estimates should be interpreted carefully.

As seen from Figure 1.1, the PDU rates vary significantly across countries – from relatively low levels in Poland (1.0 per 1000 population), Finland, Czech Republic and Germany (below 2.0) to high levels in Italy, Ireland, Malta, Latvia and Luxembourg (around 6 -7). According to 2009 year estimates (Trapencieris, 2009), there are around 10 thsd problem opioid users in Latvia, which amounts to approximately 6.4 per 1000 population aged 15-64.

[1] EMCDDA defines problem drug use (PDU) as the use of drugs by injection and/or the regular or long-term use of opiates and amphetamine-type drugs and/or cocaine.

Figure 1.1: Prevalence of problem opioid use in selected EU countries among population aged 15-64, per 1000 inhabitants



Source: EMCDDA, Trapencieris (2009)
** all ages*
*** Central estimate is calculated as a simple average of the lower and higher bounds.*
**** 12 to 64*

1. Budgetary costs of drug use/abuse in Latvia

1.1 Scope of the study

Government budget costs represent just a part of total social costs of drug abuse. According to the Kopp and Fenoglio study on social costs of drugs in France, general government spending on combating the illicit drug problem accounts for approximately 36% of total social costs associated with the illicit drugs use (Kopp and Fenoglio, 2002).

Public expenditures on drug-related issues are comprised solely of the central government or municipal budget spending, whereas any other spending, such as private spending (on drugs, treatment, etc.) or spending by private bodies (e.g., non-profit organisations) may represent costs of drug abuse borne by society, but are not part of public spending.

As the initial data source for government budget expenditures on drug-related activities we use the evaluation of the Latvian National Drug Programme 2005-2008, undertaken by the Ministry of Interior (MoI) in 2009 (Ministry of Interior, 2009). The evaluation report of the Programme performance contains a detailed overview of budget expenditures of the involved central government institutions. Local governments' budget expenditures are not analysed in the MoI evaluation report. In addition to the evaluation report, we use data from State Probation Agency, Latvian Prison Administration, Health Payment Center, Infectology Center of Latvia, state budget reports and our own estimates to arrive at the assessment of additional drug-related expenditures.

The data on budget expenditures included in the evaluation report was provided by ministries and other involved institutions and included expenditures that are directly linked to the Programme activities and had been foreseen in the Programme, as well as other expenditures, that are related to the Programme activities, but had not been included in the Programme.

However, the data has a number of limitations, since not all ministries were able to report the required data and, according to the MoI, the data has to be treated with caution (Pugule, Sile, Trapencieris, et al., 2009). Therefore, some adjustments were made to the MoI data, based on expert opinions.

In addition to budgetary costs, this report provides a rough assessment of foregone budget revenues resulting from the drug use problem and an assessment of the net budget effect. The evaluation of foregone revenues is based on the estimate of problem drug users' annual expenditure on drugs, which has been estimated to be 40.5-50.1 mill LVL per year (Trapencieris, 2009).

1.2 Classification of budget expenditures

1.2.1. Direct vs. Indirect budget expenditures

Budget expenditures related to the drug abuse problem can be broadly classified as being directly or indirectly linked to drug-related activities. The former category consists of expenditures that are shown separately on the budget accounts and are directly linked to drug use problems, e.g. expenditures on drug prevention programmes, research related to the problems of drug use, etc. In addition there are expenditures that are indirectly linked to the drug abuse: examples of indirect expenditures include police expenditures on investigating a crime committed by a drug addict (Single et al, 2003) or the general medical services which might be used by drug users.

In general, we consider budget expenditures to be direct costs of drug-related problems if these expenditures are related exclusively to the drug issues and would not be needed if the drug abuse problem did not exist. Other expenditures, which constitute only a share of a particular type of expenditures (e.g., police, courts, urgent medical aid, etc) and which would be covered from the government budget regardless of the drug situation represent indirect costs of the drug-related problems.

1.2.2. Budget expenditures according to the COFOG classification

United Nations Statistics Division's international Classification of the Functions of Government (COFOG) classification allows analysing budgetary expenditures from the point of view of governmental functions. We use one-digit level of aggregation of the COFOG classification to classify drug-related budget expenditures. However, not all drug-related budget expenditures can be easily assigned to a unique COFOG classification category. The reason is that data on expenditures are normally programme-based and a particular programme can be related to multiple COFOG categories in cases when several institutions are involved in realisation of a particular programme.

1.2.3. Reuter's classification

In his paper, Reuter (2004) used standard classification categories that are normally used in drug abuse literature, i.e., expenditures are classified as being targeted at (i) Prevention, (ii) Treatment, (iii) Law enforcement and (iv) Harm reduction. However, Reuter based expenditure categorisation on the *result* of a particular expenditure item, rather than the *intention*. The problem with intention-based categorisation of expenditures is that the intention of a particular expenditure programme is normally determined by the agency responsible for its implementation, which does not necessarily reflect the result of the programme (Reuter, 2004).

Complications that can arise while categorising expenditures according to COFOG classification are even more pronounced when dealing with Reuter's classification, since a programme can entail elements that are directed at multiple results. Therefore, this report provides intervals of possible distributions of expenditures in accordance with Reuter's classification.

1.3 Budget expenditures

Generally, we use the expenditure data from the MoI evaluation report without any adjustments. The only adjustment that has been made refers to expenditures by the Ministry of Health on creating and maintaining inter-branch outpatient treatment teams (doctors, psychologists, social workers, nurses). Since the expenditures were targeted at all narcology patients, who mainly include patients with alcohol dependency, only 10% of total expenditures were included in our calculations, which corresponds to the share of patients with drug dependency in total number of narcology patients (Pugule, Sile, Trapencieris, et al., 2009).

In addition to the expenditures that have been accounted for in the MoI report, this study includes several additional drug-related expenditure categories: (i) expenditures on imprisoned persons, (ii) expenditure on prevention and treatment of drug-related diseases, (iii) expenditures on secondary education that may be attributed to drug-related issues and (iv) State Probation Agency's expenditures on social rehabilitation of persons with dependency syndrome.

Apart from the above mentioned expenditures, an attempt was made to obtain data on drug-related expenditures incurred by local government police. In general, investigation of drug-related crimes is in the competence of the state police, however, local government police forces are likely to bear some share of drug-related expenditures in the initial stages of investigation (e.g., transport expenses, policemen's hours, etc). Yet the data on drug-related costs incurred by municipal police is not available.

1.3.1. Expenditure on imprisoned persons

The MoI evaluation report includes prison expenditures on equipment, resources and personnel for the determination of narcotic substances (8,191.00 LVL). These expenditures do not include the costs of prisoner maintenance. However, out of 6872 people imprisoned in the end of 2008, 836 or 12.2% were convicted of drug-related crimes (Ministry of Interior, 2009), which implies that part of the expenditures on the support of prisoners can be attributed to the drug use problem. In fact the share of prisoners that can be attributed to drug-related offences is likely to be even higher than the official figure, since some prisoners may be condemned for crimes that are not directly related, but are caused by drug-related problems, e.g., robbery. However, due to lack of more detailed data this report makes the possibly conservative assumption that the share of drug-related prisoners is 12.2% of the total prison population.

Average daily expenditures to support of one prisoner in 2008 amounted to 14.71 LVL (Latvian Prison Administration data, 2009). This amount covers both variable and fixed costs of a prisoner's maintenance: eating, heating, medicines, security and supervision, maintenance of security systems. The question is whether fixed costs are to be attributed to the drug use problem in the amount equal to the share of drug-related prisoners. The share can be expected to be slightly different, since some of the fixed costs, e.g., security or heating are likely to decline less than proportionally in a hypothetical situation of no drug-related prisoners. However, to produce a precise and a perfectly justified estimate of drug-related fixed expenditures one would need detailed data on, e.g., the number of days that a person convicted of a drug-related crime spends in the prison, capacity of security systems, etc. Since

such data is not available, this report provides two estimates of prisons' drug related expenditures, both including and excluding capital expenditures, thus providing an interval for the possible values of drug-related costs incurred by prisons.

Data on the composition of daily expenditures per prisoner in 2008 could not be obtained, while data on the composition of daily costs in 2005 is available from the Ministry of Justice (Ministry of Justice, 2006). It was assumed that the structure of daily costs per prisoner in 2008 was the same as in 2005, which implies that expenditures on food and medicine, which represent variable costs of prisoners' maintenance, accounted for less than 10% of total daily support costs, while the rest was composed of expenditures on heating and security. Table 1.1 summarizes estimates of drug-related expenditures incurred by prisons:

Table 1.1: Drug-related expenditures on support of prisoners in 2008, LVL

Variable costs	429,377.03
Eating	*407,800.30*
Medicines	*21,576.74*
Fixed costs	4,071,529.93
Heating	*427,938.58*
Security and supervision	*2,967,520.31*
Maintenance of security systems	*676,071.04*
Total if only variable costs are included	**429,377.03**
Total if both fixed and variable costs are included	**4,500,906.96**

Source: authors' calculations based on data from Latvian Prison Administration, Ministry of Interior and Ministry of Justice

1.3.2. Prevention and treatment of drug-related diseases

One of the consequences of the drug abuse is high prevalence of some infectious deceases among drug users, such as HIV/AIDS, hepatitis, tuberculosis and other. Studies on other countries suggest that health-related budget expenditures represent one of the biggest expenditure categories in budget expenditures associated with drug abuse problem (for international comparison of drug-related expenditure classification please refer to Section 1.7 of this report). This section provides an assessment of drug-related budget expenditures on (i) HIV/AIDS prevention and treatment, (ii) inpatient treatment of patients with dependence syndrome and (iii) expenditures on reimbursable medicines.

HIV/AIDS prevention and treatment

Prevention. Data on HIV/AIDS prevention activities and treatment costs was obtained from Infectology Center of Latvia (ICL). According to the data, total local government expenditures on HIV/AIDS prevention activities among intravenous drug users, which includes syringe replacement, distribution of condoms, etc., in 2008 amounted to 203,434.00 LVL, while central government expenditures on the same type of activities amounted to 32,800.00 LVL, giving total government expenditures of **236,234.00 LVL**.

Treatment. To calculate the HIV/AIDS inpatient treatment costs that are attributable to drug abuse problem, we use ICL data on (i) daily costs of HIV/AIDS inpatient treatment per patient, (ii) number of patients and length of treatment, and (iii) share of those who was infected with HIV while intravenously using drugs among new registered cases of HIV infection with known route of transmission in 2008. Using incidence and not the prevalence of HIV infected persons among drug users implicitly assumes that the patients get treatment shortly after the infection was discovered. Despite among the patients that received treatment

in 2008 most certainly were people who had been diagnosed with HIV in previous years, the use of incidence has been preferred to prevalence, because the share of intravenous drug users among newly diagnosed HIV cases has been steadily declining in previous years (from 50.4% in 2005) and, thus, using incidence can be regarded as a "conservative" estimate of drug-related HIV/AIDS treatment costs.

ICL data on the costs of treating HIV/AIDS patients suggests that daily costs of inpatient treatment are the same for patients with drug dependence syndrome and for other HIV/AIDS infected persons, amounting on average to 94.93 LVL in 2008. The number of patients that underwent inpatient treatment in 2008 was 364, while the average length of treatment amounted to 12.66 days. Thus, total inpatient treatment of HIV/AIDS patients is estimated at 437,460.22 LVL. According to ICL data, in 2008 out of 293 HIV registered cases with known route of transmission, 100 persons were infected while intravenously using drugs, which gives the share of 34.1% in total number of cases. Applying this share to total expenditure on inpatient treatment of HIV/AIDS patients gives the estimate of drug-related expenditures in the amount of **149,303.83 LVL**.

According to ICL data, total expenditures on outpatient treatment of HIV/AIDS patients in 2008 amounted to 2,339,554.00 LVL, which includes expenditures on antiretroviral therapy (2,323,304.00 LVL) and expenditures on HIV prevention for pregnant women (16,250.00 LVL). Using the same share of drug-related expenditures as in the case of inpatient treatment, the estimated drug-related expenditures on outpatient HIV/AIDS treatment is **798,482.59 LVL**. Summary of drug-related HIV/AIDS prevention and treatment costs is provided in Table 1.2:

Table 1.2: Drug-related HIV/AIDS prevention and treatment costs in 2008, LVL

Expenditures on HIV/AIDS prevention	236,234.00
of which	
central government	*32,800.00*
local government	*203,434.00*
Expenditures on HIV/AIDS treatment	947,784.42
of which	
in-patient treatment	*149,303.83*
out-patient treatment	*798,482.59*
TOTAL	**1,184,020.42**

Source: authors' calculations based on data from Infectology Center of Latvia

Inpatient treatment of patients with dependence syndrome

We used data on government financing of inpatient treatment, available from the Health Payment Centre to obtain an estimate of the resources spent on treatment of the patients with drug dependence syndrome (F11-F19 diagnoses according to International Statistical Classification of Diseases and Related Health Problems (ICD-10)), as well as resources spent on rehabilitation of drug users and treatment of tuberculosis patients, the latter being a disease correlated with drug abuse problem. Expenditures on rehabilitation of drug users were 100% included in our calculations, while other relevant expenditures were included only partially.

Available data on expenditures on narcology treatment includes expenditures on both drug and alcohol users (total costs of 1,940,365.00 LVL in 2008), and disaggregated data is not available for these categories of patients. In order to isolate the costs of treating the drug users, we've assumed that the ratio of expenditures on drug users to total expenditures on narcology is the same as the ratio of patients with drug dependence syndrome to the total number of patients with alcoholic psychosis, alcoholism and drug dependence syndrome,

which was 9.1% in 2008 (Centre of Health Economics). Using the ratio of costs that is equal to the ratio of the number of patients implicitly assumes equal treatment costs per head and equal treatment length. This assumption most likely results in an underestimation of costs of drug-related narcology treatment, since per head costs of treating a drug dependent person is likely to be higher than costs of treating a patient with alcohol dependency, as well as the treatment period for drug dependants is likely to be longer. However, since the data on treatment costs and length is not available, 9.1% ratio is used as a "conservative" estimate of cost ratio.

Expenditures on rehabilitation of drug users are included in our calculations 100% (217,755.00 LVL). To account for the drug-related costs of treating the patients with tuberculosis, total costs of treatment and reduction of tuberculosis prevalence (1,484,322.00 LVL) were multiplied by the share of drug users among those infected with tuberculosis (5.0% in 2008 (Pugule, Sile, Trapencieris, et al., 2009)). Table 1.3 summarizes drug-related inpatient treatment costs in 2008:

Table 1.3: Drug-related inpatient treatment costs in 2008, LVL

Narcology	177,317.95
Rehabilitation of drug users	217,755.00
Tuberculosis	74,216.10
Total	**469,289.05**

Source: authors' calculations based on data from Health Payment Centre, Centre of Health Economics and Pugule, Sile, Trapencieris, et al., 2009.

Reimbursable medicines

As of September 2008, the list of diagnoses for which expenditures on medicines can be reimbursed, includes diagnoses related to drug dependence (F11 – F19) for children aged below 18 (Cabinet of Ministers, 2008). However, according to the data of Health Payment Centre, there were no registered cases of expenditure reimbursement related to these diagnoses in 2008. At the same time, expenditures on reimbursement of medicines for those infected with hepatitis, a highly widespread disease among intravenous drug users, were substantial, amounting to 2,659,339.09 LVL. To account for expenditures on reimbursing the costs of hepatitis medicines, which can be related to the drug abuse problem, the total reimbursement was multiplied by the average share of drug users among those inflected with hepatitis A, B or C (7.9% in 2008 (Pugule, Sile, Trapencieris, et al., 2009)), which gives an estimate of expenditures equal to 210289.42 LVL. It should be noted though that the share of expenditures attributable to drug users can be lower, since it is likely that not all drug users infected with hepatitis can afford covering 50% of the medicine price.

Table 1.4: Drug-related expenditures on reimbursable medicines in 2008, LVL

Children below 18 with diagnoses related to drug-dependence	0.00
Hepatitis A, B and C	210,289.42
Total	**210,289.42**

Source: authors' calculations based on data from Health Payment Centre and Pugule, Sile, Trapencieris, et al., 2009

Summing up expenditures from tables 1.2, 1.3 and 1.4 gives total expenditures on prevention and treatment of drug-related diseases equal to **1.9 mln LVL**.

1.3.5 Secondary education

Two courses that are included in basic and secondary education programmes contain topics devoted to drug-related health and social problems: Social Science course in the basic education programme and Health Studies in the secondary education programme. The former is a compulsory course, whereas the latter is elective. However, since the course is likely to be held irrespective of the number of children attending classes, we include full costs of holding the classes without adjusting them for the fact that the course is elective.

In order to assess the amount of time allocated to drug education, recommended programmes for these courses were used, which are available from the Centre of Education Content and Examination. Table 1.5 reports total studying time in basic and secondary education and percentage of time dedicated to drug education.

Table 1.5: Time dedicated to drug education in basic and secondary school

Year	Social Sciences/Health Studies classes per year[2] [1]	Total number of classes per year [2]	Number of classes dedicated to drug education [3]	% of total teaching time dedicated to drug education [4] = [3]/[2]
		Basic education		
1st	34	748	0	0.00
2nd	35	805	0	0.00
3rd	35	840	0	0.00
4th	70	910	0	0.00
5th	70	980	7.5	0.77
6th	70	1050	0	0.00
7th	35	1120	0	0.00
8th	35	1190	3.5	0.29
9th	37	1258	0.3	0.03
Total: basic education		**8901**	**11.3**	**0.13**
		Secondary education		
10th	0	1260	0	0.00
11th	0	1260	0	0.00
12th	38	1368	3.3	0.24
Total: secondary education programme		**3888**	**3.3**	**0.09**

Source: authors' calculations based on data from Centre of Education Content and Examination

According to our assessment, the number of hours dedicated to drug education is 11.3 in the Social Science course and 3.6 in the Health Studies course. 11.3 hours in the basic education programme include 7.5 hours of the 5th year programme[3], 3.5 hours of the 8th year programme[4] and 0.3 hours of the 9th year programme[5]. Health Studies are included in the 12th

[2] Social Sciences are included in basic education programme, Health Studies are part of the secondary education programme.

[3] The course programme for the 5th year foresees spending up to 30 hours on the topic "How to live for 100 years?". We assume that approximately ¼ of that time is spent on drug education.

[4] 8th year programme foresees spending up to 7 hours on the topic "I want to be healthy". We assume that approximately ½ of that time is dedicated to drug education.

year programme and, according to our estimations, 3.3 hours of the course's programme are related to drug education[6].

The assessed number of hours was applied to total local governments' and central governments' expenditures on basic and secondary education in 2008 to obtain an estimate of drug-related expenditures. Similar to prisons' expenditures, expenditures on education include capital expenditures, which are likely to be only partially attributable to the drug-related issues, therefore, two estimates of drug-attributable expenditures have been calculated.

Data on general government expenditures by COFOG categories in 2008 is not yet available, therefore, authors collected data on central and local governments' expenditures on education from central and local government budget reports (expenditures by functional categories). Available data suggests that total local and central government expenditures on basic and secondary education in 2008 amounted to 491.4 mln LVL, of which investments by local governments amounted to 30.1 mln LVL. In order to obtain an estimate of the government expenditures on drug education, the proportion of teaching time that is shown in Table 1.5 was applied to total financing of education. Table 1.6 summarizes results.

Table 1.6: Expenditures on drug education in basic and secondary educational establishments, LVL

Investment included	563,228.15
Investment excluded	528,745.63

Source: authors' calculations

According to Central Statistical Bureau data, there were 447.1 thsd pupils of basic and secondary education in 2007/2008, which means that the government's expenditure on drug education per pupil amounted to just over 1 LVL per year. For comparison – government expenditure on drug prevention in secondary education establishments in 2003 in the Netherlands amounted to 4.3 mln EUR, which gives per pupil expenditures of about 3 EUR, which is only slightly more in nominal terms than Latvia's expenditures in 2008.

1.3.6. State Probation Agency's expenditures on social rehabilitation of people with dependency syndrome

The State Probation Agency reported its expenditures in 2008 on social rehabilitation services delivered by "Akrona-12"in the amount of 74,130.53 LVL. However, these expenditures cover rehabilitation services that were provided not only to drug dependent patients, but also to people with alcohol dependency, game dependency, etc., and, according to the State Probation Agency, they do not keep separate record of data on drug-related expenditures. We estimate the share of drug-related expenditures by making use of the proportion of drug dependents among all narcology patients, which in 2008 amounted to 10% (Pugule, Sile, Trapencieris, et al., 2009). Estimated drug-related expenditures incurred by the State Probation Agency are shown in Table 1.7:

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[5] 9th year programme foresees spending up to 3 hours on the topic "I want to be healthy", which mainly deals with infectious diseases, sexually transmitted diseases and HIV/AIDS. We assume that approximately 1/10 of the total time can be attributed to drug education.

[6] 12th year programme recommends spending 15% of total course's time on the topic "Interdependence of physical and mental health". We assume that ¼ of that time is attributable to drug education. Also, the course programme foresees spending 15% of the course time on the topic "Avoiding addiction" and we assume that 1/3 of that time is dedicated to drug education.

Table 1.7: Drug related expenditures by the State Probation Agency in 2008, LVL

Expenditures on rehabilitation of drug dependent patients	7413.05

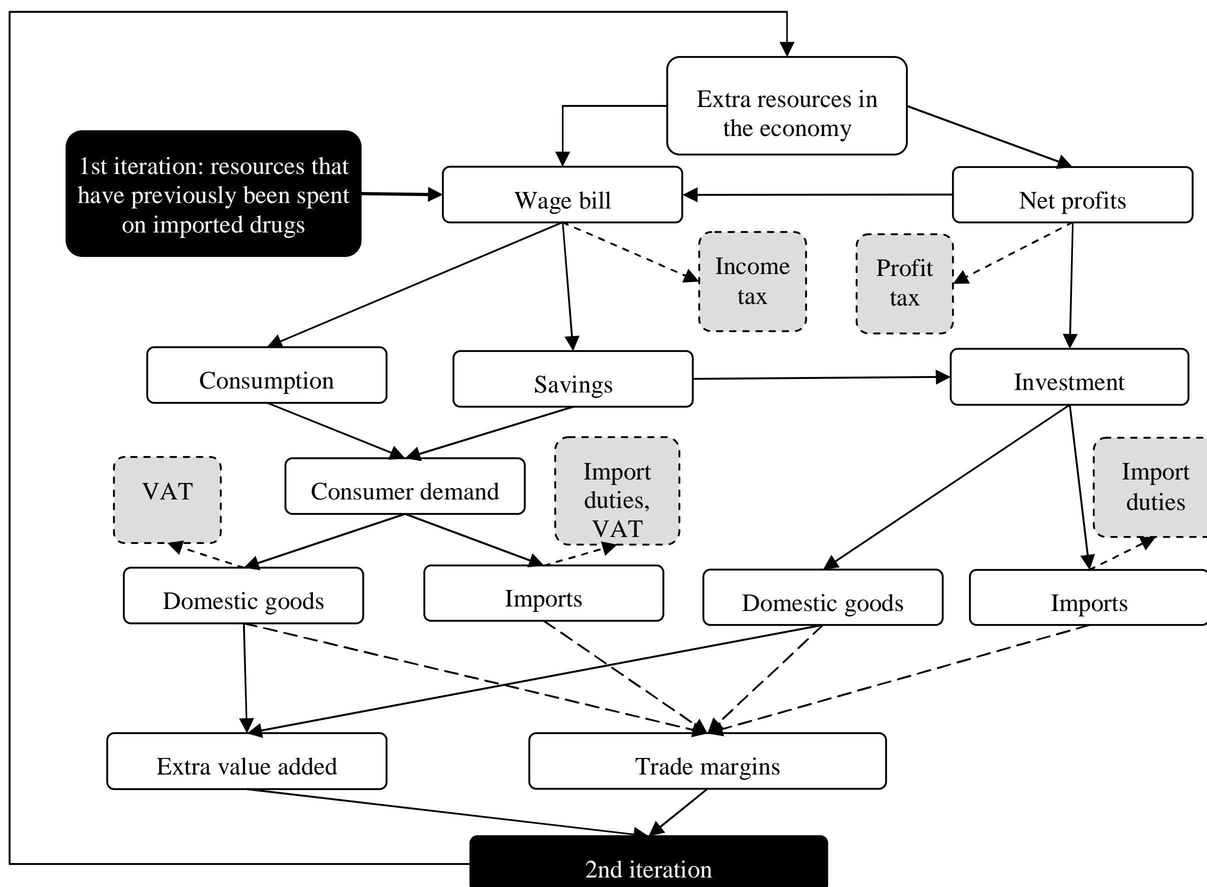
Source: authors' calculations based on data from State Probation Agency and Pugule, Sile, Trapencieris, et al., 2009.

1.4 Foregone budget revenues

According to Trapencieris (M. Trapencieris, 2009), the amount that problem drug users spend on drugs per year is between 40.5 and 50.1 mln LVL. If this money were not spent on drugs, it could be spent on legal activities, thus generating additional government revenues. While estimating the foregone budget revenues, we assume that all of the drugs consumed by problem drug users are imported, also – we assume that drug dealers spend their profits in accordance with average macroeconomic relationships in the Latvian economy, i.e., we assume that the dealers do not spend their profits on illegal activities, such as drugs. In order to estimate the foregone budget revenues, one needs to know the mark-up that dealers add to the price of imported drugs: the mark-up is spent within the economy regardless of the drug situation, while the amount that the drug dealers pay for imported drugs would be extra resources to the economy in the no-drug world. Since data on dealer mark-ups is not available for Latvia, we use data for US: according to Reuter (P. Reuter, 2008), the retail price of cocaine is 3.75 times as high as the price of imported cocaine, which suggests that dealers' profits account for approximately 78% of the retail price.

We assume that extra resources that had previously been spent on imported drugs are injected in the economy as an addition to the wage bill. Part of these extra resources is saved, but the rest is spent on either domestically produced or imported goods and services. Savings are split between investment (either domestically produced or imported) and additional consumption, which is generated through the banking channel. Increased consumer and investment demand generates additional value added, which then is split in the economy into extra wage bill and profits. Figure 1.2 shows graphic representation of the scheme described above. In our calculations, we repeat 2 iterations of the interactions described above and estimate extra tax revenues, which are made of additional personal income tax revenues, profit tax revenues, VAT and import duties. According to our estimations, budget earnings that are lost because of the drug use, are around 3.1-3.8 mill LVL (0.06 – 0.07% of total general government budget expenditures).

Figure 1.2: Framework for calculating foregone budget revenues



Source: compiled by authors

1.5 Net budget effect

According to the MoI evaluation report, budget costs that can be attributed to the drug abuse problem in 2008 amounted to 4.2 mln LVL (Ministry of Interior, 2009). After adjustment of expenditures on creating and maintaining inter-branch outpatient treatment teams, expenditures that are included in the MoI evaluation report amount to 3.6 mln LVL. Additional expenditures described in the previous sections amount to 2.8-6.9 mill LVL, depending on whether investment is included, which gives total budget costs of 6.5 -10.6 mill LVL, or approximately 0.1-0.2% of total general government budget expenditures. Net budget effect, i.e., budget expenditures plus foregone budget revenues is estimated at 9.6 – 14.4 mln LVL (or 0.06-0.09% of GNP).

1.6 Expenditures by COFOG and Reuter categories

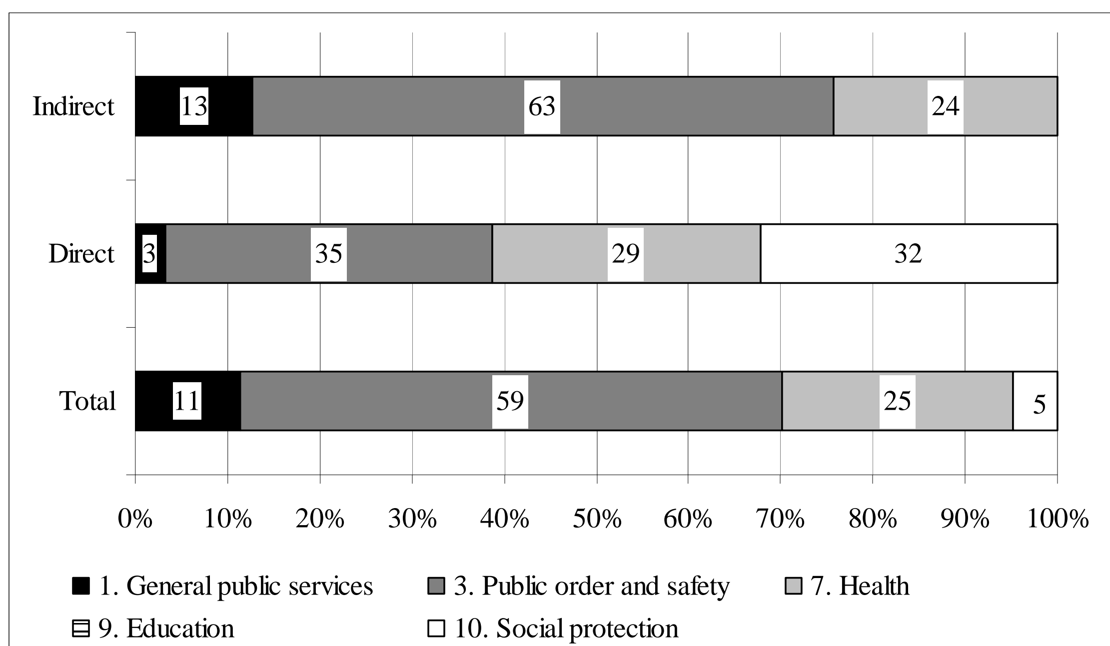
14.8-24.3% of the incurred costs (approximately 1.6 mln LVL) can be classified as direct costs, i.e., these costs are aimed solely at combating the drug abuse problems and are not related to any other government's functions. The rest of the drug-related expenditures (4.9 – 9.0 mln LVL) represent indirect expenses, i.e., the expenses that are made within government functions that are not directly related to combating the drug abuse problem.

Of the direct expenditures, most were concentrated in public order and safety sphere (around 35%) and social protection (around 32%). High share of expenditures on public order and safety is mainly driven by expenditures on tests for detection of narcotics and psychotropic

substances incurred by the state police, whereas high expenditures on social protection are due to expenditures on social rehabilitation and reintegration of dependent children and adults, incurred by the Ministry of Welfare.

Indirect expenditures were mainly intended for public order and safety (63-33%, depending on whether investment expenditures are taken into account) and health (24-44%). The former mainly includes prison's costs on support of the incarcerated persons, whereas the latter consists majorly of expenditures on drug education in schools[7], as well as expenditures on in- and out-patient treatment of drug dependent patients with correlated health problems. Figure 1.3 shows structure of the government's drug-related expenditures by COFOG classification categories (total, as well as direct and indirect separately).

Figure 1.3: Structure of government drug-related expenditure by function (COFOG classification) in 2008 (investment included), %



Source: authors' calculations

Next, we present classification of drug-related expenditures according to methodology proposed by Reuter (Reuter, 2004). Attributing a particular expenditure programme to one of the Reuter's classification categories is not always straightforward; however, Reuter (2004) provides major definitions for the expenditure programmes to be assigned to a particular category:

1. Prevention. Prevention programmes are aimed at reducing the proportion of non-users or occasional users that become regular drug users. This can be done either through information campaigns or through reducing availability of drugs. In the Latvian case examples of programmes aimed at prevention are, e.g., seminars and courses on drug prevention for teachers and parents (implemented by the Ministry of Health and Ministry of Education and Science), creation of TV clips and publications on alcohol,

[7] Similar to studies on UK and Luxembourg, expenditures on drug education in schools were attributed to Health category in COFOG classification (United Kingdom Reitox Focal Point, 2007; Luxembourg Reitox Focal Point, 2007).

drug and computer game dependence (implemented by the Ministry of Children, Family and Integration affairs).

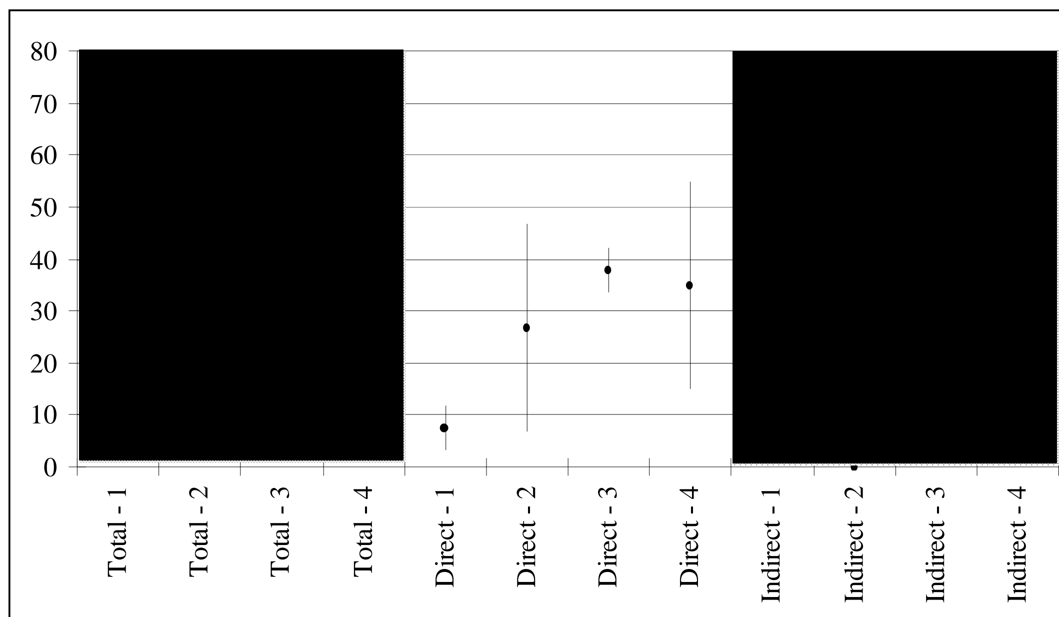
2. Treatment. Treatment programmes are intended to reduce drug abuse among experienced drug users. This can be accomplished by either direct involvement of the drug users in treatment programmes or by giving strong incentives to reduce the drug use. For example, in the Latvian case expenditures that have the treatment effect are expenditures on expanding drug replacement therapy system (implemented by the Ministry of Health), as well as expenditures by the State Probation Agency on social rehabilitation of drug-dependant persons.

3. Enforcement. Enforcement programmes are aimed at either traffickers and producers or at users and retailers, but these programmes have a common goal of raising the price of drugs. These programmes act either through raising production and trafficking costs thus shifting supply curve of drugs, or through raising transaction costs at the retail level. In the Latvian costs expenditures that have been classified as being aimed at enforcement are, e.g., expenditures on prevention and detection of drug-related crimes (implemented by the Ministry of Justice), and drug raids in entertainment places (Ministry of Justice).

4. Harm reduction. Harm reduction expenditures are aimed at reducing adverse consequences of the drug abuse, rather than reducing the drug abuse as such. For example, in Latvian case expenditures aimed at harm reduction are expenditures on HIV/AIDS prevention and treatment among intravenous drug users (Ministry of Health, local governments), treatment of patients with correlated health problems, such as tuberculosis (Ministry of Health).

Analysis of expenditures by the categories of Reuter's classification suggests that majority of expenditures (around 70%) in 2008 had the enforcement effect in combating the drug-related problems. Approximately 20% of expenditures were targeted at harm reduction, 6% - at prevention and 4% - at treatment. Figure 1.4 shows distribution of expenditures by Reuter categories, both total expenditures and disaggregated by type of expenditures (direct vs. indirect). The figure shows the possible range of estimated shares – lower bound, upper bound and central estimate, which was calculated as simple average.

Figure 1.4: Distribution of drug-related expenditures by Reuter categories (maximum, minimum and central estimate), investment included, %[8]



Source: authors' calculations

Expenditures on enforcement represent the biggest expenditure category both among direct and indirect expenditures. Expenditures on treatment and harm reduction were other two notable expenditure groups in direct expenditures, whereas their share in indirect expenditures was relatively low. The high share of treatment expenditures in direct costs is to a large extent due to expenditures on social rehabilitation and reintegration of dependent children and adults, whereas high share of harm reducing expenditures is also due to expenditures on HIV/AIDS prevention for intravenous drug users. Table A.1 in the Appendix provides detailed information on classification of expenditures by COFOG and Reuter's classification.

1.7 International comparison

Table 1.8 compares the level of drug-related expenditures in Latvia with data from other EU countries for which it is available. Latvian drug-related expenditures as a share of GNP are considerably lower than expenditures in Sweden and Netherlands, but also noticeably lower than in Czech Republic, a country with more or less comparable income level. The financing difference is even more striking if one compares expenditure per PDU, due to both relatively low financing and relatively high PDU prevalence. It should be noted that comparison of expenditure figures should be made with caution, since methodologies of expenditure assessment and PDU prevalence assessment are not completely standardised, however, the magnitude of financing difference definitely suggests that Latvian expenditures on combating the drug abuse problem significantly lag behind expenditures in other EU countries, for which data is available.

[8] 1 – Prevention, 2 – Treatment, 3 – Enforcement, 4 – Harm reduction.

Table 1.8: Drug-related budget expenditures in selected EU countries, (max / min)

	Drug-related expenditures, % of GNP	Drug-related expenditures, % of total government's expenditures	Costs per PDU, EUR	Costs per capita, EUR
Latvia (2008)	0.07 / 0.04	0.17 / 0.10	763 / 382	7 / 4
Finland (2006)	0.11	0.23	10719	34
Sweden (2002)	0.30	0.61	-	82
Netherlands (2003)	0.45	0.97	-	135
Luxembourg (2005)	0.14 / 0.13	0.57 / 0.54	16000 / 13571	88 / 83
Czech Republic (2006)	0.18	0.40	7347 / 5547	19
France (2005)	-	0.20	12044 / 10037	29

Source: authors' calculations, Finnish National Focal Point, STAKES (2007), Dutch Reitox National Focal Point (2007), Luxembourg Reitox Focal Point (2007), Czech Reitox National Focal Point (2007), French Reitox National Focal Point (2007).

Table 1.9 shows distribution of drug-related expenditures by COFOG categories. As suggested by available figures, most countries report the highest expenditure share in public order and safety sphere. Another important expenditure group in all countries are health-related expenditures.

Table 1.9: Drug-related budget expenditures by COFOG classification in Latvia (including investment) and selected EU countries, % of total

	Latvia (2008)	**Netherlands (2003)**	**Luxembourg (2005)**	**Czech Republic (2006)**	**France (2005)**
1. General public services	11.4	0.0	11.7	0.0	0.0
2. Defence	0.0	3.8	0.0	0.0	13.6
3. Public order and safety	58.8	76.5	54.8	91.8	33.8
7. Health	25.0	16.1	33.5	8.2	50.5
9. Education	0.004	0.2	0.0	0.0	0.0
10. Social protection	4.8	3.3	0.0	0.0	0.0

Source: authors' calculations, Dutch Reitox National Focal Point (2007), Luxembourg Reitox Focal Point (2007), Czech Reitox National Focal Point (2007), French Reitox National Focal Point (2007).

Classified by Reuter's methodology, the biggest expenditure category is represented by expenditures on law enforcement. Expenditures on harm reduction and treatment are other two important categories in drug-related expenditures, whereas expenditures on prevention have the smallest share in total expenditures in all countries for which data is available (see Table 1.10).

Table 1.10: Drug-related budget expenditures by the Reuter classification in Latvia (including investment) and selected EU countries, % of total (max / min)

	Latvia (2008)	Finland (2006)	Netherlands (2003)	Luxembourg (2005)	France (2005)
1. Prevention	7.1 / 5.8	7 / 7	1.9	15.1	3.6
2. Treatment	6.9 / 1.0	21 / 21	12.7	32.9	52.6
3. Enforcement	70.7 / 69.4	38 / 29	75.3	78.4	49.5
4. Harm reduction	23.5 / 17.6	48 / 29	10.1	15.3	52.6

Source: authors' calculations, Finnish National Focal Point, STAKES (2007), Dutch Reitox National Focal Point (2007), Luxembourg Reitox Focal Point (2007), French Reitox National Focal Point (2007).

2. Non-budgetary social costs of drug use/abuse in Latvia

This section addresses the issues of identifying and measuring the non-budget social costs of drug use. Estimates are offered for some of the most important tangible costs in Latvia for the calendar year 2008 and there is a discussion, but no estimates, of intangible costs. With both tangible and intangible costs the attempt to identify costs is severely constrained by the absence or unreliability of relevant data.

The first section discusses the overall methodological approach adopted here; the second section categorises and discusses the main sources of tangible social costs that can be attributed to drug use or abuse and for those categories of costs for which it has been possible to provide quantitative estimates the methodology used is described and the results reported. Section 2.2 also discusses some important tangible costs that it has not been possible to estimate quantitatively. Finally, section 2.3 discusses some evidence on the intangible costs of drug abuse in Latvia.

2.1. General methodological issues

The approach adopted here to identifying and quantifying the non-budgetary social costs of illicit drug use broadly follows what is proposed in the International Guidelines for Estimating the Costs of Substance Abuse, produced by the World Health Organization (Single et al., 2003) and as implemented, for example, in Collins and Lapsley (2008). Thus the estimates reported represent a cost-of-illness (COI) type methodology and use the demographic as opposed to the human capital approach and the prevalence based method as opposed to the incidence based one. This means that the estimates of tangible costs reported should be interpreted as representing the extra resources that would have been available in Latvia in 2008 for consumption or for investment purposes if there had never been any drug abuse in Latvia. In other words, for the purposes of this study, the counterfactual situation with which the actual 2008 drug abuse situation is compared is one in which there has been no abuse of illicit drugs for an extended period of time. In this study that period is limited by the country information available and which in practice means 20 years

The advantage of this general approach is that the estimates obtained on these assumptions can be regarded as forming the non-budget part of the aggregate external costs of drug abuse as compared with the alternative situation of no drug abuse and can therefore be added to the direct and indirect budgetary costs of drug abuse estimated in the first part of the study. The latter by definition are the annual flow of budgetary costs and the demographic approach based non-budget cost have a similar annual flow dimension. Thus, these costs together can be interpreted as an indicator of the economic scale of the drug abuse problem in Latvia.

It is well known that a prevalence based demographic approach to measuring the costs of illicit drug use does not generate results in a form that is suitable for all purposes. For example, if what we are interested is a cost benefit evaluation of a policy measure then the correct approach would be to estimate the impact of policy using a human capital approach. At the same time, the demographic and human capital approaches rely on the same underlying data and should be regarded as complementary rather than competing.

2.1.1 Tangible social costs

Tangible costs can be defined as: "those costs which, when reduced, yield resources which are then available to the community for consumption or investment purposes" (Single et al., 2003, p27). Thus a broad list of tangible social costs of illicit drug use is given by[9]:

1. Consequences for the health and welfare system
2. Crime, law enforcement and criminal justice
3. Output/productivity consequences in the workplace and the home
4. Accidents including road accidents
5. Environment
6. Research and prevention

Items 1 and 2 are largely dealt with in the previous sections on direct and indirect budgetary cost though to the extent drug use may generate effects on third parties not all the budgetary consequences of illicit drug use in these categories may actually be picked up e.g. medical treatment of people who have been victims of drug-attributable violence may not be very easy to identify. Items 4 and 5 we have very little information on with respect to illicit drug use. Item 6 is partially picked up in direct and indirect budget effects.

This leaves item 3 – the output and productivity loss generated by illicit drug use. This is an item that is amenable to calculation, albeit subject to many assumptions and caveats. Moreover, according to Single et al (2003) "in most COI studies estimating the costs of substance abuse the largest cost involves lost productivity due to premature death, disability, absenteeism, and other causes of lower productivity on the job" (p54). For example, Collins and Lapsley (2008) report 6.9 billion Australian dollars worth of tangible cost attributable to illicit drug use in Australia in 2004/5 – this includes 893 million A$ spent on consumption of drugs though it is debatable how this expenditure should be treated[10]. The lost output as a result of a lower workforce is estimated at just over 3 billion A$[11]. If we exclude the amount directly spent on consumption of drugs from total tangible costs then in the Australian study the share attributable to lost output is about 50% i.e. as much as healthcare and crime/law enforcement costs put together.

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[9] Adapted from Table 2 in Collins et al (2006)

[10] Collins and Lapsley (2008) consider any illicit drug consumption as "abuse" and count all expenditure on illicit drugs as a social cost. Others (Moore, 2007, Harwood, Fountain, Livermore, 1998) do not count private expenditure on drugs as a social cost.

[11] This includes an output loss of 892 million A$ attributed to those not working because they are in prison, which in Collins and Lapsley (2008) is located in the 'crime, law enforcement, and criminal justice' category. Here we regard it as one of the forms of lost output.

2.1.2 Intangible costs

According to Single et al (2003) intangible costs are those costs that "when reduced or eliminated do not yield resources available for other uses" (p. 27). Pain and suffering (including say bereavement) are examples of intangible costs. The value of human life itself as distinct from its productivity could also be counted as an intangible. However, putting a money value on human life per se is fraught with difficulty and in common with many authors we do not attempt to do so here

2.2. Estimating drug-attributable tangible social costs

We focus on the output loss given the current prevalence of illicit drug use as compared with the hypothetical zero drug use counterfactual. Output loss can arise through three channels:

(a) lower productive employment as a result of premature death, premature retirement or other factors

(b) higher absenteeism in the workplace as a result of drug-attributable sickness or injury

(c) lower on-the-job productivity as a result of drug-attributable morbidity.

These channels of output loss can be further disaggregated and this decomposition is shown in Table 2.1

Table 2.1: Decomposition of potential output costs attributable to drug abuse

a) Employment effects:	
1	Premature death of drug users
2	Premature death of victims of drug-related crimes
3	Premature deaths of drug users as a result of related illnesses
4	Incarceration for drug-related crimes
5	Crime career and resultant non-participation in work force
6	Lower employment rate of drug users
7	Lower birth rates resulting from drug abuse
b) Higher workforce absenteeism	
8	Drug abuse related illness resulting in absenteeism
9	Absenteeism of relatives of drug users
10	Loss of working time of victims of drug-related crimes
c) Lower on-the-job productivity	
11	On the part of drug users
12	Of relatives of drug users
13	Of the victims of drug-related crimes

Many of the above channels of drug abuse impact on output are very hard to quantify, mainly because relevant data are simply not available.

2.2.1. Employment channel

Estimating the impact of drug abuse on output that works through the employment channel involves three basic steps:

1. By how much is the workforce reduced as a result of each contributing factor such as: premature death, imprisonment, lower birth rates
2. How much of this is reflected in reduced employment
3. By how much is output (measured in money terms) reduced as a result of lower employment

Output impact of a lower employment rate of drug users

In practice the largest output loss associated with drug abuse originates in the fact that the employment rate of problem drug users (PDUs) is generally much lower than that of the population as a whole i.e. sub-channel 6 in Table 2.1 above. In order to calculate the output loss arising from a differential employment rate of PDUs the following steps are required:

- first identify the number of problem drug users, then
- identify the gap between the employment rate of PDUs and that of similar age non-users and hence calculate how much employment is lost as compared with the drug-free counterfactual, then
- apply a measure of the marginal product of labour to estimate how much output is lost as a consequence of the employment gap[12].

In practice none of these steps is entirely straightforward.

Thus, with respect to the number of PDUs in Latvia there are no official statistics. On the basis of population survey data reported in Pugule, Sile, Trapencieris et al (2009) there were in 2007 approximately 35,000 working age people in Latvia who were regular users of illegal drugs i.e. who had used illegal drugs in the month prior to the survey[13]. However, the number of problem drug users is very likely to be less than this and the latest estimates suggest that the numbers are between 19,706 and 24,130 (Trapencieris (2009)). This is the figure (or range) that we propose to use here.

There are also no official data on the employment status of PDUs in Latvia but we do have information on this from Trapencieris et al (2009) who report on a cohort study of PDUs (in the age group 15-64) in Latvia undertaken in recent years. Included in the survey are questions on the employment status of respondents. Thus on average, over 2007-2009, 47% of respondents reported themselves as employed, either full time or part-time (Table 10). This compares with employment rates of about 68% in recent years for the general population in the same age group. This is a very large gap. However, the cohort study reports quite large numbers of respondents who are neither 'working' nor 'not working or studying' e.g. in 2008 16% of men and 22% of women were in this 'other' category[14]. It could be that some of these

[12] There is a potential causality issue here. The logic of the demographic approach implicitly assumes that it is the fact of being a PDU that 'causes' the lower employment rate and hence the lost output. However, the direction of causality could be the other way – people with a low propensity to work may end up as PDUs.

[13] 2.2% of respondents reported using illegal drugs in the month prior to the survey and the working age population in 2007 was approximately 1.57 million.

[14] In Latvian 'cits variants'.

were engaged in criminal activity or prostitution, but we do not really know. Nevertheless, we need to allocate some employment status to this group. We have chosen two options or scenarios for this: one is to assume that the employment status of the 'other' group is proportionately the same as the rest of the sample and the other is to assume that all of the 'other' group are in fact not working[15].

On the marginal product of PDUs in the counterfactual situation of no drug abuse we also do not have precise information but it is not unreasonable to suppose that this is on average equal to the overall marginal product of labour in the economy. This figure can be approximated by the average cost of employing a worker in the economy i.e. by the gross wage plus the employer social security contribution. The results of calculations employing the above assumptions are shown in Table 2.2 below.

Table 2.2: Lost output for 2008 attributable to the lower employment propensity of PDUs

	Total	Men	Women
1. Non-employment rate of PDU, %			
Employment status of 'other' category assumed to be distributed the as for the rest of the sample	30.3	24.0	43.8
All in the 'other' assumed to be non-employed	44.2	37.2	57.7
2. Employment rate gap with general population aged 15-64[16], percentage points			
Employment status of 'other' category assumed to be distributed the as for the rest of the sample	5.1	3.5	10.4
All in the 'other' assumed to be non-employed	19.0	15.7	24.3
3. Lost output, based on average labour costs, mln LVL			
MAX (based on the number of PDU = 24130)[17]			
Employment status of 'other' category assumed to be distributed the as for the rest of the sample	11.1	4.8	6.3
All in the 'other' assumed to be non-employed	37.7	23.1	14.6
MIN (based on the number of PDU = 19706)			
Employment status of 'other' category assumed to be distributed the as for the rest of the sample	9.1	4.0	5.1
All in the 'other' assumed to be non-employed	30.8	18.9	11.9
4. Lost output, based on GDP per worker, mln LVL			
MAX (based on the number of PDU = 24130)			

[15] In addition to respondents who claimed they were in the 'other' category there are a small number of the sample who did not answer this question at all and they have been treated as if they had responded 'other'.

[16] General population age and gender was adjusted to the age and gender structure of PDU sample.

[17] We assume that gender and age structure of general PDU population is the same as in the survey sample.

	Total	Men	Women
Employment status of 'other' category assumed to be distributed the as for the rest of the sample	21.4	-	-
All in the 'other' assumed to be non-employed	70.4	-	-
MIN (based on the number of PDU = 19706)			
Employment status of 'other' category assumed to be distributed the as for the rest of the sample	17.5	-	-
All in the 'other' assumed to be non-employed	57.5	-	-

The key results are found in section 3 of Table 2.2, which reports lost output based on average labour costs and a number of alternative scenarios regarding the number of PDUs and the assigned employment status of respondents in the 'other' employment status category. This gives a range for lost output of just over 9 million LVL to nearly 38 million LVL. Arguably, the assumption that that the respondents in the 'other' category are either all fully non-employed or exactly like the rest of the sample, is not fully plausible. If, in practice, they were evenly split between these extremes and if the number of PDUs is an average of 24130 and 19760 then the output loss would be a simple unweighted average of the extremes i.e. 23.4 million LVL, which is just over 0.1% of Latvian GDP 2008 and not out of line with international estimates.

Arguably, if the counterfactual is really a situation where no drugs has prevailed for a long period of time, the capital stock would also have adjusted to the higher number of workers, in which case the correct output impact could be measured by GDP per worker. This effect is indicated in section 4 of Table 2.2 where it can be seen that the estimated lost output is bigger – ranging from 17.5 million LVL to over 70 million LVL.

Output impact of imprisonment

According to data from the Latvian Prison Administration, out of 6872 people in prison at the end of 2008, 836 or 12.2% were convicted of drug-related crimes. The average length of sentence is in excess of one year so this means that in the counterfactual 'drug-abuse free' society these people would all be normal members of society. In other words the workforce in 2008 would have been larger by 836 persons and if we assume an employment rate of 68%, employment would have been higher by 569 persons and applying the productivity factor of 7990 LVL implies an output loss from incarceration of 4.54 million LVL.

It should be stated also that imprisonment of as such may have significant indirect effects on the social costs associated with drugs since incarceration can greatly increase the risk of exposure to drug use, especially injecting (Hunt, Trace, Bewley-Taylor, 2004). The same can be said about transmission of blood borne infections like HIV/AIDS and Hepatitis C (Bewley-Taylor, Trace, Stevens, 2005).

Output impact of premature death of drug users

The first step in the analysis is to estimate the amount by which the work force would have been lower in 2008 as a result of drug related deaths. This depends firstly on identifying the number of drug related deaths of persons in the 15-64 age group in recent years. The EMCDDA preferred definition of drug-related deaths is the so-called "Selection B", however we have used data according to "Selection D", which gives a higher number of deaths.

Selection D was chosen because it believed that existing statistics on drug-induced deaths are likely to heavily underestimate the true situation.

The cumulative number of drug-related deaths since 2000 is taken as the loss of 2008 workforce attributable to drug related death. To this we apply the standard Latvian employment rate adjusted for age structure – this generates an employment loss of 318 persons in 2008 which when evaluated at average labour costs in 2008 generates an output loss of 2.5 million LVL. However, in contrast to the social loss generated by, say lower employment or imprisonment, the death of a person generates a fall in consumption as well as a fall in output, so this should be subtracted from the output loss to determine the 'net social loss'. These calculations are reported in the last two rows of Table 2.3. Thus we see that in 2008 the net loss of resources available to society from premature death attributable to drug abuse was 1.2 million LVL.

Table 2.3: Net output costs of premature deaths of drug users in 2008

Number of deaths caused directly by drug use in 2000-2008, persons	412
Lost employment in 2008, persons[18]	318
Lost output (based on average labour costs in 2008), mln LVL	2.5
"Saved" private consumption, mln LVL[19]	1.3
Net loss, mln LVL	**1.2**

Output loss from premature deaths of drug users due to related illnesses (HIV)

Drug abuse can also lead to premature deaths from related illnesses the most important of which is probably HIV(AIDS). Here we consider only HIV even though the list of illnesses related to drug use is very long. This is because, in practice, HIV is the only disease for which transmission is known and documented. Even so calculations are not straightforward. In 2008, 4339 cases of HIV were registered in Latvia, 724 persons were registered with AIDS, and 223 persons died while in the AIDS phase (Central Statistical Bureau). According to Infectology Center of Latvia data, in 2008 60% of all persons diagnosed with HIV acquired the virus by intravenous use of drugs. We use this percentage to calculate the proportion of AIDS deaths attributable to drug use.

The results of the calculations are presented in Table 2.4.

[18] We assume that the age structure of the deceased persons according to Selection D is the same as the age structure of those who died according to Selection B, which suggests that all of the deceased persons would be in the working age in 2008. General population employment rate was adjusted to the age structure of the dead persons.

[19] The "saved" consumption is calculated, assuming that a person's annual consumption would be equal to the average annual net wage less average household savings (average household savings rate in 2008 amounted to 0.4% (Eurostat)).

Table 2.4: Costs of premature death of drug users due to HIV in 2008

Deaths in AIDS phase attributable to drug abuse, persons	134
Lost employment, persons[20]	92
Lost output, LVL	736,610
"Saved" private consumption, LVL	385,735
Net loss, LVL	**350,875**

Here it should be noted that the figures reported above apply to deaths in 2008 only. In the counterfactual of no drug abuse over an extended period the 2008 workforce would be bigger by a considerably larger number than reported here and the costs would be correspondingly higher. Also, it should be noted that premature death is not the only factor related to HIV that generates social costs. Thus HIV also has productivity or direct output effects. However, we have insufficient information to estimate these.

Non-workforce mortality and morbidity

The International Guidelines for Estimating the Costs of Substance Abuse (Single et al 2003) propose estimating value of lost *unpaid* work as well as the losses from paid employment. For example, Collins and Lapsley (2008) estimate the loss output in the household attributed to illicit drugs at 495 million A$ which is about 55% of the loss of workplace output. We are not in a position to make such an explicit calculation but a similar percentage applied to Latvia would imply a loss of household output attributable to drug use of perhaps 12.9 million LVL.

Table 2.5. Summary of tangible social costs related to drug abuse in Latvia, 2008

	LVL million
Premature death of drug users	**1.2**
Premature death of drug users due to related illness (HIV)	**0.35**
Incarceration	**4.69**
Lower employment rate of drug users	**9.1-37.7 (23.4)**
Non-workforce mortality and morbidity *	**12.9**
Increased absenteeism and reduced on-the-job productivity *	**19.0**
TOTAL	**61.5**

Source: authors' calculations
**Imputed by applying Collins and Lapsley (2008) Australian shares to Latvian data*

2.2.2. Increased workforce absenteeism and reduced on-the-job productivity

Absenteeism and lower on the job productivity on the part of drug users represents potentially a significant part of the out put loss associated with drug use. For example, in Collins and Lapsley (2008) the losses from this source are estimated at 733 million A$ which is almost as

[20] We assume the employment rate of general population aged 15-64.

high as the loss of output from a smaller workforce. Applying the Australian ratio to Latvia would imply losses from absenteeism of about 19 million LVL.

In order to make an explicit calculation for Latvia we would need to compare the absenteeism rates of drug users with that of the working age population as a whole. This data is not readily available though absenteeism in the general employed population could be estimated from the Labour Force Survey and for the difference between non-drug users and drug users there is some information in the Latvia Population Survey on Illegal Drug Use. So this is a calculation that could in principle be made.

Estimating on-the-job productivity effects is more difficult. One approach might be to compare the wages of employed drug users with non-users of similar age, educational attainment etc. But, getting meaningful results would involve a quite sophisticated econometric exercise.

2.3. Intangible social costs

Here we have not attempted any estimate of intangible costs. But these can clearly be substantial. For example, Collins and Lapsley (2008) estimate the intangible costs of illicit drug in Australia in 2004-5 use at 1.2 billion A$ which is equivalent to 18% of all tangible costs. However, the much the major part of this is the value given to the loss of one year's life attributable to illicit drug use. This is clearly likely to be a contentious figure.

3. Total budgetary and non-budgetary social costs

Total budgetary and non-budgetary costs in 2008 are estimated at 68 – 72 mln LVL, or approximately 0.4% of GDP. Table 3.1 summarizes the estimated budgetary and non-budgetary costs, both in absolute amounts and as a share of GDP.

Table 3.1: Summary of budgetary and non-budgetary costs in 2008 (max / min)

	mln LVL	% of GDP
Budgetary costs	10.6 / 6.5	0.06 / 0.04
Direct	*1.6 / 1.6*	*0.01 / 0.01*
Indirect	*9.0 / 4.9*	*0.06 / 0.03*
Non-budgetary costs	61.5	0.38
Total	72.1/68.0	0.44 / 0.42

Source: authors' calculations

In Table 3.2, some categories of the estimated costs as a share of GDP are compared with results for Australia from Collins and Lapsley (2008).

Table 3.2: Comparison of some budgetary and non-budgetary cost categories as a share of GDP with available results for Australia (max / min)

	Latvia	Australia
Labour in the workforce (reduction in workforce and absenteeism)[21]	0.30	0.20
Net healthcare[22]	0.02	0.03
Crime[23]	0.04	0.48
Resources used in abusive consumption[24]	0.31 / 0.25	0.11
Road accidents n.e.i.	-	0.05
Total	0.66 / 0.60	0.88

Source: authors' calculations, Collins and Lapsley (2008).

Total expenditure shown in Table 3.2 exceeds the one shown in table 3.1 due to inclusion of resources used in abusive consumption. These expenditures were not directly taken into account in this study, but were included in Table 3.2 to make Latvian total costs more comparable to the Australian estimate.

Conclusions

Estimated social costs (budget plus non-budget costs) of drug abuse in Latvia in 2008 amounted to 68 – 72 mln LVL or approximately 0.4% of GDP. Budget costs amounted to 6.5 – 10.6 mln LVL or approximately 10 – 14% of total social costs, of which direct costs of drug abuse – to about 2%. Remaining budget costs can be classified as indirect costs of drug abuse, i.e., these costs represent a fraction of spending on the government functions that would be financed irrespective of drug abuse situation, for example, health care, state police, etc.

When classified by COFOG, expenditures on public order and safety and expenditures on health represent two biggest groups of drug-related budget expenditures (59% and 25% of all drug-related budget expenditures, respectively, if investment expenditures are included). Law enforcement (71 – 70%) and harm reduction (24 – 18%) are the biggest expenditure categories, when Reuter's classification is used for categorisation of expenditures. Structure of Latvian budget expenditures was found to be quite similar to the structure in other European countries for which similar estimations were made. The level of financing, however (0.07-0.04% of GNP or 0.17-0.10% of total general government expenditures) is considerably below that in other countries. The financing gap is even larger if one compares spending per problem drug user, which in 2008 in Latvia amounted to 382 – 764 EUR, while in, e.g., Czech Republic in 2006, spending was higher by approximately a factor of 10. Cross-country comparison of drug-related spending should be made with caution due to lack of a standardised methodology. However, such a notable gap in estimated financing allows concluding with a great degree of certainty that drug-related budget spending in Latvia is far below that in other European countries.

[21] For Latvia this figure includes the output loss attributed to prisoners but this is not in the Australian figure.

[22] For Latvia, we count here all budgetary expenditures on Health according to COFOG.

[23] For Latvia, this category includes all budgetary expenditures on Public order and safety according to COFOG. Also, the Australian figure includes the output loss attributed to imprisoned drug users, the Latvian figure excludes this.

[24] For Latvia – private spending on drugs by problem drug users (Source: Trapencieris 2009).

Total non-budget costs of drug abuse in 2008 are estimated at 61.5 mln LVL or 0.38% of GDP. The estimated non-budget costs are mainly generated by employment losses, caused by the drug abuse. First, Latvian problem drug users are observed to be characterised by a considerably lower employment rate than general population in the same age group. Second, lower employment is caused by premature deaths of drug users, both directly related to drug use and related to concurrent infectious deceases. Another source of lower employment is represented by incarcerated persons convicted of drug-related crimes. Total losses stemming from lower employment are estimated at about 30 mln LVL, of which the biggest costs (23.4 mln LVL) are attributable to lower employment rate among drug users.

Apart from employment channel, other sources of non-budget costs of drug abuse include lost household output because of morbidity and mortality of non-workforce drug users, as well as increased absenteeism and reduced on-the-job productivity of drug users. Due to lack of national data it was impossible to base the estimate of the above two categories of costs solely on national data; thus the estimations were partially based on research results for other countries. Total non-employment costs of drug abuse in Latvia are estimated at about 32 mln LVL, of which a larger share (about 60%) was accounted for by increased absenteeism and reduced on-the-job-productivity.

Similar to cross-country comparison of budget costs, comparison of non-budget costs have to be made with great caution due to differences in underlying methodologies. However, comparison of some categories of non-budget costs to available results for Australia (Collins and Lapsley, 2008) suggests that, e.g., costs generated by lower employment as a share in GDP in Latvia exceeds that in Australia. To conclude, our results for 2008 suggest that non-budget economic burden of drug abuse in Latvia is likely to be higher than in some other countries, while the level of drug-related budget expenditures is considerably below that in other countries.

Postscript on data availability

EMCDDA classifies drug-related budget expenditures as being either "labelled" or "non-labelled". Labelled expenditures are "the *ex-ante* planned public expenditure made by the general government in the budget that reflects the voluntary commitment of a country in the field of drugs" (EMCDDA, 2008, p.28). Non-labelled drug-related expenditures are non-planned government expenditures on drug-related issues, which are identified *ex-post*, for example – prisons' expenditures on supporting people incarcerated for drug-related crimes. This classification of expenditures corresponds to the division of drug-related expenditures as being direct or indirect budget costs of drug abuse, which is used in this report.

According to EMCDDA (EMCDDA, 2008), ideally all drug-related expenditures should be reflected in the government budget documents as labelled expenditures, thus demonstrating the government's commitment to implementing a particular policy and guaranteeing that the resources are allocated efficiently.

In Latvia data availability on labelled drug-related budget expenditures is very limited and fragmented. Drug-related programmes are implemented at different government levels, which makes data systematisation a challenging task. Also, drug-related expenditures often are part of broad-aimed expenditure programmes, which makes it problematic to isolate the expenditures related to drug use problem. Evaluation of the Latvian National Drug Programme 2005-2008, performed by the Ministry of Interior in 2009 (Ministry of Interior, 2009), represents a valuable source of information on drug-related budget expenditures, however, it has a number of limitations: first, the evaluation report covers only national level financing, whereas data on local government financing is not included. Second, the report does not cover costs in all relevant categories, e.g., costs of inpatient medical services. Third,

some drug-related expenditures are aggregated with expenditures on other types of dependencies – alcohol, smoking and other. To summarise the above considerations, more effort should be put to structure the drug-related budget costs and to make the expenditures more transparent at all government levels.

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Glossary

COFOG (Classification of the Functions of the Government) – international classification used to identify the socioeconomic objectives of the government's expenditures.

Cost of illness (COI) methodology – cost of illness studies estimate the economic burden of a certain disease and estimate the maximum amount of resources that would be available to the economy if the disease were to be eradicated.

Demographic approach – one of the approaches that can be used to estimate the economic costs of substance abuse. In the demographic approach, actual population size and demographic structure is compared to the hypothetical population size and structure, which would prevail in a "no-drug" world.

Direct budget costs of drug abuse – expenditures that are related exclusively to the drug issues and would not be needed if the drug abuse problem did not exist (e.g., drug use prevention expenditures in secondary schools).

Indirect budget costs of drug abuse – expenditures, which constitute only a share of a particular type of expenditures (e.g., police, courts, urgent medical aid, etc) and which would be covered from the government budget regardless of the drug situation.

Intangible costs – costs, which when reduced or eliminated, do not yield resources available for other uses (e.g., pain and suffering).

Labelled drug-related budget expenditures – "the ex-ante planned public expenditure made by the general government in the budget that reflects the voluntary commitment of a country in the field of drugs" (EMCDDA, 2008, p. 28).

Non-labelled drug-related budget expenditures – "the non-planned, ex-post, public expenditure faced by the general government in tackling with drugs, that is not identified as drug-related in the budget" (EMCDDA, 2008, p. 28).

Problem drug use (PDU) – the use of drugs by injection and/or the regular or long-term use of opiates and amphetamine-type drugs and/or cocaine (EMCDDA).

Reuter classification of drug-related expenditures (Reuter, 2004) – according to Reuter's classification, drug related expenditures are aimed at one of the four results: 1. Prevention, 2. Treatment, 3. Enforcement and 4. Harm reduction.

Tangible costs – costs which, when reduced or eliminated, release resources for other uses (e.g., budget expenditures on drug use prevention).

Glosārijs

COFOG (Classification of the Functions of the Government) – valdības funkciju starptautiskā klasifikācija, kas tiek izmantota, lai klasificētu valsts budžeta izdevumus atbilstoši funkcionālajām kategorijām.

Cost of illness (COI) methodology – saslimstības izmaksu metode. Izmantojot šo pieeju, tiek novērtēts ekonomiskais slogs, ko rada noteiktā slimība un tiek novērtēts maksimālais resursu apjoms, kas tiktu atbrīvots gadījumā ja saslimstība tiktu novērsta.

Demographic approach – demogrāfiskā pieeja. Demogrāfiskā pieeja ir viena no pieejām, kas tiek izmantota dažādu kaitīgu vielu, piem., narkotiku, radītā ekonomiskā sloga novērtējumam. Saskaņā ar demogrāfisko pieeju, radīto ekonomisko slogu novērtē, salīdzinot faktisko iedzīvotāju skaitu un demogrāfisko struktūru ar hipotētisko iedzīvotāju skaitu un struktūru, kas tiktu novērota, ja nepastāvētu narkotiku lietošanas problēma.

Direct budget costs of drug abuse – narkotiku lietošanas tiešās budžeta izmaksas. Budžeta izdevumi, kas tiešā veidā ir saistīti ar narkomānijas problēmas profilaksi un apkarošanu un kuri nebūtu nepieciešami, ja narkomānijas problēma tiktu novērsta (piemēram, izdevumi narkomānijas profilaksei vidusskolās).

Indirect budget costs of drug abuse – narkotiku lietošanas netiešās budžeta izmaksas. Budžeta izdevumi dažādām valdības funkcijām, kuros ar narkomāniju saistītie izdevumi veido tikai noteiktu daļu (piemēram, valsts policijas izdevumi).

Intangible costs – netaustāmās izmaksas. Izmaksas, kuru samazināšanas rezultātā ekonomikā netiek atbrīvoti resursi, kuri varētu būt izmantoti citā veidā. Piemēram, narkotiku lietotāju radinieku ciešanas samazinātos, ja samazinātos narkotiku lietošana, taču ciešanu samazināšana neģenerētu papildus resursus ekonomikā.

Labelled drug-related budget expenditures – iezīmēti ar narkomāniju saistītie budžeta izdevumi. *Ex-ante* ieplānotie izdevumi no valsts budžeta valsts politikas narkomānijas jomā finansēšanai.

Non-labelled drug-related budget expenditures – neiezīmēti ar narkomāniju saistītie budžeta izdevumi. Neplānotie izdevumi valsts budžetā, kas rodas ar narkomāniju saistīto problēmu dēļ. Piemēram, valsts policijas izdevumi ar narkomāniju saistīto noziedzīgo darījumu atklāšanai.

Problem drug use (PDU) – problemātiskā narkotiku lietošana. Saskaņā ar EMCDDA definīciju, par problemātisko narkotiku lietošanu tiek uzskatīta regulāra un/vai ilgtermiņa opiātu, kokaīna un/vai amfetamīnu lietošana vai narkotiku lietošana injekciju veidā.

Reuter classification of drug-related expenditures – ar narkomānijas problēmu saistīto izdevumu Roitera klasifikācija (Reuter, 2004). Saskaņā ar Roitera klasifikāciju, izdevumi tiek klasificēti četrās kategorijās: 1. Profilakse, 2. Ārstēšana, 3. Likumu izpildīšanas kontrole un 4. Kaitīguma mazināšana.

Tangible costs – taustāmās izmaksas. Izmaksas, kuru samazināšanas rezultātā ekonomikā tiek atbrīvoti resursi, kas var tikt izmantoti citā veidā. Piemēram, valsts budžeta izdevumu narkomānijas profilaksei samazināšana ļautu novirzīt atbrīvotos resursus citu valsts funkciju finansēšanai.

Annex

Table A.1: Classification of the analysed expenditures

	Description	Source of data	Financing in 2008	COFOG[25]	Type of costs	Reuter[26]
	1st action direction: Coordination, improvement of the law base and international co-operation					
1.	Improve laws and regulations in the field of alcohol dependence, prevention, treatment and rehabilitation of drug dependants, reduction of drug prevalence	MoI	1900.00	1	Direct	1, 2, 3, 4
2.	Ensure fulfilment of the EMCDDA working programme at the national level in accordance with agreement between EMCDDA Latvian Public Health Agency (Latvian Drug Information and Monitoring Centre)	MoI	11079.30	1	Direct	1, 2, 3, 4
3.	Ensure representation of Latvia in events dedicated to drug control organised by Organisation of United Nations, European Union, EMCDDA, Nordic Council of Ministers and other European and international organisations.	MoI	11945.00	1	Direct	1, 2, 3, 4
			9886.97	1	Direct	1, 2, 3, 4
			4555.00	1	Direct	1, 2, 3, 4
	Other expenditures that are not directly attributable to certain public programme expenditures					
4.	Remuneration to the head of Secretariat of Drug Control and Combating Drug Dependence Coordination Council	MoI	10375.16	1	Direct	1, 2, 3, 4
	2nd action direction: reduction of demand					
5.	Create and maintain inter-branch outpatient treatment teams (doctors, psychologists, social workers, nurses).	MoI	58268.04	7	Direct	2
6.	Provide education to the inter-branch treatment teams	MoI	7152.56	7	Direct	2
7.	Expand drug replacement therapy system	MoI	36700.00	7	Direct	2
8.	Provide state-financed chemical toxicology tests for children	MoI	1205.03	7	Direct	3
9.	Organise seminars and courses on drug prevention for teachers and parents	MoI	10421.19	7	Direct	1
			7500.00	7	Direct	1

[25] COFOG categories: 1 - General public services, 2 – Defence, 3 – Public order and safety, 4 – Economic affairs, 5 – Environmental protection, 6 – Housing and community amenities, 7 – Health, 8 – Recreation, culture and religion, 9 – Education, 10 – Social protection.

[26] Reuter's classification categories: 1 – Prevention, 2 – Treatment, 3 – Enforcement, 4 – Harm reduction.

	Description	Source of data	Financing in 2008	COFOG[25]	Type of costs	Reuter[26]
10.	Organise seminars for representatives of mass media to reduce latent popularisation of drug use	MoI	558.41	7	Direct	1
11.	Elaborate recommendations for healthcare specialists on the use of narcotics and psychotropic substances in medicine	MoI	5933.00	7	Direct	2, 4
12.	Provide education on drug abuse consequences to soldiers in obligatory and professional military forces of the National Armed Forces, as well as education on drug prevention to service personnel and commanders of medical units.	MoI	950.00	7	Direct	1, 2
	Other expenditures that are not directly attributable to certain public programme expenditures					
13.	Create TV clips and publications on alcohol, drug and computer game dependence	MoI	6825.00	7	Direct	1
14.	Social rehabilitation and reintegration of dependant children	MoI	388001.25	10	Direct	2, 4
15.	Social rehabilitation and reintegration of dependant adults	MoI	117120.00	10	Direct	2, 4
	3rd action direction: reduction of supply					
16.	Provide prisons with equipment, resources and personnel for determination of narcotic substances	MoI	8191.00	3	Direct	3
	Other expenditures that are not directly attributable to certain public programme expenditures					
17.	Remuneration to officials engaged in combating illegal drug turnover in Central and Regional Customs Boards of SRS	MoI	484104.00	1	Indirect	3
18.	Transport expenses in Central and Regional Customs Boards of the SRS, related to combating the illegal drug turnover	MoI	25865.00	1	Indirect	3
19.	Expenses on building maintenance and public utilities in Central and Regional Customs Boards of the SRS, related to combating the illegal drug turnover	MoI	72233.00	1	Indirect	3
20.	Remuneration to officials of Customs Criminal Board of the SRS, engaged in combating illegal drug turnover	MoI	491011.00	1	Indirect	3
21.	Transport expenses in Customs Criminal Board of the SRS, related to combating illegal drug turnover	MoI	24484.00	1	Indirect	3
22.	Expenses on building maintenance and public utilities in Customs Criminal Board of the SRS, related to combating illegal drug turnover	MoI	54840.00	1	Indirect	3
23.	Prevention and detection of drug-related crimes	MoI	121680.00	3	Indirect	3

	Description	Source of data	Financing in 2008	COFOG[25]	Type of costs	Reuter[26]
24.	Ensure functioning of Forensic Department: remuneration to experts	MoI	96071.00	3	Indirect	3
25.	Ensure functioning of Forensic Department: financing of reagents and examinations	MoI	8498.00	3	Indirect	3
26.	Ensure investigation and operational activities: business trips	MoI	1879.00	3	Indirect	3
27.	Ensure investigation and operational activities: dog handling	MoI	238972.00	3	Indirect	3
28.	Ensure investigation and operational activities: functioning of support units (Information Analysis Department, "OMEGA" unit, operative transport)	MoI	694480.00	3	Indirect	3
29.	Financing of examinations on detection of narcotics and psychotropic substances	MoI	490220.00	3	Direct	3
30.	Financing preventive measures and activities aimed at reducing drug prevalence among teenagers and young people in schools of republic cities and regional schools	MoI	23307.00	7	Direct	1
31.	Drug raids in entertainment places	MoI	24544.00	3	Direct	1, 3
32.	Reception of foreign delegations	MoI	500.00	1	Direct	1, 2, 3, 4
33.	Professional courses in the State Police College	MoI	400.00	9	Direct	3
34.	Technical equipment for narcotic examinations in the Physical and Examinations unit of the Forensic Department of the State Police	MoI	26782.00	3	Direct	3
	4th action direction: Collection, analysis and assessment of information					
35.	Elaborate and improve a programme and activities aimed at reducing drug supply and demand as well as criteria for evaluation of the effectiveness of the programme; perform regular evaluations	MoI	1318.00	7	Direct	1, 2, 3, 4
36.	Introduce and maintain 5 main indicators for drug and drug dependence prevalence control, in line with EMCDDA requirements	MoI	42975.59	7	Direct	1, 2, 3, 4
37.	Elaborate, introduce and maintain risk assessment criteria and a cooperation mechanism for information exchange on the prevalence of new synthetic drugs, health consequences and social risk.	MoI	2836.67	7	Direct	1, 2, 3, 4
38.	Calculation and analysis of drug users, using the existing databases	MoI	14975.44	7	Direct	1, 2, 3, 4
	Total – MoI evaluation report		**3640542.6**			
	Additional expenditures					
39.	Expenditures on imprisoned persons					
39.a	Assuming all expenditures are attributable	LPA, own estimate	4500906.96	3	Indirect	3

	Description	Source of data	Financing in 2008	COFOG[25]	Type of costs	Reuter[26]
39.b	Assuming only variable expenditures are attributable	LPA, own estimate	429377.03	3	Indirect	3
40	Expenditures on secondary education					
40.a	Investment included	State budget, own calculations	563228.15	7	Indirect	1
40.b	Investment excluded	State budget, own calculations	528745.63	7	Indirect	1
41.	Expenditure on compensated medicines (Hepatitis)	Health Payment Center, own calculations	210289.42	7	Indirect	4
42.	Inpatient treatment of drug dependants and people with correlated health problems	Health Payment Center, own calculations	469289.05	7	Indirect	4
43.	Central Government expenditures on HIV/AIDS prevention for intravenous drug users	ICL	32800.00	7	Direct	4
44.	Local Governments' expenditures on HIV/AIDS prevention for intravenous drug users	ICL	203434.00	7	Direct	4
45.	Inpatient treatment of HIV/AIDS infected persons, attributable to drug use	ICL, own calculations	149303.83	7	Indirect	4
46.	Outpatient treatment of HIV/AIDS infected persons, attributable to drug use	ICL, own calculations	798482.59	7	Indirect	4
47.	State Probation Agency’s expenditures on social rehabilitation of drug-dependent persons (contract with Akrona – 12)	State Probation Agency, own calculations	7413.05	3	Direct	2
	Total, investment included		10575689.67			
	Total, investment not included		6469677.21			