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MEASURING THE NON-OBSERVED ECONOMY IN NATIONAL ACCOUNTS

ILLEGAL ACTIVITIES

**ESTIMATING THE ILLEGAL ECONOMIC ACTIVITIES IN THE NATIONAL ACCOUNTS
OF UKRAINE IN 2005**

Note by the secretariat

Summary

The paper gives an overview of the experimental measurement of illegal economic activities in the national accounts of Ukraine, which was carried out in the framework of the European Union Technical Assistance to CIS countries (TACIS). The methods used to estimate prostitution, production and trade in drugs, illegal alcohol production, smuggling and fencing are described.

I. INTRODUCTION

1. The Organization for Economic Cooperation and Development (OECD) Handbook on measurement of the non-observed economy identifies the following kinds of illegal production that should be taken into account when estimating Gross Domestic Product (GDP):

- (a) Production and distribution of the illegal goods, such as prohibited drugs and pornographic materials;
- (b) Production of the illegal services (for example, prostitution services in the countries where they are forbidden by the law);
- (c) Production of the legal goods and services by the producers without special permission (licenses):
 - (i) Medical practice;
 - (ii) Gambling management;
 - (iii) Alcoholic beverages production;
 - (iv) Poaching (illegal fishing, hunting, wood-cutting);
- (d) Production and sale of the forged goods (goods with falsified trade marks) and unauthorized copies of the creative originals (for ex. software programs, audio-videocassettes and CDs);
- (e) Smuggling, in particular, of tobacco, weapons, alcohol, food products in wholesale and retail trade;
- (f) Transportation via border of the illegal immigrants;
- (g) Fencing;
- (h) Money laundering.

2. The scope and degree of distribution of the illegal production activities which shall be taken into account in the GDP estimates is different for different countries. Prostitution, drugs production and distribution, smuggling, alcohol production and robbery are the most significant kinds of illegal activities in Ukraine. That is why most of the efforts were concentrated on the estimation of these activities.

3. In the future the following kinds of illegal activities can be taken into account: production of other kinds of products than alcohol; medical practice; gambling management, poaching; production and sale of the forged goods (goods with falsified trade marks) and unauthorized copies of the creative originals; human trafficking, money laundering.

II. ECONOMIC ACTIVITIES NOT TO BE TAKEN INTO ACCOUNT IN THE GDP ESTIMATES

4. According to the SNA principles *production frames do not include non-productive activities on the redistribution of the incomes and assets (legally and illegally) which are not reflected in GDP.*

5. The concrete forms of the illegal non-productive activities can be quite different. They relate to *mercenary crimes and law infringements; financial crimes and crimes related to property issues.*

III. PROSTITUTION

6. The main and the most reliable method of estimating output of prostitution services is from the supply side (resources), so it can be done on the basis of the data on the number of employed in this activity in the country and their average income.

7. In order to get more precise data on the evaluation of the prostitution services, the estimates shall be done by the categories of prostitutes, as the prices for services and the size and structure of intermediary consumption for different categories are sufficiently different.

8. There are four categories of prostitutes in Ukraine: working in the streets, on the call, in the salon, and elite prostitutes.

9. On the basis of the data of the Ministry of Internal Affairs of Ukraine and estimates of the independent experts it is possible to define the approximate number of prostitutes in Ukraine.

10. According to the data of the Ministry of Internal Affairs of Ukraine, 5 168 persons were involved in prostitution in 2005. To get more precise evaluation on the number of people involved in prostitution, estimations were done on the basis of expert evaluations (Table 1).

Table 1

Estimation of the number of people involved in prostitution in Ukraine

Number of men at the age 18-60	13,0 million (mln.)
Of which those who use prostitution services (10 %)	1,3 mln..
Average number of the services consumed per year	12
Average number of the services provided	15,6 mln.
Average number of working days of prostitutes	250
Average number of clients per day	5
Number of prostitutes	12,5 thousand (thsd.)

11. The output of prostitution services can be estimated on the basis of the data on the number of the prostitutes and the average price of the service for every category (see Table 2).

Table 2

Estimation of the output of prostitution services

Categories of the prostitutes	Number of prostitutes (Thsd.)	Average number of clients per day	Average number of working days per year	Number of services provided (thsd.)	Average price of one service (Hrynvias - hrn.)	Output of the prostitution services (thsd.hrn.)
Elite	0,7	2	190	228	500	114000
Working in the salon	3,1	4	220	2728	150	409200
Working on the call	3,7	5	245	4532,5	100	453250
Working on the street	5,0	6	265	8109	50	405450
Total	12,5			15597,5		1 381 900

12. To estimate the intermediate consumption in the sex-industry, a simplified methodological approach can be applied. Those expenditures that are intermediate consumption for the prostitutes, are an income from the exploitation of the prostitution on the other side (payment to pimps, owners of intimate salons, drivers, and security). All these incomes should be related not to the intermediate consumption of the prostitution but to its value added as these kinds of activities are directly linked with prostitution. In case of their separate allocation (more correct from the methodological point of view), it would be necessary to estimate the output of transportation and other services which would demand additional significant efforts. Thus, the intermediate consumption of the prostitution should relate to:

- (a) Rent paid by the prostitute for the flat to receive clients;
- (b) Rent for the premises paid by the owners of the intimate salons, massage salons, etc.;
- (c) Expenditures for clothes, cosmetics, protection measures and special equipment purchased by the prostitute independently;
- (d) Expenditures for transportation, equipment and advertising (ads in the newspapers, maintenance of Internet sites) which are on the account of the business owners.

13. Gross value added is derived from the output less intermediary consumption (Table 3).

Table 3
Estimation of the gross value added of the prostitution services

Categories of the prostitutes	Elite	Working in the salon	Working on the call	Working in the street	Total
1. Number of the prostitutes (thsd.)	0,7	3,1	3,7	5,0	12,5
2. Intermediate consumption of one prostitute, Hrynvias (hrn.) (3+4+5)	48 000	48 000	32 400	7 200	
including:					
3. Rent for the premises paid by the owners of the intimate salons, massage salons, etc., hrn.	0	36 000	0	0	
4. Expenditures for clothes, cosmetics, protection measures and special equipment purchased by the prostitute independently, hrn.	30 000	12 000	14 400	7 200	
5. Expenditures for transportation, equipment and advertising (ads in the newspapers, maintenance of websites) which are on the account of the business owners, hrn.	18 000	0	18 000	0	
6. Intermediate consumption, thsd.hrn. (1*2)	28 800	148 800	119 880	36 720	334 200
7. Output of the prostitution services, thsd.hrn.	114 000	409 200	453 250	405 450	1 381 900
8. Gross value added, thsd.hrn. (7-6)	85 200	260 400	333 370	368 730	1 047 700

14. Furthermore, the export of the prostitution services can be estimated. It relates to the services provided abroad by persons who are resident of Ukraine (who live and work abroad for a period not longer than one year) and the services provided to non residents on the economic territory of the country. The prices for the prostitution services in the countries of the European Union and Russia are much higher. Therefore, imports can include mostly services provided to the residents of Ukraine abroad. Probably it is almost equal to the size of the services provided to non-residents on the economic territory of the country. Thus, the net balance of the non residents' purchases on the territory of the country and residents' purchases abroad can be considered close to zero.

15. For estimation of the export of the prostitution services it is necessary to define the number of the persons providing services abroad.

16. For estimation of the value of such services we use some data provided by the Central Statistical Office of Poland (table 4).

Table 4

Calculation of the value of the prostitution services provided by the residents of Ukraine abroad (export of services)

1. Number of Ukrainian citizens who temporally worked abroad in 2005, pers. (labor statistics - 56 549 pers., approximate evaluation - 4 mln.), thsd. pers.	4 000
2. Average share of prostitutes in the population of Ukraine (12,5 /47 100,5 thsd.),%	0,027
3. Number of the residents of Ukraine providing prostitution services abroad, thsd. pers. (1*2)	1,061
4. Number of services provided within a year	1500
5. Price for the service, hrn.	40
6. The value of provided services, thsd.hrn. (3*4*5)	63 694
7. Intermediate consumption, thsd.hrn.(6*25%)	15 923
8. Gross value added, thsd.hrn. (6-7)	47 771

17. Thus, export of prostitution services is 63,7 mln.hrn. or 0.03% of the official GDP.

18. When estimating the final consumption taking into account the illegal activities, on one side we have to include the whole volume of the prostitution services and exports. On the other side, we should exclude intermediate expenditures which were earlier included into the final consumption of the households. The exports of these services include intermediate consumption, such as purchase of goods and services abroad, thus it should be considered as net purchases of the residents abroad which is imports. Therefore, prostitution services in the final consumption will correspond to the sum of the gross value added of the services realized on the economic territory of the country and value of the exported services less intermediate consumption (imports).

Table 5

Share of the prostitution services in the GDP of Ukraine.

	Official GDP 2005, mln.hrn. (preliminary estimation)	Prostitution services, mln.hrn.	Average weight in the official indicator, %
Output of goods and services	1017565	1445	0.14
Intermediate consumption	592824	350	0.06
Gross Domestic Product	424741	1095	0.26
Final consumption of households	238961	1048	0.44
Export of goods and services	227252	64	0.03
Exports less imports	3697	48	1.30

IV. DRUGS

19. The international UN program on the drugs control defines the following stages of the illegal activities related to drugs:

- (a) Illegal growing of raw materials;
- (b) Treatment process;
Illegal production of drugs;
- (c) Trafficking/distribution of the drugs;
Flow of the illegal drugs and raw materials inside the country (before and after treatment);
International drugs trade;
- (d) Sale of the drugs to the users;
- (e) Legalization of the incomes received.

20. The activities on the production and distribution of drugs are reflected in the GDP in the following way:

Table 6
Accounting for the production and distribution of drugs in GDP

GDP by production method	
Output	The value of the drugs produced inside the country in basic prices Trade and transport margins, related to distribution of the drugs inside the country
Intermediate consumption (-)	Intermediate consumption in the drugs production Intermediate consumption in the drugs distribution
Gross value added	Gross value added from production up to distribution of the drugs (output – intermediate consumption)
Net product taxes	-
Gross domestic product	Gross domestic product from production and distribution of the drugs
GDP by expenditure method	
Expenditures on the final consumption • Expenditures on the final consumption of households	Expenditures on the drugs purchase inside the country + purchases by the residents abroad – purchases of the non residents inside the country
Gross fixed capital formation • Changes in inventories	Changes in the producers' stocks of raw materials and final products, traders' goods for resale
Export	Export of drugs including purchases of the non residents inside the country
Import (-)	Import of drugs including purchases of the residents abroad
Gross domestic product	Domestic final consumption of drugs (final consumption + changes in inventories + export – import)
GDP by income method	
Compensation of employees	Compensation of employees involved in the drugs industry
Net taxes on production and import	-
Gross operating surplus/ gross mixed income	Operating surplus/mixed income from the drugs operations (gross value added – salary and wages)

21. Illegal production activities related to drugs include drugs production inside the country and activities of their delivery and sales to the users. The payments are done separately for drugs production and for their transport and realization.

22. Changes in producers' stocks of raw materials and final products and also distributors' goods for resale are very hard to be allocated in practice. Therefore an assumption is made that all the volume of the produced and imported drugs this year was consumed or exported.

23. The evaluations are done separately for every kind of drug, taking into account their specifics.

24. Both drugs produced locally and abroad are sold at the domestic market. Therefore, part of the drugs are exported (these can be locally produced drugs and re-exports).

25. The volume of drugs operations can be estimated both by the production and by the expenditure method. The output and imports are taken into account by the production method. The output consists of the drugs produced in the country (at basic prices) plus trade and transport margins on the drugs produced in the country and imported. On the expenditure side, the output is equal to consumption plus export minus import. Thus, for evaluation of the output data are needed on the volume (physical equivalent) of the domestic production and expenditure, export, import of the drugs, and also wholesale, retail, import and export prices of the drugs.

26. Taking into account that the output of drugs can not be estimated from the production side as there is no reliable information on the volumes of the drugs production, we have to use indirect estimation methods. For this purpose the data of the Ministry of Internal Affairs of Ukraine is used. It comprises information on the number of people who are registered for non-medical consumption of drugs and psychotropic substances, and data on the confiscation of the drugs and psychotropic substances from the Ministry of Foreign Affairs or by the evaluation of independent experts.

27. According to the data of the Ministry of Foreign Affairs of Ukraine, by 01.01.2005 on Ukrainian territory there were 124807 persons who were registered for non-medical consumption of drugs and psychotropic substances, and by 01.01.2006 the number of persons registered was 152418. This means that during the year there was an average of 138613 $((124807+152418)/2)$ persons registered for non-medical consumption of the drugs and psychotropic substances.

28. The estimations of the consumption are done on the basis of the data about the number of the confiscated drugs and average share of discovered cases. Taking into account the annual norms on the drugs consumption, it is possible to identify the number of people taking drugs, and on the basis of the price for the drugs sold – the value of the consumed drugs (table 7).

Table 7
Estimation of the volume of drug consumption in Ukraine

	Confiscated by the safety control bodies, gr.	% of discovery	General consumption, gr.	Norm of the consumpti on gr./year	Number of the consumers	Average prices, hrn./gr (units)	Value of the consumed drugs, thsd.hrn.
Drugs	14851664		137075856		133048,3		1389387
including:							
Opium	417017	20	2085085	150	13901	100	208509
Hashish	5805	5	116100	150	774	60	6966
Marihuana	2512632	20	12563160	300	41877	60	753790
Heroin	69	5	1380	150	9	500	690
Cocaine	181	5	3620	150	24	750	2715
Ephedrine	44971	5	899420	274	3283	60	53965
Medical stuff	9263	5	185260	360	515	50	9263
Poppy straws (non treated)	8295551	10	82955510	7300	11364	2,5	207389
Cannabis	1809220	10	18092200	3000	6031	2,5	45231
others	1756955	9	20174121	365	55272	5	100871
Psychotropic Substances	8341		166820		5565		10260
Including:							
Amphetamin es	1339	5	26780	30	893	100	2678
Methampheta mines	577	5	11540	30	385	100	1154
LSD (lysergic acid diethylamide)	3	5	60	10	6	100	6
Of industrial production	1685	5	33700	30	1123	50	1685
Other	4737	5	94740	30	3158	50	4737
TOTAL	14860005		137242676		138613		1399647

29. The volume of the final consumption of the drugs is estimated at 1.4 bln. Hryvnias (hrn). On its basis the trade activity is evaluated (table 8).

Table 8
The evaluation of the trade activities on the drug distribution

1. The value of the consumed drugs, thsd.hrn.	1399647
2. Domestic trade margin (1*20%)	279929
3. Intermediate consumption of the trade (2*30%)	83979
4. Gross value added of the trade (2-3)	195951
5. Including labor compensation (4*15%)	29393

30. Estimate is made for the value of the imported drugs and value of the domestic production. For domestic production, the intermediate consumption and gross value added are estimated (table 9).

Table 9

The estimation of the import and domestic drug production

	Origin	Value at the production prices (import)	Import (smuggling)	Domestic production	Intermediate consumption (50%)	Gross value added of the producers	Including labor compensation (15%)
Drugs		1111510	538554	572956	286478	286478	42972
including:							
Opium	Import	166807	166807	0	0	0	0
Hashish	Import	5573	5573	0	0	0	0
Marihuana	50 % import, 50 % domestic production	603032	301516	301516	150758	150758	22614
Heroin	Import	552	552	0	0	0	0
Cocaine	Import	2172	2172	0	0	0	0
Ephedrine	50 % import, 50 % domestic production	43172	21586	21586	10793	10793	1619
Medical stuff	domestic production	7410		7410	3705	3705	556
Poppy straws (non treated)	domestic production	165911		165911	82956	82956	12443
Cannabis	domestic production	36184		36184	18092	18092	2714
others	50 % import, 50 % domestic production	80696	40348	40348	20174	20174	3026
Psychotropic Substances		8208	3432	4776	2388	2388	358
Including:		0			0	0	0
Amphetamines	50 % import, 50 % domestic production	2142	1071	1071	536	536	80

Methampheta- mines	50 % import, 50 % domestic production	923	462	462	231	231	35
LSD	Import	5	5	0	0	0	0
Of industrial production	domestic production	1348		1348	674	674	101
Other	50 % import, 50 % domestic production	3790	1895	1895	947	947	142
TOTAL		1119718	541986	577732	288866	288866	43330

31. Data on the output, intermediate consumption and gross value added is summed up and compared to GDP (table 10).

Table 10
Share of the drug business in the GDP of Ukraine

	Official GDP 2005., mln. hrn. (preliminary estimation)	Production and distribution of drugs, mln.hrn.	Average weight in the official indicator, %
Output of goods and services	1017565	858	0,08
Intermediate consumption	592824	373	0,06
Gross domestic product	424741	485	0,11
Final consumption of households	238961	1400	0,59
Import of goods and services	-223555	-542	-0,29

V. SMUGGLING

32. Any infringements of the customs regulations are considered to be smuggling. These include transportation of the prohibited goods, transportation of goods under wrong labels, lowering the value of the goods, etc.

33. Smuggled (unregistered) goods should be considered, first of all, in the balance of payments and in imports and exports statistics.

34. The amount of smuggled goods can be defined by the balancing method as difference between registered resources and consumption of goods. This method is used for alcohol beverages, tobacco and drugs.

35. The other source of data is mirror customs statistics. However, a comparison of statistics of Ukraine with the data of the other countries on this indicator has not been possible so far because of a number of methodological reasons.

36. Operations with smuggled goods at the domestic market are reflected in the National Accounts in the following way.

37. The output of trade should include trade margins of the commission traders and sellers of the imported goods at the domestic market. This margin is probably already included in the estimates on trade output. If not, we need to do the following calculation. On the basis of customs statistics and expert evaluations, we can define the relation of this margin to the value of the good in import prices. Therefore, it is better to divide the smuggled goods into several categories depending on the level of margin. For example, it is good to differentiate such categories as household equipment and electronics, motor vehicles, alcohol beverages, tobacco, and other goods. As the import prices of the smuggled goods do not include customs duties, Value Added Tax (VAT), excises, the relation of the trade margin to the price of imported smuggled goods shall be higher than relation of the trade margin to the value of the same goods in the purchasers prices.

38. The trade output of the smuggled goods is defined as the sum of the imported smuggled goods multiplied by the relevant trade margin.

39. Intermediate consumption of the trade of smuggled goods is estimated as a percentage from output. The relevant gross value added is estimated as the difference between output and intermediate consumption.

40. The value of the exported smuggled goods shall be taken into account on the supply side; either in the output or in the import (in case of re-export).

41. In the GDP expenditure approach, the value of the imported smuggled goods is estimated in purchasers' prices and is taken into account in the part on the expenditures of the final consumption of the households.

42. On the estimation of the GDP by income method it is necessary to take into account the compensation of employees who are involved in selling the smuggled goods. The difference between gross value added generated by these activities and compensation of work relates to the gross operating surplus/mixed income of the smugglers.

43. According to the data of the State Customs Service of Ukraine, goods worth of 297,4 mln.hrn were confiscated for breaking the customs rules in 2005. It included transport vehicles - 63,6 mln.hrn., food and industrial goods - 196,4 mln.hrn. (including tobacco - 2,3 mln.hrn., spirits and alcoholic beverages - 0,4 mln.hrn.). The smuggling of currency is excluded from the total volume of the confiscated goods. For the estimation of the total volume of the smuggled goods, it is assumed that currency comprises 10% of the total volume.

44. The estimation of the smuggling received by the structuring of the natural balances (see estimation for illegal production) comprises 3071 mln.hrn. for vine – liqueurs and 2140 mln.hrn. for tobacco on the illegal export and 542 mln.hrn. for drugs (table 11).

Table 11
The estimation of the volumes of the smuggled goods

	Data of the customs service with exclusion of the smuggled currency	Estimation of the smuggling by alcohol, tobacco and drugs	% of discovery	Total smuggling	Export	Import
Confiscated goods						
Vehicles (import)	64		10,0	636		636
Alcohol (export)	0	3071	0,0	3071	3071	
Tobacco (export)	2	2140	0,1	2140	2140	
Drugs (import)	11	542	2,0	542		542
Cultural valuables (export)	2		10,0	18	18	
Other food and industrial goods	181		10,0	1811	906	906
TOTAL	260		4,2	8218	6135	2084

45. The output related to smuggling is estimated as trade margin. Trade margin includes intermediate consumption and value added, which itself includes compensation of employees (table 12).

Table 12
The output of smuggling

1. Total smuggling	8218
2. Trade margin (1*50%)	4109
3. Intermediate consumption (2*30%)	1233
4. Gross value added (2-3)	2876
5. including compensation for the work (4*50%)	1438

Table 13

Share of smuggling in the GDP of Ukraine

	Official GDP 2005, mln.hrn. (preliminary estimation)	Smuggling of the goods, mln.hrn..	Average share in the official indicator, %
Output of goods and services	1017565	4109	0,40
Intermediate consumption	592824	1233	0,21
Gross domestic product	424741	2876	0,68
Final consumption of households	238961	-	
Export of goods and service	227252	6135	2,70
Import of goods and services	-223555	2084	-0,93

VI. ILLEGAL PRODUCTION OF ALCOHOL WITHOUT CORRESPONDENCE TO SPECIAL STANDARDS

46. Alcohol production not covered by the regular statistical observations can be represented by four variants:

- (a) Non-registered production in legal enterprises;
- (b) Illegal production of the forged alcohol at the underground enterprises;
- (c) Household's production for own consumption;
- (d) Household's production for sale.

47. Non-registered production in legal enterprises is regarded as shadow production but not as illegal production. Therefore, it is not included in the evaluation of the illegal production activities. According to the data on the observation of the opinions of the managers of the enterprises, its volume comprises 10,1 % of legal production.

48. Illegal alcohol production is undertaken by underground enterprises and by households for own consumption and for sale.

49. Illegal alcohol production and consumption is estimated by the balancing method as the difference between registered resources and alcohol consumption volumes by the population. The estimation of the consumption of alcohol produced legally is provided in table 14.

Table 14
Estimation of the consumption of legally produced alcoholic beverages

Alcohol beverages , Mln. decalitres (dal)	Production	Imports	Total resources	Exports	Total consumption
Vodka and liqueurs (code 2208 with exception of codes 22082012, 22089078, 22089091 и 220809099)	47,7	0,2	47,9	4,5	43,4
Wine (codes 2204 (with exception of codes 220410 and 220430), 2205 and 2206)	15,4	11,4	26,8	16	10,8
Cognac (code 22082012)	2	0,05	2,05	0,02	2,03
Champaign (code 220410)	4	0,2	4,2	0,4	3,8
Beer (code 2203)	194	2,5	196,5	19,8	176,7

50. The alcohol consumption can be estimated as 16 bln.hrn. which exceeds the estimation of the retail sales by all the realization channels by 6 bln.hrn. Part of this difference (50%) shall be related to illegal export (smuggling) because of the relatively low prices of the alcohol production in Ukraine. Thus, the households' consumption of the alcohol of legal production would increase for 3 bln.hrn. and would comprise 12 bln.hrn (5 liters of pure alcohol per capita).

51. At the same time, independent experts estimate that general alcohol consumption per capita should comprise about 8-10 liters per year. Thus, non registered production would comprise about 6 bln.hrn. (3 liters of pure alcohol per capita *40 hrn./l.*47 mln.pers.). Of this, 2 bln.hrn. (10% of alcohol production) will be taken into account in the data which is underreported and 4 bln.hrn. in the other production (2 bln.hrn. – illegal production and 2 bln.hrn production for own consumption).

52. The output of the forged alcohol is estimated as physical volume multiplied by price of the forged production (the price is estimated on the basis of expert evaluations and usually should be lower than the price for the legal products).

53. Intermediate consumption in the underground production includes value of the consumed spirits and other materials, bottles, payments for electricity and rent for premises. It can be estimated by experts as a share in the value of the output.

54. Gross value added is defined as the difference between output and intermediate consumption. Integrated data on the underreported alcohol production are the following:

Table 15

Production and consumption of the underreported alcohol production.

(billion hrn.)

Types of the alcohol production	Production	Import	Export	Final consumption of the households
Legal production (statistical data)	18	2	4	10
including: underreported in the part on the final expenditure			3	3
Other production	6	-	-	6
- underreporting of data	2	-	-	2
- illegal production	2	-	-	2
- production for own consumption	2	-	-	2
TOTAL	24	2	7	19

Table 16

Share of the underreported production of alcohol in the GDP of Ukraine

	Official GDP 2005., bln.hrn. (preliminary estimation)	Underreported alcohol, mln.hrn.	Average weight in the official indicator, %
Output of goods and services	1017565	6000	0,59
Intermediate consumption	592824	1200	0,20
Gross domestic product	424741	4800	1,13
Final consumption of the households	238961	9000	3,77
Export of goods and services	227252	3071	1,35

VII. FENCING

55. The estimation of fencing for national accounts is quite complicated because of many factors. The most important factors are the diversity of the stolen objects (goods, author's rights, money, etc.), diversity of the methods of theft and sale of the stolen goods, and also there is no information for estimating the value added and trade margin. Furthermore, as in the other kinds of criminal activities, the estimation is based on the expert estimates and statistical data of the Ministry of Internal Affairs of Ukraine.

56. Fencing is an activity directly related to robbery. But robbery does not generate any value added, it is just redistribution of the assets. Purchase and the following sale of the stolen goods (fencing) is a trade deal which generates trade margin. This trade margin is registered in SNA as output.

57. For the estimation of the trade margin generated by fencing, it is necessary to have data on the number of thefts, value of the thefts and the approximate level of the trade margin. The

estimation of the number of the thefts according to the data of the Ministry of Internal Affairs of Ukraine in 2005 is provided in the table 17.

Table 17
Number of the registered crimes

Kinds of crimes	Number of the registered crimes
Theft	186659
Robbery	47054
Burglary	6708
TOTAL	240421

58. When a personal motor vehicle is stolen which is not an asset and the value of which was included in the expenditures on the final consumption of the households, its appearance on the market shall be reflected in the other changes in the volume of assets account. It is accounted for as economic appearance of an asset (goods for resale) at the value of its purchase by the reseller of the stolen cars. The trade margin on the sale of the car to the final customer will be reflected in the output. The value of the car according to the price of the final customer will be reflected in the expenditures on the final consumption of the households. The sellers have a decrease in the stocks of the goods for resale.

59. For the estimation of the trade margin generated by fencing, it is necessary to have data on the value of the theft and on the size of the trade margin. Data on the thefts can be received from the safety control bodies and insurance companies. The share of the trade margin shall be estimated on the basis of expert estimates. The size of the trade margin is equal to the value of the theft multiplied by the share of the trade margin. In some cases the results should be decreased as part of the stolen goods is sold legally (second hand shops) and thus the trade margin generated on their resale is already included in the output.

60. It is good to distinguish motor vehicles from the total volume of theft. In this case, information can be received from the safety control bodies (e.g. motor transportation inspections) and companies involved in vehicle insurance. This information can include data on the number and value of the stolen vehicles. By adjusting with the number and value of the vehicles found and returned to the owners, the value of the goods sold at the black market can be estimated. It is necessary to account for the share of the vehicles that are disassembled for resale of the spare parts as this business has its own trade margin.

61. The fencing activities especially in the case of motor vehicles include the possibility for intermediate consumption (expenditures on keeping the garage or payment for parking place, expenditures for purchase of the tools, petroleum, etc.). It is necessary to have expert estimates of the intermediate consumption as share of the output of the relevant activities. Gross value added is estimated as difference between output and intermediate consumption.

62. In case of fencing, especially of motor vehicles, export-import operations comprise quite a big share. International organized crime groups can work in this field and the profit from the operation abroad can be higher than in the country. However, at this stage it is not appropriate to allocate external economic relations on fencing.

VIII. SHARE OF THE ILLEGAL ACTIVITIES IN GDP

Table 18

Share of illegal economic activities in the GDP of Ukraine

	Official GDP 2005, mln.hrn.. (preliminary estimation)	Prostitution services, mln.hrn.	Drugs production and distribution, mln.hrn.	Smuggling of goods, mln.hrn.	Production and sale of the alcohol beverages	TOTAL
Output of goods and services	1017565	1445	858	4109	6000	12412
Intermediate consumption	592824	350	373	1233	1200	3156
Gross domestic product (production method)	424741	1095	485	2876	4800	9256
Final consumption of the households	238961	1048	1400		9000	11448
Export of goods and services	227252	64		6135		6199
Import of goods and services	-223555			-2084		-2084
Gross domestic product (expenditure method)	424741	1112	1400	4051	9000	15563
Share of the total						
Output of goods and services	100,0	0,1	0,1	0,4	0,6	1,2
Intermediate consumption	100,0	0,1	0,1	0,2	0,2	0,5
Gross domestic product (production method)	100,0	0,3	0,1	0,7	1,1	2,2
Final consumption of the households	100,0	0,4	0,6		3,8	4,8
Export of goods and services	100,0	0,0		2,7		2,7
Import of goods and services	100,0			0,9		0,9
Gross domestic product (expenditure method)	100,0	0,3	0,3	1,0	2,1	3,7

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