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Summary of the OECD Survey on Measuring the Non-Observed Economy

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The main document was prepared by Gyorgy Gyomai and the Annex was prepared together by Christine Arriola, Michela Gamba, Emmanuelle Guidetti and Gyorgy Gyomai (OECD – STD/NAD) and will be presented under item 7 of the draft agenda

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SUMMARY OF THE OECD SURVEY ON MEASURING THE NON-OBSERVED ECONOMY

A REPORT

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INTRODUCTION

In the fourth quarter of 2011 a survey on measuring the non-observed economy was sent by the OECD Statistics Directorate to the national statistical authorities of the OECD Member Countries. The survey was conducted at the request of the OECD Economic Policy Committee's Working Party 1. The survey is seen as central to the development of a number of important policy perspectives, including: taxation, economic measurement (of growth and productivity), integrity of and trust in public institutions as well as social protection.

The survey has been designed to achieve two objectives:

1. Achieve a better understanding of the size and key components of the Non-Observed Economy (NOE). In order to reach this objective the survey requested several breakdowns: by institutional sector, by industry (ISIC), by size class, and by informality category – as defined in the Eurostat Tabular Approach to Exhaustiveness (of measuring output) within the National Accounts Framework.
2. Achieve a better understanding of the methods that countries use to estimate these phenomena. Therefore the second part of the survey concentrated not so much on the estimates, but more on the methods applied.

RESPONSES

The survey responses were received by the OECD Secretariat in the March-June 2012 period. Countries managed to provide data on the NOE, but the type of responses and breakdowns available varied significantly across countries. Table 1 below shows a meta-description of the responses:

Table 1. Responses to the NOE survey (part 1)

Country	Reference Year	Currency (unit)	Breakdowns				Response received
			Sector	Industry	Size class	Informality	
Austria	2008	EUR (mln)	N	Y	N	Y	02 April, 2012
Belgium	2009	EUR (mln)	Y	Y	Y	Y	27 February, 2012
Canada	2008	CAD (mln)	Y	Y	N	Y	30 March, 2012
Chile	2009	CLP (mln)	Y	Y	Y	Y	18 June, 2012
Czech Republic	2009	CZK (mln)	Y	Y	N	Y	02 April, 2012
Denmark							cannot comply
Finland	2009	EUR (mln)	Y	Y	N	Y	27 March, 2012
France	2008	EUR (bln)	Y	N	N	Y	15 March, 2012
Germany							methods only
Hungary	2009	HUF (mln)	Y	N	N	Y	17 April, 2012
Israel	2008	NIS (mln)	Y	Y	N	Y	02 April, 2012
Italy	2008	EUR (mln)	N	Y	N	Y	28 May, 2012
Japan							methods only
Mexico	2008	MXN (ths)	Y	Y	N	Y	30 March, 2012
Netherlands	2007	EUR (mln)	N	Y	N	Y	10 May, 2012
New Zealand							does not do NOE adjustment
Norway	2009	NOK (mln)	Y	Y	Y	Y	28 March, 2012
Poland	2009	PLN (mln)	Y	Y	Y	Y	05 April, 2012
Portugal	2006	EUR (mln)	N	Y	N	N	17 April, 2012
Slovak Republic	2009	EUR (ths)	Y	Y	Y	Y	30 March, 2012
Slovenia	2007	EUR (mln)	Y	Y	N	Y	13 March, 2012
Spain							can only comply later
Sweden	2009	SEK (mln)	Y	Y	N	N	10 May, 2012
United Kingdom	2005	GBP (mln)	Y	Y	N	Y	15 April, 2012
United States							methods only

The table shows that, out of the 34 OECD members, 25 responded to the request; out of these 25 responses, 6 countries have not been able to provide breakdowns of NOE adjustments, for various reasons, either because no non-observed economy adjustments are in place (New Zealand), or because they cannot go beyond the description of the methods used (Germany, Japan, US), or simply because the timeframe did not allow them to comply with the request (Denmark, Spain). Nonetheless some of these countries were able to share generic methodological information in the second part of the questionnaire.

Out of the 19 countries that responded to the first part of the questionnaire, five have given confidential or partly confidential responses (Chile, Finland and Portugal requested full confidentiality, whereas Canada and the United Kingdom requested confidentiality on detailed sector breakdowns of NOE and on the methods respectively).

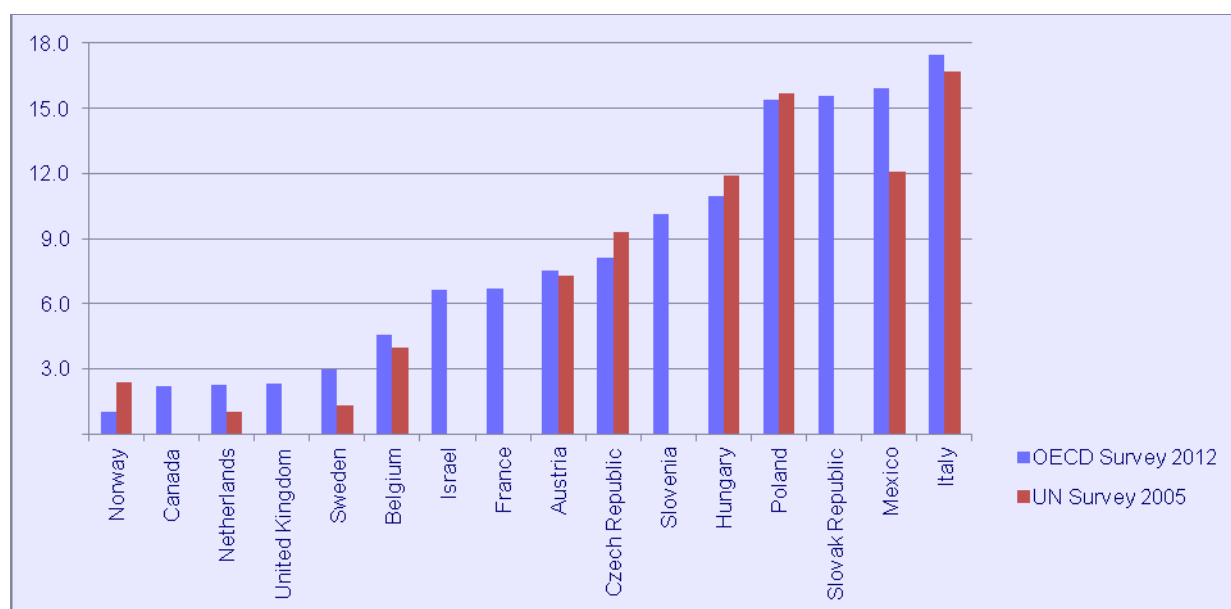
The reference year of the responses varies from 2005 to 2009, with the large majority of responses falling on 2008 and 2009. As the table shows there were only 5 countries which were able to provide all four breakdowns. Disregarding the size-class breakdown, that was missing in most survey responses, this gives a comparable sample of 12 countries for all other breakdowns; of 15 countries with an institutional sector breakdown, and 17 with a breakdown by both industry and informality-type.

Even though the survey provided a template for responses, it left some room for interpretation and hence variation. As a consequence, the results received were not immediately comparable, especially the industry breakdowns and some of the %GVA, %GDP calculations (where percentage figures sometimes referred to % of the total economy, and in some other cases referred to % of the GVA or GDP associated with the given sector/industry, while in some other cases proxies were used instead if GVA or GDP). In the report, where possible, the numbers have been harmonized/made comparable. As this exercise relies on assumptions made by the OECD Secretariat and data external to the surveys (available in National Accounts datasets at the OECD) the Secretariat asks the delegates to signal wherever the corrections do not seem plausible or are clearly erroneous.

FIRST PART OF THE SURVEY

The first part of the survey contains the numerical estimates of the non-observed economy (NOE). The overall figures for the size of the NOE in the OECD survey can be compared to results reported in the 2008 UNECE publication: “Non-Observed Economy in National Accounts – Survey of Country Practices”. The UNECE survey responses refer to estimates for 2001-2003. 10 countries allow for a comparison of NOE adjustment size variation over 6-8 years. (Where multiple values were given in the UNECE report – the upper estimates, or the output approach estimates were taken.)

Figure 1. NOE adjustments as a % of GDP - in the UNECE 2005 survey and the OECD 2012 survey



The graph shows that the range of estimates remained the same and indeed the country figures themselves show little variation compared to their previous values. The northern/Scandinavian and Anglo-saxon economies have relatively low levels of NOE adjustments (1%-5%), a number of other “older” European Union (EU) economies and Israel have adjustments in the mid range (5%-8%), whereas Italy, Mexico and the newly joined members of the EU have considerable NOE adjustments (9%-16%).

Comparing adjustments by informality types

The informality-type breakdown is based on Eurostat's Tabular Approach to ensure National Accounts exhaustive measurement. The adjustments are partitioned into 7 categories as follows:

- Producers in scope for administrative collection or enterprise survey
 - Producer NOT in administrative register
 - N1: Underground producer (should have registered, legal activity)
 - N2: Illegal producer; not registered
 - N3: Producer is not obliged to register
 - Producer in administrative register
 - N4: Registered legal person not included in statistics
 - N5: Registered entrepreneur not included in statistics
- Producers NOT in scope for administrative collection or enterprise survey
 - N6: Misreporting by the producer
 - N7: Statistical deficiencies in the data

For a more detailed description of the Non-Exhaustiveness types please consult the document introducing the survey at the 2011 WPNA: [Measuring the Non-observed and Informal Economy – Nadim Ahmad; STD/CSTAT/WPNA(2011)8]

Although overall figures for the size of NOE are fairly stable, table 2 below suggests that there may be significant differences in the way the various non-exhaustiveness adjustments have been handled/classified by countries. Admittedly some of the non-perfect alignment between the two surveys may be due to the fact that in 2005 some of the reported adjustments were based on an earlier version of the Eurostat Tabular Approach for non-exhaustiveness adjustments, and hence some of the shadings are based on UNECE judgements, that may not fall entirely in line with how countries allocate the adjustments made to N1-N7 categories.

Darker shading marks cells where adjustments were reported in the 2005 UNECE survey, lighter (pink) shading means that countries were not included in the 2005 survey or that, based on the responses, allocation to N1-N7 categories was not possible, white shading indicates that adjustments were not reported in 2005. Reported adjustments in the 2012 survey are marked by X.

Table 2. Non-exhaustiveness adjustments reported in 2005 vs. 2012

Shading represents 2005, X represents 2012

Country	GVA Adjustments by Type						
	N1	N2	N3	N4	N5	N6	N7
Austria	X	X	X	X		X	X
Belgium	X					X	X
Canada	X	X				X	X
Czech Republic	X	X	X		X	X	X
France	X		X		X	X	X
Hungary		X	X	X	X	X	X
Israel	X		X		X	X	X
Italy	X					X	X
Mexico					X	X	
Netherlands	X	X	X	X		X	X
Norway	X	X	X				X
Poland	X	X			X	X	X
Slovak Republic	X	X	X		X	X	X
Slovenia	X	X	X	X	X	X	X
United Kingdom			X	X		X	X

Tables 3 and 4 both present a breakdown of the adjustments by non-exhaustiveness (informality) – type, Table 3 presents adjustments as a percentage of total GVA, whereas Table 4 presents the relative sizes of adjustments normalized by the size of total adjustments. In Table 4 adjustment categories which represent at least 25% of total adjustments are highlighted.

Based on the two tables, there is considerable variation in what areas are handled by different countries, but the N6-type almost always represents a significant chunk of the non-exhaustiveness corrections; in some countries it reaches as much as 80% of all corrections. Otherwise N1, N5 and N7 can also represent a large share of the adjustments. Please note that for most countries N4 and N5 are hard to disentangle, either because only one or the other is monitored, or the results are reported for N4+N5 jointly.)

Table 3. NOE adjustments by informality-type

% GVA (except last column which is %GDP)

Country	NOE Adjustments by Informality-type							Total NOE Adjustments	
	N1	N2	N3	N4	N5	N6	N7	% of GVA	% of GDP
Austria	0.9	0.2	0.7	0.9		1.7	3.9	8.3	7.5
Belgium	0.2					4.1	0.8	5.1	4.6
Canada	0.1	0.2				2.0	0.1	2.4	2.2
Czech Republic	0.4	0.4	1.0		0.4	6.6	0.2	9.0	8.1
France	1.0		0.3		2.9	3.1	0.2	7.5	6.7
Hungary		1.0	2.4	0.7	0.6	3.6	4.7	12.9	10.9
Israel	0.1		0.4		1.2	2.3	3.3	7.2	6.6
Italy	6.9					10.4	1.3	18.7	17.5
Mexico					10.5	5.6		16.0	15.9
Netherlands	0.8	0.5	0.1	0.4		0.1	0.6	2.6	2.3
Norway	0.6	0.0	0.5				0.1	1.2	1.0
Poland	4.0	1.0			0.0	10.3	2.0	17.3	15.4
Slovak Republic	1.9	0.5	2.1		1.1	11.3	0.2	17.1	15.6
Slovenia	0.2	0.4	2.5	0.6	0.1	4.2	3.6	11.6	10.2
Sweden								3.4	3.0
United Kingdom			0.4	0.2		1.7	0.3	2.6	2.3

Table 4. NOE adjustments by informality-type

% of Total NOE adjustments (adjustments above 25% are highlighted)

Country	NOE Adjustments by Informality-type						
	N1	N2	N3	N4	N5	N6	N7
Austria	11.4	2.1	8.6	10.8		20.4	46.8
Belgium	3.3					80.3	16.2
Canada	2.1	8.2				86.1	3.6
Czech Republic	3.9	4.5	10.7		4.9	73.7	2.3
France	13.3		4.0		38.7	41.3	2.7
Hungary		7.5	18.7	5.6	4.3	27.9	36.0
Israel	0.9		5.5		16.3	31.7	45.6
Italy	37.2					55.6	7.2
Mexico					65.3	34.7	
Netherlands	31.4	20.1	2.9	17.1		5.2	23.2
Norway	51.5	0.3	43.8				4.4
Poland	23.1	6.0			0.0	59.5	11.4
Slovak Republic	11.1	3.0	12.3		6.3	66.2	1.0
Slovenia	2.1	3.2	21.6	5.6	0.5	36.1	30.9
United Kingdom			15.4	7.5		65.6	11.4

Comparing adjustments by institutional sectors

Table 5 below shows a cross tabulation between exhaustiveness categories and institutional sectors. The majority of the adjustments are allocated to Non-Financial Corporations and Households. For the other sectors the adjustments are zero or marginal. In some cases, countries report the adjustments jointly for the Corporate Sector (Financial and Non-Financial Corporations merged), and similarly Households and NPISH merged together.

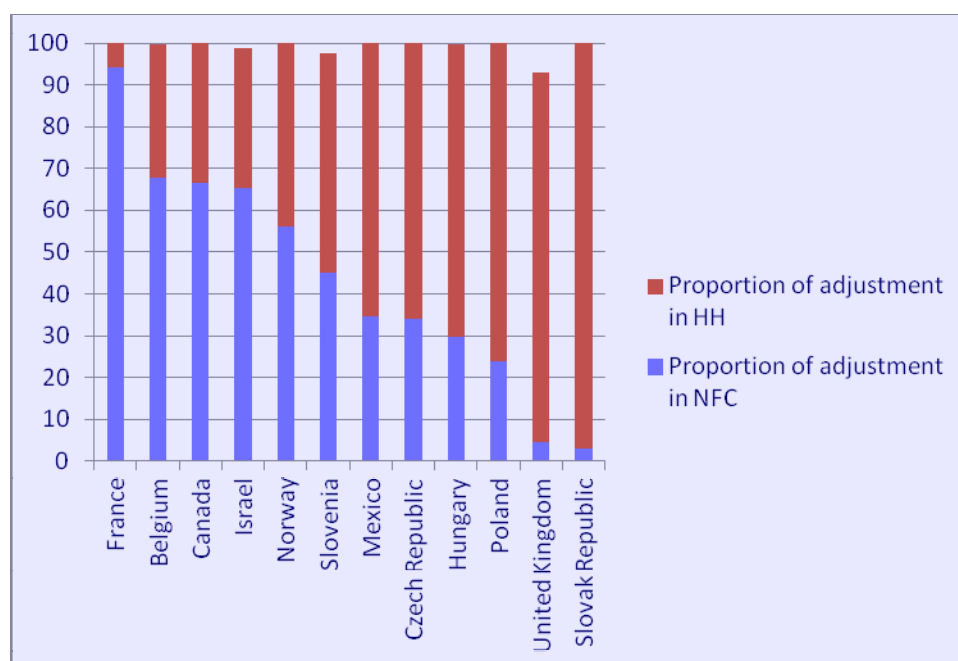
Table 5. NOE adjustments by informality-type and by institutional sector

Number of countries reporting adjustment

Sector	NOE Adjustments by Type						
	N1	N2	N3	N4	N5	N6	N7
Non Financial Corporations	2	3		2	1	10	10
Financial Corporations				1		2	5
General Government				1			3
Households	8	6	8	1	7	9	8
NPISH				1			2

The adjustment in the Non-Financial Corporations' sector is mainly made in N6 and N7 (i.e. misreporting and statistical deficiencies), whereas for households all the non-exhaustiveness categories are applied.

The following graph shows the distribution of the adjustments between the Non-Financial Corporations and Households. As the table shows, in some countries the adjustments are predominantly made to Households, whereas in other countries Corporations account for the larger share of adjustments. In the UK the bulk of the missing adjustment is made to the Financial Corporations sector on N7.

Figure 2. Share of adjustments by sectors

Comparing adjustments by industry

The adjustments by industry are notoriously difficult to compare. The responses show large variations in the industrial classifications provided, they refer to ISIC 4, ISIC 3.1, NAICS, partial lists, and larger aggregates with no clear reference to the international classifications. Table 6 below presents results for countries with an ISIC 4 (or NACE rev. 2.) breakdown. The first 8 countries supplied data with this breakdown. For the remaining 4 countries in the table, the Secretariat has tried to map the adjustments by ISIC 3.1 or national industrial classification to ISIC 4, to facilitate comparison.

Table 6. NOE adjustments by industry

% of total GDP (larger than 0.5 highlighted)

ISIC 4	SWE	POL	CZK	AUT	SVK	NOR	SLO	BEL	ISR	NLD	MEX	CAN
A - Agriculture, forestry and fishing	0.1	0.7	0.7	0.1	1.9	0.1	0.3	0.0	0.2	0.2	0.9	0.0
B - Mining and quarrying	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
C - Manufacturing	0.1	1.3	1.0	0.9	2.1	0.0	1.1	0.3	0.0	0.0	0.0	0.1
D - Electricity, gas, steam and air conditioning supply	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.1	3.1	0.0
E - Water supply; sewerage and, waste management activities	0.0	0.1	0.1	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0
F - Construction	0.7	2.6	1.8	1.3	4.3	0.7	1.5	1.2	1.0	0.3	1.1	0.7
G - Wholesale and retail trade; repair of motor vehicles and motorcycles	0.3	6.3	1.5	1.7	2.8	0.0	0.4	0.9	0.9	0.3	5.9	0.4
H - Transportation and storage	0.3	0.8	0.2	0.3	1.0	0.0	0.6	0.1	0.2	0.0	1.3	0.1
I - Accommodation and food service activities	0.2	0.3	0.8	1.2	0.5	0.2	0.2	0.4	0.2	0.2	0.7	0.3
J - Information and communication	0.2	0.3	0.2	0.2	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0
K - Financial and insurance activities	0.0	0.0	0.1	0.3	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.0
L - Real estate activities	0.2	0.0	0.4	0.1	0.3	0.0	1.5	0.1	2.3	0.4	0.4	0.0
M - Professional, scientific and technical activities	0.2	1.4	0.4	0.3	0.9	0.0	1.2	0.6	0.0	0.0	0.3	0.1
N - Administrative and support service activities	0.1	0.0	0.2	0.3	0.3	0.0	0.0	0.2	0.0	0.0	0.1	0.1
O - Public administration and defense; compulsory social security	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
P - Education	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Q - Human health and social work activities	0.1	0.2	0.1	0.2	0.3	0.0	0.3	0.4	0.2	0.2	0.1	0.2
R - Arts, entertainment and recreation	0.1	0.0	0.1	0.2	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.0
S - Other service activities	0.2	0.7	0.4	0.2	0.5	0.1	0.4	0.1	0.8	0.1	1.8	0.2
T - Activities of households as employers;	0.0	0.5	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.4	0.0	0.0
U - Activities of extraterritorial organizations and bodies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Chile, Portugal and Finland were not included for confidentiality reasons, whereas Italy only provided more aggregated data (Agriculture: 0.6, Industry: 3.6, Services: 14.5). The United Kingdom only partially allocated the NOE adjustments to industries. Cells highlighted in the table show industries (activities) where the NOE adjustments are larger (above 0.5% of the GDP). Although there is some variation, the largest adjustments tend to be included for F-Construction and G-Wholesale and Retail Trade and repairs of motor vehicles. However, Agriculture, Manufacturing, Transportation, Accommodation and food services, Real estate activities, Professional, scientific and technical activities, and other services all can be subject to significant adjustments depending on the country.

A different view on the size of adjustments by industry is presented in table 7, where the size of adjustment is compared to the gross value added of the relevant industry. In this perspective F-Construction and G-Wholesale and Retail trade remain among the industries with the largest adjustments, but T-Activities of households as employers can entirely consist of adjustments for exhaustiveness, and compared to their size S-Other Service activities, I-Accommodation and food services, R-Arts Entertainment and Recreation and A-Agriculture can also have significant adjustments.

Table 7. NOE adjustments by industries

% of GVA of the industry (larger than 10% highlighted)

ISIC 4	SWE	POL	CZK	AUT	SLK	NOR	SLO	BEL	ISR	NLD	MEX	CAN
A - Agriculture, forestry and fishing	7.5	4.9	39.5	3.5			15.7	2.8	10.0	12.8		1.6
B - Mining and quarrying	0.5	0.0	0.0	1.4			3.0	0.8	0.0	1.9		0.8
C - Manufacturing	1.1	8.8	4.9	4.9			5.3	2.1	0.0	0.1		0.9
D - Electricity, gas, steam and air conditioning supply	0.0	0.2	0.6	4.8			1.4	0.8	1.7	0.8		0.0
E - Water supply; sewerage, waste management	4.6	0.5	6.9	1.8			29.0	1.1	0.0	0.3		0.2
F - Construction	15.9	16.7	28.5	20.5			13.6	23.1	22.4	5.7		9.9
G - Wholesale and retail trade; repair of motor vehicles and motorcycles	2.5	40.7	15.4	14.5			7.8	8.0	11.6	2.4		4.3
H - Transportation and storage	5.3	4.9	3.7	7.0			31.0	2.0	3.4	0.6		1.3
I - Accommodation and food service activities	11.9	2.2	44.2	27.7			4.8	24.3	9.2	12.3		12.4
J - Information and communication	3.6	2.3	5.1	5.5			1.4	3.2	0.0	0.0		0.4
K - Financial and insurance activities	0.3	0.0	2.9	7.0			1.9	0.4	3.5	0.6		0.1
L - Real estate activities	2.9	0.3	6.5	1.2			28.7	1.7	8.5	2.1		0.0
M - Professional, scientific and technical activities	4.2	9.2	9.5	7.5			51.1	7.1	0.0	0.0		2.2
N - Administrative and support service activities	3.9	0.2	12.5	8.7			0.2	5.9	0.0	0.0		3.7
O - Public administration and defense; compulsory social security	0.0	0.0	0.0	1.0			2.0	0.0	1.4	0.2		0.0
P - Education	1.3	0.0	1.7	1.9			3.1	0.1	5.9	0.2		0.3
Q - Human health and social work activities	1.2	1.2	2.3	3.1			7.9	5.7	2.8	2.5		2.4
R - Arts, entertainment and recreation	10.3	0.0	12.9	19.7			13.2	8.7	0.0	0.0		4.5
S - Other service activities	12.1	4.7	34.5	16.2			46.4	6.8	30.1	4.7		7.8
T - Activities of households as employers;	28.9	3.3	0.0	0.0			99.7	100.0	0.0	100.0		0.0
U - Activities of extraterritorial organizations and bodies	0.0	0.0	0.0	0.0			0.0	0.0	0.0	0.0		0.0

THE SECOND PART OF THE SURVEY

In the second part of the survey, countries were asked about the methods used/practiced to ensure the exhaustiveness of their national accounts data. The annex to this report presents brief country profiles, based on the responses as edited by the Secretariat. The responses related to the methodology show a large variation ranging from a one paragraph general response to detailed documentation on the methods and practices including estimates and numerical examples. The responses also varied significantly in terms of how much they related to the proposed N1-N7 exhaustiveness adjustment breakdown. The OECD Secretariat made an attempt to organize the methodological content according to the N1-N7 breakdown, and decrease the difference in the amount of detail provided. Nonetheless this exercise may have omitted, misinterpreted responses or switched the emphasis of the adjustments made, therefore comments and suggestions related to the Annex are very much welcomed.

The comparison of the country practices reveals that there are many areas of NOE that are handled in several countries and often in a similar way across countries. Alas, despite similarities in the targeted activities, the boundaries of the N1-N7 exhaustiveness categories were not always clear; occasionally countries reported their inability to relate to these categories, expressed difficulties in disentangling balancing, data validation and exhaustiveness categories, or expressed that they cannot exactly follow the specifications of the tabulation and hence the allocations they reported are approximate and somewhat

arbitrary. This observation is also in line with table 2 (above) which shows significant differences in the N1-N7 categories tackled (reported to be tackled) by countries in 2005 versus 2012.

The problems encountered in the present survey were:

- A trespassing of boundaries between N1 and N6; from an analytical perspective these categories are very similar - in both cases some of the output/value added “otherwise” legally produced is missing (either because of under-reporting or non-registration/non-reporting).
- The difference between N4 and N5 is often ignored. The methods applied and the results reported are either joined for the two categories or only one of the categories is reported. This differentiation may be important for the producer of sector accounts, but may be less relevant for the economic analyst.
- Depending on the regulation in countries, significant amounts of output (and related adjustments) can shift between N3 (producer not obliged to register) and N4 (registered legal person not included in statistics) or even N5, whereas the adjustment techniques and the economic content is fairly similar.

In general the N1-N7 breakdown works well as a checklist for the statistics producer, but it may not be the ideal way to present the Non-Observed Economy (NOE) categories and perhaps a higher aggregate of these categories would provide a better picture, differentiating only between: illegal (N2), economic underground (N1, N6, parts of N4, N5 and N7a), informal (N3 and parts of N4), and statistical underground (N7b and parts of N4 and N5).

An issue that surfaced for a few countries is the handling of the difference between theoretical VAT and actual VAT. A number of countries make an adjustment for this difference, but the missing VAT is not allocated by sectors or industry, it is added to the GVA of the entire economy. On the other hand, most countries did not mention an adjustment for non-received VAT.

For N2, several countries have reported experimental figures (not yet included in the published national accounts aggregates), but also mentioned an intent of including these (or further refined) estimates together with the implementation of the 2008 SNA.

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4. *Åsa Johansson, Dan Andrews, Aida Caldera Sánchez* - Determinants and Consequences of Informality: A Feasibility Note, document prepared for Working Party No. 1 on Macroeconomic and Structural Policy Analysis WP1/2011/3.
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ANNEX – METHODS AND SOURCES BY COUNTRY

AUSTRIA

N1

- *car repair*: household consumption expenditure on car repair is estimated based on an assumption on the average actual repair needs per unit of distance covered. Information for this estimate is provided by Austrian Automobile Clubs, the estimates being significantly higher than estimates derived from business statistics. The difference is assumed to be non-declared car repair services.
- *cleaning services in households*: based on the comparison of the supply side (registered domestic employees times average wage) and the demand side (household budget survey). Since the non-registered workers rather act as self-employed than as employees, the adjustment is allocated to ISIC 81 (cleaning services) and not to ISIC 97 (households with employees).
- *private tutoring*: estimates are based on surveys by the university of Vienna and the Austrian Chamber of Labour. These surveys provide information on the amount spent by parents for their children's private tutoring.
- *hairdressers, beauticians and the like* :based on the comparison of turnover figures from business statistics and expenditure figures in household budget surveys. The expenditure surplus is split into non-declared tips (10% of official turnover; N7) and non- declared work (rest of the surplus; N1).
- *construction of dwellings* by private households: estimates are made for non-declared work (N1) and own account work (N3), they are based on a survey by the Austrian Chamber of Commerce: households, which intended to build or to refurbish a private dwelling, were asked, to which extent they would do the work themselves or with the help of non-registered workers. They were also asked for their motives. The official statistics on the construction of private dwellings were adjusted by ratios derived from the results of this survey.

N2

- *drug trafficking*: estimates are based on the demand side. Information on drug users and their consumption behaviour is provided by health authorities. Wholesale and retail prices of drugs are provided by police authorities and the UN world drug report. The estimates are carried out for several types of drugs.
- *cigarette smuggling*: estimates are also based on the demand side. The demand for cigarettes is derived from the number of smokers and their smoking behaviour, both provided by microcensus surveys. This demand is compared to actual cigarette sales. The surplus, adjusted for legal direct

imports by households, is assumed to be illegal sales from smuggled cigarettes. Moreover, these estimates are backed by the annual 'empty pack survey' carried out by the Austrian Chamber of Commerce, which discloses the share of cigarettes that are not taxed in Austria.

- *illegal prostitution*: estimated from the supply side as the number of illegal prostitutes times average turnover less assumed intermediate consumption (e.g. rent, clothes).

N3

Estimates for own account construction of agricultural buildings are based on information from annual surveys of a sample of agricultural units.

N4+N5 (the two categories were estimated together)

- *VAT-test*: the first indication of the exhaustiveness of the annual structural business statistics (SBS) is provided by the so called VAT test. This is a method which determines whether all survey units which should theoretically be recorded actually have been. It is easy for this not to happen, particularly with small companies and establishments, and for this reason special attention is given to survey units with low turnover. The VAT test compares turnover according to SBS with the taxable turnover in accordance with the VAT statistics broken down by industry (NACE Rev.2 two-digit codes) and size classes (turnover strata).
- *grossing up for calendar year*: the business statistics provide information whether a particular enterprise reports data for the whole reference period (=calendar year) or not. In the latter case the reported data are adjusted by estimates for the missing time span.

N6

Estimates for revenues 'off the books' are based on the comparison of the income of employees and a reference income of self-employed by detailed activity and turnover strata. The point of departure for identifying hidden income is the assumption that a self-employed person would like to earn the same income per working unit as a dependent employee in his immediate economic environment. If he were to earn less, he would, as a "homo economicus", change his employment status. In cases where the data collected in the basic statistics indicate that self-employed persons have a lower income, there is a good reason to assume that the difference is compensated for by earnings which are not declared to the tax authorities and to official statistics.

N7

- *conceptual adjustments of intermediate consumption*: adjustments are made for particular components of expenditure, which are excluded from intermediate consumption in national accounts but are reported as such by enterprises (e.g. tax-related charges, transfers, fees; source: additional survey with a more detailed breakdown of specific variables). Similarly, gross insurance premiums reported as intermediate consumption by enterprises are adjusted for received claims to be in line with the insurance service charge concept of national accounts (source: insurance statistics).
- estimates for *own account production of software* are based on the "costs of production" method (labour and non-labour costs derived from number of IT-jobs).

- *non-declared tips*: average wages, adjusted for working time, in hotels and restaurants services are compared to those in similar services (trade). It is assumed that the observed shortfall of wages in hotel and restaurant services is compensated by non-declared tips. The tips/wage ratio derived in hotel and restaurant services was also applied to wages in taxi services.

BELGIUM

N1

- *Non-declared work for domestic personnel employed by households* is calculated as the difference between total demand for households services (based on the household budget survey) and the official demand for households services (based on administrative sources).

N2

- *Illegal activities* are not recorded in the Belgian national accounts, but will be introduced in the 2014 National Accounts release.

N6

All types of *misreporting by producers* in order to avoid taxes and social security contributions. Estimation are based on either: using *Supply and Use Tables*, or *cross-checking* with VAT declarations, annual accounts, etc., or using hypothesis like: “the smaller the units the larger the misreporting” or “industries that sell goods and services to households (construction, horeca, retail trade,...) are more fraud sensitive than industries that sell to other industries or to the government.”

N7

- *tips*: adjustment is estimated as a % of turnover (for HORECA, taxis and hairdressers).
- *wages in-kind*: adjustments are made using different sources for particular components (free meals in HORECA, buy a car at a reduced price for employees working in a car factory, goods and services purchased by companies to benefit to their their employees, lease cars used for private purposes by employees).

CANADA

N1

- *Skimming*
- *Construction-related activities*
- *Hidden rent*
- *Undeclared tips and*
- *Export-related underground activities*

Adjustment is based on data confrontation using Income estimates. These estimates were created based on expenditure and industry estimates. Since much of the data were based on tax records (T1 and T2), the net income from the underground activity could be separated into incorporated and unincorporated business incomes using these sources. Other expenditure items (like tips), were allocated to wages and salaries.

N2

- *Illegal sales of products forbidden by law* (i.e. narcotic drugs)
- *Unauthorized or unlicensed activities* which are usually legal, like non authorized production of alcohol and tobacco (smuggling).

Adjustment is based on supplementary data from previous Statistics Canada study and on the tax reassessment data (from the T2 tax file, incorporated businesses). For tobacco: Estimates for underground activity related to tobacco are already explicitly included in the expenditure estimates of the CSNA. The current method is based on the one used in the earlier Statistics Canada study. Estimates are based on data from the Survey of Household Spending (SHS) which estimates the amount of spending that is incurred by households. Rates of smoking are gleaned from the Canadian 12 Community Health Survey (CCHS) as a further indicator of the pervasiveness of smoking. For alcohol: The method for measuring underground activity related to alcohol was based on the method from the previous study. The main source of data used for the estimates on underground activities related to alcohol is the Liquor Control Board of Ontario (LCBO) estimates on illegal alcohol trading for the years 1995 to 2008 from its annual report. LCBO's estimates are based on discussions with the RCMP and other sources working on policing the trade of illegal alcohol.

N3

There is no estimate for this informality type as it is assumed to be already captured in the GDP, although the following categories could be potentially missing from the GDP estimates:

- *childcare in the home*
- *private household services*
- *other care services, and*
- *direct sales of agricultural products*

Method used for adjustment: upper bound estimates added to the NOE estimates.

N4 (treated as part of N7)**N5 (treated as part of N7)****N6**

Skimming by industries (construction sector and other), reassessment and exports are measured by the upper bound method using T1 (unincorporated businesses), T2 (incorporated businesses) and tax- based data for skimming, supplementary data method using tax- re-assessment data.

N7 (including N4+N5)

Including Tips, above what is already included in the CSNA.

Method used for adjustment: supplementary data based on previous study with the assumption that an indicator of the amount of undeclared tips could be the amount of income from services that were not reported (skimming). With this in mind, skimming estimates for services that generally receive tips (this includes meals and alcohol beverage consumed outside the home, accommodation services, haircuts, taxis and other personal care) were multiplied by standard tipping rates for each of these services.

CZECH REPUBLIC

N1

Non-registered forms of small business (i.e. small crafts, maintenance, repairs, and building activities) in both rural and urban areas. The estimate of the number of producers deliberately not registered is derived from the Balance of Labour model (BL). The model used two independent sources for employment data: 1) data on *labour supply* (Labour Force sample Surveys (LFS): questions to households) 2) data on *labour demand* (Business Statistics (BS): questions to employers).

LFS and BS data should include data on all employees, so even those from underground activities. But LFS only covers partially the underground activity. This leads to an underestimation of the number of producers deliberately not registered by the Balance of Labour model. Based on interviewers' knowledge, LFS only include 1/5 of unofficial jobs. So the number of producers deliberately not registering is estimated as the number of producers deliberately not registering from Balance of Labour model multiplied by five. To estimate underground output and intermediate consumption, a comparison is done with labour productivity of entrepreneurs with similar legal small business (to calculate the intermediate consumption a share of 25% of the gross value added has been applied).

N2

- *prostitution* is broken down by prostitution in clubs, private prostitution and street prostitution. For each of these 3 components, data on number of prostitutes, number of contacts in year, average price for service and consumption (e.g. clothes, cosmetics, hygiene needs, taxis, etc...) is estimated based on police reports (Ministry of Interior), hygiene stations and a non profit organisation "Rozkos bez rizika".
- *drug*: source of data are the Czech National Focal Point for Drugs and Drug Addiction, The National Drug Headquarters, the General Directory of Customs and international surveys GENACIS and ESPAD. Drug prices, drug purity and drug seized are used in the estimate of drugs consumed, produced, imported and exported. Consumption estimates are based on the demand side (for cannabis, ecstasy, LSD, pervitin and heroin) and is equal to the product of the number of drug consumers and the average quantity consumed in year. The costs for drug production should be recorded as the intermediate consumption. The ratio between domestic production of drugs for market and for own use is 50:50.
- *Sales of stolen goods*: it is assumed that the act of theft is not a productive activity, the activity of middlemen is considered as a business activity and financial flows related to sales from thieves and middlemen are in part already picked up in national accounts. The margin of middlemen was only estimated for thefts of passenger cars. The estimate is equal to 10% of the value of stolen cars (based on crime statistics). Sales of other stolen goods are not taken into account for the moment, as a large part of them goes through legal business activities.
- *Tobacco products*: source of data the Customs Administration. The capture rate is estimated on experts' evaluations and information on tobacco industry. The estimation of the value of illegal goods in the market (including the estimated export) is done at the reduced price of these goods (25% lower than the market price).
- *Alcohol*: Only spirits are concerned. Estimations are based on consultations with experts, press reports and information from the Customs Administration. The estimate of value of goods is

based on the expected tax evasion (excise duty and VAT). The rate of profit margin has been based on an average margin of legal products

- *Frauds with fuels*: Estimates of illegal production (sales of goods) and intermediate consumption (mainly transport costs) are based on information from the press and annual reports of the Customs Administration.
- *copyright infringement*: Mainly for clothes, shoes, music and films. Estimates are based on data from the Customs Administration. The estimate of illegal production includes a trade margin of a seller and the estimate of the intermediate consumption includes transport costs, storage and energy.

N3

- *informal sector*: include only some production activities of households (household personnel services) and some production activities in agriculture. The amount of small non-reported revenues from sales of agricultural products is estimated on the same level as the reported ones. Estimates on intermediate consumption is based on similar reported activities. Estimate on production associated with household personnel services is based on the number of personnel (based on the Sample Survey of Labour Forces (LFS) with the assumption of working 12 months.
- *individual housing construction*: Estimates on construction of dwellings by households is mainly based on annual statistical reports of local construction authorities on completed constructions, in which there is at least one dwelling (“Stav 7-99“ form) an on the Household Budget Survey. It includes construction of family houses and extensions to family houses for owners needs and excludes construction of dwellings for sale. Estimate on total investment costs for building a family house by a individual person is based on the assumption that 50-55% of the cost is spent for specialised work and 45-50% for the rest. The Household Budget Survey is used to estimate the intermediate consumption for individual housing construction. The volume of reconstructions, which is not included in the survey, is estimated on the planning and building control authorities. The consumption estimate is based on the ratio of wages (15%) and operating surplus (15%) to intermediate consumption of goods at smaller construction companies. The difference between the total volume of output (calculated in that way) and individual housing construction equals the estimated value of reconstructions made by individual owners.
- *own-account output of agricultural products*: Own-account output of agricultural products is derived from household budgets statistics, FADN statistics, forestry statistics and expert guesses. The output is estimated according to in-kind own consumption of agricultural and food goods, which is measured separately in household budgets. Intermediate consumption relating to own-account output of agricultural products was estimated for 1995 by experts and extrapolated for the following years. The forestry data source on agricultural own final consumption is the “Report on Forestry of the Czech Republic” published by the Ministry of Agriculture of Czech Republic. Data about households’ forest products gathering are taken from this publication. Berry plants and mushrooms are mostly collected by households, the proportion of gathering for the own final consumption is expertly estimated.

N5

With an economic activity that does not need to be registered in the Business Register but is registered elsewhere (e.g. registered as tax payers, for social insurance). Data on activities not recorded in the business register are taken from official tax returns reports when it is possible. It includes especially

author's royalties, incomes of artists and sportsmen (§ 7 of Income Tax Act – the industries NACE 748 for author's royalties, NACE 923 for artists and NACE 926 for sportsmen, estimate was based on comparison of data reported in tax returns and in P4-01 questionnaire) and income from renting real estates and movables (§ 9 of Income Tax Act). Plus an estimate of 10% of § 10 of Income Tax Act (e.g. income from transfer of property, income from transfer of participation in company, inherited intellectual property rights, alimony received, pensions, winnings in lotteries and betting, the prices of tenders) is included in the production of registered entrepreneurs not surveyed. Intermediate consumption was estimated with reference to similar activities reported. Average labour productivity in similar units in non-financial corporations have been used to estimate the number of self-employed persons.

N6

- *non-financial enterprises*: Estimates is done only for small and medium size private non-financial corporations and based on a survey done in 2011.
- *households*: Estimate of deliberate misreporting is defined as the difference between value added estimated and official value added. Intermediate consumption is estimated based on intermediate consumption of similar reported activities. Then “undeclared work” (informal workers) is estimated and added.

N7

- *wages and salary*: adjustments are based on three data sources: 1) financial and statistical questionnaires on costs and revenues linked with economic activity of institutional units of all residential sectors, 2) the statistical survey of total labour costs (TLC) and 3) some items are estimated by experts.

Housing contributions of the employer to assist employees and their families in the purchase of housing or housing equipment: is estimated as the difference between expenditures on the maintenance and administration of housing and rent revenues. Half of the surveyed housing contribution is considered as own lodging and second half as company expenditure on purchase of housing services.

Discount on the company's goods sold to employees at a reduced price or free of charge: is estimated as the difference between the cost price and the price at which the products are sold to staff or the cost price of goods supplied free of charge.

Contribution in the form of remitted interests and reduction of price of company shares – when loans are provided to employees at reduced, or even zero rates of interest or shares are provided to employees for free or below market price.

Board and lodging provided free of charge - Board and lodging provided free of charge or at reduced price to employees of restaurants, hotels, company canteens and in agriculture - not recorded in business accounting. Estimate in national accounts is based on the assumption that consumption per employee amounts to CZK 50 (estimated average price of meal in company canteen) for a period of 100 days, the number of employees is established by the total labour costs survey – in agriculture, where greater seasonality is expected, only 25% of employees are taken into consideration. Calculation is made for industries 011 to 014 (Agriculture) and 551 to 555 (Hotels, restaurants and other provision of lodging).

- *tips and gratuities*: adjustments on expenditure items (i.e. restaurants, bars, taxis, hairdressing, repair and maintenance of housing) based on the Households budget survey. Tips ratio is estimated on expenditure for individual consumption items.

FINLAND

1990: the first explicit estimates of the underground economy has been added to the NA figures. The results of NOE were based on several special studies of underground economy by industries. The method in NA calculations was to use estimated share of underground economy on output or value added.

2006: The estimates of illegal activity (drugs, smuggling of alcohol and tobacco, prostitution) were calculated. And the share of the underground economy was revised. The illegal estimates are calculated directly in money terms and the figures are estimated for every year.

2010-2011: The new NACE was implemented and the third revision to the underground economy data was made. A special study on hidden economy, ordered by the Parliament of Finland, enabled more precisely to breakdown underground economy by industries and sub-industries than earlier.

FRANCE

N1+N6 (Adjustments based on VAT)

The theoretical receivable VAT is calculated product by product and each demand component and is compare to actually received VAT - recorded in the accounts of public administration. The significant difference is associated with hidden activity by enterprises to avoid paying taxes.

The calculation of hidden production also utilizes the results of the investigations of the Tax Authority (Direction générale des finances publiques (DGFIP)) controlling regularly the financial reports of enterprises. As these controls do not follow pure statistical sampling techniques, adjustments for hidden revenues based on this are made through post-stratification. Stratification variables used are the industrial sector, legal form and size measured by turnover. To improve estimates, two accounting ratios have been introduced in the stratification: value added relative to production and margin (defined as the ratio of gross profit before tax to turnover). These ratios were found relevant in the statistical analysis which tries to model the targeting behaviour of the Tax Authority, and rebalance the sample.

N3+N4

business without legal existence and informal households work: in the absence of other sources of information, the estimation is based on experts and mainly attached to selected activities (construction, personal services, etc.).

GERMANY

General comment: Germany has no measure of estimation for the unobserved economy as per yet. However, a set of special measures (reconciliations with other data sources and explicit allowances for under coverage) is employed in order to ensure an exhaustive coverage of all activities.

N2

- *drugs trafficking and alcohol and tobacco smuggling*: results of a project commissioned by Eurostat in the attempt of measuring illegal activities like drugs trafficking and alcohol and tobacco smuggling proved the existence of considerable margins of uncertainty in quantifying such illegalities, as well as large gaps in the information. These margins and gaps can at present only be bridged by free assumptions, largely of a subjective nature. The inclusion of these estimates would reduce the reliability and international comparability of the data on GDP. The inclusion of such activities also means that the intended gain in exhaustiveness would be countered by increased risk of a rise in the figures because of the possible double counting.

N3

- *home care services, in-patient nursing homes*: A new survey was introduced in 2005 providing information for determining the output of this portion of the social service industry. The question on intermediate consumption was removed so no information on this is included.
- *domestic services – domestic staff, private tutors, or cleaners*: Checks were made taking into account all the available source of statistics like Federal Employment Agency, time-use surveys, socioeconomic panel.

N6

Explicit Allowances for under coverage are considered for the following production approach domains (some examples):

- *Forestry* - It is assumed that in Forestry, 10% of businesses with less than 200 ha of forest area are producing exclusively for their own consumption.
- Hotels and restaurants
- *Agriculture* (kitchen gardens, animal husbandry by non-farmers)
- *Fish and fish farming* (upward adjustment accounting for freshwater and farmed fish and other secondary activities)
- *Mining, quarrying and manufacturing* (allowed 0.75% to adjust for those reporting entities that disappear over time due to company closures)
- Construction industry, construction work performed abroad
- *Transport, storage and communication* (like taxi tips or allowances added to air transport for foreign offices)

- Real- estate, renting and business activities not elsewhere classified. Largest allowances allocated for leasing by use of VAT data source.
- *Education* (private tuition or further education are VAT exempt, hence are not covered by the VAT statistics)

N7

Explicit Allowances for under coverage are considered for the following expenditure approach domains:

- *Voluntary tips* in hotels and catering, motor vehicle repairs, services of craftsmen and tradesmen and for taxis and hairdressing
- *Benefits in kind* (value of goods produced by a company made available free of charge or at reduced rates to their employees, like free beers for brewery employees)

HUNGARY

N2

- crime statistics
- medical reports
- judicial reports

N3

- agricultural and dwelling statistics from surveys

N4

- survey (combined database)

N5

- expert estimate
- tax audit data
- labor input
- health statistics

N6

- expert estimate

N7

- *survey* (administrative + statistical data)
- *expert estimate*
- *tax audit data*
- *labor input*
- *health statistics*

ISRAEL

N1

- *illegal dwellings* in the construction sector: estimates are based on extrapolation of the periodical illegal construction surveys carried out by the Interior Ministry and the average cost of dwelling construction in the relevant year.

N3

- *Private teaching* in the education sector – these revenues are usually not reported to the Tax (VAT) authorities as are often below the VAT reporting threshold.

N5

- *Vegetable and fruit sold by vendors in open markets*: these vendors underreport their sales. Agricultural production councils provide data on the total vegetable and fruit sold. Method used for adjustment: supplementary data using the household expenditure survey gives an estimate of the percentage of vegetable and fruit sold in markets.
- *Domestic help* in the other services sector : no reliable administrative data on domestic help. Method used for adjustment: supplementary data using the household expenditure surveys estimate on expenditure of domestic help.
- Collective settlements
- Own-account consumption

N6

- *car repair services* in the trade, repairs sector: adjustment is based upon the aid of supplementary data using consumption data, households, government and industries expenditure.
- *company cars*: 25% allocated in the trade, repairs sector, 20% (*wages & salaries in kind*- financial intermediation sector), 15% (health and social work sector), 25% (real estate sector) and 15% (*wages & salaries in kind*- manufacturing/ self-employed sector). Adjustment estimates are using the average cost of the car leasing and data on number of company cars from the wages administrative records less the cars from leasing.
- *taxi services*: as the revenue is significantly underrated adjustment estimates are obtained using the number of registered taxis and kilometers traveled (administrative sources).

- *motor vehicle ownership* in the manufacturing sector: adjustment estimates using the average cost of the car leasing and data on number of cars rented by industries from the leasing companies (*motor vehicle ownership*).

N7

- *Tips paid at restaurants and hotels*: an estimate of tips paid at restaurants and hotels was prepared as part of the *1995 Input output tables*. This estimate is extrapolated by the reported sales.
- *Start-Up Companies* in the real estate sector: estimates are based on the “cost plus mark-up” formula. The cost component is supposed to be equal to the actual use of the funds raised by the start-ups during the year.
- *Own-account software*: estimates evaluated on the base of a number of high-qualified software workers and their salaries in each industry, including a share of their working time devoted to developing of the own-account software. Related estimates of consumption of fixed capital and net operational surplus are then added.
- *Government housing enterprises* in the real estate sector: the output adjustment is obtained by multiplying the subsidy component by number of rented dwellings.
- *Collective settlements* (“kibbutzim”): 42% in the public administration sector, producing municipality-type services for own final use, and 58% (*own-account consumption*) in the other services sector, producing business services for own final use, such as catering and accommodation services, car, clothing and home appliances repair services etc. Method used for adjustment: supplementary data by benchmarking to the one-time survey data and the annual population growth rates in these settlements.
- *Gardening services* in the agriculture sector: as they are not surveyed in the business statistics, the output is estimated based upon the 1995 IOT, current Labor Force data in this industry and on the Household Expenditure surveys.
- *Output price adjustment* in the construction sector: estimates are based on the national accounts through construction area data multiplied by sq. m. price. Price indices of the construction industry are missing in the basic statistics and their estimates in the current national accounts are based on indirect indicators, such as construction input prices and changes in the cost of labor force.
- *Labor input adjustment* in the construction sector: the volume of the construction output is measured through construction area built. The adjustments needed to the model’s output data are estimated on the basis of labor input data and on suggestion of constant labor productivity in the industry.
- *Quality adjustment* in the construction sector: this adjustment, first introduced in 2004, it is a further elaboration of the aforementioned output estimating method. The assessment is based on the construction input survey analyses and the industry expert judgments.

ITALY

N1

Value added by unregistered labor in the agriculture sector, industry sector and services sector: estimates are based on the reevaluation of value added method and the estimation for undeclared labor input.

N6

- Micro revaluation of *value added in the industry and the services* sector
- *Tips* in the services sector
- *Unauthorized dwellings* in the industry sector
- *Undeclared rentals* in the services sector
- *Value added by informal labor* in the agriculture sector
- *intermediate consumption* in the agriculture sector, industry sector and services sector

Method(s) used for adjustment: Reevaluation of value added, estimating for undeclared labor input and reconciling supply and demand.

N7

- Reconciliation between supply and demand in *the industry and the services sector* by reevaluation of value added, estimating for undeclared labor input and reconciling supply and demand.

JAPAN

N3

- *Imputation rental*: estimate on “imputed rental” for owner-occupied dwellings calculated as follows: 1) derive floor spaces of dwellings by residential area, structure, and period of construction, 2) multiply them by rents of rented accommodations 3) imputed rentals are added to gross output of the economy.

N4+N5: No adjustment in the estimation process for the following reasons:

- All registered legal corporations and establishments are basically covered in the parent population of statistical surveys which are source data for our national accounts.
- Significant parts of GVA estimated are covered by the census surveys.
- Even if there could be some omission in major source statistics, the omitted parts are complemented adequately in compiling process of that statistics (for example, though the establishments with fewer than 3 workers are not surveyed in the Census of Manufactures, the figures for those groups are estimated by applying the information of the establishments with 4-9 workers.).

N7

- *Salary in kind* is estimated through adding up the items that are regarded as salary in kind from a wide range of statistics.

MEXICO

Mexico is reviewing the underground transactions that potentially escape from direct GDP measurement as part of the 2008 base Year Change (2008 BYC), relying on the NOE Manual (OECD, IMF, WTO, CIS, 2002). In the GDP compilation, Mexico will do an evaluation determining the possibility of measuring it with indirect methods that allow reconciliation with underground activities sub-registered in the data sources. The adjustment will be based on indicative information from the tax databases and inherent balance sheets National Accounts methodology.

N5

Households Informal Sector, broken down by economic activity (NAICS 2007), estimating 17 NAICS sectors with informality presence.

N6

Informal employment out of Households Informal Sector broken down by economic activity (NAICS 2007), estimating 17 NAICS sectors with informality presence. Agriculture and Livestock, Forestry, Fishing and Hunting, are excluded from these results according with the recommendations of International Agencies. As the estimation of the Informal Employment is based on the ejido (common land) soil property regime, the Informal Sector should be nonexistent; however, it could be quantified as Informal Employment out of the Informal Sector. The measurement of this important sector of activity requires an analysis of all the sources of information linked with this sector, among them, the Agro-Livestock Census, the Economic Census and Households Surveys

NETHERLANDS

The disaggregation in N-classes proved difficult due to several issues of interpretation. As a general rule figures reported under N1 are related to turnover underreporting, under N6 adjustments are related to cost over-reporting. Under N2 experimental estimates of illegal production are reported. These estimates are not included in the National Accounts data. Regarding N7, production for own final use by market producers as well as correction for partial non-response and secondary activities are already included in the source data. The figures reported in the survey are estimates for tips, and income- in kind.

The information below is the secretariat's brief summary of Chapter 7 of Gross national Income Inventory (The Netherlands 2001) :

<http://www.cbs.nl/NR/rdonlyres/D6900700-8D0A-4E7E-B611-A7906B94A77B/0/2009GROSSNATIONALINCOMEINVENTORYESA95pub.pdf>

NI

Turnover fraud mainly occurs (and is estimated for) the following industries. The allocation into categories has been performed by the secretariat based on the cover paragraph. Some of the below corrections could have as well been allocated to N3 (Construction) or N6 in other cases.

- *Textiles and leather* the 1995 method was extrapolated to 1999 and because of changes in the surveying method in 2000, this amount has been kept constant since 1999.
- *Construction industry* the data obtained from the production statistics are incomplete. Separate estimates are also made for own-account construction by households and concealed maintenance. The own-account construction estimate is based on a survey of concealed activities in the private house-building sector from 1991 and repeated in 2004, conducted by the Economic Institute for the Construction Industry (EIB). Small-scale building maintenance aims to preserve the service life of structures, it is classified as intermediate or household consumption. The estimates are based on the report by the Institute for the Scientific Study of Consumer Affairs which puts hidden expenditure at 28 percent of total maintenance spending. The national accounts classify the use of building materials for hidden small-scale maintenance as consumption and impute the associated value added to the construction industry. Large-scale structural maintenance also aims at extending the service life of buildings, but it is classified as investment. For the sake of convenience, hidden large-scale building maintenance is assumed to account for 28 percent of total consumer expenditure in this field, like its small-scale counterpart.
- *Hotels, restaurants and cafés* estimates of total concealed payments to cafe and restaurant staff are based on ‘unconcealed’ remuneration. Various studies conducted in the hotel and catering sector over the years, both by the tax authorities and associations, have estimated 5% for concealed payments, and a lower output of 3% – assuming lower productivity – is imputed. (This does not include tips, which are estimated separately.). No intermediate consumption was imputed for the concealed part of output, accepting a possible minor underestimation of intermediate consumption (and overestimation of value added).
- *Childcare*: unofficial childcare was estimated on the basis of the 1995 Ancillary Services Use Survey (AVO95) in conjunction with a 1995 working document published by the Organisation for Strategic Labour Market Research (OSA). Since the AVO95 data are unreliable for older children, the estimate for 4-12 year-olds was based on the average number of hours of unofficial individual childcare for single and two earner families combined, as indicated in the OSA working document. For 2001, the method was adopted in the same way, so estimates were extrapolated.
- *Business services* for business services black activities occur in employment agencies and the cleaning of buildings.
- *Personal services* a significant proportion of personal services are provided outside the normal circuit. Many of these do not, however, involve concealed activities, since the amounts in question are below the tax threshold. The supplementary estimate of these informal services does not distinguish between concealed and unconcealed activities.

Use of the budget survey (N1+N2+N6)

The budget survey results are compared with the retail trade statistics. In the next stage of the estimation process, the independent estimates are incorporated in the system of supply and use tables leading to a comparison with the commodity flow. The estimation process provides for adjustments to take account of population differences between the budget survey and the national accounts. If the budget survey data prove to be systematically inaccurate, for example with regard to expenditure on tobacco and alcoholic beverages, adjustments are made in the course of the national accounts estimation procedure on the basis of other sources (retail sales, excise duty, commodity flow).

N6

Cost fraud is assumed to occur only in small enterprises. The expenditure of enterprises with fewer than 10 employees was determined for all business categories in which substantial cost fraud was suspected. An initial cost fraud imputation of 2 percent produced a total figure of 726 million euro in 1995. The imputed amount was then distributed over the services (used) in which fraud can occur. Data on the use of these services were obtained from the supply-use table. A further assumption was that each cell could be reduced by not more than 10 percent, which allows an imputation a partial allocation of the total imputation. To arrive at the total of 726 million euro, the reduction in trade industry was allowed to be larger than 10 percent.

N7

- *Tips*: In the Netherlands tipping is mainly encountered in hotels, restaurants and cafés and for taxi services. Hairdressers, manicurists, etc. are also tipped to a limited extent. The existing method was not revised during the revision of 2001. The value of tips in these industries was estimated for the years after 1995 by using suitable indicators and applying the structural assumptions from 1995.
- *Income in kind*: the Dutch tax authorities allow few concessions to employees in the form of remuneration in kind. Tax is payable on almost all forms of such income. This applies, for example, to company provision of meals and beverages, free transport, the private use of a company car or company telephone facility, subsidized child-minding, cut-price purchases (provided these exceed cost price), use of company accommodation, educational subsidies for employees' children and (mortgage) loans provided by the employer below market rates. Administrative procedures are nearly all on account of the employer, with the exception of the private use of company cars which is not covered by the employers' declarations. For their income tax declarations, employers merely indicate employees' entitlement to use a company car.
- Use of Intrastat to measure non-responding enterprises: in the Intrastat survey the adjustment for non-response is made by imputing the data on the basis of corresponding time series of the enterprise. A supplementary estimate based on Value Added Tax data is made for trade below the threshold value. The trade figures obtained in this way are then adjusted in line with the national accounts definitions before being compared and reconciled with the commodity flow in the system of supply-and-use tables.

Other aspects (N6+N7)

The national accounts investment concept differs from that applied in standard Dutch accounting practice. To ensure the comprehensiveness of the investments, software expenditure is transferred from intermediate consumption. In addition, supplementary estimates of private investment are conducted and

separate estimates are made for mineral exploration and investments in entertainment, literary and artistic originals.

With the abolition of internal European Union borders in 1993, imports and exports were no longer recorded through the customs-based procedure, but by a survey with a reporting threshold. This means that comprehensive records of foreign trade are no longer available. To guarantee exhaustiveness, a comprehensive check is conducted on unit responses as early as the observation stage and necessary attributions are made on the basis of time series data. The estimation of imports and exports in the revision year 2001 also involved the analysis of intra-European Union bilateral commodity flows.

Value Added Tax Adjustments

Imputed Value Added Tax differs from Value Added Tax actually paid to the government. This is due to acquittals, bad debts, fines, the Regulation for small entrepreneurs and Value Added Tax evasion. The difference between imputed and paid Value Added Tax is not distributed over industries. On the level of the total economy it is added to GDP (and the operating surplus/mixed income).

NORWAY

N1

- Construction (F): Adjustments made for unregistered production activity. Estimates are done based on information from among other surveys conducted by the Frisch Centre and the Norwegian Tax Administration.
- Transportation, storage (H): Adjustments are made for unregistered activity in taxi based on information from experts of the taxi industry, the police and from the press.
- Accommodation and food service activities (I): Unregistered activities are accounted for in the NA estimations, since such activities and turnover are known to take place in this industry (in restaurants particularly), while not registered in the SBS-based statistics. Basis for making this kind of estimate is not readily available. According to the Norwegian Tax Authorities some survey data indicate substantial spread of such activities, particularly in the big cities. The assumption made in NNA - in lack of more explicit information - is to add 10 per cent to SBS-based output on food serving services and beverage serving services. It is assumed that unregistered output in accommodation activities is relatively unimportant.

N2

- Agriculture, forestry and fishery (A): Estimates for narcotics based on reports from SIRUS, KRIPOS and the police.
- Other services (S): Estimates for prostitution based on a Fafo-report from 2008 by Tveit and Skilbrei (in Norwegian only). Separate estimates are done for the in-door market and the street market.

N3

- Agriculture, forestry and fishing (A): Most important adjustment for improving exhaustiveness include agricultural production for own consumption in other households than farmers' households (fresh fruit in particular). Other adjustments made include reindeer production,

services from kennel activities not covered by basic data, and services incidental to forestry and logging, like timber scaling, spraying trees and forestry management planning.

- Construction (F): Adjustments for exhaustiveness of considerable effect were made for own-account construction of buildings. This relates in particular to existing dwellings (major improvements and the like), but also to own-account construction of new dwellings and on cottages, summer houses etc.

N7

- Transportation, storage (H): Estimate for tips (taxi included) based on survey results from mid-1990s.
- Accommodation and food service activities (I): Tax authorities estimate a 3 per cent addition for tips to registered wages for those waiters and waitresses who do not report tips, and this percentage is used in the NA estimations as well, calculated on half of employed people in restaurants and cafes (explicit information on numbers of waiters/waitresses is not available) and all employees in bars. Also include estimate for production for own final use by market producers here. These components follow the same growth rate as total production in the industries covered here.
- Other services (S): Explicit exhaustiveness adjustment is made for hairdressers. Assume that non-observed activity for haircuts is equivalent of 36 per cent of total characteristic production.

POLAND

All NOE adjustments have been made for two institutional sectors: non-financial corporations and households. In other institutional sectors there have not been adjustments. This is a summary of the detailed description of NOE types: N1-N7 produced by the OECD secretariat.

N1

In Poland all national economy entities have an obligation to register their activity. The REGON business register includes all units, (legal persons: joint stock companies, limited liability companies, NPISH, and organizational units without legal personality: entrepreneurs and farmers) but excludes operational military units and special services and foreign diplomatic posts.

The BSU register contains information from REGON and supplementary information from surveys and other sources. The BSU is updated monthly and yearly on the basis of REGON, the National List of Taxpayers, the social insurance system and statistical surveys.

In 2009, the non-registered work was conducted mainly in construction, trade and agriculture. The non-registered work is estimated using the labour input method, with two distinct variants. The methods provide estimates of the total number of persons employed in the hidden economy. A special modular survey on unregistered employment is carried out by the CSO to gain more information about unregistered employment. This survey was conducted in 1995, 1998, 2004, 2009 and the fourth quarter of 2010.

The main goal of the survey on unregistered employment was to gauge the effect of labour market conditions on the extent of the hidden economy. Information was obtained about the scale of involvement in unregistered employment, the range of services provided by persons performing non-registered work, and employment by households.

A distinction also was made between persons who worked only in the hidden economy, and those for whom the unregistered employment was in addition to their main employment. The types of jobs and services performed informally for households differed in urban and rural areas, and hence was treated differently.

The estimated number of persons working in the hidden economy is converted to full-time equivalents and allocated to activities in accordance with the shares of unregistered employment. Estimates of income generated by non-registered employees are calculated by multiplying the estimated number of working days within the year by average remuneration rates for each type of activity.

N2

For the purpose of this project the estimates for illegal activities in 2009 were obtained as extrapolation of the set of data for 2003-2006 period. These estimates should be regarded only as experimental as the data have not been yet incorporated into the officially published GDP figures. They are likely to be included with the implementation of ESA 2010. The methodology for the illegal activities presented concerns production, sale of drugs and prostitution. According to the National Accounts practice, the following transactions should be calculated as follows: output (production and trade margins), intermediate consumption (consumption in production and trade), salaries (of traders and smugglers), gross operating surplus (income of the staff responsible for the production and trade), import, export and consumption.

- *Drugs.* The estimation concerning period of 2003-2006 showed that consumption of drugs in Poland has been increasing steadily. Poland is an importer and also an exporter of several types of drugs, including marijuana, hashish, heroin, cocaine, ecstasy and LSD. Drug-related business provides employment for producers, traders and drug smugglers. The estimation of drug-related business has been made for 2002-2006. The estimations for the years 2007-2012 are scheduled in 2013-2014.

The base for estimates of drug-related business is national and international data, a survey carried out under the National Drug Prevention Programme, other surveys of the Institute of Psychiatry and Neurology in Warsaw, Police Reports of Drug Seizures and information from Internet, radio, TV and newspapers.

The estimation consists of the following stages: estimating the supply of drugs (domestic production and import) and demand (household consumption, export and seizures) and next calculating the value of production and consumption based on the information on prices.

In order to estimate the number of drug users, two groups were identified depending on the quantity of drugs used: regular and occasional drug users. They have been estimated separately for each type of drug. Estimates of the supply-side (domestic production and import) are based on the Police Headquarters Reports and the Ministry of Finance Customs Service Reports on seizures. The data on the quantity of confiscated drugs, the number of illegal drugs manufacturers and illegal poppy and cannabis plantations were used.

In order to calculate the value of production and consumption, the information on retail prices of drugs on illegal market was applied. Wholesale and retail prices are included in police reports. National Program for Prevention Drug Addiction in Poland provides for a data collecting system that meets the reporting criteria of international institutions (EMCDDA – European Monitoring Centre for Drugs and Drug Addiction, UNODC – United Nations Office on Drugs and Crime).

The supply and demand side of drug-related sector was estimated and balanced in quantity terms. The value of production was then estimated using information on prices.

- *Prostitution.* The relevant aggregates are calculated as follows: consumption which consists of total output (value of services provided by domestic prostitutes) and imports (value of services provided by non-residents in Poland). Intermediate consumption and salaries are not estimated.

The methodology provided estimates for the period 1998-2005, with previous results for 1998-2002 corrected. Supply side estimates have been used. The estimates for the years 2006-2012 are scheduled for 2013-2014 and will require detailed analysis, because the sex services market in Poland is developing.

Although, there is a lot of information on prostitution services, no regular reports are available. A police report on the number of illegal sex clubs (1999) and the survey on the number of prostitutes and sex clubs in Warsaw (2005) are the major sources. Reports from media (newspapers, Internet, TV), welfare organizations (La Strada) and police were also used.

Information on prices was obtained from many sources (interviews with customers and persons involved in sex business or newspapers advertisements).

The number of prostitutes was estimated in three categories (street, clubs, outside clubs). For each group the following variables were determined: number of prostitutes, share of non-residents, average price per contact, number of contacts per prostitute.

N3

The adjustment has not been made. *Production of goods for own final consumption and own fixed capital formation* is estimated in Polish national accounts in private agricultural households, but private agricultural households are registered in REGON register.

The second type of adjustment is owner-occupied of dwellings, but they are excluded from the exhaustiveness analysis. Units without registration, according to the Polish law, cannot conduct production even on a small scale (for example extensions to dwellings and major repairs of dwellings or construction of dwellings). If they conduct such activities they are included under N1 – Producer should have registered (underground producer).

N4

This adjustment has not been made. Statistical surveys or administrative data sources in Poland include all legal persons conducting economic activity.

N5

This estimate concerns *persons employed by private households* (section T). They are not registered by REGON but in the taxpayer register. Private households with employed persons created negligible part of GDP in 2009. The output of household's services produced by employing paid staff is valued by the compensation of employees paid. These compensations are calculated by multiplying the number of employed persons by average wages and salaries by one employed person.

N6

The misreporting was observed mainly in trade, professional, scientific and technical activities and construction. Estimates for concealed production of registered units are based on the direct method. This method focuses on evaluating the concealed production of small economic units (up to 9 persons) and of the medium size private enterprises (excluding co-operatives) in which the number of employment does not exceed 49 persons. In the Polish National Accounts small units of natural persons are included in the households sector. Small legal units and medium units are included in the non-financial corporations sector.

The direct method evaluates the average revenues per employer and the average remuneration per worker evaluated by experts. These estimations are used for the calculation of gross output, intermediate consumption and gross value added. The direct method of estimates is based on the so-called "normative labour productivity tables". Elaboration of these tables had been preceded by a detailed analysis of labour productivity, levels of wages and their percentage share in the revenues divided into the public and private sector as well as the size of the respective units. During these analysis experts from tax offices were helpful.

In order to update the "normative tables", starting from 1998 a special survey is conducted every year, sampling approximately 2.6% of the population of small and medium size units for 5 voivodships (every year the voivodships are changed). The owners are asked about the reasonable levels of income, wages, trade margins and costs which allow to continue their activity with a reasonable profits.

Within the economic units (separately for small and medium), the estimation of revenues was also carried out with distinction of sections, kinds of locality and the number of persons employed. Consequently, results based on nine levels of normative revenues, were obtained for all sections. It is worth mentioning that starting from 2012, this survey will be conducted not only in 5 voivodships (as so far) but also in all 16 voivodships. This allows to provide accurate data separately for each voivodship, so it will not be necessary to use "types of regions".

The results achieved in direct method are compared with data achieved from enterprises' reports for small and medium sized units. The differences between these data can be treated as a concealed production. Finally the data from direct method are taken into consideration because they include not only under-reported data but also estimates of non-response. While calculating the value of gross output additional statistical data from previous years is used such as: percentage structure of gross output, intermediate consumption and gross value added - broken down into sections of NACE and by regions.

Additionally, experimental work is under way to provide estimates of misreporting in large units of the non-financial corporations sector. The results are not included yet in national accounts.

N7

Two types of NOE adjustments have been made: not all required data collected and non-response. Because they have different nature they are discussed separately.

N7a. Not all required data collected

- Estimates of *tips* are made for small units included in the households sector as a percentage (0.2%) of consumption of households and allocated to the following kinds of activity: transportation and storage, accommodation and food service activities, human health and social work activities, other service activities (hairdressers, nurses, cosmetics services). The same value

of tips is included in output (output approach), consumption of households (expenditure approach) and in wages and salaries (income approach). This estimate was made on the basis of information from different countries. The future estimation will be improved by our own experiences. The CSO plans to investigate this issue in 2013 using household budget survey.

- *income in kind and production for own final use*. Income in kind has not been fully identified yet. Parts of it are included in wages and salaries presented on statistical reports, such as uniforms or other forms of special clothing, which employees can wear frequently outside the work place as well as at work, goods and services produced as an output from the employer's own process of production, free travel tickets for the employees for railways or airlines, free coal for miners or free food for employees in agriculture, goods for consumption purchased by the producer.

The secondary activities are included in output and intermediate consumption. Statistical reports cover both principal and secondary activities because they are collected using enterprises as a classification unit. Data on income and costs cover all activities of enterprises. Such method is applied for large, medium and small enterprises. Only in the private agricultural households sector the secondary activities and production for own gross fixed capital formation are not included.

N7b. Non-response

- *Non-response* is calculated in large and medium units of the non-financial corporation sector. In small units of non-financial corporations sector and households this problem does not exist, because the grossing-up is made. In the other institutional sectors there is a complete response from units. Non-response appears mainly in trade, construction, manufacturing and professional, scientific and technical activities.
- *VAT fraud: without complicity* (of the customer) is calculated according to the methodology implied in Commission Decision of 24 July 1998 on the treatment for national accounts purposes of VAT fraud.

VAT fraud i.e. VAT not reported to the tax and statistical authorities, appears in non-financial corporations sector and households sector both on production and expenditure approach of GDP. VAT fraud is estimated on basis of underestimated gross output of non-financial corporations and households sector. It is allocated to following transactions: gross output, households final consumption and gross fixed capital formation. VAT fraud is calculated by multiplying an underestimated value of gross output, an appropriate tax rate and an indicator of percentage share of VAT fraud.

PORTUGAL

The breakdown for exhaustiveness categories (N1-N7) was not possible to be identified. The breakdown used in the NA (Total NOE) is as follows: Explicit Cut-Off and Explicit Exhaustiveness. For the Total Adjusted (data including NOE estimates) includes Data Validation, Conceptual Adjustments and Balancing. Despite the assistance of the "Process Tables Compilation Guide" it is often difficult to establish clear boundaries between some of the adjustments. Particularly, this was the case in defining the boundaries between "Explicit exhaustiveness", "Data validation" and "Balancing".

SLOVAK REPUBLIC

Had estimates by NOE category for each Sector (Households, Non-Financial Corporations) and by ISIC Section (Total, Self employed, Small, and Large Enterprises).

N1

- *Household (S.14)*- Two methods: 1) Up to 2007: Based on the results of surveys carried out by the Public Poll Institute under the SO SR. Surveys focused on expenditures on services like tutoring, care-taking, personal services, variant repairs and purchase of goods without receipts; 2) From 2007: extrapolated results household budget surveys.
- By ISIC section. Estimate is based on the data of expenditure on goods and services purchased without receipts. ISIC A, F, G, H, I, J, L, M, P,Q, S estimated for households (S.14); ISIC C for (HH and Non-Financial Corporation(S.11)), self-employed for each ISIC:

N2

- *Estimate of smuggling*: based on the data from the Customs Directorate SR and from the SO SR.
- *Estimate of drugs*: extrapolated on the base of the public polls, information from the National antidrug Squad and from the Centre for the Drug Addiction Treatment.
- *Estimate of prostitution*: is calculated on the base of the expert calculation and the results of surveys carried out by the Public Poll Institute under the SO SR.

N3

Estimated for ISIC A and Total (S.14 households) and self-employed. Also classified under N2 and N3

- *ISIC A (Agriculture, forestry, and fishing)*: Production for own use is calculated from the agriculture statistics and households budget surveys. Estimate of the forest fruits is calculated from the data of Research Institute on Forestry.
- *ISIC F (Construction)* - Estimate of the own - account construction of dwellings is based on statistical surveys.

N5

- *Households*: combination of data from the sample statistical survey for enterprises (average data) and from the accounting annexes to the tax declarations and the balance sheet of labour force.

N6

- *Non Financial Corporations*: quarterly statistical questionnaires and accounting statement, together with the data published in the Business bulletin verified by the auditor, serve as the background for estimates.

- *Households group of entrepreneurs not registered in the Business register:* Deliberate undervaluation of output and overvaluation of intermediate consumption is assumed. Compare data from a sample survey for entrepreneurs with accounting annexes to tax declarations. Data of the undervaluation and overvaluation are also compiled according to the balancing of industries. Similar procedure for total estimates for each ISIC and for the self-employed category.
- *ISIC section breakdown (A-S) for small & large (enterprise):* estimate is calculated on a percentage basis from data sources, which we have for small and large enterprises.

N5 + N6

- *ISIC A- Agriculture, forestry and fishing, household sector:* estimate is calculated on the base of the sample statistical survey and the data from the accounting annexes to the tax declarations of physical persons unregistered in the Business Register
- *ISIC C (Manufacturing), HH & NFC:* estimate is calculated on the base of the sample statistical survey and the data from the accounting annexes to the tax declarations of physical persons unregistered in the Business Register.
- *ISIC A, C, E, F, H, I, J,L,M,N,P,Q,R,S, Self-Employed. Total HH (S.14) and ISIC C NFC-* estimate is calculated on the base of the sample statistical survey and the data from the accounting annexes to the tax declarations of physical persons unregistered in the Business Register.

N7

- *Non Financial Corporations- amount of standing timber:* the basis for the estimate of standing timber is formed by the indicators on the output of wood, which have been worked out by the Research Institute on Forestry.
- *Non Financial Corporations & Households- tips in services:* estimate of tips are derived from the amount of sales in certain services, e.g. restaurants, hotels and personal services.
- *ISIC I & S, Self-Employed:* estimate of tips are derived from the amount of sales in certain services, e.g. restaurants, hotels and personal services.

SLOVENIA

Exhaustiveness adjustments are mostly done in the same way and with the same data sources for all activities and all size classes. Therefore they are not described by individual activities and individual size classes but by type.

NI

Alternative healers, domestic services for households (child care and assistance for elderly at home), taxis, short term vacation rentals, and teaching lessons to students : estimates are prepared on the basis of the number of persons involved, prices, demographic structure of population and other relevant indicators (e.g. number of overnight stays).

N2

Prostitution and drugs only. Other illegal activities (e.g. smuggling of people, illegal copying of software, trade with stolen cars) considered negligible: estimates for drugs are based on police records and data of the Institute for Public Health on street prices, number of users, average daily use of drugs, seizure of drugs, number of days per year when drugs are on average used, etc ; estimates on prostitution are based on expert and police estimates on the number of prostitutes, and the number of working visas for particular types of professions (considered poor estimates).

N3

Own-account construction, honoraria payments and occasional contract work, dwelling market rentals, different adjustments in agriculture (e.g. for agriculture activities of non-agricultural households, price adjustments, etc.) and domestic services performed in private households. Imputed dwelling activity of households is not shown as exhaustiveness adjustment. Estimates for own-account construction are based on administrative data (building permits), construction statistics, surveys on construction period and value of own-account construction work; estimates for Honoraria payments and occasional contract work on tax data, for dwelling market rentals are based on population and dwellings census, construction statistics, the statistical survey on rentals and other information on rentals, for adjustments in agriculture on agriculture statistics and on domestic services on the statistical register of employment.

N4

Legal persons not submitting annual accounting statements (non-response or non-reporting); units of all institutional sectors with the exception of individual farmers and religious organizations: as the non-reporting is small, the estimates adjustment is mainly based on data from value added tax reports and the statistical register of employment at individual level.

N5

Entrepreneurs not submitting tax declarations from productive activities of households or annual accounting statements (non-response or non-reporting) estimates are based on data from value added tax reports.

N6

Output and intermediate consumption adjustment in *all activities of corporations and self-employed*: estimates are based on computed coefficients that account for the between “normal net mixed income” and declared income. The coefficients are applied to output of all self-employed and small (less than four employees) corporations.

Normal net mixed income is calculated as a sum of remuneration for work done by self-employed (assumed to be approximately two times higher than average compensation of employees in the same activity) and managerial income of self-employed (which highly depends on the number of employees). All assumptions are based on the analysis of data from accounting statements of self-employed. Normal net mixed income is compared to declared data and coefficients between them are calculated.

N7

Students' work (from net to gross recording), cash remunerations for business travel (from intermediate consumption to compensation of employees), private use of business cars, tips and balancing adjustment based on supply-use tables: adjustment for own-account software production is not shown as

exhaustiveness adjustment but as conceptual adjustment. Estimates for students' work are based on accounting data of temporary employment agencies, estimates for cash remunerations for business travel on the labour costs survey, on private use of business cars on different data sources, e.g. accounting data, VAT records, database of registered vehicles, etc, and for Tips estimates are made as a fix percentage of output in activities where tips are common (e.g. restaurants, hairdressers).

SWEDEN

No adjustments made because Sweden use the expenditure approach to calculate GDP and expenditures are carefully measured "by means of well constructed investigations" so that it includes all activities. The expenditure method establishes the "true" level of GDP.

N2

- *Prostitution*: estimates of 2003 have been used as a starting point. Previously published intermittent investigations within the area have been used for benchmarking other years. For years with no information interpolation methods have been used. The 2003 estimates of number of workers, turnovers, based on interviews and reports. As no regular price collection has been made in the past, price changes have been adopted to the general price movements of the consumer price index during the period. However, work is in progress for a future regular collection of price information.
- *Drugs*: estimates is calculated and included in Sweden's national accounts. Sweden calculates household final drug consumption expenditure separately for six types of illegal substance: cannabis, heroin, cocaine, amphetamines, ecstasy and narcotic medicines. Two estimates made one for "heavy abuse" and another for "other abuse". Household final consumption expenditure per illegal substance = Price (SEK/gram) x number of addicts x average dose (grams per day of abuse) X number of days of abuse. Assumptions are made about the level of annual consumption per user and the type of substance used. Data on the number of heavy abusers from surveys and research reports. Data on "other abusers" come from annual surveys and various interviews. The Swedish Council for Information on Alcohol and Other Drugs (CAN) collects price data for the most common drugs. Prices are collected via a bi-annual questionnaire on the street price of different. For *Intermediate consumption* no estimate is made. Domestic output consists only of the trade margins which accrue before the drug reaches the final consumer, therefore intermediate consumption should be very low. Any intermediate consumption is most likely already included in the national accounts, but in the wrong sector. Intermediate consumption not already covered is assumed to be low. No attempt is made to calculate domestic output, as consistent data reveal this to be very marginal. Instead it is assumed that all *drug consumption* in Sweden is supplied through imports.
- *Alcohol and tobacco smuggling*: it is legal to import alcohol and tobacco into Sweden if the items are declared and taxes paid. VAT and excise duties are high, so smuggling is wide spread in Sweden. Household final consumption expenditure= street price X quantity purchased. Calculations are made separately for spirits, wine, beer and cigarettes. The year 2003 is chosen as a benchmark.

Monthly surveys administered by the Centre for Social Research on Alcohol and Drugs, SoRAD at Stockholm University are used to determine the amount of alcohol consumed and imported by individuals. The survey makes a distinction between registered alcohol consumption which is taxed and covered by statistics and unregistered consumption. These surveys provide data on quantities relating to household consumption. Annual and quarterly changes of consumption are

also presented. The surveys of living conditions conducted by Statistics Sweden and reports from The Swedish National Institute of Public Health include data on the number of daily smokers in the population. Price data proved difficult to obtain. Only the Malmö city police were able to provide data regarding the street prices for illegal alcohol and tobacco. The calculations therefore use data on street prices obtained from the Malmö police. For cigarettes, Poland's legal unit price is used.

Intermediate consumption in smuggling probably made up of transport costs which are most likely already in the national accounts albeit probably in the wrong sector. Sweden assumes intermediate consumption not already include in the accounts are low and no estimate is made. Therefore, output = value added. Imports are estimated on the basis of legal prices in the country of origin and the volume of illegal alcohol which is consumed. Purchases abroad by Swedes are already included in the national accounts. These purchases are included in the "foreign currency" item, which is calculated with the aid of data from currency exchange and credit-card transactions. The introduction of illegal items into the Swedish national accounts therefore has an impact only on the final consumption expenditure of households, output and value added. The supplement to final consumption expenditure of households is calculated as total household consumption minus imports. There is no addition to the national accounts for imports since these are already included in the foreign currency exchange item.

- *Illegal gambling*: Only the illegal gambling that occurs on gaming machines is considered. Although other forms are thought to be of far less monetary significance, they are presumably not nonexistent. Estimates build on the assumption from the National Gaming Board's report that there were 3000 illegal machines on the market in 2003, but these are viewed as a minimum. Neither the report or the estimates include illegal machines placed in private associations.
- The point estimate for 2003 used as a starting point. The preceding and following years were extrapolated using the development of household consumption expenditure on legal forms of gambling. Estimates in constant prices were achieved with the help of the corresponding consumer price index (CPI). From the yearly estimates, quarterly estimates were derived using the same distribution as for legal gambling.

N6

Although no adjustments are made to the national accounts, Sweden can measure the unreported income from the NOE by analyzing the discrepancy between the statistics concerning household expenditure and the officially accounted income for the household sector. This discrepancy catches both the income that is present by cheating in various ways in the bookkeeping, and that which is kept completely outside the bookkeeping. The discrepancy includes both payment to employees (wages) and hidden incomes among people running businesses as self-employed.

UNITED KINGDOM

The UK makes no explicit estimate for illegal production. Main reason is lack of reliable data sources to make the calculations. The exception is for smuggled goods for which explicit estimation was introduced in 2001. Illegal production can feed into the overall measure of the GDP through the balancing of Supply and Use Tables, since illegal production will be picked up by one of the three measures of GDP.

N1

Office for National Statistics (ONS) makes specific adjustments to Annual Business Inquiry (ABI) data in the production approach for unregistered units to deal with underreporting in the source data.

N2

Most illegal activity is not yet specifically included. Adjustments are not made due to difficulty in finding good data sources. The exception is smuggling alcohol and tobacco products. *Smuggled alcohol* and *tobacco products* are explicitly included in the accounting. Estimates are based on HM Customs and Excise intelligence on the level of smuggling taking place together with assumptions about the prices at which the smuggled goods are sold to consumers through different types of outlet. Retail shops and restaurants are assumed to sell at the same prices as the rest of their stock. For “street” sales (i.e. not through restaurants) of alcoholic drink, 70% of the average legal UK price is expected to be used for beer, and 115% of the French prices (published by INSEE) will be used for wines and spirits. For street sales of cigarettes, the prices at which these goods are bought by UK households are assumed to be slightly above Belgian market prices.

N3

The value of own account construction by households, i.e. self-built dwellings, is added to output and gross value added. Receipts from renting land, obtained from their accounts, are added to gross value added. This is because the surveys treat such payments as purchases of services, while in the national accounts they are classified as property income. Since this is a switch from intermediate consumption to gross value added, no adjustment is needed to output.

N6

- *concealed activity*: legal activity deliberately concealed from authorities to avoid paying taxes or social security contributions. In the production approach, ONS makes an explicit allowance for tax evasion (non-registration) in a range of industries. In the income approach, ONS makes explicit adjustments for tax evasion in the compensation of employees and gross operating surplus of non-financial corporations. The most significant evasion adjustment is applied to mixed income. These adjustments are derived from a model that compares industry level production and income based on estimates. In the expenditure approach, ONS applies a specific evasion adjustment for concealed activity in housing construction.
- Tax Evasion adjustment uses model based on detailed industry information on production and incomes (from Inland Revenue) to estimate hidden activities at the industry level. Assumes mainly self-employed conceal income, but small adjustments made to corporation tax data to account for evasion. Adjustments are made for known under-coverage areas (construction, taxis, and agriculture). The model is based on the level of concealment in the previous year, a growth factor, turnover in the industry, and change in taxes.

- The method used for estimating undeclared employment income is to apply a growth rate (based on movement in basic pay and change in tax) to the previous year's figure (figures are benchmarked to a detailed 1994 estimate).
- *non-financial corporations*: the only 'exhaustiveness' adjustment applied is a small (historically based) evasion adjustment based on 0.3% of the gross trading profits of non-financial corporations.

N7

For administrative data sources, adjustments may be necessary and ONS therefore make explicit adjustments for those not covered in statistics.

- In the income approach, adjustments to *Pay-As-You-Earn (PAYE)* data, an estimate of pay received by employees who fall below the tax threshold and therefore would not be included in PAYE, is calculated using data from the Family Expenditure Survey (FES).
- *Domestic and agriculture work* – wages too low to be included in the PAYE tax system. A separate estimate of total wages and salaries provided by Ministry of Agriculture, Fisheries and Food (MAFF). To avoid double-counting, PAYE base totals for workers are deducted from the combined MAFF/household final consumption figures. The portion of the "pay below tax threshold" figure also subtracted from the combined figure to calculate a final net addition to basic pay.
- *Sales by small traders* – this is to cover sales by retailers who fall below the VAT threshold. These factors were calculated after a study of all retailers within a section of towns.
- *Tips and income received in-kind*: ONS makes specific adjustments in all three GDP measures. Estimates are extrapolated from a starting point with a growth in basic pay. Production approach primarily based on the NS Annual business Inquiry (ABI) which draws a sample from the Inter Departmental Business Register (IDBR). Inquiry based estimates are supplemented by estimates of earned in-kind income as well as other adjustments when necessary. The following adjustments made to the ABI in all industries: 1) production and income approaches are balanced; 2) "Income in kind" based on Inland Revenue data supplied at the I/O group level added to every I/O level industry;
- *Construction*: based mainly on the DETR data and crossed checked against the ABI. ONS makes a hidden economy adjustment for self-employed builders based on DETR data, which is also applied to the expenditure approach.
- *Wholesale and retail industry*: Adjustment made to ABI data for under-coverage of small outlets – based on a special analysis done in collaboration with the Dept of Trade and Industry (calculation based on reported self-employment income in the industry and an estimate of under-coverage by the IDBR).
- *Hotels and restaurants*: An adjustment for under-coverage of small outlets is applied - as per the wholesale industry.
- *Transport*: Under-coverage of Taxis is dealt with by an adjustment based on number of registered cabs and expert opinion on taxi driver earnings (this adjustment is less important than it was due to improvements to IDBR coverage).

- *Real estate and business activities*: These figures are adjusted to account for research and development work by NPISH – the adjustment is based on income data but checked against QTI and annual reports and accounts of universities etc.
- The estimates of *total grossed fixed capital formation (GFCF) on housing improvement* work includes an additional adjustment, worth approximately 25% of the reported income of the self-employed in the construction industry. This is intended to allow for hidden economy home improvement work by this industry.

UNITED STATES

The Bureau of Economic Analysis (BEA) makes a number of misreporting adjustments to capture all legal production.

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- individual and corporation income tax returns, as well as unreported wages and salaries paid by employers and unreported tips. The income-side adjustments are reported on national income and product accounts tables.
- *expenditure-side estimates of GDP*, misreporting adjustments are also made, but they are only made to our five-year benchmark input-output tables and are extrapolated between benchmark years.

While these misreporting adjustments are designed to capture all legal production, they may not necessarily align with the scope of what the SNA refers to as the non-observed economy, because not all misreporting of income represents “activities that are not captured in regular statistical enquiries.” For example, a substantial portion of the misreporting of income on tax returns is related to the over-reporting of expenses rather than to failure to file a tax return or underreporting of receipts. One would not ordinarily associate over-reporting of expenses as part of the non-observed economy.

In general, misreporting adjustments are drawn from two major sources. First, the Internal Revenue Service has periodically conducted audits on random samples of taxpayers to try to assess the extent of tax misreporting – these studies include the taxpayer compliance measurement program (TCMP), the information return program (IRP), and the national research program (NRP). In addition, the Census Bureau conducts an exact match survey for BEA to identify household survey respondents who report income on household surveys but do not file tax returns. These data sources are used to prepare the misreporting adjustments shown above.