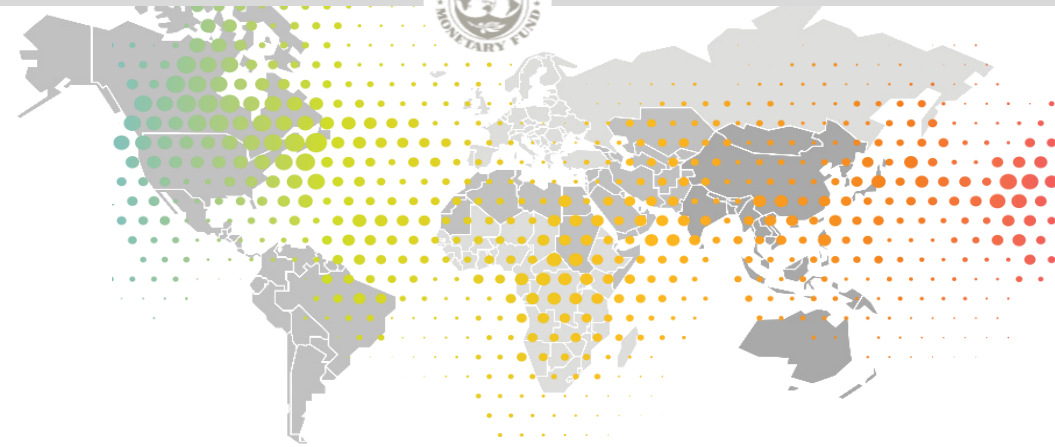




The Informal Sector Some Measurement Challenges

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- SNA: Production Boundary and Coverage Implications
- Importance of Informal Economy
- Measurement Approaches
- Status in Selected Arabstat Countries



The 1993 SNA and 2008 SNA production boundary

- **Production of all goods** whether produced for the market or for own-use
- Production of services *if*
 - ***Sold on the market***
 - ***Supplied to units other than producers***
 - ***Produced by paid labor***
- Production of housing services for owner-occupied dwellings

- Covering all economic activities that fall within the production boundary
 - ***Whether market or non-market***
 - ***For sale or own use***
 - ***Legal or illegal***
 - ***Hidden or not***
 - ***Formal or informal***
 - ***Recorded or unrecorded***

Implications of Incomplete Coverage of GDP



- Misleading information on the level of GDP
- Biased growth rates
- Misleading information on structure of economy
- Biased international comparisons
- Distortions in the internal consistency of the national accounts

- How significant are they for national accounts purposes?
- The contribution of informal activities to the non-agriculture GDP is estimated at: [1]
 - ***Sub-Saharan Africa: 41%***
 - ***Asia: 31%***
 - ***Latin America: 29%***
 - ***North Africa: 27%***

[1] Estimates based on *Women and Men in the Informal Economy*, ILO, 2002

The monetary approach, Feige (1979)

- Relates all monetary events not explained by a certain model to the under-coverage of official GDP

Global Indicator Approach

- Electricity approach proposed by Kaufmann and Kaliberda (1996)

General

An indicator of lack of coverage of GDP estimates

but

- Only yield to global estimate of GDP
- No industry and expenditure detail
- **They cannot be used in the compilation of national accounts**
- **Do not allow full use of available statistics**

- Statistical approaches focus on the **nature of the gaps** in the statistical observation, and on possibilities to **fill them using indirect information**
- Statistical approaches focus on compilation of estimates **based on directly relevant information** → compilation approach
- Compilation approaches operates **at a detailed level**
- Which makes the assumed **relationships between indicators and output** much tenable

- Appropriate estimation procedures should be developed depending on the availability and nature of source data
 - May yield only **total estimates**
 - Ad-hoc **supplementary data** are often required
 - **Alternative estimates** should be derived, compared, and assessed for plausibility of results
 - Estimates should be always cross-checked and **reconciled using national accounts framework**

Production: Labor Input-based (LI) Method

- Uses data on labor force to convert to a standard labor unit

Production: Supply-based method

- Uses data on inputs (most important inputs)

Production: Commodity Flow Method

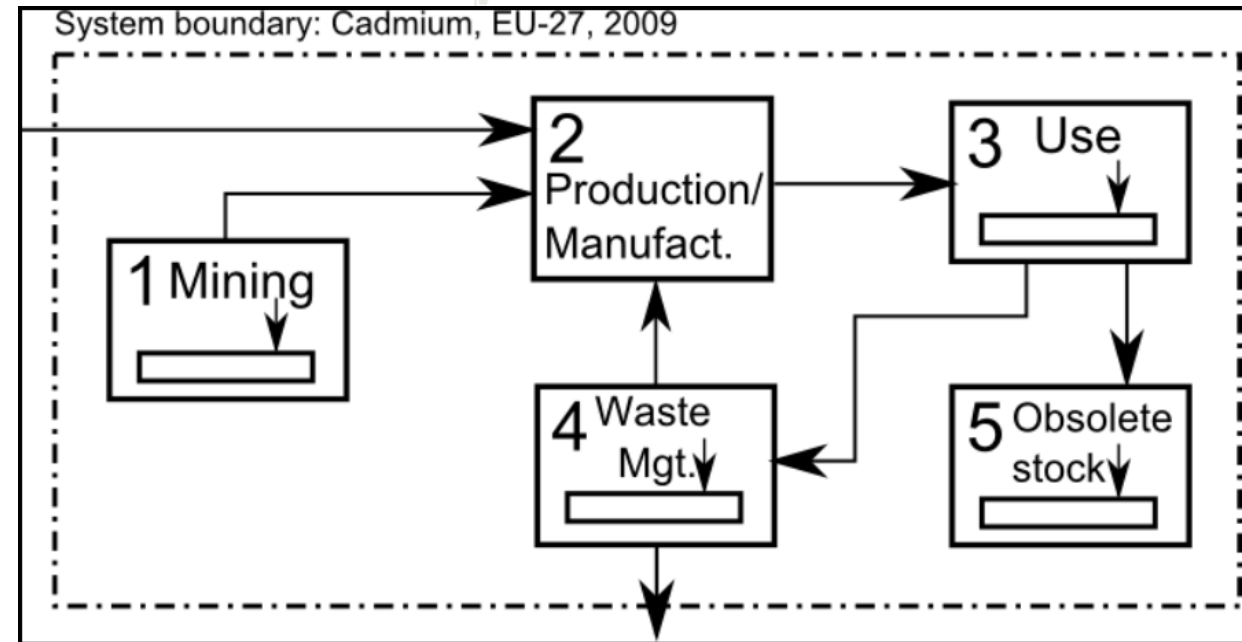
- Balancing total supply and uses of individual products

Expenditure: Household, Government, NPISHs Consumption

Supply and Use Framework



- Provides a most comprehensive, systematic, and consistent adjustment **for exhaustive measures of GDP**
- **Improves the overall quality of GDP** even when the estimates for various components of unrecorded economy are derived using adjustment methods





- Arabstat includes 22 member countries
- The Middle East Regional Technical Assistance Center (METAC) covers 13 AMF members
- The following 10 responded to METAC SNA survey:
 - ***Djibouti, Egypt, Iraq, Jordan, Lebanon, Libya, Morocco, Sudan, Tunisia, West Bank & Gaza***

Dissemination Status for Selected Arabstat Countries¹



The annual national accounts, including GDP, are reported on timely basis, according to e-GDDS requirements - 6-9 months after the accounting period

6

The quarterly national accounts, including GDP, are reported on timely basis, according to SDDS requirements - 3 months after the accounting period

5

The Consumer price index (CPI) is updated/rebased (including new weights, commodities, outlets) on a regular basis

6

The producer's price index (PPI) is developed and updated/rebased (including new weights, commodities, production entities) on a regular basis

5

There is a one-to-one duplication

**GDP: NOTE—
Not all countries meet eGDDS timeliness**

1) Djibouti, Egypt, Iraq, Jordan, Lebanon, Libya, Morocco, Sudan, Tunisia, West Bank & Gaza

GDP Approaches



The national accounts framework :

Compiled and
published

إطار الحسابات القومية

يتم إعدادها ونشرها

Compilation and dissemination of GDP

1 by production approach

A	Annual accounts	
a	current prices	10
b	constant prices	10
B	Quarterly accounts	
a	current prices	5
b	constant prices	6

إعداد ونشر إجمالي الناتج المحلي حسب منهج

الإنتاج 1

A الحسابات السنوية

a الأسعار الجارية

b الأسعار الثابتة

B الحسابات ربع السنوية

a الأسعار الجارية

b الأسعار الثابتة

Compilation and dissemination of GDP

2 by expenditure approach

A	Annual accounts	
a	current prices	9
b	constant prices	7
B	Quarterly accounts	
a	current prices	3
b	constant prices	3

إعداد ونشر إجمالي الناتج المحلي حسب منهج

الإنفاق 2

A الحسابات السنوية

a الأسعار الجارية

b الأسعار الثابتة

B الحسابات ربع السنوية

a الأسعار الجارية

b الأسعار الثابتة

Compilation and dissemination of GDP

3 by income approach, current prices

A	Annual accounts	6
B	Quarterly accounts	0

إعداد ونشر إجمالي الناتج المحلي حسب منهج

الدخل، الأسعار الجارية 3

A الحسابات السنوية

B الحسابات ربع السنوية



Coverage of Informal Sector in 10 Arabstat Countries¹



There is a **one-to-one correspondence** between inclusion of informal sector and compilation of Supply and Use Tables (SUTs)

This highlights the potential of SUTs to help in the design of a relevant approach to estimate the informal sector

GDP coverage		Included	SUT/IOT
	households' production for own final consumption	5	5
	other informal activities of households	7	7
	economically hidden transactions	3	3
	illegal activities	2	2

1) Djibouti, Egypt, Iraq, Jordan, Lebanon, Libya, Morocco, Sudan, Tunisia, West Bank & Gaza



Thank You!



Diagram 1. Eurostat tabular approach to exhaustiveness

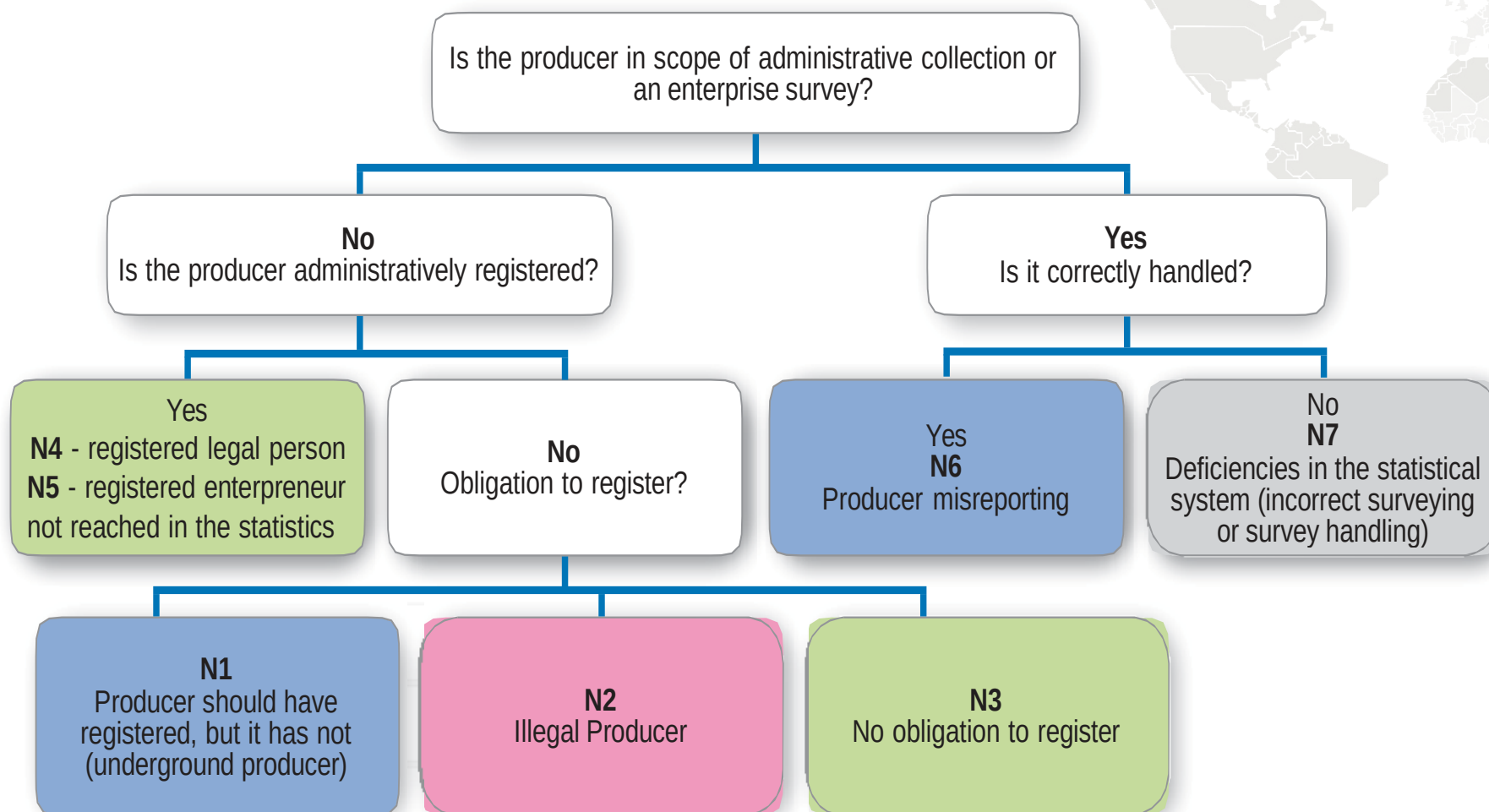


Figure 1. NOE adjustments as a percentage of GDP in the UNECE 2005 survey and the OECD 2012 survey

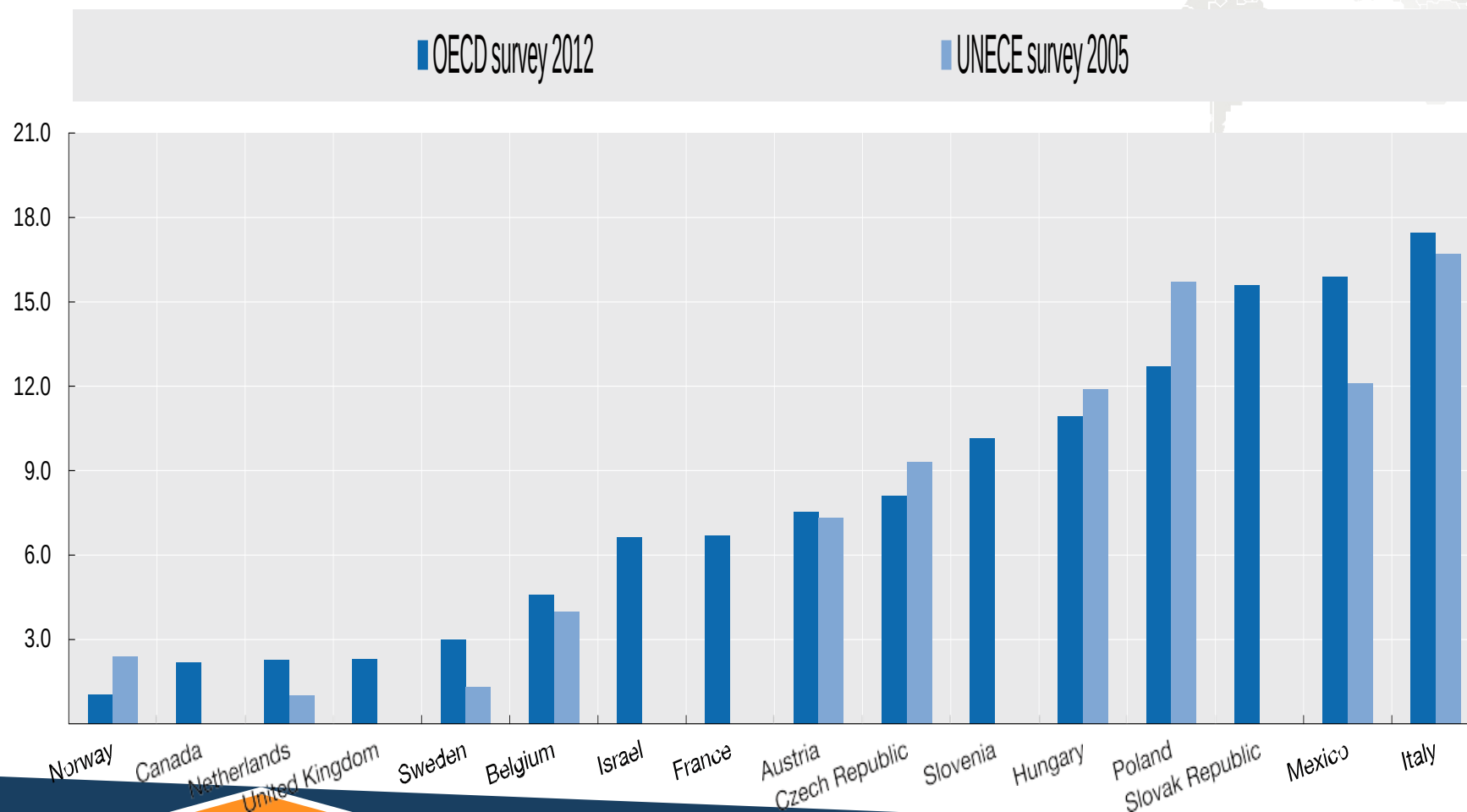




Table 1. NOE adjustments by informality-type
Percentage of GDP (share of adjustment type within total NOE)

	Underground N1+N6	Illegal N2	Informal sector N3+N4+N5	Statistical deficiencies N7	Total NOE
Austria	2.4 (31.7%)	0.2 (2.1%)	1.5 (19.4%)	3.5 (46.8%)	7.5 (100%)
Belgium	3.8 (83.8%)			0.7 (16.2%)	4.6 (100%)
Canada	1.9 (88.2%)	0.2 (8.2%)		0.1 (3.6%)	2.2 (100%)
Czech Republic	6.3 (77.6%)	0.4 (4.5%)	1.3 (15.6%)	0.2 (2.3%)	8.1 (100%)
France	3.7 (54.7%)		2.9 (42.7%)	0.2 (2.7%)	6.7 (100%)
Hungary	3.1 (27.9%)	0.8 (7.5%)	3.1 (28.6%)	3.9 (36%)	10.9 (100%)
Israel	2.2 (32.6%)		1.4 (21.8%)	3 (45.6%)	6.6 (100%)
Italy	16.2 (92.8%)			1.2 (7.2%)	17.5 (100%)
Mexico	5.5 (34.7%)		10.4 (65.3%)		15.9 (100%)
Netherlands	0.8 (36.6%)	0.5 (20.1%)	0.5 (20%)	0.5 (23.2%)	2.3 (100%)
Norway	0.5 (51.5%)	0 (0.3%)	0.5 (43.8%)	0 (4.4%)	1 (100%)
Poland	12.7 (82.6%)	0.9 (6%)	0 (0%)	1.8 (11.4%)	15.4 (100%)
Slovak Republic	12.1 (77.3%)	0.5 (3%)	2.9 (18.7%)	0.2 (1%)	15.6 (100%)
Slovenia	3.9 (38.2%)	0.3 (3.2%)	2.8 (27.7%)	3.1 (30.9%)	10.2 (100%)
Sweden	3 (100%)				3 (100%)
United Kingdom	1.5 (65.6%)		0.5 (22.9%)	0.3 (11.4%)	2.3 (100%)

Table 2. **NOE adjustments by industry**
Percentage of total GDP (larger than 0.5% highlighted)

ISIC 4	SWE	POL	CZE	AUT	SVK	NOR	SVN	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	1.0	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, waste management	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F - Construction	0.7	2.2	1.8	1.3	4.3	0.7	2.1	1.2	1.0	0.3	1.1	0.7
G - Wholesale and retail trade; repair of motor vehicles and motorcycles	0.3	5.4	1.5	1.7	2.8	0.0	1.5	0.9	0.9	0.3	5.9	0.4
H - Transportation and storage	0.3	0.7	0.2	0.3	1.0	0.0	0.4	0.1	0.2	0.0	1.3	0.1
I - Accommodation and food service activities	0.2	0.2	0.8	1.2	0.5	0.2	0.6	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	0.2	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	0.1	0.1	2.3	0.4	0.4	0.0
M - Professional, scientific and technical activities	0.2	1.3	0.4	0.3	0.9	0.0	1.5	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	1.2	0.2	0.0	0.0	0.1	0.1
O - Public administration and defence; compulsory social security	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
P - Education	0.1	0.0	0.1	0.1	0.1	0.0	0.1	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	0.2	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; activities of households for own use	0.0	0.5	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.4	0.0	0.0

Table 3. NOE adjustments by industry
Percentage of Gross Value Added of the industry (larger than 10% highlighted)

ISIC 4	SWE	CZE	AUT	SVN	BEL	ISR	NLD	CAN
A - Agriculture, forestry and fishing	7.5	39.5	3.5	15.7	2.8	10.0	12.8	1.6
B - Mining and quarrying	0.5	0.0	1.4	3.0	0.8	0.0	1.9	0.8
C - Manufacturing	1.1	4.9	4.9	5.3	2.1	0.0	0.1	0.9
D - Electricity, gas, steam and air conditioning supply	0.0	0.6	4.8	1.4	0.8	1.7	0.8	0.0
E - Water supply; sewerage, waste management	4.6	6.9	1.8	3.1	1.1	0.0	0.3	0.2
F - Construction	15.9	28.5	20.5	29.0	23.1	22.4	5.7	9.9
G - Wholesale and retail trade; repair of motor vehicles and motorcycles	2.5	15.4	14.5	13.6	8.0	11.6	2.4	4.3
H - Transportation and storage	5.3	3.7	7.0	7.8	2.0	3.4	0.6	1.3
I - Accommodation and food service activities	11.9	44.2	27.7	31.0	24.3	9.2	12.3	12.4
J - Information and communication	3.6	5.1	5.5	4.8	3.2	0.0	0.0	0.4
K - Financial and insurance activities	0.3	2.9	7.0	1.4	0.4	3.5	0.6	0.1
L - Real estate activities	2.9	6.5	1.2	1.9	1.7	8.5	2.1	0.0
M - Professional, scientific and technical activities	4.2	9.5	7.5	28.7	7.1	0.0	0.0	2.2
N - Administrative and support service activities	3.9	12.5	8.7	51.1	5.9	0.0	0.0	3.7
O - Public administration and defence; compulsory social security	0.0	0.0	1.0	0.2	0.0	1.4	0.2	0.0
P - Education	1.3	1.7	1.9	2.0	0.1	5.9	0.2	0.3
Q - Human health and social work activities	1.2	2.3	3.1	7.9	5.7	2.8	2.5	2.4
R - Arts, entertainment and recreation	10.3	12.9	19.7	13.2	8.7	0.0	0.0	4.5
S - Other service activities	12.1	34.5	16.2	46.4	6.8	30.1	4.7	7.8
T - Activities of households as employers; activities of households for own use	28.9	0.0	0.0	99.7	100.0	0.0	100.0	0.0