

# Principles of measuring the Non-Observed Economy

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## Conceptual background

- Measuring the Non-Observed Economy. Handbook (2002) – jointly prepared by OECD, IMF, ILO and CIS StatCom
- System of National Accounts 1993 (SNA 93)
- Eurostat Pilot Projects on Exhaustiveness in 1998 and 2002 – Guidelines on Tabular Frameworks
- UNECE survey on country practices in measuring the NOE

## Production boundaries

GDP should cover exhaustively all production activities  
 What are production activities?

Economic production – all activities “carried out under the control and responsibility of an institutional unit that uses inputs of labour, capital, and goods and services to produce outputs of goods or services... of a kind that can be delivered or provided to other institutional units”

=> any human controlled activity resulting in outputs that can be exchanged

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## Production boundaries

Economic production:

- link between activity and an institutional unit, natural processes are excluded
- marketability (outputs capable of being exchanged) – third party criterion

SNA 93 production boundary:

- production of all individual or collective goods or services supplied to units other than their producers;
- own-account production of all goods that are retained by their producers for consumption or gross capital formation;
- own-account production of housing services by owner-occupiers and of domestic and personal services by domestic staff.

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## Definition of NOE

- All activities within the SNA production boundary should be included
- ⇒ Non-observed economy refers to all productive activities that may not be captured in the basic data sources for national accounts compilation, that is, activities that are not directly observed.
- The aim is to make national accounts exhaustive
- Statistics are impartial - from NA perspective not important whether what is produced are "goods" or "bads", whether produced legally/illegally, by registered/unregistered enterprises etc.

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## Other terms used

- black, grey, shadow, alternate, clandestine, hidden, invisible, parallel, secondary, unofficial, informal, underground economy
- ⇒ often not clear what is meant
- ⇒ negative connotation
- underground and informal may have different meanings outside National Accounts

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## NOE problem areas

OECD Handbook outlines 5 problem areas:

- 1) Underground Production
- 2) Illegal Production
- 3) Informal Sector Production
- 4) Household Production for Own Final Use
- 5) Deficiencies in Data Collection

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## 1. Underground production

- All legal production activities that are concealed from public authorities to avoid:
  - payment of income taxes or VAT
  - payment of social security contributions
  - meeting certain legal standards e.g. minimum wages
  - complying with administrative procedures e.g. filling out statistical questionnaires or other forms

*Note:*

- 'underground' may have different meanings
- borderline between underground and illegal not clear

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## 2. Illegal production

- Production of goods and services whose production, sale or possession is forbidden by law
- Activities that are legal but made illegal when conducted by unauthorised persons

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## 3. Informal sector production

- Consists of units engaged in production with the purpose of generating income and employment for the person concerned.
- Characterised by a low level of organisation, informal employment relations (e.g. oral agreements), with little or no division between labour and capital as factors of production, on a small scale

*Note:*

- 'informal sector' - different meanings for different purposes
- borderline between informal and underground not clear

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## Informal sector: ICLS & SNA approach

- Differences outlined in a paper at:  
<http://unstats.un.org/unsd/sna1993/description.asp?ID=31>
- NOE Handbook Chapter 10 explains the definitions
- ICLS definition based on characteristics of enterprises, rather than persons
- considered to be a sub-sector of SNA household sector
- Delhi group recommendations for a harmonised subset:
  - unincorporated enterprises, no complete set of accounts, at least some market output
  - distinction between registered and unregistered, according to number of employed (<=5, >5), agricultural and non-agricultural
  - include persons engaged in professional and technical activities, paid domestic services, homeworkers, rural areas, and secondary jobs in informal sector

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## Informal sector: ICLS & SNA differences

- 1) Typology of production units
  - part of SNA households and household enterprises as market producers belongs to ICLS formal sector (meaning of sector different from SNA)
- 2) Segmenting the economy
  - Informal own account enterprises and enterprises of informal employers
  - Criterion of non-registration in many countries does not coincide with lack of legal entity and complete set of accounts
- 3) Criterion of market producers – ‘some or all’ vs. ‘most or all’
- 4) Special cases: ICLS excludes owner-occupied dwellings, agricultural activities, services for own final use by paid domestic staff

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## 4. Household production for own final use

- production of crops, rearing of livestock, production of other goods for own final use
  - own account capital formation, incl. construction of houses
  - imputed rents of owner occupied dwellings
  - paid domestic services
- => criterion of significance – estimate only if considered quantitatively important in the total supply of a particular good

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## Owner-occupied housing (imputed rent)

- should be included in NA
  - because of comparability between countries and over time
- was included in the first Eurostat framework but not in the second
- should be clear whether included in NOE or not – significant size
- can not be based on direct observations since there are no market transactions
  - estimate number of owner occupied dwellings from population census;
  - estimate value of services from rents paid for comparable dwellings (from housing censuses or real estate agents)
  - alternative method: opportunity costs

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## 5. Deficiencies in data collection

- Undercoverage of enterprises in whole or in part
  - New enterprises, output below threshold levels, incorrect classification of activities
- Non response by enterprises
  - Do not fill out questionnaires
- Underreporting by enterprises
  - Data are incorrectly reported or correct data is inaccurately edited or weighted

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## Analytical frameworks

- to help identification and measurement
- to be mutually exclusive and exhaustive
- to compare approaches across countries and share experiences
- to help focus efforts on NOE causes that have the biggest effect on GDP
- can be based on characteristics of
  - enterprise carrying out the activity
  - activity
  - observation method
  - cause of measurement deficiency

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## ISTAT and Eurostat T1-T8 framework

- Statistical underground
  - Non-response to surveys – T1
  - Out of date registers – T2
  - Unregistered because of other reasons than deliberate non-registration – T3
- Economic underground
  - Underreporting of production – T4
  - Intentionally not registered – T5
- Informal sector – unregistered units – T6
- Illegal production – unregistered units – T7
- Other types of undercoverage - production for own final use, tips, and wages and salaries paid in kind – T8

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## Eurostat N1-N7 framework

- Introduced for the Pilot Projects on Exhaustiveness in 2002
- Starting point the characteristics of producers (registered or not, surveyed or not)
- More suited to be used in the production approach
- Used by Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Montenegro, Poland, Serbia

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## Eurostat N1-N7 framework

- Unit deliberately not registered - underground - N1
- Unit deliberately not registering - illegal - N2
- Producers are not required to register - N3
- Legal persons not surveyed - N4
- Registered entrepreneurs not surveyed - N5
- Producer deliberately misreporting - N6
- Other statistical deficiencies - N7

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## Unit and labour framework

Labour	Production units			
	Enterprises registered in business register	Enterprises not registered in business register		
		Other	Own account	Production for own use
Registered	C1	C3		
Not registered	C2	C4	C5	C6

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## Production approach - methods

- Supply based methods
  - e.g. estimating crop production based on consumption of seeds, construction based on use of construction materials
- Labour input method and the Italian approach
  - based on estimates of the supply of labour from household survey or demographic sources, and estimates of output and VA per labour input from enterprise surveys
- Demand based methods
  - e.g. estimating household consumption of health and personal services, uses of products as raw materials, etc.
- Income based methods
  - based on data on income from administrative sources
- Commodity-flow method
- Industry-specific methods
  - agriculture, construction, trade, restaurants and hotels, transport, etc.

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## Expenditure approach: sources and methods

- Household Final Consumption Expenditure
  - sources household expenditure surveys (HES), retail and international trade stat., production stat., admin. data, business reports, socio-demographic data
  - methods: direct observation (HES), commodity flow, benchmark-to-indicator, consumption
- Government Final Consumption Expenditure
- Final Consumption Expenditure of NPISH
- Gross Fixed Capital Formation
  - surveys, commodity-flow methods, government data, construction output, etc.
- Changes in inventories
  - enterprise surveys, administrative data on inventories of government agencies
- Acquisitions Less Disposals of Valuables
  - data from producers, imports, retailers, or purchasers
- Imports and Exports of Goods and Services
  - International trade stats., customs declarations, surveys of shuttle traders

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## Supply and use framework

- commodity flow method at the level of the whole economy
  - breakdown of total output or sales by product for goods and services
  - data on exports and imports of goods and services.
  - estimates of the ratios of intermediate consumption to output for various industries.
  - total intermediate consumption by product,
  - final household consumption expenditure, gross fixed capital formation, and changes in inventories by product
- balancing – removing inconsistencies for the benchmark year and subsequent years

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## Macro-model methods

produce and estimate of NOE based on one single model

- monetary methods – based on stocks or flows of money;
- global indicator methods, e.g. electricity consumption
- latent variable methods – two groups of variables: one determining the size and the other the evidence of missing activities

unsuitable for compiling NA because

- activities not precisely defined
- underlying assumptions too simplistic
- results not stable – change in assumptions produces different results
- many models that give different results
- provide only global estimate for GDP, not by industry
- results can not be combined with other measurements based on data

not recommended to use for measuring NOE - declaration by ISWGNA (signed by UN, Eurostat, OECD, IMF, World Bank)

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## Improvement of basic data

- Statistical data requirements
  - make known the requirements and data problems of GDP compilation to the branch statisticians
  - inform main users about the NOE problem areas
- Institutional framework
  - legislation, relation between confidentiality and non-response or misreporting, access to administrative data, place of NOE measurement in the organisational structure, planning framework, quality programme
- Conceptual framework of data collection
  - units, classifications
- Data collection mechanisms
  - administrative sources, statistical business register, surveys

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## Implementation strategy

Steps:

- Formulation of aims and consultation with internal and external users
- Selection of an analytical framework
- Assessment of the NA and basic data collection programme
- Identification and prioritisation of NOE improvement initiatives

Special features in transition countries:

- priorities: underground, informal and food production
- analytical framework linked to priorities
- introducing sample surveys
- cooperation with other government agencies

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