



Measuring the Non- Observed Economy

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- **Why does the NOE attract attention?**

- The size of underground, hidden, shadow, illegal, etc. economy is a matter of public interest
- Governments are concerned with financial consequences of any bias/error in GDP
 - missed tax revenues
 - international contributions and grants
 - comparability by region
- International rankings based on GDP and GDP per capita can be misleading



“With a growing shadow economy, economic policy is based on erroneous official indicators (like unemployment, labour force, income, consumption), or at least indicators that are inaccurate in magnitude”
(Schneider and Enste, 2000)

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- This is an issue both for developed countries and transition and emerging economies (i.e. Russia, China, India, Brazil, etc.)
 - In Europe, attention has been paid to the “exhaustiveness” of GDP estimates, because GDP (GNP) is largely used for economic and structural policies, as well as to calculate individual countries’ contribution to the EU budget



The comparability issue

The size of the NOE can affect the correct (“comprehensive”) estimate of:

- the absolute size of an economy (level of GDP);
- the rate of growth (change in GDP volume)

At national level, there is a conflict between these two targets. In fact, improvements in methods to estimate the level of GDP can affect the reliability of the growth rates.

What does “comprehensive” mean?

Comprehensive = coverage of economic activity included in GDP is consistent with the scope of the production boundary of the 1993 “System of National Accounts” including activity conceptually in scope, but not measured through statistical surveys or administrative means, i.e.

The non-observed economy



Main effects of non- or partial-inclusion of NOE:

- Lack of comparability;
- Rates of growth biased if NOE growing at different rate to growth of economy overall, or if sectoral distribution of NOE is changing
- Lack of accounting consistency between production, expenditure and income measures of GDP



The production boundary in the 1993 SNA

Takes a broad view of economic activity

It is defined ... “an activity 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 and services”

The production boundary in the 1993 SNA

To clarify:

- all goods;
- all services (except household services for own final consumption in the same household, but including paid domestic staff and owner-occupied houses)
- transactions based on mutual agreement of institutional units (included illegal transactions, if mutual consent)

Illegal activities

They include:

- Production of goods and services whose sale, distribution or possession is illegal
- Production activities which are usually legal but illegal when carried out by unauthorised unit

They exclude:

- Fraud
- Protection rackets
- Theft (but trade in stolen goods is included)



What is the NOE?

NOE = economic activity conceptually in scope, but not measured through statistical surveys or administrative means

Causes of non-observed activity:

- Statistical underground
- Economic underground
- Other

Difficulties in measuring the NOE

- Statistical underground:
 - non-response to surveys
 - business registers not updated
 - statistically non-observed (below thresholds)
- Economic underground:
 - deliberate under-reporting of output or over-reporting of intermediate costs
 - hidden units
 - illegal activities
- Other (wages and salaries in kind, etc.)



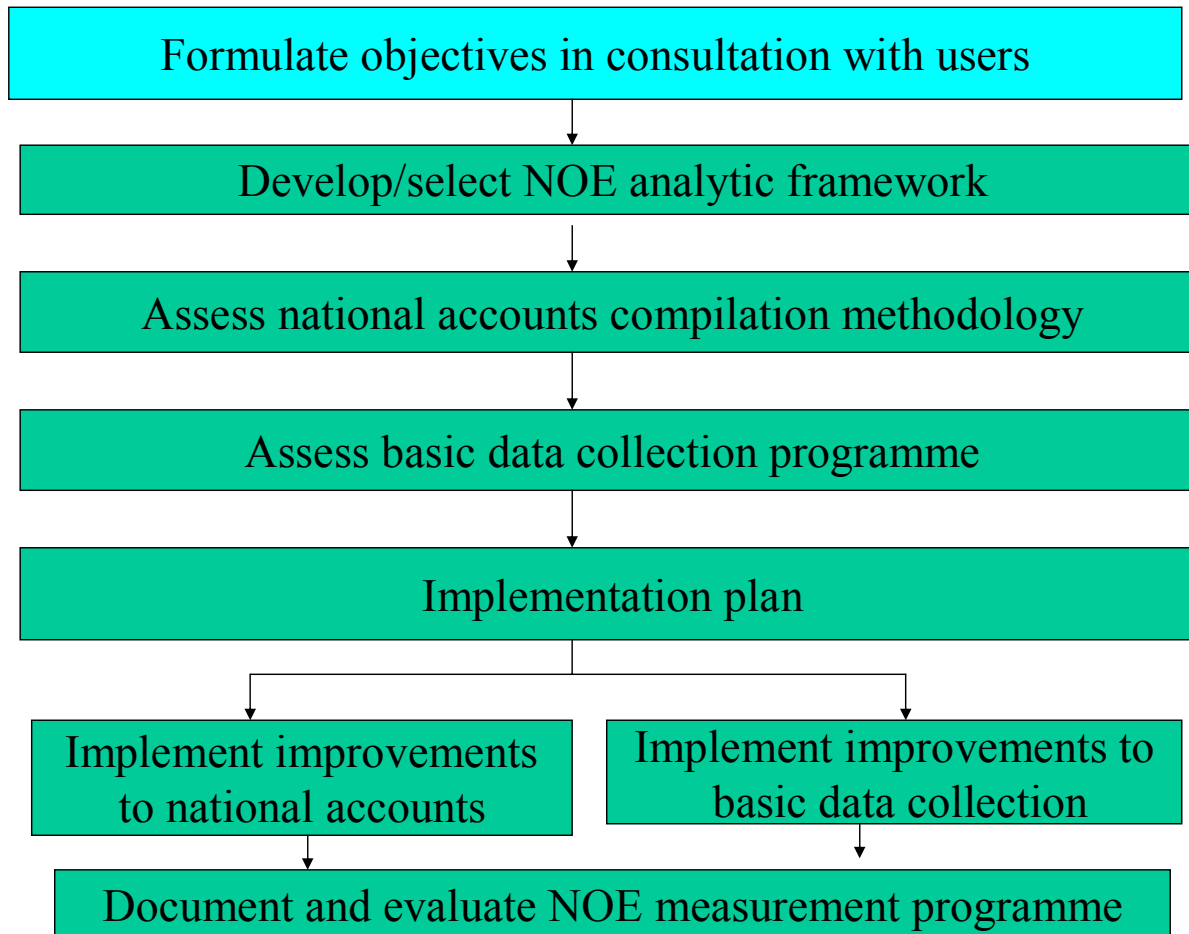
How to measure the NOE?

- Macro-models:
 - currency demand
 - physical input (electricity)
- Statistical models:
 - commodity flow
 - integration between demand and supply
 - tax audits
 - labour input
 - direct surveys on households

The OECD handbook (OECD, IMF, ILO, CISSC)

- Macro-models do not produce reliable estimates
- A complex strategy is necessary:
 - Not just a quick fix for the national accounts
 - Analyse the causes
 - institutional and legislative framework
 - statistical business registers
 - basic data collection
 - tax systems
 - role of informal economy
 - The strategy has to involve both statistical and administrative sources
 - Medium-term research project
 - Interaction between statistical and other public authorities
 - Involvement of final users and media

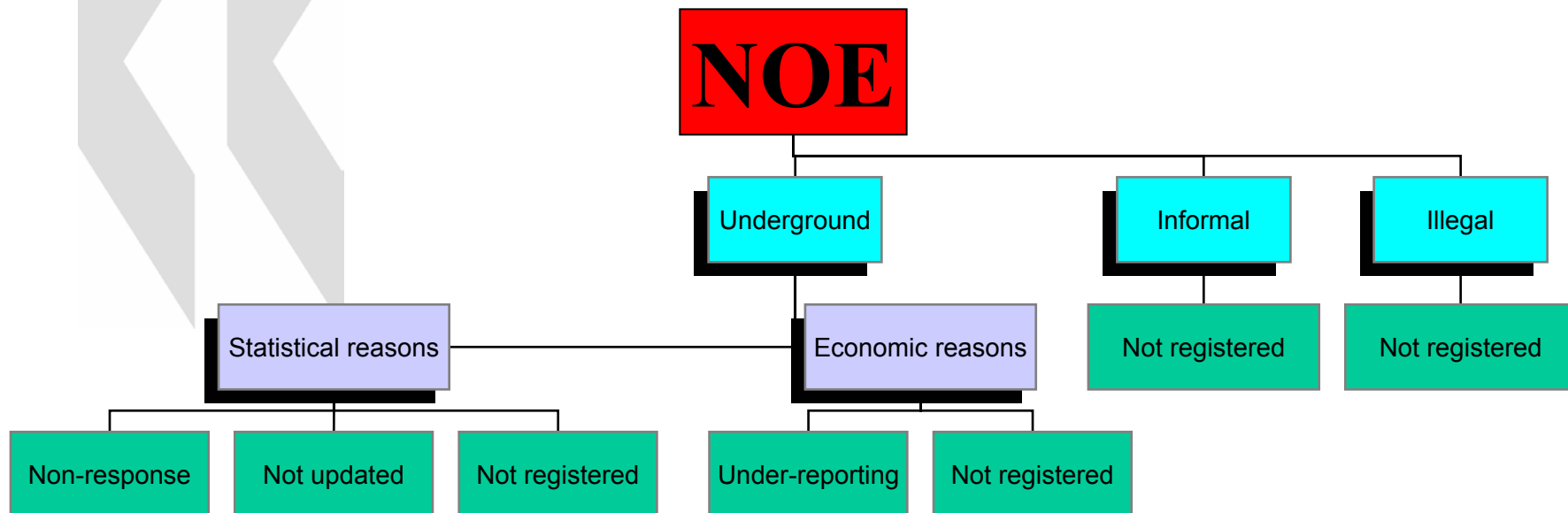
Schematic framework for NOE measurement:



Formulate NOE objectives

- Consult with users
 - NSO, Ministries of Finance, Planning, etc. Reserve Bank, Research Institutes, business users
- Set broad objectives
 - for basic data as well as national accounts
- Timetable for improvements

A Possible Conceptual Framework



Assess national accounts methodology

- Data confrontation
 - tax statistics, income/expenditure, labour use/supply
- “Upper bound” estimates of NOE
- Ad hoc surveys
- International frameworks:
 - IMF *Data Quality Assessment Framework*
 - Eurostat *National Accounts Process Table*

Assess basic data collection programme

- Institutional framework (e. g. legislation and planning framework)
- Conceptual framework (e.g. statistical units, classifications)
- Data collection mechanism (administrative data, statistical surveys, etc.)
- Survey frames and business registers
- Survey design (questionnaires, sampling, editing etc.)

Implementation plan

- Establish responsibility for measuring NOE
 - survey staff and national accountants
- Set priorities
 - activities with large NOE component first
- Links with other quality improvement plans
- NOE programme outputs
 - e.g. better basic data, GDP exhaustiveness, better documentation.
- Time-table

Improve national accounts compilation

- Supply based methods
- Labour input method
- Demand based methods
- Supply and use framework
- Industry-specific methods: agriculture, manufacturing, building, trade, restaurants, transport, personal services.

Implement improvements to basic data collection

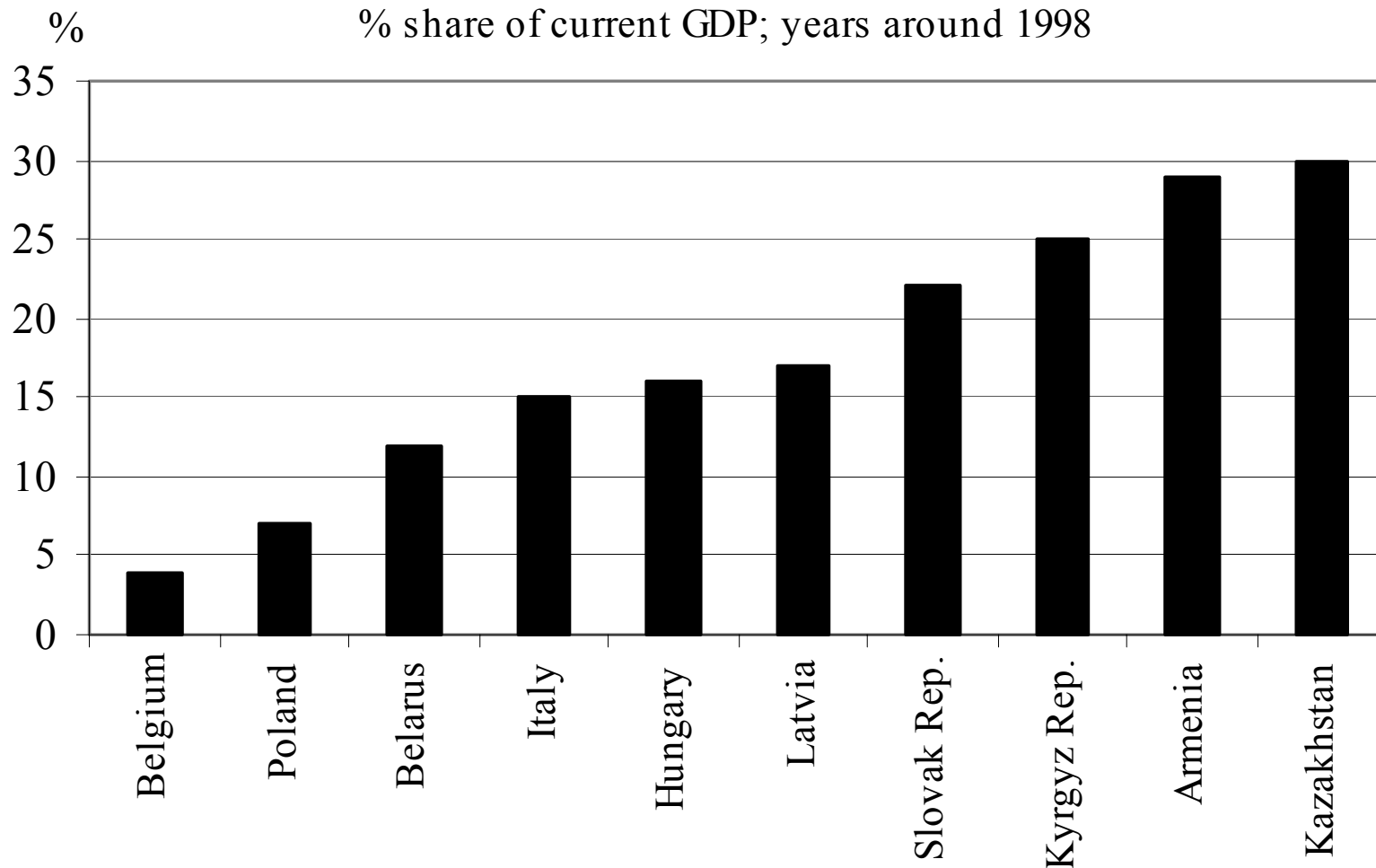
- Coverage of regular surveys
 - are important activities/areas not covered?
 - is there duplication?
- Survey frames and business registers
- Questionnaires
- Sample design
- Administrative sources
 - are there sources not being exploited?
 - scope for improvement?

Document and evaluate NOE programme

- What was done?
 - For national accounts
 - For the basic data
- Qualitative and quantitative assessment
 - of national accounts
 - of basic data
- What still needs to be done?
 - Institutional reforms, data collection procedures, national accounts methodology?
- Detailed metadata for assessments from a user perspective

Chart 1. NOE included in GDP of selected countries

% share of current GDP; years around 1998



Size (and structure) of the NOE

NOE almost always concentrated in some or all of:

- retailing
- construction
- taxi services
- trucking
- hotels, cafés, restaurants
- agriculture

Almost never in:

- power generation
- heavy industry
- rail and air transport
- government services
- banking and telecommunications

Size of the NOE (illegal)

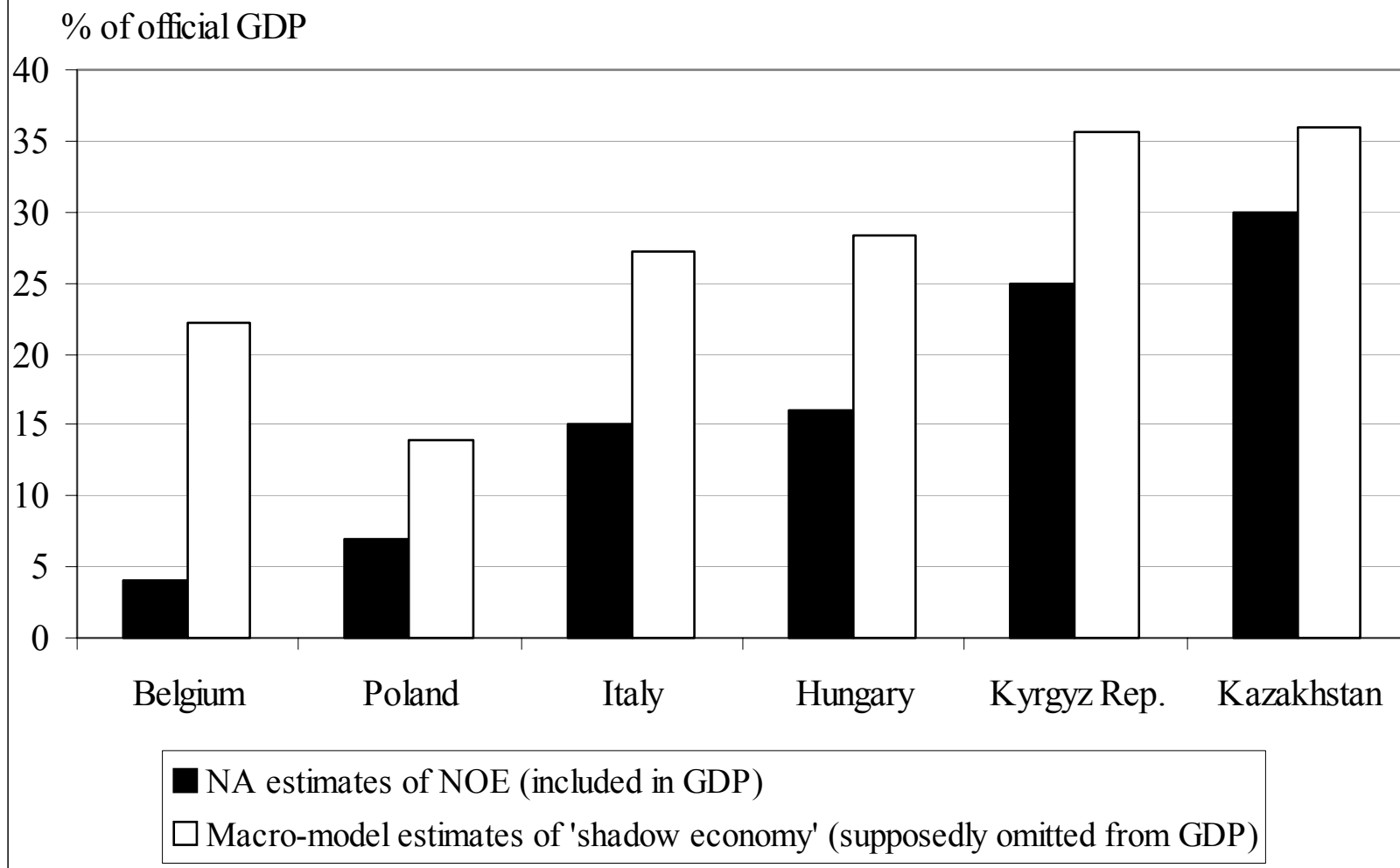
- Many countries estimate illegal activities, but few include estimates in GDP
- Activities estimated include:
 - drugs
 - prostitution
 - fencing
 - counterfeiting
 - smuggling
 - gambling

Illegal value-added in selected countries

Percentage share of GDP

<i>Country</i>	<i>Year</i>	<i>Activities covered</i>	<i>%</i>
Estonia	1998	Drugs, prostitution, and audio-video counterfeits	0.8
Latvia	1998	Drugs and prostitution	0.97
Lithuania	1998	Drugs, prostitution, fencing (cars)	0.5
Poland	1998		0.54
		Drugs	0.13
		Prostitution	0.20
		Smuggling and fencing	0.21
Slovak Rep.	1998	Drugs, prostitution, smuggling and fencing	0.59
UK	1996		0.9-1.5
		Drugs	0.5-1.1
		Prostitution	0.2
		Gambling and fencing	0.2

Macro-model estimates of the "Shadow Economy", supposedly omitted from GDP



In conclusion, the Handbook:

- Provides a clear framework to measure NOE
- Clarifies pros and cons of different methods
- Proposes a complex, but feasible approach to the problem
- Helps countries to fill gaps in their statistical (and administrative) systems and infrastructures

How to push countries to implement the Handbook?