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Enlargement and Exhaustiveness:
The Eurostat Pilot Project
With the EU Candidate Countries

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I Background

In Spring 1996, Eurostat was requested by the European Commission to make all the necessary arrangements for the provision of adequate macro-economic statistics from the EU Candidate Countries, together with a quality assessment of the data and the underlying compilation methods and data sources.

In response to this request, from mid-1996 Eurostat’s National Accounts Directorate started to collect National Accounts data from the Candidate Countries. The data collected serve as a basic statistical source for the work of several services of the European Commission, like the General Directorates for Enlargement and for Economy and Finance, and the Court of Auditors.

However, in 1996, the initial National Accounts data from the Candidate Countries were some distance from having the degree of harmonisation, and therefore comparability, that is expected for EU Member States. Thus, at the same time, steps were taken by Eurostat’s National Accounts Directorate to assess and improve the quality of National Accounts data in terms of reliability, exhaustiveness and correspondence with the the European System of National Accounts (ESA95) and related European regulations, like Commission Decisions.

In a first assessment round in the period to Autumn 1998, a number of major problems had been identified which required remedial treatment. These problems related to ESA95 concepts and definitions, to the methods used and to data quality and comparability. In particular, they concerned the following issues:

- the practical application of the ESA95 rules and principles,
- ensuring the exhaustiveness of the National Accounts,
- overcoming the lack of basic data and improving the reliability of existing basic data including sampling and grossingup procedures;
- ensuring consistency between the different parts of the NA; and
- exploiting all possibilities for cross-checking and validating the results.

To address these issues, between October 1998 and May 2000, Eurostat and eleven Candidate Countries (Bulgaria, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia) jointly undertook the eleven non-financial National Accounts projects below, which were funded by the 1997 Phare programme.

1. Pilot project on the exhaustiveness of the NA in the Candidate Countries
2. Private household consumption
3. Estimation methods at constant prices
4. General government and non-profit institutions
5. Banking and insurance; FISIM
6. Estimates for shuttle trade and tourist expenditure: a feasibility study
7. Development of NA database and data transmission using EDI: a feasibility study
8. Changes in inventories and holding gains
9. Dwelling services
10. Input-Output tables
11. Calculation of the capital stock and the consumption of fixed capital
The project formats varied, but typically included two to three meetings between Eurostat and the recruited EU Member States' experts giving technical assistance, two task forces or workshops organised by Eurostat with the participating Candidate Countries, at least one mission by the experts to each of the countries and project work by the countries.

The National Accounts staff in the participating countries devoted a considerable amount of time and effort to the eleven projects, even though the resource situation in almost all the countries was and remains very critical.

The eleven projects each had their own objectives, but were collectively designed to improve the basis of the National Accounts estimates in the Candidate Countries, thereby improving the GDP data provided for both the pre-accession process and for other national and international needs.

Outputs of the eleven activities were similar. In general they included:

- Project work for each activity undertaken by each of the Candidate Countries to implement a range of ‘best practices’, leading to more systematic, exhaustive and integrated methods of compiling National Accounts,
- Encouragement of more self-examination by the Candidate Countries – in order to identify and target deficiencies in sources and methods;
- Expert training and technical support to the Candidate Countries on National Accounts concepts, sources and methods;
- Interim and final reports by the experts of the National Accounts strengths and weaknesses in the Candidate Countries, which also provide invaluable documentation for the purpose of updating earlier Eurostat National Accounts assessment reports for each Candidate Country;
- More solidly-based and comparable sets of National Accounts figures for the Candidate Countries which are increasingly transmitted electronically using an internationally recognised format;
- Recommendations by the experts for short and long term work to secure further improvements.

The macro-economic data and methodological improvements secured by the Candidate Countries under the 1997 Phare programme will be presented at a conference in Brussels on 29-30 January 2001 to a wide range of National Accounts data users. Besides the non-financial National Accounts projects refered to above, the agenda will also include the results of the work undertaken by Eurostat’s National Accounts Directorate with regard to financial accounts, debt and deficit, prices and foreign direct investment.
II The Pilot project on exhaustiveness - introduction

The single most important activity undertaken by Eurostat with the Candidate Countries since Autumn 1998 was the Pilot project on exhaustiveness (PPE), dealing with the measurement of the non-observed part of the economy as well as other elements of exhaustive accounts. Given the importance of the level of Gross National Product (GNP) and thus Gross Domestic Product (GDP) for the own resources of the European Union and for the allocation of EU structural and regional funds, this project clearly had priority for the work with the Candidate Countries.

This paper presents the methods used to improve the exhaustiveness of the Candidate Countries’ GDP as well as summary numerical results from the Pilot project.

The project was carried out from December 1998 to May 2000. To assist the Candidate Countries during the project, seven Member States’ experts had been contracted by Eurostat. Additionally, a Special Advisor was established to provide guidance and advice to the experts and the Candidate Countries with the aim of establishing a consistent approach and ensuring that the project work would be done at the same level of detail. In the framework of the project two workshops with the Candidate Countries and four co-ordination meetings of the experts with Eurostat took place. The experts visited their countries for one or two bilateral meetings.

The Commission Decision (CD) on Exhaustiveness of 22 February 1994 was the basis and the core element of the PPE. This CD is an important part of the so-called « Aquis Communautaire » in statistics, which embraces all EU legal acts with which the Candidate Countries have to comply at the moment of accession. Exhaustiveness in the EU framework is therefore not only a feature of good and reliable National Accounts, but a legal requirement and a pre-condition for entry into the EU.

The CD provides that GNP and GDP are exhaustive when they cover not only production, primary income and expenditure which are directly observed in statistical surveys or administrative files, but also include production, primary income and expenditure which are not directly observed. The PPE therefore covered all types of GDP under-coverage. This included all types of NOE as defined in SNA93 as well as other exhaustiveness issues, like reliability of data sources and their compliance with ESA95, income in kind, production for own final use, tips, valuation problems, the reliability of quantity-price methods and the use of cross-checking and verification methods.

A special part of the PPE dealt with illegal activities. ESA95 provides that illegal activities fall within the production boundary and, thus, should be covered in the National Accounts. For most of the Candidate Countries it was felt that illegal activities could be quite substantial. The PPE therefore provided a framework for the investigation of the most important types of illegal activities, for an assessment of the significance of these illegal activities in the Candidate Countries’ economies, and in order to make objective decisions about their future treatment.

Under the PPE, each participating country carried out a Pilot Study (PS) on the NOE. The countries had to describe their procedures for calculating the NOE for the output, expenditure and income approach of GDP based on a systematic and consistent framework designed by Eurostat, the so-called « Tabular approach », and had to provide the corresponding estimates. This approach will be described below. As,
however, the output approach is the main approach in most of the countries involved in the study, this paper will mainly focus on the output approach.

III The Pilot study on exhaustiveness - Concepts and methods of the tabular approach

The PS provided a detailed analysis of the current situation with regard to NOE in each participating country. In particular, it dealt with:

- the coverage of NOE and other kind of GDP under-coverage in National Accounts using different estimation methods and verification procedures,
- gathering all information available about NOE,
- the comparison of the different methods for estimating non-observed activities and their possible combination and
- the consistency of the adjustments in all three GDP approaches.

The detailed analysis of GDP under-coverage and of the estimation methods for closing the gaps in National Accounts was done systematically and consistently in a tabular form. Each figure given in the tables developed by Eurostat had to be explained with regard to its content and the underlying estimation methods. The tables are attached in annex 1 of this paper.

To start with, it was necessary to classify the different types of GDP undercoverage and to propose methods for estimates to fill the gaps:

T1: statistical underground (non-response)

This type of under-coverage includes missing units because of non-response to statistical questionnaires (or non-coverage of active units in administrative data sources). Possible methods to ensure exhaustiveness are, usually, the following:

- use of data from similar units (industries, size groups), former year’s data or similar appropriate data
- grossing-up methods (adjustment to the grossing-up coefficients)
- ensuring coverage with global verification procedures.

T2: statistical underground (not updated registers)

Not updated registers can have significant impact on the quality of statistical results. This relates mainly to:

- missing units because of not up-to-date registers
  - when defining the population of units to be included in the observation
  - when creating the sample survey
- problems related to out-of-date information about production units in the register
  - dead and temporarily non-active units in register
  - changes in the size of the unit
  - changes in activity of the unit.
Possible methods to ensure exhaustiveness are:

- detailed investigation of the register quality and expert estimates
- comparison of different statistical and administrative sources (preferably at the unit level)
- ensuring coverage with global verification procedures
- information from other surveys.

**T3: statistical underground (not registered, not surveyed)**

There are two types of under-coverage:

- non-coverage of units in the statistical registers because of
  - legal thresholds for registration
  - legal non-coverage of certain activities in the register
- non-coverage of units in the survey because
  - they were newly created during the year
  - they disappeared during the year

For identifying possible types of NOE in the PS, the coverage of the register (thresholds, industries, and sectors) has been investigated and the methods for defining the population for statistical or administrative surveys has been checked against the updating procedures. Possible methods to ensure exhaustiveness are:

- adjustments for thresholds based on other sources or expert estimates
- comparison of different statistical and administrative sources (preferably at the unit level)
- estimates based on the number of newly created and closed (non-active) units
- ensuring coverage with global verification procedures.

**T4: economic underground (underreporting)**

Underreporting can be one of the most significant types of NOE. It can appear in all types of units (including large enterprises, budgetary units and NPISH). It includes gross output under-reporting and intermediate consumption over-reporting. The PS required all types of units to be very carefully checked for under-reporting. Possible methods to ensure exhaustiveness are:

- The use of fiscal audit information
- Surveys of tax experts or bookkeepers (expert opinion about the scope and level of underreporting)
- The comparison of turnover in the NA sources with turnover in VAT or other tax files
- The comparison of wages and salaries and mixed income per capita by industries, preferably by size groups
- The comparison of the intermediate consumption ratio for different sub-groups of units operating in the same industry, e.g. size groups, public and private enterprises, legal and unincorporated units.
**T5: economic underground (not registered)**

Non-observed production because of *intentionally* non-registration of production units (or parts of the units) could be another very significant type of GDP under-coverage.

Global procedures can be used to ensure exhaustiveness. This is mainly the employment method. For some activities, data on the demand (e.g. household budget survey, capital formation, product balances) could be more complete and reliable than the output figures and, therefore, be used for making adjustments to the latter.

**T6: informal sector (not registered, underreporting)**

With regard to the informal sector, the following possible reasons for GDP undercoverage have been taken into account:

- missing productive units because they are not required to register their activity under any kind of administrative act
  - agricultural production in non-agricultural households for own use (this could also be classified to T8)
  - production of (other than agricultural) goods in households for own use (this could also be classified to T8)
  - own construction of residential buildings by households (this could also be classified to T8)
  - occasional and temporary activities, work on service contracts
- missing gross output for persons with secondary self-employed jobs
- missing units even if reported to fiscal authorities (this could also be classified to T5)

Possible methods to ensure exhaustiveness are estimates for the important types of informal activities of households using household budget survey data, data on construction permits or other administrative information, as well as global verification procedures, particularly the employment method.

**T7: illegal activities**

In many of the Candidate Countries, it was the first time that illegal activities were investigated in a systematic way. In the framework of the PS it was suggested that the investigations should be limited to such types of illegal activities that fall within the production boundary and, therefore, affect the GDP figures. In this context, the following types of under-coverage were specified:

- production of goods and services whose sale, distribution or possession is prohibited by law
- legal productive activities that turn illegal in the moment they are carried out by unauthorised producers
- illegal exports or imports
- trade with illegally produced or smuggled goods.

Within the framework of the PS, particular emphasis was given to trade and production of narcotics, prostitution, smuggling of tobacco, weapons, alcohol, food and stolen cars and dealing with stolen goods.
Possible methods for estimating supply and use of illegal activities are special investigations or surveys, crime statistics, administrative information (customs, police etc.) and, finally, expert estimates.

**T8: other GDP under-coverage**

Other problem areas which could lead to GDP undercoverage are:
- production for own final use
- tips
- wages and salaries in kind
- valuation methods for the NOE adjustments
- taxes and subsisies on products
- reliability of quantity price methods and product balances.

Concerning **production for own final use**, the PS considered particularly:
- production of agricultural or other products in the household sector for own final consumption (this concerns unincorporated units, e.g. farmers or self-employed, as well as informal activities of households)
- dwellings, extensions to dwellings, capital repairs of dwellings produced by households
- own account construction including capital repairs in agriculture (all sectors)
- own account construction including capital repairs in other industries (all sectors)
- machinery and equipment produced for own capital formation, own account capital repairs (all sectors)

The related tax, bookkeeping and reporting rules have been checked against ESA rules for all types of units (including non-market producers). In some cases, expert estimates were necessary. The PS stressed as well the importance of consistency in the output and expenditure approaches with regard to own account production.

The CD on exhaustiveness requires that all **tips** should be included in GDP estimates. The investigation of tips was part of the PS, and all activities where tips usually appear have been identified. In general, tips seem to appear in hotels and restaurants, repair services, personal services, hospitals and other health services, banks, insurance companies.

Possible data sources and estimation methods are:
- the use of household budget survey data
- special surveys and expert estimates
- comparison of wages and salaries / mixed income in the branches concerned with other branches
- rules for the taxation of tips.
In the PS, the Candidate Countries were asked to provide a precise description of the methods used to ensure that wages and salaries in kind are correctly treated in National Accounts. This includes:

- a description of the relevant tax and social legislation as well as the bookkeeping rules,
- a description of the information provided by the labour cost survey with respect to wages and salaries in kind,
- the identification of all types of W&S in kind (separately for each type), which are covered in National Accounts and which not.

For non-covered types, possible sources for making adjustments should be investigated. Often this relates to significant types of wages and salaries in kind, such as the private use of business cars or the expenditures of enterprises (including non-market producers) on behalf of their employees.

When analysing different types of under-coverage, it is worth thinking about the appropriate valuation. This relates, in particular, to the economic underground (non-registration as well as underreporting). While for VAT fraud without purchaser’s agreement a market price including VAT is assumed, for other types of under-coverage different prices compared to that for the "observed" transactions could appear. This means that the valuation of NOE adjustments at basic prices definitely would underestimate GDP. Nevertheless, it must be expected that the prices used in NOE transactions include an element, which can be related to VAT and other taxes on products, at least partly.

Regarding taxes and subsidies on products, the PS provided a description of the sources used and an explanation how compliance with ESA95 rules is achieved with respect to the level of GDP and the consistency between the output and expenditure approach. It was particularly important to look, in the framework of the PPE, at the complete coverage of taxes and subsidies and their valuation on an accruals basis.

Quantity-price methods are often used for agriculture and construction, in some cases also for verifying estimates for electricity, gas and water supply. The reliability of the estimates depends on the complete coverage of quantities and the quality of the prices. A possible problem is, for example, that prices for agricultural products could be obtained from processing enterprises and wholesale trade units, only. These prices could be very different from market prices. Additionally, the coverage of all kind of secondary activities (sales of produced secondary products and of goods for resale, production for own gross fixed capital formation and own final consumption) had to be investigated in the PS.

In general, it should be noted with regard to the classification of different types of NOE that it is not always easy or even possible to classify or to allocate a certain adjustment to one of the types. It is possible to have different borderlines between the "observed" economy and NOE in different countries. Moreover, the different types of GDP under-coverage similarly appear in all three GDP approaches. The borderline between the different types of GDP under-coverage, on the other hand, will not be the same in the three approaches. From a practical point of view, however, Eurostat considers it to be more important to ensure complete coverage of all possible types of GDP under-coverage than to solve all classification problems.
IV. The pilot study on exhaustiveness – numerical results

In the framework of the PPE, the Candidate Countries have improved their exhaustiveness estimates by preparing new adjustments for previously not covered types of under-coverage or verifying the existing ones. Most of these adjustments are already incorporated in the figures which the Candidate Countries report regularly to Eurostat and which are used in the statistical, economic and political context described in section 1 and 2 of this paper.

From the Eurostat point of view, however there is another very important output of the Pilot Project on exhaustiveness, besides improved figures for the EU pre-accession process. This is that all Candidate Countries used the logical framework of the Pilot studies’ tabular approach to ensure systematic and consistent exhaustiveness adjustments. The experience gained in this way can lead to sustainable results, as the tabular approach can be regularly repeated (and improved) in the years to come, i.e. when finalising the annual National Accounts.

Before looking at some numerical results from the Eurostat PS on exhaustiveness, a few words are warranted concerning the comparability of NOE adjustments between countries. Although efforts have been made to make the data comparable between countries, such comparisons should be treated with caution.

The size of exhaustiveness adjustments depends on two main factors. Firstly, it depends on the extent to which the economic activities of a country are covered by regular statistical observations. Secondly, it also depends on the extent to which the NOE has been adequately estimated. For example, a small exhaustiveness adjustment in a particular country may reflect the fact that the regular statistical and/or administrative observations cover most of the economic activities concerned. Alternatively, it may simply mean that the NOE is not properly estimated. Together with classification problems, such scenarios explain the considerable variation between Candidate Countries in the size of adjustments.

All Candidate Countries made significant exhaustiveness adjustments, some made very substantial adjustments. The total share of adjustments in GDP from the output side and without illegal activities varied between 3.5% and 21.0%. On average, the eleven countries adjusted their GDP by some 14%.
Table 1 provides the picture, when these total adjustments are broken down by type:

**Table 1 : exhaustiveness adjustments by type as % of GDP**

<table>
<thead>
<tr>
<th>type of adjustment</th>
<th>number of countries with an adjustment</th>
<th>average over all 11 countries</th>
<th>For those CCs who made adjustments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>min</td>
<td>max</td>
<td>min</td>
</tr>
<tr>
<td>T1 : statistical, non-response</td>
<td>10</td>
<td>2.3</td>
<td>0.1</td>
</tr>
<tr>
<td>T2 : statistical, not updated registers</td>
<td>3</td>
<td>0.1</td>
<td>0.3</td>
</tr>
<tr>
<td>T3 : statistical, not registered</td>
<td>4</td>
<td>0.4</td>
<td>1.1</td>
</tr>
<tr>
<td>T4 : economic, under-reporting</td>
<td>11</td>
<td>7.2</td>
<td>0.3</td>
</tr>
<tr>
<td>T5 : economic, not registered</td>
<td>7</td>
<td>2.7</td>
<td>0.1</td>
</tr>
<tr>
<td>T6 : informal, not registered, underreporting</td>
<td>7</td>
<td>1.0</td>
<td>0.1</td>
</tr>
<tr>
<td>T7 : illegal activities</td>
<td>8</td>
<td>0.1</td>
<td>0.4</td>
</tr>
<tr>
<td>T8 : other GDP undercoverage</td>
<td>6</td>
<td>0.2</td>
<td>0.2</td>
</tr>
</tbody>
</table>

When looking at different types of under-coverage, it is clear that the quantitatively more important adjustments concern the economic underground (T4 and T5). Economic under-reporting (T4) was the most significant adjustment for all Candidate Countries except one. On average, this accounted for 7.2% of GDP. Smaller, but still significant adjustments for non-registration (T5) averaged 2.7% of GDP.

With regard to the statistical underground, the adjustment for non-response (T1) is only significant in three out of the ten countries who adjusted for it. In these countries bigger T1 adjustments are needed because they include small units in their statistical surveys. However, small units tend to have a higher rate of non-response. The other countries largely use administrative sources for small units so that non-response does not appear to the same extent.

Only three Candidate Countries make adjustments for not updated registers (T2); for three other CCs, adjustments were not needed because the registers are regularly updated. Most of the remaining countries implicitly cover this type of under-coverage using global methods.

In most of the Candidate Countries, register thresholds for the inclusion of units or specific activities do not exist. In addition, statistical surveys or administrative information tend to include all units. Therefore, only four Candidate Countries needed to make adjustments for this type of GDP under-coverage (T3).

Illegal activities were estimated to account for between 0.4% and 2.1% of GDP. However three out of the eleven countries did not attempt to estimate illegal activities at all. There is clearly a need for further investigations even among the countries who did estimate illegal activities, as their research was limited to those activities seen to be the most important.

Tables 2 and 3 show the adjustments made broken down by industry. Table 2 expresses the adjustments as a percentage of the Gross Value Added (GVA) of the industry concerned. Table 3 gives percentages of GDP. Table 3 therefore shows the effect caused by the absolute size of the adjustment for a particular industry in combination with the relative position of this industry in the total economy.
The size and structure of the adjustments by industry vary very much between the Candidate Countries. In general, adjustments are made to the GVA of all industries. It is not really surprising that most of the Candidate Countries record the most significant adjustments to GVA in trade, hotels, restaurants, transport and communication (NACE G, H and I) and in construction (NACE F). In each of these two industrial categories, on average, more than a quarter of the GVA is an exhaustiveness adjustment. In some countries, the adjustment for construction reaches nearly 50% of the GVA. Two Candidate Countries show their highest figures for mining, manufacturing, electricity, gas and water supply (NACE C, D and E); on average, however, this industry’s GVA is only adjusted by some 10%.

In terms of the level of GDP, the most important adjustments have been made on average to trade, hotels, restaurant, transport and communication (6.1%), mining, manufacturing, electricity, gas and water supply (2.8%) and financial, real-estate, renting and business activities (NACE J+K, 1.8%)

The exhaustiveness adjustments by sectors are presented in Tables 4 and 5. Table 4 presents the adjustment to the GVA of the sectors, while table 5 shows the effect caused by the absolute size of the adjustment for a particular sector in combination with the relative position of the sector in the total economy.

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Table 2 : exhaustiveness adjustments by industry as % of GVA of industry

<table>
<thead>
<tr>
<th>industry, NACE rev.1</th>
<th>number of countries with an adjustment</th>
<th>average over all 11 countries</th>
<th>Over all CCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+B</td>
<td>11</td>
<td>13.3</td>
<td>0.0 44.1</td>
</tr>
<tr>
<td>C+D+E</td>
<td>11</td>
<td>10.1</td>
<td>1.9 25.8</td>
</tr>
<tr>
<td>F</td>
<td>11</td>
<td>25.6</td>
<td>0.0 46.1</td>
</tr>
<tr>
<td>G+H+I</td>
<td>11</td>
<td>26.7</td>
<td>2.1 36.2</td>
</tr>
<tr>
<td>J+K</td>
<td>11</td>
<td>14.5</td>
<td>0.0 25.9</td>
</tr>
<tr>
<td>L to P</td>
<td>11</td>
<td>8.0</td>
<td>0.9 20.4</td>
</tr>
</tbody>
</table>

Table 3 : exhaustiveness adjustments by industry as % of GDP

<table>
<thead>
<tr>
<th>industry, NACE rev.1</th>
<th>number of countries with an adjustment</th>
<th>average over all 11 countries</th>
<th>Over all CCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+B</td>
<td>11</td>
<td>0.7</td>
<td>0.0 3.8</td>
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<tr>
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<td>11</td>
<td>2.8</td>
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<td>F</td>
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<td>1.6</td>
<td>0.0 2.6</td>
</tr>
<tr>
<td>G+H+I</td>
<td>11</td>
<td>6.1</td>
<td>0.6 9.0</td>
</tr>
<tr>
<td>J+K</td>
<td>11</td>
<td>1.8</td>
<td>0.0 3.7</td>
</tr>
<tr>
<td>L to P</td>
<td>11</td>
<td>1.1</td>
<td>0.1 3.7</td>
</tr>
</tbody>
</table>

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1 A+B : agriculture, forestry, fishing, hunting  
C+D+E : mining, manufacturing, electricity, gas and water supply  
F : construction  
G+H+I : trade, hotels, restaurant, transport and communication  
J+K : Financial, real-estate, renting and business activities  
L to P : other service activities
Table 4: exhaustiveness adjustments by sector as % of GVA of sector

<table>
<thead>
<tr>
<th>sector</th>
<th>number of countries with an adjustment</th>
<th>average over all 11 countries</th>
<th>Over all CCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Financial and financial corporations</td>
<td>8</td>
<td>9.7</td>
<td>0.9 26.6</td>
</tr>
<tr>
<td>General government</td>
<td>8</td>
<td>0.2</td>
<td>0.0 0.9</td>
</tr>
<tr>
<td>Households and NPISH²</td>
<td>8</td>
<td>40.6</td>
<td>11.6 76.2</td>
</tr>
</tbody>
</table>

Table 5: exhaustiveness adjustments by sector as % of GDP

<table>
<thead>
<tr>
<th>sector</th>
<th>number of countries with an adjustment</th>
<th>average over all 11 countries</th>
<th>Over all CCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Financial and financial corporations</td>
<td>10</td>
<td>4.9</td>
<td>0.3 14.7</td>
</tr>
<tr>
<td>General government</td>
<td>10</td>
<td>0.0</td>
<td>0.0 0.1</td>
</tr>
<tr>
<td>Households and NPISH</td>
<td>10</td>
<td>9.5</td>
<td>4.1 15.5</td>
</tr>
</tbody>
</table>

The tables show the very substantial adjustments to households and NPISH; on average, 40.6% have been added to the GVA of these sectors in the framework of the exhaustiveness project. In terms of GDP, this accounts for 9.5%, on average. Three countries have adjusted the GVA of households and NPISH by more than 50% - two of these by more than two-thirds. Apart from classification problems, this reflects to a great extent the insufficiently developed statistical sources for these units and the tendency of small units to understate their income.

A substantial adjustment (of 9.7% on average) of the sectors’ GVA has been added for non-financial and financial corporations, most of it relating to small units. General government seems to be less problematic with respect to exhaustiveness; only one country made an adjustment, involving a minor amount for extra-budgetary funds.

V. The Pilot Project on exhaustiveness – summary and outlook

In summary, the Eurostat PPE has achieved the following in the Candidate Countries:
- improvement of existing estimation methods and development of new methods for types of GDP undercoverage which were not previously covered.
- the successful application of the tabular approach used for the PPE.
- consistent and systematic exhaustiveness adjustments between the three GDP approaches for the different types of GDP undercoverage,
- the acquisition of experience about how to ensure exhaustive National Accounts.
- Eurostat assessments and recommendations for further improvements to the exhaustiveness adjustments in each of the individual countries.

The numerical results of the PS on exhaustiveness confirm that the by far the biggest exhaustiveness problems are associated with small units. The quantitatively more important adjustments by type of GDP undercoverage concern the economic

² Non-profit institutions serving households
underground, namely intentional non-registration and under-reporting. A breakdown of exhaustiveness adjustments by industry shows that trade, hotels, restaurants, transport and communication (NACE G, H, and I) and construction (NACE F) required the largest relative adjustments. Analysed by sector, the quantitatively most important adjustments are those for households.

In Eurostat’s judgement, special attention should in future be given to:

- intentional non-registration,
- under-reporting by all types of units, not only small units,
- separate investigation of the under-reporting of output and over-reporting of intermediate consumption,
- production for own final use, tips, wages and salaries in kind and the valuation of NOE adjustments,
- the investigation of all types of illegal activities and the development of suitable estimation methods and
- the further exchange between the countries about sources and methods used to ensure exhaustive National Accounts.

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