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NATIONAL STATISTICAL SERVICE OF ARMENIA

MEASURING THE CONTRIBUTION OF THE INFORMAL SECTOR (IS) TO THE TOTAL ECONOMY

Meeting on Implementation of the 2008 SNA
Group of Experts on National Accounts
Geneva 30 April - 04 May 2012

Third module: Expert Group on National Accounts (2-4 May 2012)
Item 5. Household sector and unincorporated enterprises



Structure of presentation

- **Introduction**
- **Concepts and Definitions**
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 - **Dichotomy of Household Enterprises**
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- **Estimation of Gross Value Added of The Informal Sector/ It's Contribution To Gross Domestic Product (GDP)**
- **Implementation of Eurostat Tabular Approach to Exhaustiveness of GDP**



INTRODUCTION

The National Statistical Service of the Republic of Armenia (NSSRA) applied the mixed survey through the Asian Development Bank's (ADB) Regional Technical Assistance (RETA) 6430: Measuring the Informal Sector.

The mixed survey approach that was implemented in 2009 has two phases: the first phase is the expanded Labor and Employment module of the Integrated Living Conditions Survey (ILCS), while the second phase is the Informal Sector Survey (ISS).

The survey period coincided with the financial and economic crisis that affected Armenia's economy starting in October–November 2008. As a response, the Government of the Republic of Armenia drafted an anti-crisis program, which involved simplification of all types of businesses, including small and medium-sized enterprises, and the new tax procedures. Those factors have been affecting economic units implementing informal activity.



CONCEPTS AND DEFINITIONS

**The revised 2008 System of National Accounts (SNA) Chapter 25:
Informal Aspects of the Economy
OECD handbook: Measuring the Non-observed Economy**

ILO Definition of IS

The 15th ICLS defines the IS in terms of characteristics of the enterprises (producing unit) in which the activities take place; a subset of household unincorporated enterprises.

**IS According to the Delhi Group (Expert Group on IS set up by
UNSD):**

Legal organization (unincorporated enterprises)

No complete set of accounts

With at least some market output

Employment size (less than 5)



CONCEPTS AND DEFINITIONS

Employment in the IS includes all jobs in the IS enterprises or all persons who, during a given reference period, were employed in at least one IS enterprise, irrespective of their status of employment or whether it was their main or secondary job.

Informal employment comprises the total number of informal jobs characterized by absence of contracts, social protection, or entitlement to certain employment benefits (advance notice of dismissal, severances of pay, paid annual or sick leave, etc).



Informal Sector Survey / Mixed Survey Approach

To carry out the survey, respondent households have to be screened to identify these enterprises following the dichotomy presented in the flowing table:

Household Enterprises					
Producing at least some goods & services for market				Producing goods & services for own final use	
Non-agricultural		Agricultural		Goods	Services
Formal sector	Informal sector	Formal sector	Informal sector	Agriculture, forestry, fishing	Paid domestic services
				Other activities	Owner occupied dwelling services

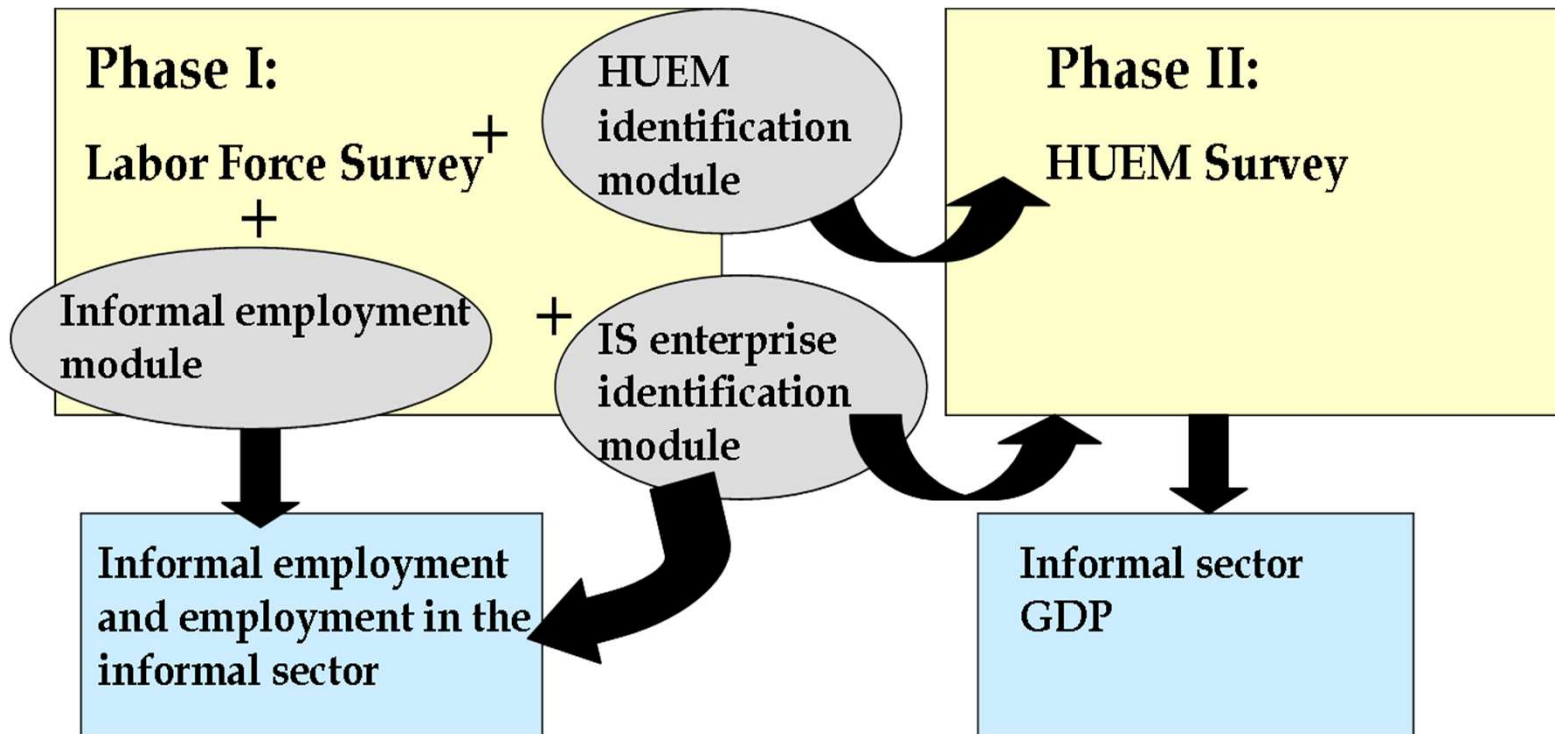


Informal Sector Survey / Mixed Survey Approach

Mixed Survey Approach

The expanded LFS (Phase 1) contains additional questions that can be classified into three categories, namely,

- 1) informal employment module,
- 2) informal sector enterprise module, and
- 3) HUEM identification module.





Informal Sector Survey / Mixed Survey Approach

2009 ILCS Section D and the Informal Sector Survey Questionnaire

<p>Section D, ILCS (Phase 1) Questionnaire</p>	<p>This is the questionnaire which was used to record information about the household members who are 15–75 years old. In this form, the employed and unemployed were identified and, among the employed population, the following information were gathered: Employment Status; Terms of Employment; Benefits, such as social security contribution, paid leave, maternity/paternity leave, paid sick leave, and termination of employment; Place of Work; Industry of Enterprise; Legal Organization of Enterprise; Employment Size of Enterprise; Registration of Enterprise; Bookkeeping and Accounting Practices of Enterprise; and Market Production of Enterprise.</p>
<p>ISS Form or HUEM Survey (Phase 2) Questionnaire</p>	<p>This questionnaire records information about HUEMs, such as Identification and General Information; Organization and Status of Business; Employment and Compensation; Production and Sale; Expenditures on Raw Material and Stocks; Capital Expenditure; and Credit Information. The respondents for this form are either employers or own-account workers who are owners of the HUEM.</p>



Estimation of Gross Value Added of The Informal Sector / It's Contribution To Gross Domestic Product

Estimating Value of Output from the HUEM Survey

Survey provides the basic data to compute for the informal sector HUEM output (Equation 1). It is assumed that prior to estimation, the dataset has already been assessed and edited for item and unit non-response, sum of parts not equal to total, etc.

Output = Total value of products sold after transformation
+ Total value of products sold without transformation
+ Own-account consumption
+ Own-account capital formation
- Cost of products sold for resale (trade)
+ Value of services offered
+ Changes in inventories (output)

It must be noted that the values of own-produced capital assets, as recorded in Section E, will be added to output after obtaining annual estimates of output.



Estimation of Gross Value Added of The Informal Sector / It's Contribution To Gross Domestic Product

Estimating Cost of Intermediate Inputs from the HUEM Survey

Items concerning the intermediate inputs are available in Section D, Expenditures on Raw Materials and Stock, of the HUEM survey questionnaire. Not all items under Section D can be considered as intermediate inputs. Thus, the intermediate inputs have to be drawn individually from D.3.

For value of raw materials used, the data given for D.1 is assumed to be the value of raw materials used (D.1) for manufacturing; electricity, gas, and water; agriculture; mining; and construction. On the other hand, D.2 is assumed to be the value of purchases of goods for resale during the period.

Intermediate inputs at purchasers' prices

- = Value of raw material used
- + Fuel, gasoline and lubricants
- + Water
- + Electricity
- + Rental payments
- + Transport services
- + Communication expenses
- + Non-industrial services
- + Repair and maintenance of facilities and equipment
- + Other industrial services
- + Insurance
- + Packaging
- + Other costs



Estimation of Gross Value Added of The Informal Sector / It's Contribution To Gross Domestic Product

Income Approach

The income approach adds up all incomes paid in the process of production. In general, the income measure of gross domestic product (GDP) is computed as the sum of compensation of employees, indirect taxes net of subsidies (i.e., taxes on production and imports), and operating surplus.

Adjustments

Some sectors in Armenia are not well-represented in the ISS.

Taking into account lack of data received for some sectors, other data sources and assumptions were used to estimate IS GVA.

1. Fishing

- Data from Household survey were used.
 - Expenditure of households on fresh fish outside formal trade (shops)
 - Taking into account period of year when fishing is allowed



Estimation of Gross Value Added of The Informal Sector / It's Contribution To Gross Domestic Product

1. Healthcare services

- **Data from special healthcare survey (2002)**
 - **Household expenditure expenditures exceeds by 4.48 times output data reported by healthcare organizations**
 - **With correction taking into account the structure of expenditure**

2. Education

- **Data on number of university applicants, entrances, subjects and their cost of tutoring**
 - **According to special survey about 85% of applicants hire tutors for 2.1 subject at average**

3. Real estate and business services (Section K by NACE)

- **Data on total labor productivity in sector was used**



Estimation of Gross Value Added of The Informal Sector / It's Contribution To Gross Domestic Product

GDP includes an estimate of Non-observed economy (NOE) since 1994.

Estimations are based on following data sources:

- employment data (formal employment reported by companies)**
- labour force survey (total employment received from households)**
- ILCS**
- special one-off sample surveys (construction, education, healthcare, trade, NPISH)**
- other indirect methods**

Special round of surveys focused on informal activities was held during 1997-1998:

- small size enterprises**
- labor force survey**
- survey of self-employed**



Estimation of Gross Value Added of The Informal Sector / It's Contribution To Gross Domestic Product

GDP includes an estimate of Non-observed economy (NOE)

		2005	2006	2007	2008	2009
	GDP	27,3	27,4	26,3	25,0	24,8
A,B	Agriculture	24,1	24,7	22,5	22,3	22,1
D	Manufacturing	42,7	41,8	38,5	36,0	49,7
E	Electricity	0,0	0,0	0,0	5,2	7,4
F	Construction	36,3	38,0	41,4	38,4	36,3
G	Trade	55,3	53,5	49,4	49,2	45,8
H	Hotels and restaurants	5,5	17,0	8,0	6,4	21,1
I	Transport	11,2	9,1	8,0	10,0	13,8
K	Real estate, renting	20,5	16,9	17,2	13,9	11,5
M	Education	6,5	7,0	7,4	7,0	7,0
N	Health	56,0	50,9	49,9	31,6	44,7
O	Other services	43,0	34,9	31,4	25,9	26,1

Estimation of Gross Value Added of The Informal Sector / It's Contribution To Gross Domestic Product



Industry	ISS results: Gross Value Added			
	In mln of AMD		Percent	
	Formal	Informal	Formal	Informal
Agriculture, hunting and forestry, fishing	399,557	115,026	77.7	22.4
Mining and quarrying	55,051	0	100.0	0.0
Manufacturing	259,491	13,577	95.0	5.0
Electricity, gas, and water supply	99,100	0	100.0	0.0
Construction	463,174	84,500	84.6	15.4
Wholesale and retail trade, repairs, etc.	338,962	58,971	85.2	14.8
Hotels and restaurants	17,124	0	100.0	0.0
Transport, storage, and communications	238,008	9,152	96.3	3.7
Financial intermediation	126,948	0	100.0	0.0
Real estate, renting, and business activities	139,480	13,351	91.3	8.7
Public administration and defense, social security	109,254	0	100.0	0.0
Education	106,807	7,981	93.1	7.0
Health and social work	108,211	5,620	95.1	4.9
Other community, social, and personal services	47,629	9,491	83.4	16.6
Private households with employed persons	878	0	100.0	0.0
Total	2,509,674	317,669	88.8	11.2



MEASURING THE CONTRIBUTION OF THE INFORMAL SECTOR (IS) TO THE TOTAL ECONOMY Informal Sector Survey, ADB (RETA 6430)-2009

Structure of ISS Questionnaire in Armenia

Section A	Organization of Business
Section B	Employment and Compensation
Section C	Production and Sale
Section D	Expenditures on Raw Materials and Stock
Section E	Capital Expenditures
Section F	Credit Information
Section G	Other Information



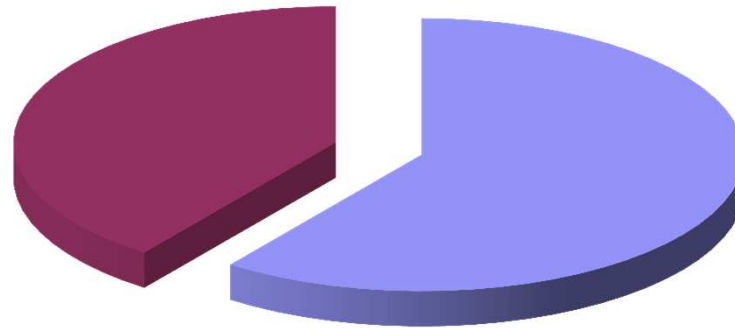
Informal sector GVA by industries

		Share in total GVA of industry, %	Share in informal sector total GVA
	TOTAL GVA	11.2	100.0
A,B	Agriculture, hunting and forestry, fishing	22.4	36.2
C	Mining and quarrying	0.0	0.0
D	Manufacturing	5.0	4.3
E	Electricity, gas and water supply	0.0	0.0
F	Construction	15.4	26.6
G	Wholesale and retail trade, repairs, etc.	14.8	18.6
H	Hotels and restaurants	0.0	0.0
I	Transport, storage, and communications	3.7	2.9
J	Financial intermediation	0.0	0.0
K	Real estate, renting, and business activities	8.7	4.2
L	Public administration and defense, social security	0.0	0.0
M	Education	7.0	2.5
N	Health and social work	4.9	1.8
O	Other community, social and personal services	16.6	3.0



Informal Sector GVA by urbanity in Armenia

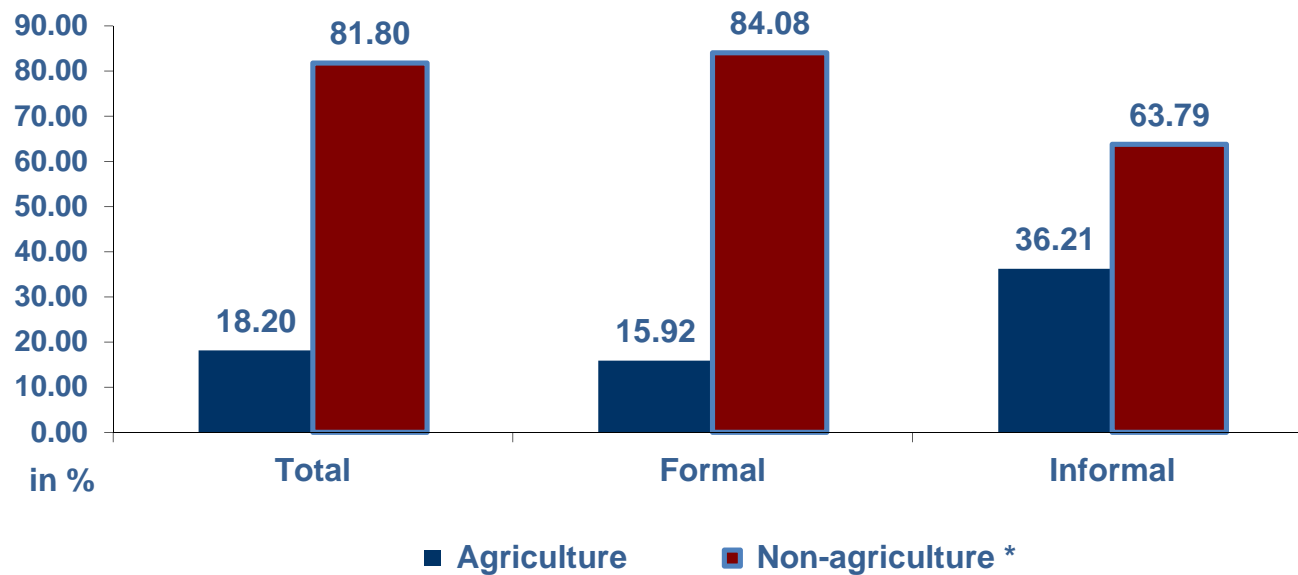
RURAL
39.89%



URBAN
60.11%

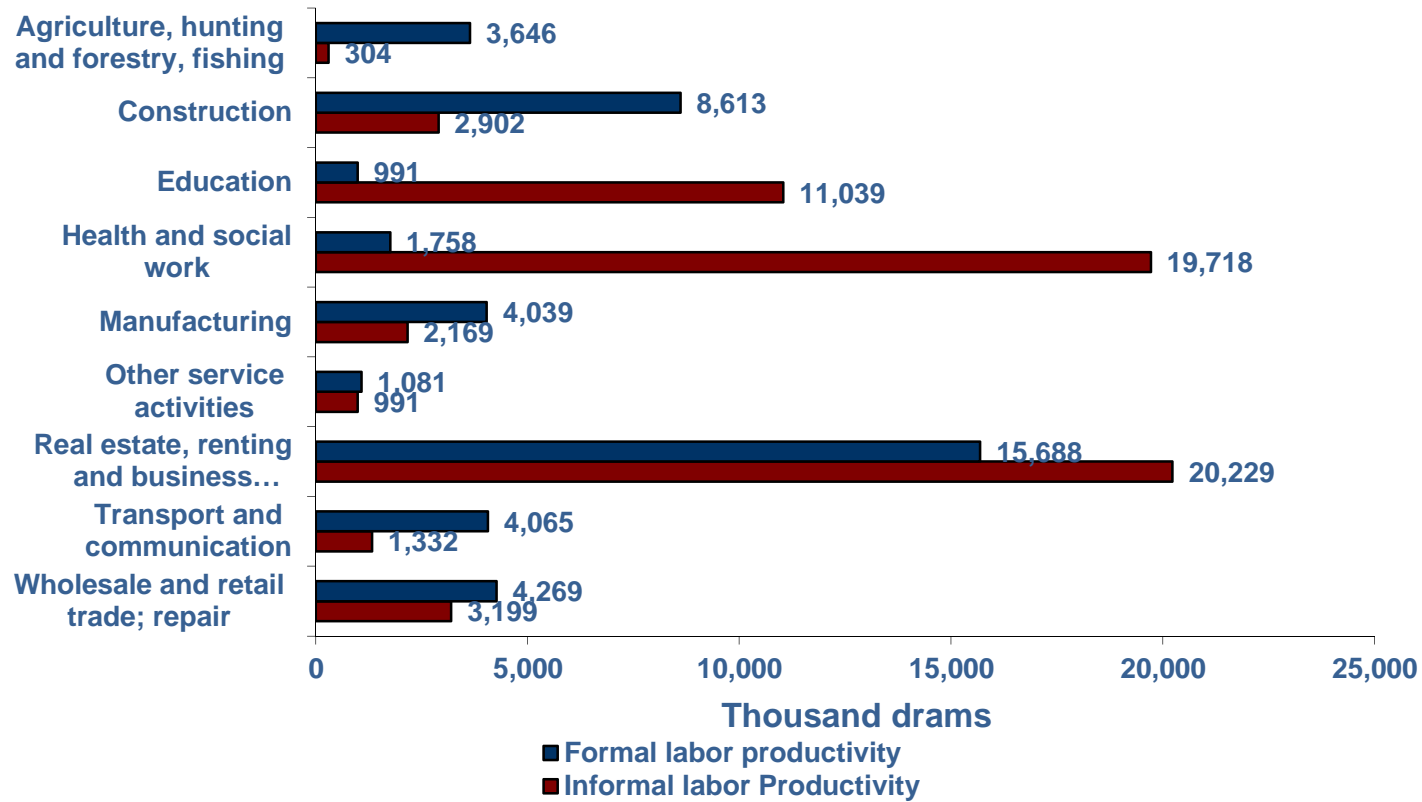


Agriculture and non-agriculture GVA in the Formal and Informal sectors





Labor productivity





Type of premises where business activities are conducted

Location	Proportion (%)
Farm or individual agriculture / subsidiary plot	84.25
Home or workplace of the client	4.34
Transport vehicle	2.60
At home with no special work space	2.25
Market, bazaar stall, trade fair	1.94
At home with work space inside / attached to the home	1.20
Street, pavement or highway with fixed post	1.11
No fixed location (e.g., mobile, door-to-door, street w/o fixed post)	0.75
Construction site	0.59
Business premise with fixed location independent from home	0.38
Employer's home	0.21
Others	0.38



Average Employment of IS Enterprises by Industry

Industry	Workers	Paid Workers
Agriculture, hunting and forestry, fishing	2.3	1.1
Manufacturing	1.9	1.0
Construction	1.2	1.1
Wholesale and Retail Trade	1.3	1.1
Transport and Communication	1.3	1.0
Real Estate, Renting	1.0	1.0
Education	1.0	1.0
Health and Social Work	1.0	1.0
Other Service Activities	1.25	1.1

Max of workers - 6, paid workers - 5: in Agriculture.



Reason for choosing the business activity

Reason	%
Family tradition	41.8
More stable returns than other products / services	12.2
It is the profession that I know	7.6
It gives better income / higher profits than other products or services	5.9
Others	32.5



Source of Financing of IS enterprises

Source	Proportion (%)
Private bank	77.7
Private money lender / pawnshop	12.8
Relative / neighbor / friends	11.2
Cooperative	1.3
Employer / landlord	0.0
Others	16.1

Reason for not availing of any loan to finance business activity

- High interest rate for loans – 52.1%,
- Burdensome requirements – 30.8%,
- Other source of income – 16.7%.



Implementation of Eurostat Tabular approach to Exhaustiveness of GDP

Current TWINNING project from January 2011 to January 2013 with Statistics of Denmark as the core partner includes also project component for Exhaustiveness of GDP with aim to introduce Eurostat Tabular approach to Exhaustiveness into practice.

The three tables were compiled according to Eurostat Tabular Approach to Exhaustiveness Guidelines.

Table 1A Elements of non-exhaustiveness: Output Approach

Table 2A Exhaustiveness adjustments: Output Approach

Table 3A Summary of adjustments: Output Approach

Information about sources and methods used in the Republic of Armenia has been presented.



Implementation of Eurostat Tabular approach to Exhaustiveness of GDP

Steps:

- With the purpose to evaluate non-exhaustiveness the Tabular approach has been applied to NACE G (Wholesale and retail trade; repair of motor vehicles and motorcycles) in practice to test it.
- NACE G section is the economic activity with the one of the largest share of exhaustiveness adjustments.
- It is also representative since all the main types of non-exhaustiveness may be found.
- All possible non exhaustiveness types were defined according to economic institutional sectors by NSS RA by using each non exhaustiveness type (N1-N7) for adjustments using different sources and methods.
- Later, respectively the same exercise was repeated for the rest 16 NACE sections for identification of non exhaustiveness types.
- «Informal Employment and Informal Sector in Armenia» survey (financed by Asian Development bank) results were used as the information source for the non exhaustiveness types adjustments for 2009. This information gave an opportunity to directly evaluate informal part in GDP in lower economic activity type classification level (NACE 4 digits)



Implementation of Eurostat Tabular approach to Exhaustiveness of GDP

There are no adjustments for N2 illegal activities. Sources and methods for the calculation of such estimates should be investigated. As an operational starting point, estimates for one or more of three types could be considered: prostitution, narcotics and smuggling.

For some industries, the value of the hidden activity(N6 adjustments) is calculated using the assumption that the hidden activity has the same VA per employee and the same input-percentage as the formal activity. The number of employees is not adjusted for actual hours worked. Such adjustments will be made in the near future. It should be investigated if information from the LFS can be used to adjust the number of employees for actual hours worked.



Implementation of Eurostat Tabular approach to Exhaustiveness of GDP

Value added For Reference Year 2009, in AMD millions									
NACE	Type of non-exhaustiveness adjustment							Total	% of GDP
	N1	N2	N3	N4	N5	N6	N7	Absolute	
1	2	3	4	5	6	7	8	9	10
<i>Non-financial corporations</i>	0.0	0.0	0.0	72981.8	0.0	269804.1	100306.6	443092.5	14.1
<i>Financial corporations</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>General Government</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Households</i>	0.0	0.0	332000.2	0.0	0.0	0.0	0.0	332000.2	10.6
<i>NPISH</i>	0.0	0.0	0.0	5522.3	0.0	0.0	0.0	5522.3	0.2
NACE A	0.0	0.0	107789.4	5437.3	0.0	3588.8	0.0	116815.5	3.7
NACE B	0.0	0.0	204.9	0.0	0.0	511.3	0.0	716.2	0.0
NACE C	0.0	0.0	0.0	0.0	0.0	83.4	0.0	83.4	0.0
NACE D	0.0	0.0	23180.6	47664.7	0.0	64968.0	0.0	135813.3	4.3
NACE E	0.0	0.0	0.0	0.0	0.0	900.3	6198.3	7098.6	0.2
NACE F	0.0	0.0	84500.2	0.0	0.0	127401.5	0.0	211901.7	6.7
NACE G	0.0	0.0	58970.6	19794.8	0.0	10089.4	94108.3	182963.1	5.8
NACE H	0.0	0.0	758.2	0.0	0.0	3453.5	0.0	4211.7	0.1
NACE I	0.0	0.0	20888.8	0.0	0.0	10415.2	0.0	31304.0	1.0
NACE J	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NACE K	0.0	0.0	13350.8	0.0	0.0	4234.5	0.0	17585.3	0.6
NACE L	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NACE M	0.0	0.0	7981.2	0.0	0.0	0.0	0.0	7981.2	0.3
NACE N	0.0	0.0	5619.6	0.0	0.0	43960.7	0.0	49580.3	1.6
NACE O	0.0	0.0	8755.9	5522.3	0.0	197.5	0.0	14475.7	0.5
NACE P	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NACE Q	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	332000.2	78419.1	0.0	269804.1	100306.6	780530.0	24.8
Percentage of total adjustment	0.0	0.0	42.5	10.0	0.0	34.6	12.9	100.0	
Percentage of GDP	0.0	0.0	10.6	2.5	0.0	8.6	3.2	24.8	



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THANK YOU!

For More Information <http://www.armstat.am/en/?nid=82&id=1218> -

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