

Statistical Committee of Armenia



Completion of the transition from SNA 1993 to 2008 SNA/ESA 2010 and Non-observed economy in national accounts of Armenia

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Outline of the presentation

- Steps of 2008 SNA / ESA 2010 implementation
- Major changes from 1993 SNA to 2008 SNA / ESA 2010 and their impacts on GDP
- Non-observed economy in national accounts



Steps of 2008 SNA / ESA 2010 implementation

- Inclusion of the 2008 SNA implementation in national statistical strategic programs for 2019-2023, 2016-2018, 2013-2015, 2010-2012 periods
- Identification of outstanding issues with 1993 SNA
 - *Input - Output tables*
 - *balance of assets and liabilities*
 - *financial accounts*
 - *some of the components' methodological developments and improvements that have taken place after the adoption of 1993 SNA.*
- Study phase: main changes from 1993 SNA to 2008 SNA and their impacts to the main aggregates of national accounts
- Special Press Release for national accounts data users: 13 December 2013 <https://www.armstat.am/en/?nid=134&id=372> announcing about *The introduction of the System of National Accounts 2008 (2008 SNA) in the Armenia's National accounts and The background and importance of the methodological changes*



Steps of 2008 SNA / ESA 2010 implementation

- Institutional agreements and implementation plan: In 2014 the institutional trilateral agreement between NSS(SC), CB and MoF has been signed with the purpose to develop implementation plan and create working groups.
- Prioritization for 2008 SNA implementation has based on user needs and available resources.
 - *Improving the quality of annual and quarterly GDP data*
 - *Implementation of the 2008 SNA which mostly affect GDP and its main components **was agreed as the main priority.***
- Adoption of detailed implementation action plan for 2015
- Adoption of new classifications and other improvements in business registers and business statistics
- Revision of business survey questionnaires
- Adaptation of administrative data sources to the new requirements
- IT and other changes
- Development of National Accounts and changeover to 2008 SNA / ESA 2010 in 2015. First data were published with explanations on major changes and their impacts to the values and volumes of GDP and its components. See the following links:

https://www.armstat.am/file/article/sv_04_15r_112.pdf

https://www.armstat.am/file/article/sv_05_15r_112.pdf



Major changes from 1993 SNA to 2008 SNA/ ESA 2010 SNA and their impacts on GDP

Changes in GDP nominal value and in volume index as a result of major methodological changes in the 2008 SNA

	Changes in GDP nominal value, percentage point			Change in GDP volume index, percentage point	
	2012	2013	2014	2013	2014
military expenditures	0.0	0.0	0.0	0.0	0.0
external economic transactions	0.0	0.0	0.0	0.0	0.0
operations of the central bank	-0.3	-0.4	-0.1	-0.2	0.3
financial intermediation services indirectly measured (FISIM)	0.4	0.8	0.6	0.4	-0.1
dwelling services	5.9	5.6	5.7	-0.3	-0.2
research and development expenses	0.2	0.1	0.1	-0.1	0.0
Illegal activity	0.2	0.2	0.3	0.0	0.0
Other changes	0.2	0.2	0.3	0.0	0.1
Total changes	6.6	6.5	6.9	-0.2	0.1



Major changes from 1993 SNA to 2008 SNA 2008 / ESA 2010 SNA and their impacts on GDP

Changes in nominal value of expenditure components of GDP,

	Household final consumption expenditure			Government final collective consumption expenditure			Gross fixed capital formation			Export			Import		
	2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014
military expenditures				-16.6	-16.1	-15.2	5.5	6.9	7.5						
external economic transactions										-3.3	-2.6	-3.5	-2.0	-1.4	-2.2
operations of the central bank				4.6	2.9	3.5									
financial intermediation services indirectly measured (FISIM)	-1.3	-1.3	-1.5												
dwelling services	6.7	6.1	6.3												
research and development expenses				-2.2	-1.8	-1.5	1.3	1.3	1.3						
Illegal activity	0.3	0.3	0.3							0.0	0.0	0.0	0.0	0.0	0.0
Total changes	5.7	5.1	5.1	-14.2	-15.0	-13.2	6.8	8.2	8.8	-3.3	-2.6	-3.5	-2.0	-1.4	-2.2

Changes in volume indices of expenditure components of GDP, percentage point

	Household final consumption expenditure		Government final collective consumption expenditure		Gross fixed capital formation		Export		Import	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
military expenditures			-0.1	1.3	1.1	0.4				
external economic transactions							0.6	-0.8	0.4	-0.7
operations of the central bank			-1.5	0.9						
financial intermediation services indirectly measured (FISIM)	-0.1	-0.1								
dwelling services	-0.4	-0.1								
research and development expenses			0.5	0.4	-0.1	-0.1				
Illegal activity	0.0	0.0					0.0	0.0	0.0	0.0
Total changes	-0.5	-0.2	-1.1	2.6	1.0	0.3	0.6	-0.8	0.4	-0.7



Armenian national accounts data are available according to SNA 2008 / ESA 2010:

ANNUAL accounts (at the level of the total economy and institutional sectors) for 2012 – 2018 period

QUARTERLY accounts for 2013 - 2020 period

All accounts are compiled except financial accounts.

GDP data include estimates by 3 methods:

- production (currently by NACE rev.2, in current and constant prices)
- expenditure (income use, in current and constant prices)
- income generation (only for annual data, in current prices)

Link to the Armstat National accounts database:

<https://www.armstat.am/ru/?nid=82&id=1672>

Implementation of SNA 2008 is continued:

Supply and use tables for 2017 compilation under ADB technical assistance is ongoing. The supply and use tables form one of the recommended tables under the 'minimum recommended data set', (MRDS) included in the scope of the compilation of 2008 SNA tables and accounts.



Improvements of data sources

- By the State budget financing a one off sample survey on the costs of production and services in 2016 for all sectors of the economy was conducted in order to obtain the information required to compile these tables. The NACE rev.2 (5 digit level) CPA 2008 product (4 digit level) classifications were used. The survey instruments conducted in 2016 have been developed by Armstat specialists.
- State statistical reporting forms of structural business statistics on output, intermediate consumption, capital formation, produced and non-produced assets were revised according to the changes of 2008 SNA.
- Data on foreign trade statistics are available from the balance of payments, which is compiled by CBA in line with the BPM6 methodology.



Improvements of data sources

- Households' final consumption data derived mainly from the household budget survey, trade and services' statistics.
- Indicator of owner-occupied dwelling services is calculated based on the “user cost method” developed by the Organization for Economic Cooperation and Development (OECD).
- Indicators of government final consumption are formed according to the report on the state budget execution from the Ministry of Finance. Data on taxes and subsidies are also from the MoF.
- By the State budget financing one off sample survey was conducted in 2016 on NPISH in order to obtain information required to compile NPISH sector accounts. The survey instruments have been developed by Armstat's specialists.



Non-observed economy in the national accounts of Armenia

- Concepts and definition
- Country experience: mixed survey approach
- Shift to Eurostat tabular approach
- Methods, data sources and estimates



Non-observed economy in the national accounts of Armenia

Concepts and definition

- ✓ Complete coverage is vital for quality of national accounts, but exhaustiveness is sometimes hard to achieve
- ✓ Lack of coverage biases both levels and trends
 - inaccurate impression of the economy
 - limits international comparability.
- ✓ OECD Handbook definition: Non-observed economy (NOE) includes missing activities because...
 - Underground
 - Illegal
 - Informal
 - Household production for own final use
 - data deficiencies



Informal Sector

Mixed survey approach has been applied in 2009 which had two phases:

- Expanded Labor and Employment module of the Integrated Living Conditions Survey (ILCS)
- Informal Sector Survey (ISS)

Conceptual background

- System of National Accounts 2008, Chapter 25: Informal Aspects of the Economy
- OECD handbook: Measuring the Non-observed Economy
- ILO: Definition of IS
- IS Definition 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)



Informal Sector

To carry out the survey, respondent households had to be screened to identify Informal sector enterprises following the dichotomy presented in the following table:

Household Enterprises					
Producing at Least Some Goods and Services for Market				Producing Goods and 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



Structure of ISS Questionnaire

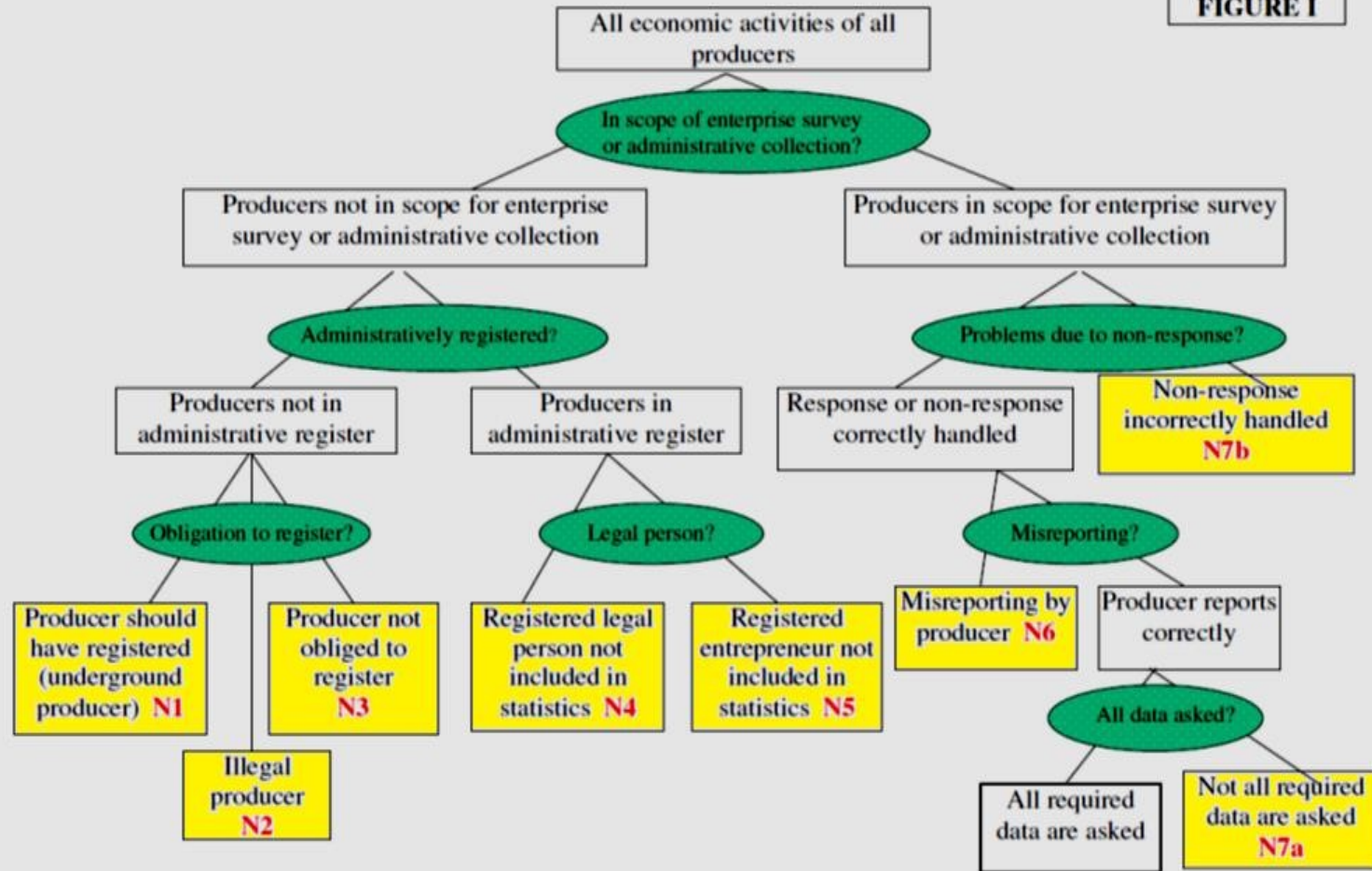
Section A	Organization of Business
Section B	Employment and Compensation
Section C	Production and Sale
Section D	Expenditures on Raw Materials and Stock
Section E	Capital Expenditures
Section F	Credit Information
Section G	Other Information

The survey has provided the basic data to compute for the informal sector HUEM (Household unincorporated enterprises with some market output) output, intermediate consumption and value added, as well as GVA by Income Approach and output of fixed assets for own use.



Shift to Eurostat tabular approach

FIGURE I



Data sources and compilation methods for NOE estimation



Illegal activity on drugs:

- Police information on
 - drug seizures
 - wholesale and retail sale prices
 - purity of illicit drugs
- From Ministry of health: number of drug users as patients
- Estimation of total number of drug users divided into hard users and recreational users from the population of 15-64 years old
- Average consumption per year per user by types of drugs and by hard and recreational users

Estimation is done for cannabis, opioids, amphetamine and cocaine for the production and trade activities and for HH consumption and import components. It caused the increase of GDP value on average by 0.25% for 2012-2014, but no growth percentage changes in volume terms.



Data sources and compilation methods for NOE estimation

Other types of non-exhaustiveness:

- Labor Force Survey data on informal employment in formal and informal sectors by activities
- Household Integrated Living Conditions Survey data on household activity in informal agriculture, fishing and manufacturing activities and consumption goods and services
- Ad-hoc surveys data in healthcare, education, trade, passenger transportation, NPISH
- Business register data on small scale enterprises

Compilation methods:

- Labor Input method
- Supply-based method
- Demand-based method
- Fixed ratios method
- Quantity-price method



NOE estimates in percent to GDP

	N1-N3 (underground and informal producer)	N2 (Illegal producer)	N4 -N5 (registered legal persons and entrepreneurs not reached in the statistics)	N6 (Producer misreporting)	N7 (Deficiencies in the statistical system)	Total
2012	11.1	0.2	1.2	8.7	1.7	23.0
2013	11.3	0.2	1.3	8.9	1.1	22.9
2014	10.2	0.3	1.4	10.9	0.8	23.5
2015	10.9	0.2	1.4	9.7	0.8	22.9
2016	9.8	0.6	1.5	10.6	0.6	23.0



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Thanks for your attention!

Website: www.armstat.am