

Challenges encountered in the use of new data sources

Almaty, 5 - 7 December 2023

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Legal framework

Data protection and Partnerships

The use of administrative data sources (ADS)

The use of private data sources (PDS)

Challenges and opportunities

Legal framework (1)

- **Law no. 93/2017 on official statistics (last changes in December 2022):**
 - Based on the Regulation (EC) no 223/2009 on European statistics, GLOS and ESCoP
 - The NBS has the right to access and use, free of charge, **administrative** and **privately held data** (individual data, aggregated data), including personal data
 - Holders are obliged to provide access to ADS and PDS
 - Holders should coordinate with the NBS the content of ADS, including their possible changes, and include additional indicators at the request of the NBS

- **Law on Electricity (last changes in December 2022):**
 - Excluded restrictions related to the access of individual data for statistical purposes

Legal framework (2)

Annual Program of Statistical Work (chapter 2)

The information provided by the data providers

- ✓ The level of (individual data, aggregated data)
- ✓ Frequency (annually, quarterly, monthly, daily)
- ✓ Transmission method (Mconnect/WEB services, e-mail)
- ✓ Deadlines

Legal framework (3)

Law 231/2022 on population and housing census: access to administrative and privately held data

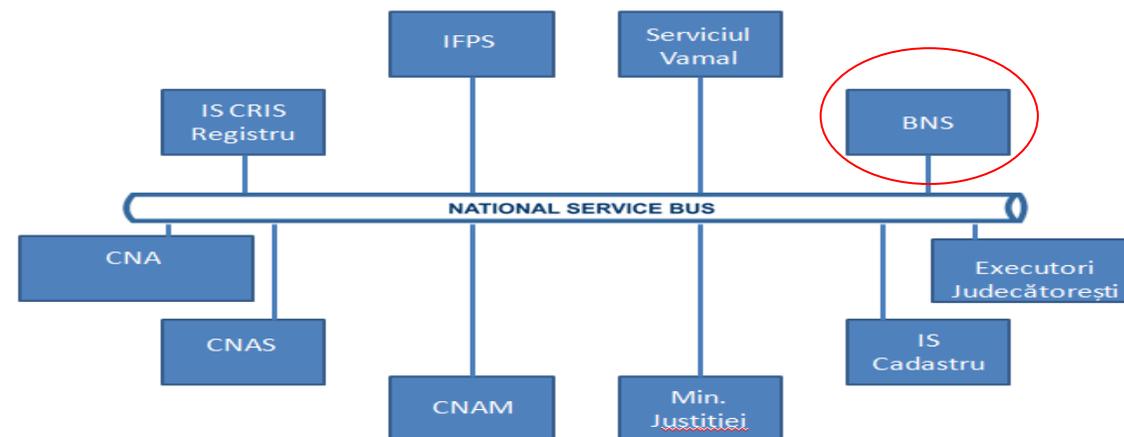
The owners and/or holders of administrative and private data are obliged to transmit to NBS, free of charge, the individual data, including personal data:

- State Register of Population;
 - Cadastre & Estate Register;
 - Integrated information system of the Border Police;
 - Management information system in education;
 - State register of individual records in the public social security system;
 - Information systems of the National Health Insurance Company;
 - Register of electoral officials;
 - Private service providers (water and sewerage, fixed and mobile telephony, natural gas, electricity, heat, etc.);
- other registers relevant to the census – according to the list approved by the Government, at the proposal of NBS. *Art. 13 para. (4)*

The transmission of individual data, including personal data, necessary for the census from administrative data sources or private data sources, identified by the natural person's state identification number (IDNP)

Legal framework (4)

Agreement with Electronic Government Agency (E-GOV). Mconnect



Advantage:

- Access to data provided by other institutions
- One agreement with E-GOV, with annex with for each type of data/institution
- HML format
- Availability 24/24
- Optimization institutional processes
- Optimization of operating costs for access to data

Strengthening data protection in NBS (1)

- Policy on Data Protection and Confidentiality developed and approved by the NBS
- External audit on data protection - national (2020)
- Implementation of recommendations (2021-2022)
- External audit on the compliance with ISO/IEC 27001 and ISO/IEC 27701

Strengthening data protection in the NBS (2)



The NBS was certified according to the standards (December 2022)

- [ISO/IEC 27 001:2013 on security and](#)
- [ISO/IEC 27701:2019 on the protection of personal data](#)



Stages of identification and retrieval of administrative data

Purpose: to produce relevant, accurate, precise and timeliness official statistics to meet the information requirements of all categories of users.

Identification of the relevant data source

ADS assessment/evaluation from the perspective of the use for statistical purposes

Data retrieval/access of data from administrative sources

Statistical checking and processing of administrative data

Production of official statistics

NBS access to ADS (including persons ID)

- **Public Service Agency:**

- *Population Register*
- *State Register of Legal Units (including managers, founders)*

- **Border police:**

- *Border crossing data (since 2014)*

- **Tax Authority:**

- *VAT declarations*
- *Data on sales of retail trade companies (Sales' electronic monitoring system at transaction level)*
- *Declaration of income*
- *Salaries/wages per business units and employees*

- **State Agency on Cadastre and Land Relations**

- *Real estate data*
- *Geospatial data (orthophoto, line map)*

ADS for population and migration statistics: identifying the relevant data source

Vital statistics

- **Public Services Agency, SPR** (Live births, deaths, marriages, divorces)
- **National Public Health Agency, DB NPHA** (Deaths by cause of death, infant mortality)

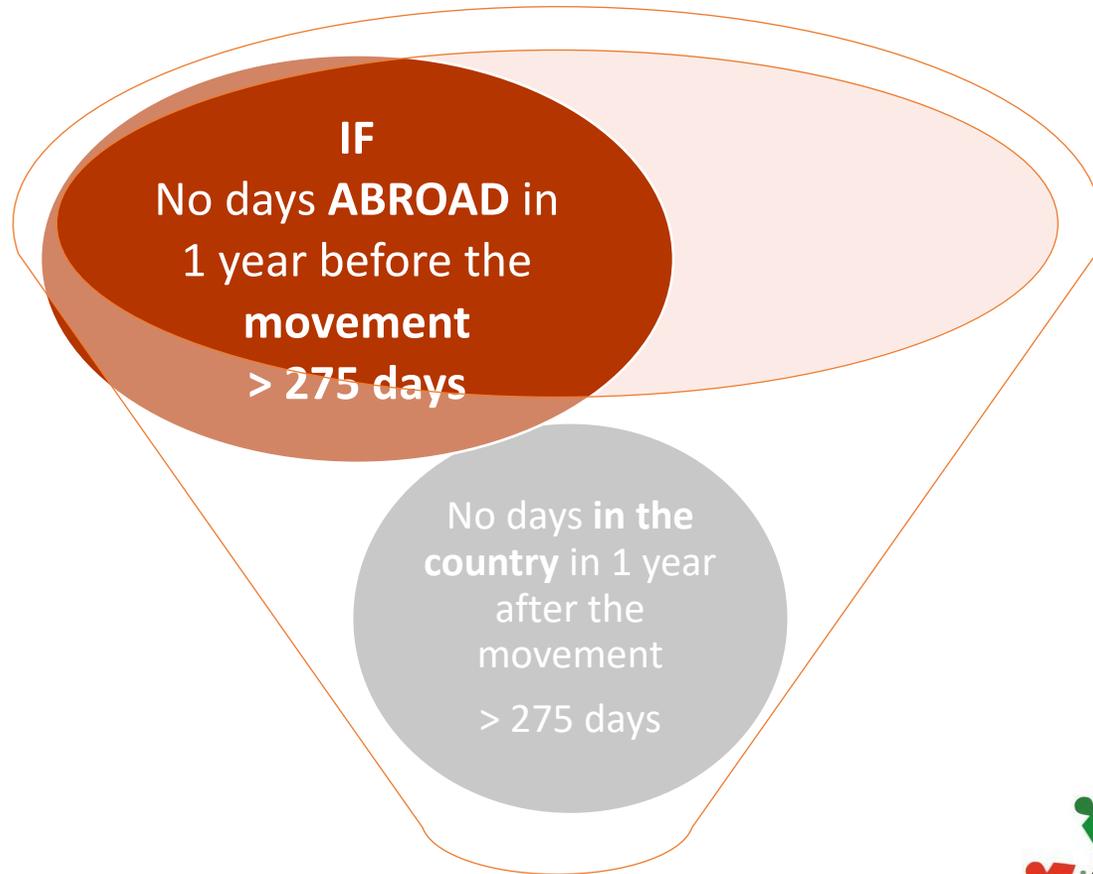
Usual Resident Population and Migration statistics

- **Public Services Agency, SPR** (Internal migration; declared international migration etc.)
- **Bureau for Migration and Asylum, SIIAMA** (Data on immigrants)
- **General Inspectorate of the Border Police, IISBP** (International migration estimated on the basis of state border crossings of natural persons)

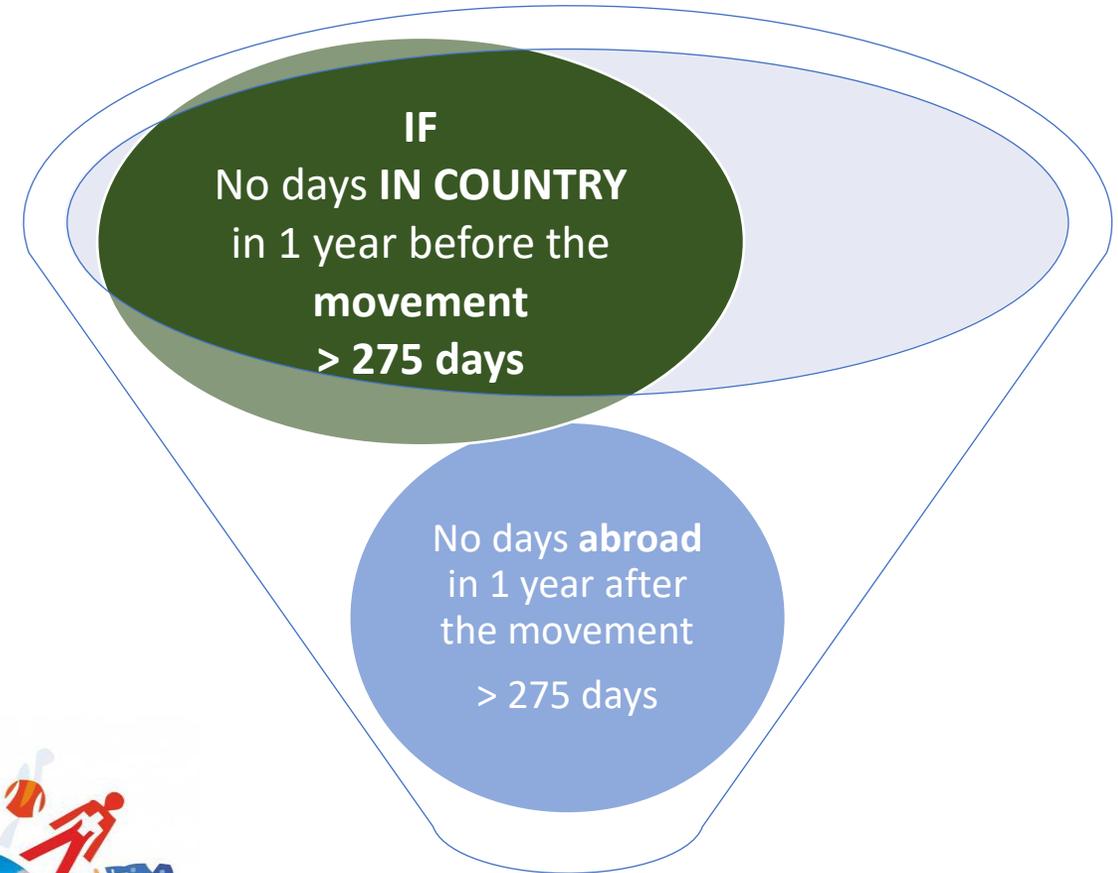
Population and Housing Census

- **Public Services Agency, SRP** (Data on natural persons and household addresses)
- **Border Police** data etc. *(see details on the next slide)*

Estimation of international migration



immigrant



emigrant

Experimental calculations on sales of goods and services based on VAT declaration (1)

Data sources:

1. SERV-TS statistical questionnaire

- Indicator - turnover of trade and services enterprises
- Number of respondents - 6 thousand enterprises
- Main type of activity - trade and market services
- Coverage: enterprises with 4-19 employees – by sample, 20 and more – by census

2. TVA12 "VAT Declaration"

- Indicator - sales of goods and services
- Number of respondents - more than 33 thousand enterprises
- All types of activities of business entities
- Coverage: enterprises registered as VAT payers.

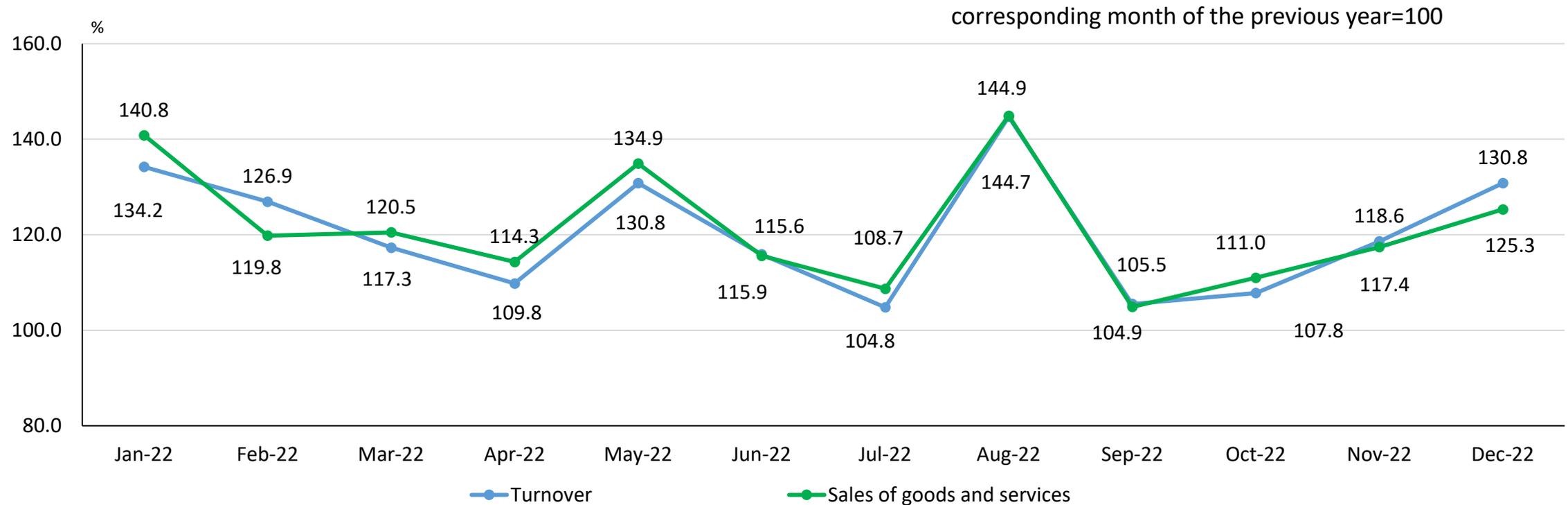
3. Statistical Business Register

- To assign the updated type of activity of enterprises from the VAT Declaration

Experimental calculations on sales of goods and services based on VAT declaration (2)

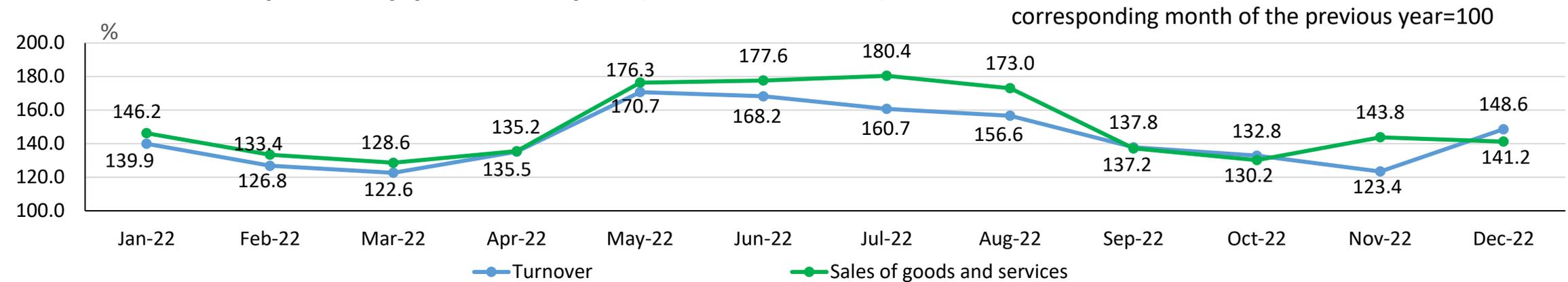
Turnover based on statistical surveys vs. VAT

Turnover: wholesale and retail trade of motor vehicles and motorcycles, their maintenance and repair (division 45, NACE)

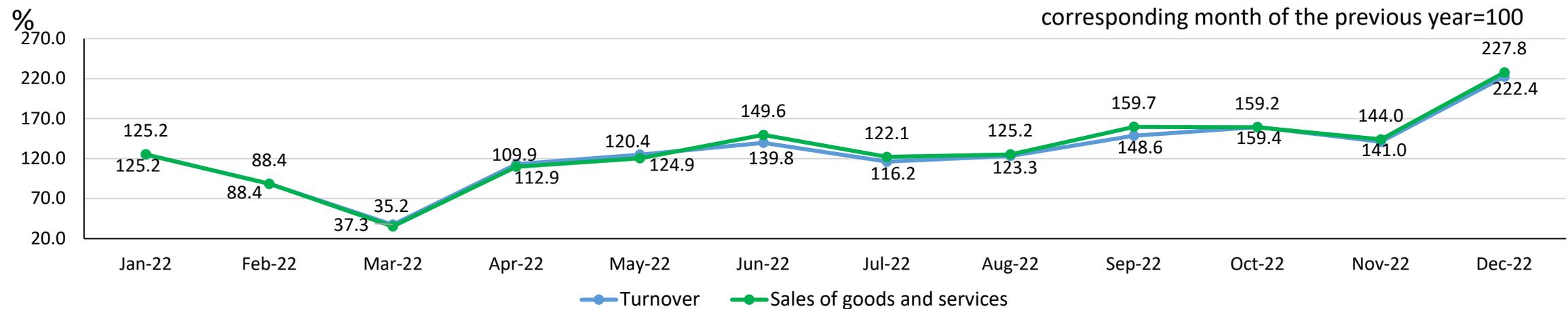


Experimental calculations on sales of goods and services based on VAT returns (3)

Turnover: road transport and pipeline transport (division 49, NACE)



Turnover for activities of travel agencies and tour operators; other reservation services and travel assistance (division 79, NACE)



Experimental calculations on sales of goods and services based on VAT declaration (4)

From 1 January 2023:

- The monthly statistical survey SERV TS was discontinued
- Production of monthly sales of goods and services **based on VAT** declaration started

Years * <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Total 2 Selected 1 2023 2022 Search <input type="text"/> <input type="button" value="▶"/> <input type="checkbox"/> Beginning of word	Groups of goods and services * <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Total 42 Selected 0 G45 Wholesale and retail trade of motor vehicles and motorcycles and their repair G46 Wholesale trade, except of motor vehicles and motorcycles G47 Retail trade, except of motor vehicles and motorcycles H49 Land transport and transport via pipelines H50 Water transport H51 Air transport H52 Warehousing and support activities for transportation H53 Postal and courier activities I55 Accommodation I56 Food and beverage service activities Search <input type="text"/> <input type="button" value="▶"/> <input type="checkbox"/> Beginning of word
Reference period * <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Total 2 Selected 0 Previous month = 100 Corresponding month of the previous year = 100 Search <input type="text"/> <input type="button" value="▶"/> <input type="checkbox"/> Beginning of word	Months * <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Total 12 Selected 0 January February March April May June July August September October Search <input type="text"/> <input type="button" value="▶"/> <input type="checkbox"/> Beginning of word

NBS access to privately held data (PDS) at individual level

- **On electricity consumption:**

- *Businesses (for energy balance)*
- *Population (households)*
 - *Assessment of Population and Housing Census (PHC) coverage*
 - *Building the frame for the PHC 2024*

- **Natural gas consumption:**

- *Businesses (for energy balance)*

- **Other private service providers (for PHC):**

- *Water supply and sewerage*
- *Heating*
- *Waste management, etc.*

Statistical Work Programme 2024

Special section - experimental statistics (statistics representing innovations in the statistical production process derived from new sources and methods)

Name	Data source
Energy balance calculations	Energy suppliers (enterprise-level data on electricity, heat, natural gas consumption)
Consumer price index	<ul style="list-style-type: none"> • STS information system "Electronic Sales Monitoring", at the level of the retailer's business entity • Data obtained from retail chains with wide coverage of the population on sold volumes of goods
Environmental account of atmospheric emissions	<ul style="list-style-type: none"> • Ministry of Environment; • Environmental Agency; • Public Services Agency; • Environmental Projects National Implementation Office
Wage statistics	CPI 21 "Report on with holding of income tax, health and state social insurance contributions", STS
Calculations for education statistics	Management Information System for Education (SIME)
Data on crime statistics	Information system of the Ministry of Internal Affairs on identified contraventions

Use of ADS and PDS: challenges

- SDA quality/correspondence to statistical requirements (concepts, definitions, classifications, etc.)
- Frequent corrections by the entities
- The risk of changes content of the data transmission (ex. VAT declaration)
- The availability & effective access to SDA metadata
- Operational difficulties (data transmission regulated by the Government (use of MConnect), webservices to be provided by holders of ADS, etc.)
- Insufficient space for data storage
- Lack of knowledge of R, Python
- Legal
 - Difficulties caused by the law on the protection of personal data (Law no. 133/2011 – currently under revision in line with the GDPR)
 - Contradictions between the Law on official statistics and the specific laws that regulate the activity of SDA holders

Use of ADS and PDS: advantage and opportunities

- Reducing the information burden on respondents
- Optimization of the cost of production of the official statistics
- Possibility to produce more detailed and more frequent data
- Further strengthening of data protection in the NBS
- Adjustments *Regulation (EC) No 223/2009 on European statistics* and the GLOS would help the NBS in getting larger access to the PDS
- Development of the new national law on the protection of personal data in line with *Regulation (EU) 2016/679* to avoid contradictions with national statistical legislation
- Strengthening cooperation with holders of ADS and PDS
- International cooperation and support from Eurostat, UNECE, EFTA, other development partners in use alternative data for statistical purpose.

Thank you!