

Improvement of Business Statistics from Territorial Perspective

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BIROUL NAȚIONAL DE STATISTICĂ AL REPUBLICII MOLDOVA

Content

- Background information
- Characteristics of Structural Business Survey
- Characteristics of Administrative Data
- New method of regional data production
- Main results
- Further work

General context

- Population – 3,5 mil. (without Transnistria), according to the preliminary census data 2014 – 2,9 mil.
- Surface area of the country – 33.8 th. sq.m.
- Urban population – 42%;
- GDP per capita in 2014 – 2.7 th USD (PPP – 5.0 th USD)
- SME per 1000 inhabitants- 15 enterprises



Administrative division

- Moldova has in total:
 - 901 local administrative units, including 5 municipalities
 - 35 districts: 32 rayons, 1 ATU (UTA Gagauzia) and 2 municipalities.



Regions in Moldova

- There are 6 development regions: North, Center, South, ATU Gagauzia, mun. Chisinau and Transnistria
- Out of 6 development regions only 4 are functional
- There is Regional development agency in each functional development regions
- Moldova does not have any regional administrative units and regions are not elected as local governments.



Background information (I)

Increasing demand on regional data from policy making perspective:

- National development strategy on regional development for 2016-2020
- Regional development strategy for North, South, Center, UTA Gagauzia
- Small and Medium Enterprise Sector Development Strategy for 2012-2020
- Agricultural and Rural Development strategy for 2014-2020
- Domestic Trade Development Strategy for 2014 – 2020
- Tourism Development Strategy 2020.

Background information (II)

- All business data collected by statistical surveys is available at the enterprise level

Structural Business Survey (SBS):

- This is the only survey which collects data at the level of local unit
- The survey is representative for national level

Administrative data:

- Is available only at the level of enterprise

!!! Since 2014 NBS has been producing regional data by combining the SBS data with Administrative Data

SBS – background facts

- SBS – most detailed economic sample survey conducted by NBS
- Launched in 1997 like pilot survey on small enterprise
- Since 1998 – has been conducted for all enterprises
- Financial and technical assistance – INSEE France
- In line with **Regulation (EC) nr.58/97 of 20 December 1996, Regulation (EC) nr.295/2008 of 11 March 2008**

SBS – at a glance

- Main source for National Accounts and for updating Business Register
- The same questionnaire for all enterprises
- Frequency – annual
- Reference period – calendar year
- Sampling unit – enterprise

SBS – population

➤ Reference population:

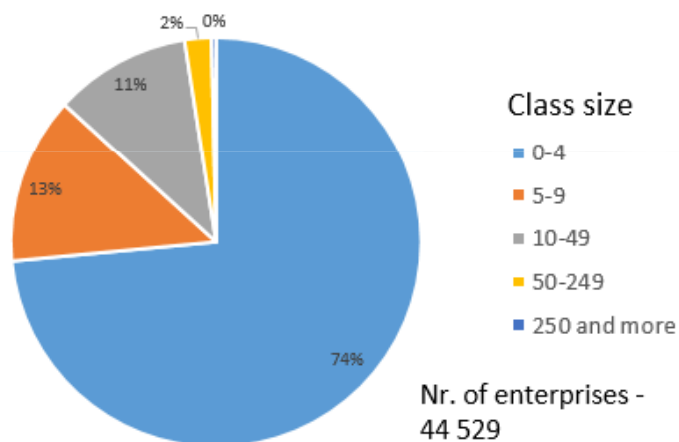
- All active enterprises in **t-1 year**, which have submitted the annual statistical and financial reports
- All active enterprises in **t year**, which have submitted the STS statistical questionnaires during first 9 months
- All new enterprises, registered in **t year** with a statutory capital > 0.5 mil MDL

➤ Reference population size:

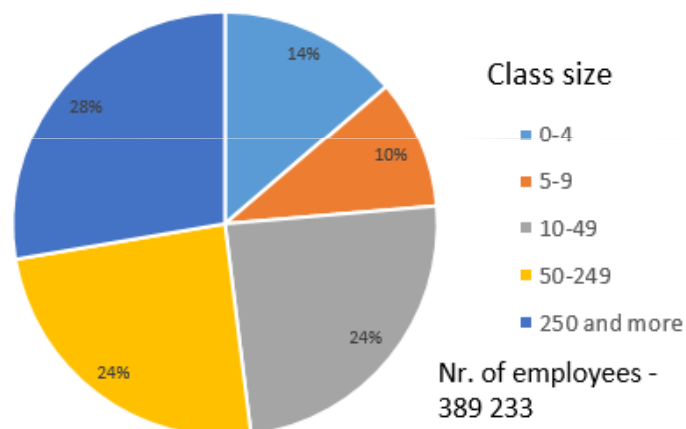
- around 44.5 thousand enterprises (2015), including NACE B – J; L-N; 95-96
- With exception: Agriculture, Financial sector, Public sector, Education sector, Health sector, Non profit organisations, etc.

Characteristics of SBS population by class size, 2015

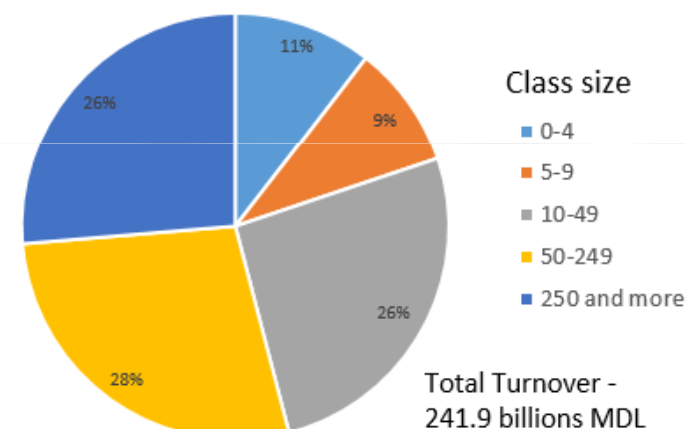
Structure of number of enterprises



Structure of employees

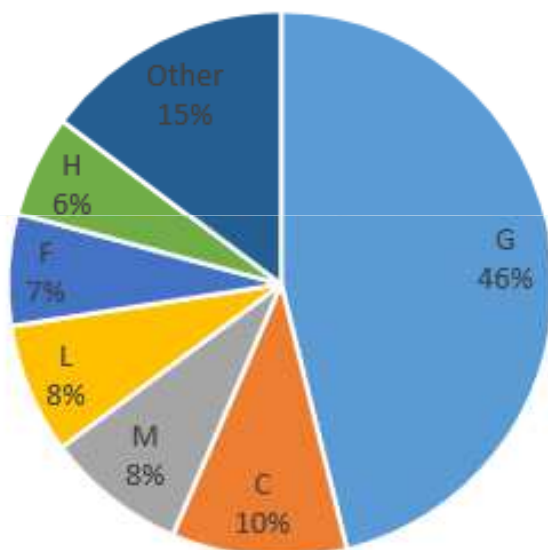


Structure of turnover

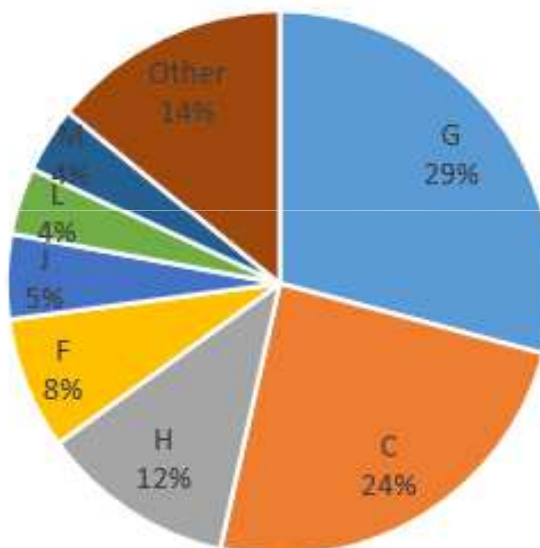


Characteristics of SBS population by activity, 2015

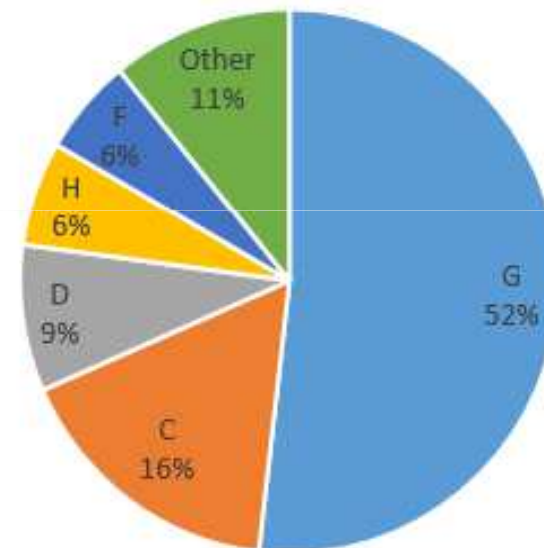
Structure of number of enterprises



Structure of employees



Structure of turnover



G- WHOLESALE AND RETAIL TRADE
C - MANUFACTURING
M - PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES

L - REAL ESTATE ACTIVITIES
F - CONSTRUCTION
H - TRANSPORTATION AND STORAGE
J - INFORMATION AND COMMUNICATION
D - ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY

SBS 2015 – sampling

- Sampling frame – Business Register
- Stratification criteria – size classes (0-9, 10-19, 20+ employees) x main activity by NACE rev.2 (4 digits level)
- Sample size – 12 thousand enterprises
- Take all strata/exhaustive:
 - enterprises with 20 and more employees (2940 units),
 - enterprises with less than 20 employees, but which have more than one local unit (376 units)
 - enterprises considered as outliers according their turnover (3009 units)
- Probabilistic sample – units with less than 20 employees (5877 units)

SBS – regional disaggregation

- There are 3 indicators disaggregated at the local unit:
 - Turnover
 - Number of employees
 - Wages/salaries
- Each enterprise provides these indicators for each local unit
- The sample size doesn't allow to produce reliable estimates at the regional level

Administrative data

- Financial Reports, Tax Declaration, National Social Insurance House, National Medical Insurance House: reporting unit is **ENTERPRISE**
- Administrative data cannot be used directly to produce regional data
- Financial Reports (FR) are mandatory for all type of enterprises, with exception of individual enterprises non VAT payers
- It contains 3 indicators collected at the local unit level such as in SBS: turnover, number of employees and wages/salaries
- NBS – the owner of Financial Reports

Solution – combination of statistical data (SBS) with administrative data (Financial Reports) at the micro level.

Combination of SBS and FR data

Type of report	Respondent units	Number of respondents	Disaggregation
FR	All enterprises (excepting individual enterprises non VAT payers)	54 thousand enterprises	National level, type of activity (class level), ownership
SBS	Exhaustive - 20+ employees, atypical units and those with LU (~6300 enterprises) Sampled - 0-19 employees (~5900 units)	12 thousand enterprises	National level, type of activity (class level), Size of enterprises
FR + SBS	All enterprises without local units with 0 – 19 employees from FR + all enterprises with 20+ employees from SBS + enterprises with less than 20 employees from SBS, with local units	Over 60 thousand records at the local units level	National level, type of activity, ownership, territorial breakdown

Methodological aspects

- Data from FR regarding enterprises under 20 employees is combined with data from SBS regarding units with more than 20 employees at the level of each local unit
- For each of 3 indicators the aggregation is simply done by summing up the individual value of each unit:

$$X^k = \sum_j^k X_{ij},$$

Where X_{ij} - represents the value of indicator X for local unit j of the enterprise i

k – total number of units in a given category K (territory, economic activity, class size, etc.)

Data calibration

- Aggregated data at the national level differs slightly from that obtained in SBS
- For consistency reason - calibration on margins obtained in SBS:

$$coef_X^{adj} = \frac{\sum X^{SBS}}{\sum X^{CD}}$$

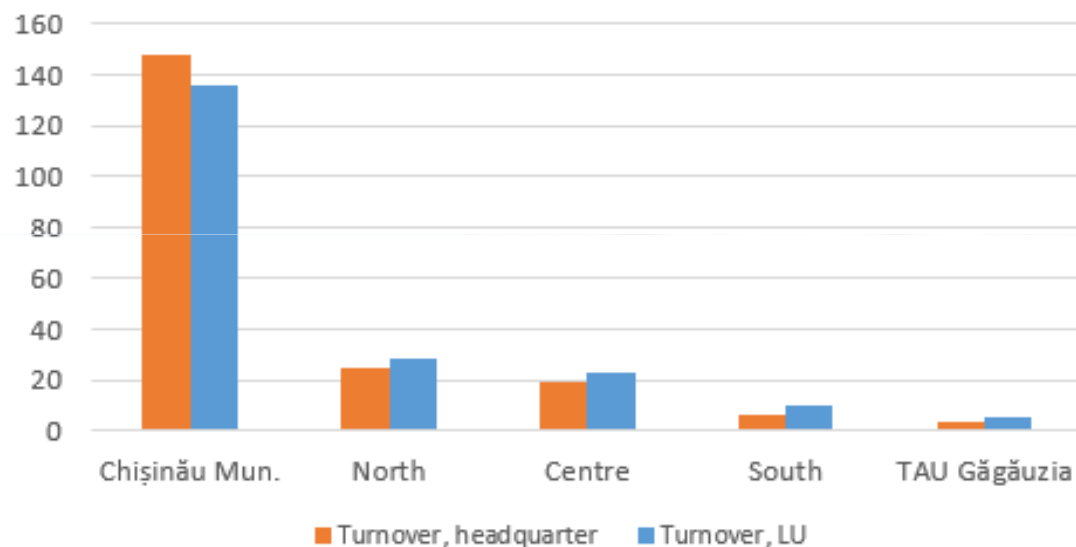
Final aggregates:

$$X_{fin}^k = coef_X^{adj} \cdot X^k$$

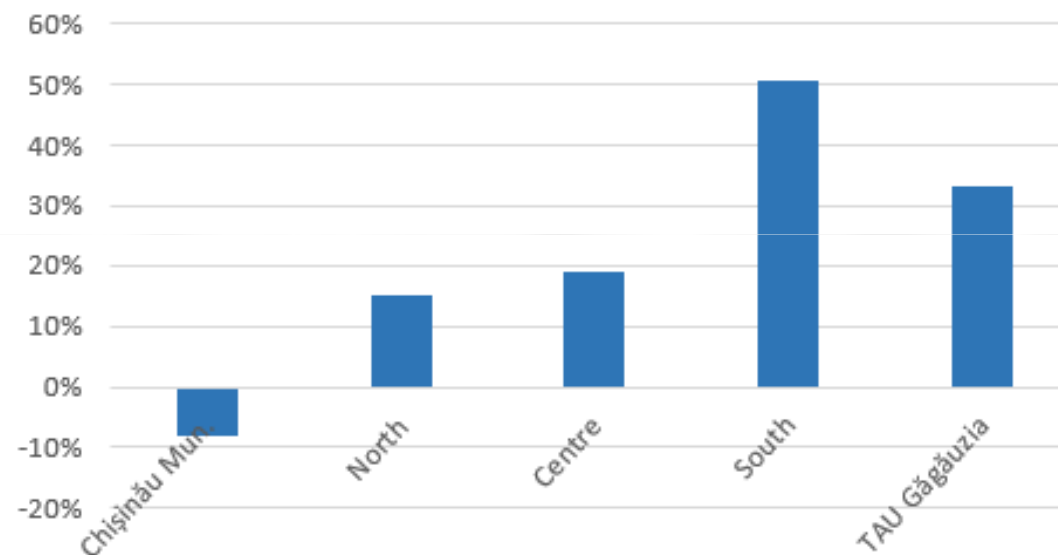
	SBS, estimates ($\sum X^{SBS}$)	Combined data, aggregates ($\sum X^{CD}$)	SBS/CD
Turnover, bil MDL	202.1	203.7	0.993
Average number of employees, thousands	445.2	447.3	0.995
Wages and salaries, mil MDL	145.5	146.5	0.993

Results: turnover/headquarter vs. turnover/LU

Turnover by regions, bil MDL



Changes in turnover LU vs. Headquarter



Dissemination (I)

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Apps Bookmarks Suggested Sites

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STATISTICA MOLDOVEI

National Bureau of Statistics
of the Republic of Moldova

Thursday, 23 June 2016 Main page | Update calendar | Contacts | Help (maps)

Databank - Tables - Back to the table

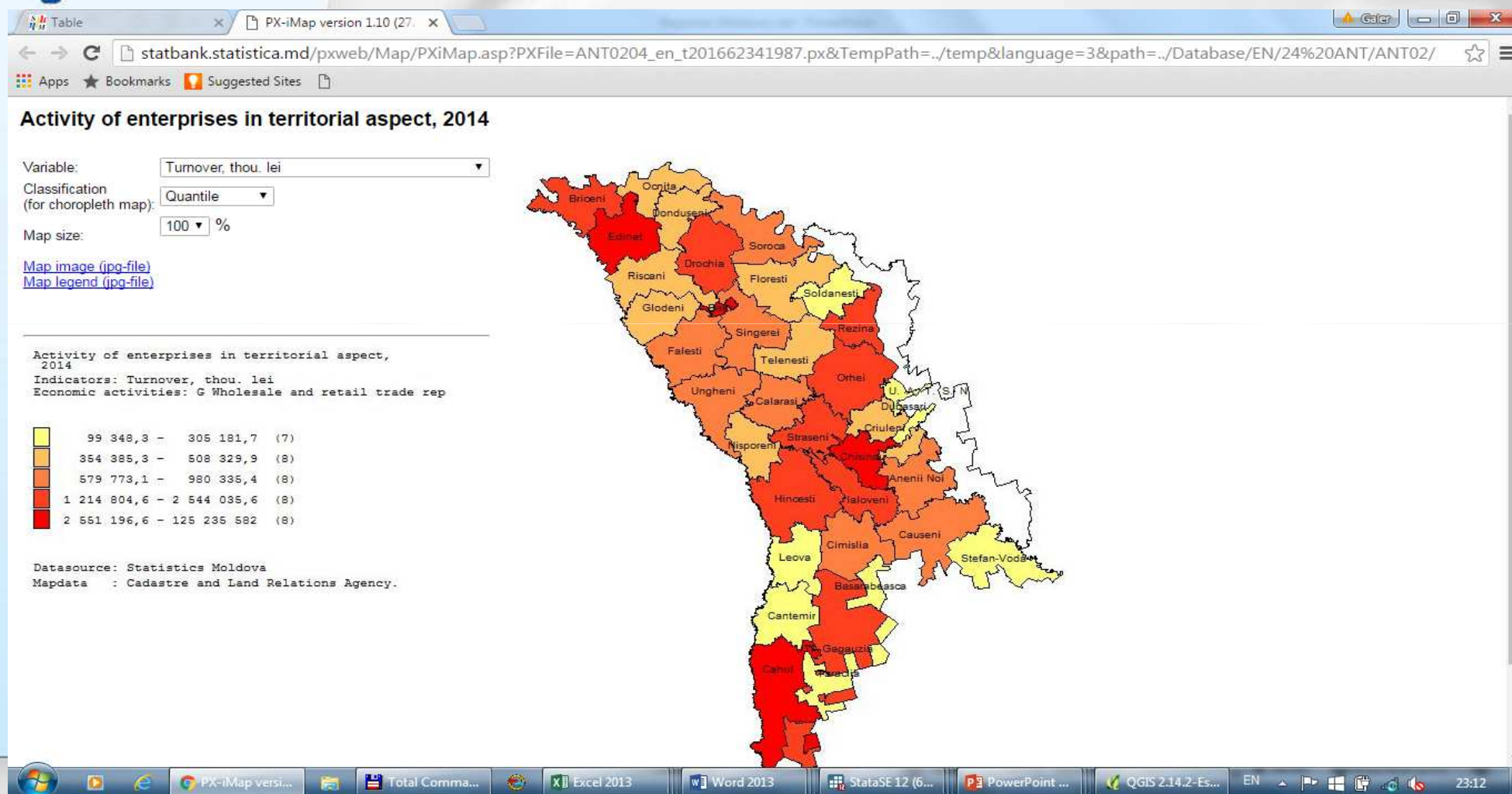
Edit and calculate Save As Create Graph or Map

Activity of enterprises in territorial aspect, 2014

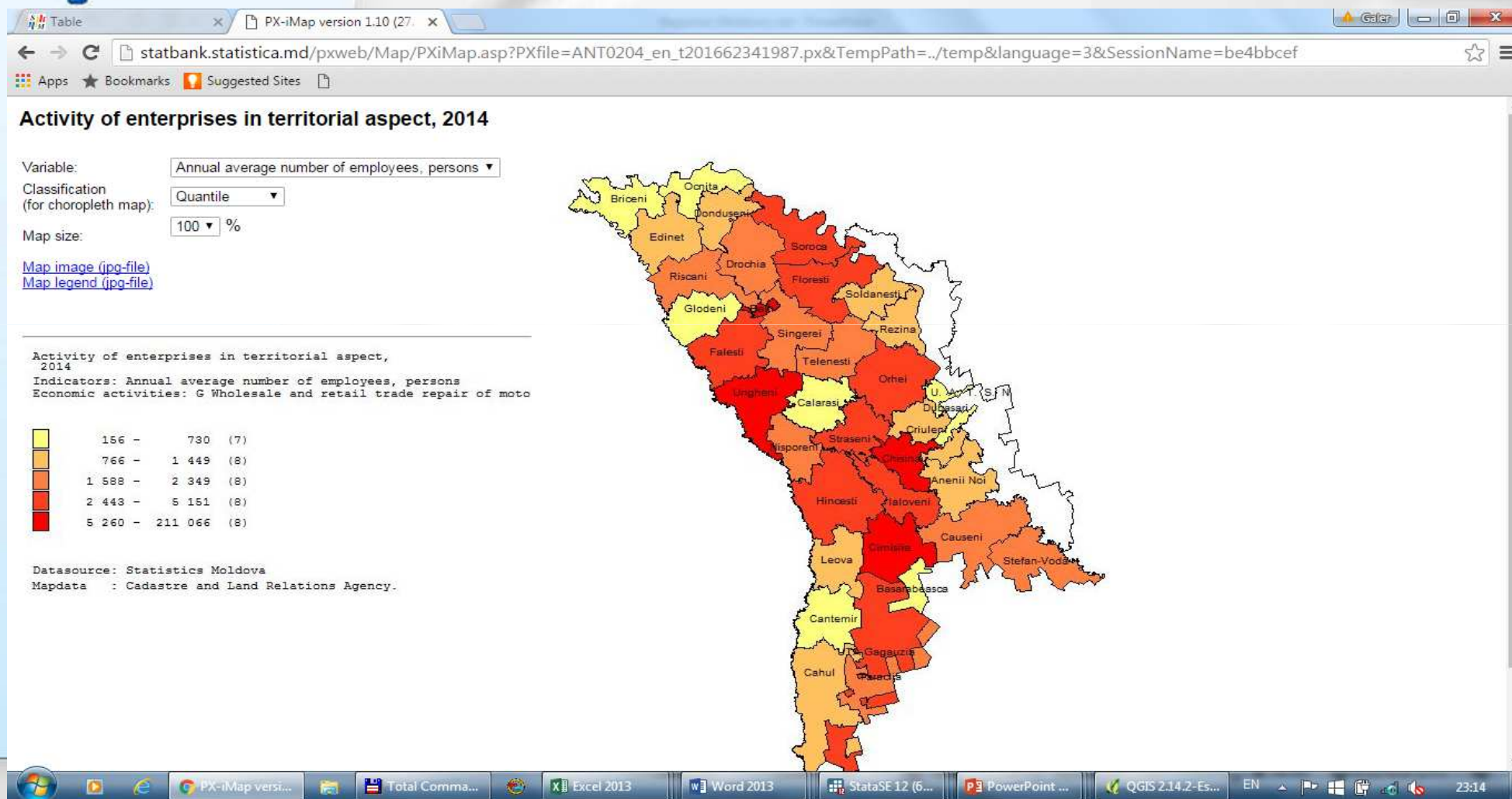
	G Wholesale and retail trade; repair of motor vehicles and motorcycles		
	Turnover, thou. lei	Annual average number of employees, persons	Remuneration, thou. lei
Whole country	125,235,582.6	211,066	3,783,843.9
Municipality Chisinau	88,704,017.2	123,727	2,610,648.9
North	16,297,869.5	37,069	564,925.7
..Municipality Balti	6,232,573.2	17,035	225,968.2
..Briceni	1,476,019.1	631	90,177.7
..Donduseni	481,622.8	827	22,175.4
..Drochia	1,425,409.1	2,270	37,930.1
..Edinet	2,551,196.6	1,357	33,717.9
..Falesti	978,122.0	4,141	31,652.1
..Floresti	482,633.0	2,443	26,356.4
..Glodeni	354,385.3	466	12,589.2
..Ocnita	508,329.9	730	14,318.8
..Risani	413,337.4	1,747	15,174.8
..Singerei	579,773.1	2,234	20,312.5
..Soroca	814,468.0	3,188	34,552.6
Centre	12,024,216.9	30,128	354,929.4
..Anenii Noi	827,102.7	1,122	29,821.5
..Cahul	652,422.2	527	26,202.6

Table - Google... Total Comma... Excel 2013 Word 2013 StataSE 12 (6... PowerPoint ... QGIS 2.14.2-Es... EN 23:04

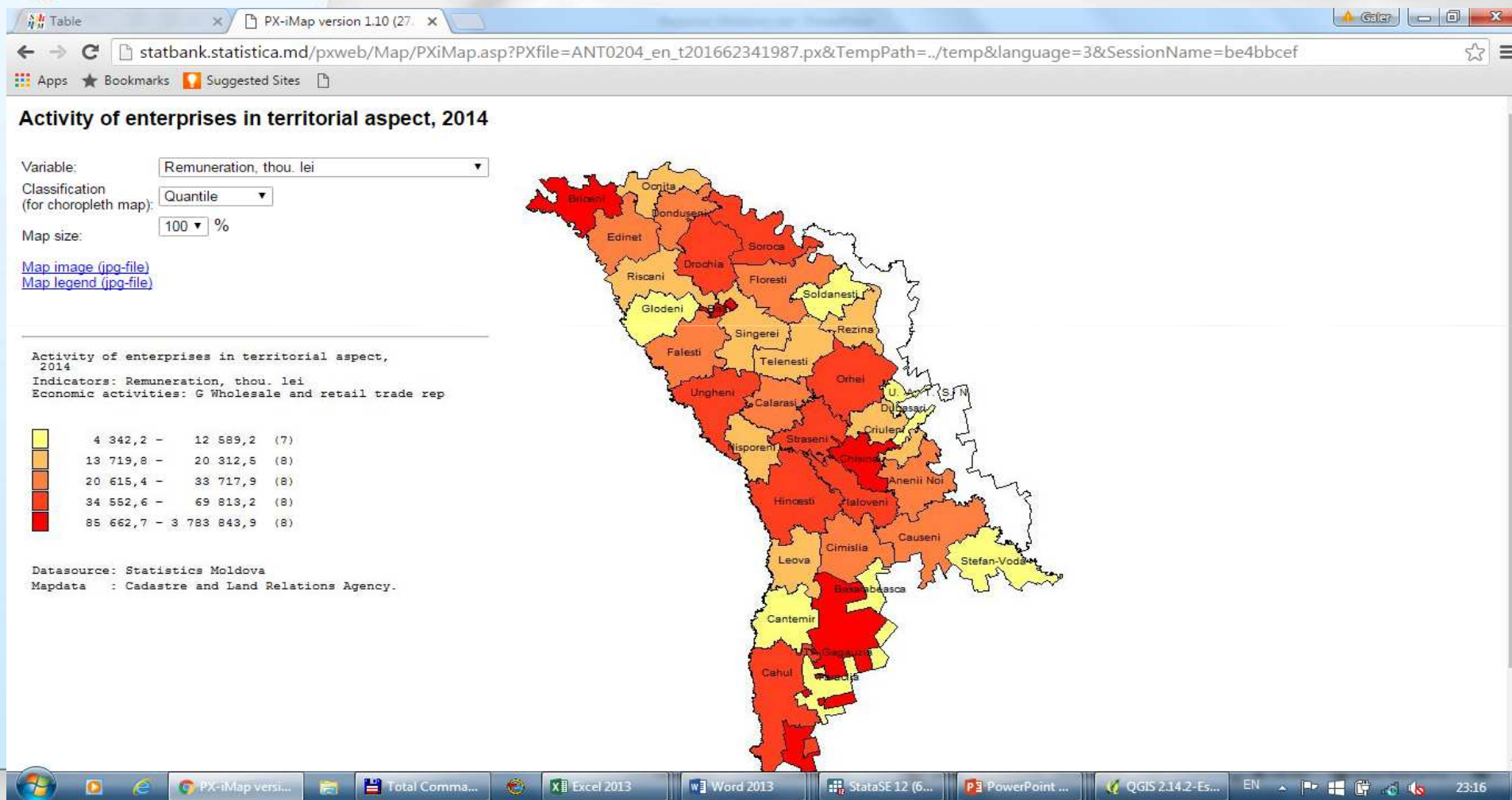
Dissemination (II)



Dissemination (III)



Dissemination (IV)



Advantages

- Simple approach and formulas
- No weights
- No sampling errors
- Possibility to obtain disaggregated data at the lowest possible level (limited only by risk to disclose confidential data)
- One of the main sources for Regional GDP
- Useful source of regional data for Local Public Administration

Future work

- Exploring other administrative data to produce regional estimates
- Improvement of the Business Register by adding the local units from Tax Authority and SBS
- Georeferencing of Business Register based on Address Register
- Introduction of a new indicator in SBS disaggregated at local unit – investments in fixed capital

Thank you for your attention!

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