STATISTICS ESTONIA

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Final Report

National Accounts: Documenting sources and method used for the compilation of National Accounts data: Regional Accounts Inventory

December 2021

Contents

1. General information

The project "National Accounts: Documenting sources and method used for the compilation of National Accounts data: Regional Accounts Inventory" was carried out by Statistics Estonia. The project aimed at: 1) providing a transparent and explicit description of the Estonian national accounts sources and methods used for calculating Regional Accounts (RA) data and 2) compiling the new document of Regional Accounts Inventory reflecting ESA 2010 methodology, as at the moment, there is no such document in Statistics Estonia. During the project, Statistics Estonia completed the RA Inventory with all relevant chapters based on standard structure provided by Eurostat. As a result of the action, Regional Accounts sources and methods used for calculating estimates are documented and described. For all consumers, a transparent and explicit description of the Estonian Regional Accounts sources and methods used for calculating RA data is provided. In the future, it will be possible to reduce the burden of National Accounts specialists, as an explicit RA Inventory will be available for responding to consumers' inquiries.

The final report provides an overview of the project progress and final results. It describes the steps and activities taken. The report is divided into four chapters. The first chapter provides general information on the project and its time schedule. The second chapter gives more detailed insight into individual project activities and tasks carried out. The third chapter gives an overview of the development of methodology. In the final chapter, the conclusion is presented.

The activities of the project started in February 2021 and were completed in accordance with the time schedule by the end of December 2021. The project was planned for 12 months (from January 2021), but was completed in 11 months according to the actual time schedule.

Table 1. Project time schedule

Project activity	**Planned time schedule**	**Actual time schedule**
1.1 – Setting up the sub-project	M1[1]	M2
1.2 – Project management	M1 … M12	M2 … M12
1.3 – 1st draft of the chapters	M1 … M5	M2 … M8
1.4 – 2nd draft of the chapters	M5 … M8	M8 … M10
1.5. – Drafting interim report	M4 … M5	M4 … M5
1.6. – Drafting and editing final version of the chapters	M8 … M10	M9 … M11
1.7. – Drafting and editing Final RA Inventory	M11 … M12	M11 … M12

[1] Month 1 – Planned start of the project activities (January 2021)

Project activity	Planned time schedule	Actual time schedule
1.8. Drafting and editing Final Report	M11 … M12	M11 … M12

Project activities were generally on schedule. There were no major obstacles in the project implementation and all project activities were completed within the duration of the project.

2. Project activities

Compiling the RA Inventory started successfully in February 2021. As expert knowledge is needed to determine the data sources and develop the methodology for compiling the specific statistics, these activities involved the staff of Statistics Estonia who work on the National Accounts (Economic and Environmental Statistics Department). Additionally, experts of other statistical surveys from different departments were involved for covering specific topics and for the compilation of some chapters of the RA Inventory.

The activities of the project were coordinated and monitored by the project leader employed by Statistics Estonia (Economic and Environmental Statistics Department).

At the beginning of the project activities, the project leader organised several meetings with experts from different departments of Statistics Estonia, and based on these discussions the project team was formed. During team meetings, a detailed work plan and time schedule were prepared and tasks were allocated, so that the team members could start to compile chapters for the RA Inventory.

The (leading) analysts who have long experience with National Accounts and doing inventory-type work were responsible for writing the chapters, discussing the drafts and supervising the work. For the overall quality of the description and transparency of the text, editors were involved as well. This kind of coordination ensured that the project's objectives were achieved effectively and in the most suitable way.

The particular tasks were determined in the project work package. These tasks have been accomplished as planned:

- the project team was set up; the work and meeting schedules were drawn up and coordinated; meetings and discussions were organised with project team members;
- the project leader monitored and supervised the activities of the project;
- 1st and 2nd drafts of the project were compiled;
- the final draft was compiled and edited;
- the final RA Inventory and report were completed.

3. The Regional Accounts Inventory (Annex I)

The methodology for RA was described in the RA Inventory. The general outline provided by Eurostat was followed to the extent that was necessary.

As Estonia employs the same principles for multiple economic activities, every activity did not require a separate chapter. Instead, a significant portion of RA methodology was described under general principles applicable to all industries. In Estonia, the general approach to National Accounts is focused on institutional sectors rather than on economic activities. This is also reflected in the RA Inventory, as general principles utilised in individual institutional sectors generally apply to all economic acitivities within that sector. There are some exceptions.

The inventory is complemented with various tables that illustrate the approach to RA. The scope of different compilation methods is presented as well as the extent to which insitutional sectors impact the methodology of regional estimates.

The inventory also includes metadata on RA and a general quality assessment. This is accompanied by plans for future improvements in methodology and data quality.

4. Conclusion and final results

The project was completed on schedule and the activities were carried out according to the (new) time schedule by the end of December 2021. The 1st draft of the RA Inventory was compiled in collaboration with many experts from the relevant departments of Statistics Estonia. The reason for this was that the first part of the inventory describes the general conceptual framework for the National and Regional Accounts. The compilation of the second part of the inventory relied on National Accounts specialists responsible for producing regional estimates. The 1st draft followed the general outline provided by Eurostat.

During the 2nd drafting of the inventory, amendments and corrections were made. The inventory was also trimmed to avoid repetitive descriptions in multiple chapters. As many principles in RA are universal, it is unnecessary to repeat them in detail. Instead, a more concise version was produced with more focus on exceptions to the general principles. After that the text of the RA Inventory was edited by a translator. As the compilers' native language is not English, editing was important.

As a result of the action, Regional Accounts sources and methods used for the compilation of National Accounts data were described and documented. As there is strong user demand, the RA Inventory will be published on Statistics Estonia's website www.stat.ee as well. All consumers interested in the sources and methods used can get necessary and updated information.

Annex I
Regional Accounts Inventory

1. Summary: overview of organisation, methodology and sources

The Regional Accounts Inventory provides a description of the estimation of regional gross value added of Estonia. The methodology applies for the time series from 2010 onwards. Adjustment matrixes have been used to match the time series of 1995–2009 to later years. However, the underlying methodology for these years does not deviate too significantly from the methods presented in this inventory. The main difference from 2010 onwards is transition to ESA 2010. For previous years, the transition was more complicated due to lack of appropriate source data. The inventory is compiled for reference year 2019, as it is the latest year for which final estimates are available.

1.1. Organisation of the statistical process for compiling regional GVA

Regional accounts (RA) are a necessary statistical domain for following local development. The data provide valuable input for public policy at central and local government level. The data provide a basis for regional policy that targets a balanced development of the entire country. It also enables the evaluation of policies by local municipalities and a chance to compare the effects of different approaches in different regions.

The compilation of Estonian regional accounts is in accordance with the European System of Accounts (ESA 2010), which is consistent with the System of National Accounts of the United Nations (SNA 2008). However, the methodology described in the inventory is used to compile estimates at a more detailed level than required by the ESA 2010 Transmission Programme, in order to provide a better and more accurate understanding of regional trends to national data users. Estimates transmitted to Eurostat are achieved by aggregating these data.

In Estonia, official statistics are compiled by Statistics Estonia (SE) and the Central Bank of Estonia (Eesti Pank). SE is the national statistical institute under the supervision of the Ministry of Finance. SE is in charge of compiling the majority of national statistics. A portion of financial and external accounts are compiled by Eesti Pank, with whom SE engages in routine cooperation. Input is also gathered from ministries and other institutions managing registries

and compiling data needed for themselves. The legal framework for producing national statistics is outlined in the Official Statistics Act[2].

Regional accounts are compiled fully by SE. Regional gross value added (GVA) is estimated by the National Accounts Unit within the Economic and Environmental Statistics Department[3]. The majority of the units' 24 employees contribute to the compilation of regional GVA by being involved in the estimation process of national GVA. However, two specialists are directly responsible for producing and validating the regional breakdown of GVA.

1.2 Overview of the methodology of regional GVA compilation

1.2.1 Regional territory

The Classification of Estonian Administrative Units and Settlements (EHAK) is used for denoting territorial location. The classification includes administrative units of Estonia's territory: public administration units – counties; local administrative units – rural municipalities and cities; administrative units with limited local government – city districts; towns and other settlements – cities without municipality status, rural towns, small towns and villages.

Every administrative and settlement unit has a unique identification code of up to four digits. The object name and parallel name (if any) are indicated. Additional characteristics related to the code (classifying part) indicate the county and local administrative subordination of each object and its type (county, rural municipality, city, small town, city as a settlement unit, district and village).

Two-digit codes are used to designate counties, while three-digit codes are used to designate cities and rural municipalities (left zeroes are added up to four digits). Four-digit codes are used to designate settlements without administration (cities without municipal status, rural towns, small towns, villages, etc.).

The Nomenclature of Territorial Units for Statistics (NUTS) comprises three levels (NUTS 1, NUTS 2 and NUTS 3) and was developed for the following purposes:

- collection, development and harmonisation of European regional statistics;
- socio-economic analyses of the regions;
- identification of EU regional policy target regions and definition of eligibility.

[2] https://www.riigiteataja.ee/en/eli/ee/Riigikogu/act/517122019002
[3] https://www.stat.ee/en/statistics-estonia/about-us/structure

The Estonian Classification of Territorial Units for Statistics is compiled according to the principles of NUTS and reflects its corresponding local government units. The first three levels of the classification correspond to NUTS levels. Level 1 – Estonia as a whole; Level 2 – Estonia as a whole; Level 3 – larger statistical regions formed by grouping adjacent counties; Level 4 – counties; Level 5 – local government units (cities and rural municipalities). Each level must cover the whole territory of the country and each unit must consist of lower-level units. The unit borders must match the borders of administrative units.

1.2.2 Statistical unit and residence

In order to divide national GVA between regions, two kinds of statistical units are used – institutional units and local kind-of-activity units (local KAUs).

Institutional units are enterprises, public institutions (i.e. ministries, local governments, etc.) and non-profit institutions. Regions are assigned to institutional units according to the location where they are registered. The basis for the registration is the Commercial Register. This approach covers the majority of statistical units.

However, some institutional units can have significant operations in multiple locations or are notably active in several economic activities. In this case, they need to report statistical data according to their local KAUs. This applies to enterprises with 20 or more employees. The regional allocation is done according to the location of their local KAUs.

1.2.3 Classification of industries and sectors

The classification of industries and sectors is at the core of National Accounts and Regional Accounts. The Estonian National Accounts follow the Statistical Classification of Economic Activities in the European Community (NACE Rev. 2).

In the compilation process of macroeconomic statistics, the two-digit NACE breakdown is followed. In some cases, a more detailed breakdown is used for selected industries. While this breakdown is approved and published for estimates encompassing the entire country, it is too detailed for regional estimates. Regional industry breakdown at this level is hampered by statistical confidentiality requirements due to the small scale of the Estonian economy. The latter can also cause quality issues for very detailed data. For these reasons, the regional estimates are aggregated to the one-digit (A*21) level for final validation as seen in Table 1.

Table 1. NACE breakdown used in National Accounts for final balancing and validation

A21	A38	A64	2-level NACE
A	A	A01	A01
		A02	A02
		A03	A03
B	B	B05T09	B05T09
C	CA	C10_11	C10_11
	CB	C13T15	C13T15
	CC	C16	C16
		C17	C17
		C18	C18
	CD	C19	C19
	CE	C20	C20
	CF	C21	C21
	CG	C22	C22
		C23	C23
	CH	C24	C24
		C25	C25
	CI	C26	C26
	CJ	C27	C27
	CK	C28	C28
	CL	C29	C29
		C30	C30
	CM	C31_32	C31_32
		C33	C33
D	D	D35	D35
E	E	E36	E36

A21	A38	A64	2-level NACE
		E37T39	E37T39
F	F	F41T43	F41T43
G	G	G45	G45
		G46	G46
		G47	G47
H	H	H49	H49
		H50	H50
		H51	H51
		H52	H52
		H53	H53
I	I	I55_56	I55
			I56
J	JA	J58	J58
		J59_60	J59_60
	JB	J61	J61
	JC	J62_63	J62_63
K	K	K64	K64
		K65	K65
		K66	K66
L	L	L68	L68
M	MA	M69_70	M69_70
		M71	M71
	MB	M72	M72
	MC	M73	M73
		M74_75	M74_75

A21	A38	A64	2-level NACE
N	N	N77	N77
		N78	N78
		N79	N79
		N80T82	N80T82
O	O	O84	O84
P	P	P85	P85
Q	QA	Q86	Q86
	QB	Q87_88	Q87_88
R	R	R90T92	R90T92
		R93	R93
S	S	S94	S94
		S95	S95
		S96	S96
T	T	T97_98	T97_98
U	U	U99	U99

This classification is used for all statistical units – local KAUs are grouped together with institutional units in order to achieve regional breakdowns. At an aggregated industry level, the A21 breakdown includes all statistical units across institutional sectors. It does not matter whether the units produce market or non-market output.

Although the final estimates for the whole economy (S.1) cover all sectors, a more detailed breakdown is used in the compilation process. Under the ESA 2010 guidelines, five domestic institutional sectors are identified:

- S.11 Non-financial corporations

- S.12 Financial corporations

- S.13 General government

- S.14 Households

- S.15 Non-profit institutions serving households

The above breakdown is used throughout the National Accounts system.

1.2.4 Business register

The Estonian Statistical Business Register (SBR) was established in 1994. In the register, the statements of EU legislation, especially those of the Business Register Regulation No 177/2008, were taken into account.

The SBR includes all economic units that operate in Estonia: enterprises, sole proprietors, non-profit associations, foundations, central and local government institutions, except households and the embassies of foreign countries.

Enterprises and sole proprietors are registered in the Commercial Register maintained by the Ministry of Justice and are all included in the SBR. Until 2010, only sole proprietors whose annual net turnover exceeded 16,000 euros were obliged to register in the Commercial Register. The rest were registered only in the Register of Taxable Persons. Since 1 January 2010, all sole proprietors have an obligation to register in the Commercial Register.

The units of the general government in the SBR are based on the State Register of State and Local Government Agencies, which is maintained by the Ministry of Justice and includes information on state and local government institutions. In addition, data on general government units from public sector financial statements are used for updating the SBR. The same lists of government sector and sub-sector units are used in the information system of public sector financial statements and for the compilation of government financial statistics according to the European System of Accounts (ESA).

The data of non-profit associations for the SBR are received from the Non-Profit Associations and Foundations Register.

The data from the Tax and Customs Board and the data received by surveys are also used for updating the SBR.

The SBR includes the following statistical units: legal unit, enterprise, local unit, kind-of-activity unit, local kind-of-activity unit and enterprise group. In the vast majority of cases, one enterprise equals one legal unit, except for cases where one enterprise equals several legal units.

There are no administrative sources for the data of local units in Estonia. Data on local kind-of-activity units are collected by a special survey, which is part of the annual Structural Business Statistics Survey and is used for compiling the statistical units "Local Unit" and "Kind-of-Activity Unit". Additional sources for local kind-of-activity units with a specific activity are in use: for accommodation units, data are received from Enterprise Estonia under the Ministry of Economic Affairs and Communications; for private educational institutions, from the Estonian Education Information System, maintained by the Ministry of Education and Research; for museums, information is provided by the Ministry of Culture.

Enterprise groups were included in the SBR in 2005. Until 2013, the register contained information on two types of enterprise groups: foreign-controlled enterprise groups, i.e. MNEs (with a group head located abroad), and all-resident enterprise groups. Since 2013, the statistical register also includes information on Estonian multinational groups (domestically controlled groups with at least one foreign subsidiary). The main sources for the register of groups are the database on ownership relations between legal units and the data from annual reports, which are both managed by the Commercial Register. An additional source for data on foreign subsidiaries of Estonian MNEs is the Balance of Payments: the data are received from Eesti Pank. Data from Eurogroups Register are used to complete the groups' structures and to validate the GGH of foreign-controlled MNEs. All resident legal units and foreign units that have relations with Estonian units have the legal entity identifier number (LEID) if these are matched with the EuroGroups Register (EGR).

The SBR includes different sets of information on statistical units. The common data for all units include an identification number and contact information. For legal units, a unique identification number is used, which is received from legal registers. This unique number is also used by all legal units in all official proceedings in Estonia. In addition, all statistical units in the statistical register have their own unique internal identification code. The variables of the units include (in addition to the ID number and contact data): principal and secondary activity, number of persons employed and number of employees, turnover, form of ownership and legal form, institutional sector code, dates of registration and liquidation, etc.

All statistical units are classified by:

- economic activity (the Estonian Classification of Economic Activities (EMTAK) is used at the 5-digit level, which is consistent with the 4-digit level of NACE Rev. 2);
- legal form;
- form of ownership (a classification of its own was developed by Statistics Estonia in 1996 in order to enable the identification of foreign-, state- or privately owned units);
- institutional sector code;
- geographical location (the Classification of Estonian Administrative Units and Settlements is used; in addition, the European classification NUTS has been implemented).

All sectors of the economy including the agricultural sector are covered. For keeping records on agricultural households, the Statistical Register of Agricultural Holdings was created in 2002. The main sources for this register are the Estonian Agricultural Registers and Information Board and the Estonian Agricultural Board.

For the production of economic statistics for financial corporations, the SBR is used as a reference framework. It includes all units engaged in financial intermediation, including monetary financial institutions, other financial intermediaries, financial auxiliaries, investment funds, insurance corporations and pension funds registered in Estonia. The population of units belonging to the financial sector is maintained in close cooperation with Eesti Pank.

The Statistical Profile (SP) is the frozen frame of active units produced on the basis of SBR data and used as a basis for the production of all economic statistics and also a part of agricultural and social statistics. The SP is compiled by 1st of November every year and is used for the production of Structural Business Statistics (SBS) of the same year and short-term statistics of the following year. All economically active units and all units active during at least a part of the reference period are included in the SP. In special cases, changes are made (including/excluding units, changes in stratification data) in the frozen frame:

- if the number of persons employed in the unit is 50 or more;
- if the data significantly influence a certain field of statistics.

The number of units included in the SP in 2011–2020 is shown in Table 2.

Table 2. Units in the Statistical Profile by legal form

Number of units	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Companies and branches of foreign companies	74,369	80,372	85,258	86,752	90,909	95,464	103,552	108,615	111,819	117,089
Non-profit associations, foundations and government institutions	33,088	31,773	31,863	32,878	34,291	34,331	30,135	42,358	42,970	43,950
Sole proprietors	29,464	28,512	27,502	27,013	26,489	24,986	24,070	23,035	21,965	20,890
Total	**136,921**	**140,657**	**144,623**	**146,643**	**151,689**	**154,781**	**157,757**	**174,008**	**176,754**	**181,929**

There is no cut-off threshold for small units in the SBR. The Statistical Profile has certain limitations though: small enterprises without employees and with a net turnover below 40,000 euros are not obliged to pay taxes; thus, these enterprises are included in the register but are not fully covered by the SP. Some additional data sources (lists of units receiving various state subsidies, lists of units that made or received cross-border payments, etc.) have already been adopted. Some further measures are planned for improving the coverage of the SP by using data from annual accounts. The methodology for recalculating the SP and annual statistics produced on the basis of the SP is under development.

Updating the register

Data on legal units are updated based on the following main administrative registers: the Commercial Register, the Non-Profit Associations and Foundations Register and the State Register of State and Local Government Agencies.

Newly registered units, de-registrations, mergers, acquisitions and other structural changes as well as changes of demographic and identification characteristics, incl. addresses and contact data, are received from the administrative registers and uploaded at the level of legal units of the statistical register weekly.

Enterprises and non-profit institutions and foundations are obliged to submit their annual reports to the Commercial Register. Annual reports are an important source of information for the SBR.

The number of employees, net turnover and data on legal units that have cross-border transactions are received monthly from the Tax and Customs Board. Statistical surveys and databases of professional associations are also used as a source for updating the register data.

All appropriate changes are uploaded at the level of statistical units. Audit fields (data source, date, name of the modifier) are implemented for all variables. The date of the last check is additionally used for contact details and main activity code.

1.2.5 Methods used at the regional level

The regional GVA of Estonia is estimated by combining the top-down and bottom-up methods and production and income approaches. With the top-down method, national GVA is allocated to regions rather than specific institutional units. The bottom-up method, on the other hand, means that estimates for regions are achieved by aggregating data from the level of institutional units.

The production method is applied to units following the bottom-up method. This is done by estimating output (P.1) and intermediate consumption (P.2) in a similar way as at the national level. GVA is calculated as a residual between P.1 and P.2. A partial income approach is used to compile indicators for the top-down part of the compilation process. This is done by focusing on the compensation of employees (D.1) breakdown across regions. All calculations are done at market prices and the final results are checked to match national estimates. The data sources for regional estimates are the same as for the rest of the National Accounts estimates.

The bottom-up method using the production approach is used primarily for S.11 and S.15 sectors. This is possible as far as detailed source data are available for institutional units. It applies fully for S.15, but only partially for S.11. For S.11, the regional estimates from the bottom-up method are used as indicators for the top-down method to cover the institutional units not represented in the relevant source data.

A similar approach to S.11 is used for S.12. A part of the sector can be estimated by using the bottom-up method with the production approach. However, as financial institutions can have complex schemes in regard to income and expenditure, a part of the sector has to be allocated

to regions using the top-down method. Appropriate indicators for specific phenomena have to be compiled in order to achieve a proper regional breakdown.

For the S.13 sector, it is not possible to use the production method, because institutional units under the supervision of ministries have their administrative data consolidated. This can cause a significant issue, if the units are active across the country (i.e. police, rescue services, etc.). In order to achieve a more relevant regional breakdown, a top-down method using D.1 as an indicator has to be used. A similar approach is applied for the S.14 sector.

1.3 Main sources used for the compilation of regional GVA

The compilation of regional GVA is based on existing data sources used for the calculation of gross value added at the national level. Additional data sources are used to achieve regionalisation. The data sources vary by sector.

The main source for data on the non-financial corporations sector (S.11) is the Structural Business Statistics Survey (SBS), which provides comprehensive information for the calculation of output, intermediate consumption and value added. Data based on annual reports from the Commercial Register are used additionally.

The main source on the financial corporations sector (S.12) is the data produced and published by Eesti Pank, including stock of deposits and loans by the location of credit institution. The rest of financial intermediaries, auxiliaries and insurance companies are covered by statistical surveys carried out by Statistics Estonia.

Government finance statistics (S.13) are based on detailed data from the information system of the State Shared Services Centre (SSSC). This is an agency in the administrative area of the Ministry of Finance, which is responsible for managing the general rules of state accountancy. The latter is a set of uniform principles that public sector units have to follow when compiling and reporting financial statements to the SSSC. The reports presented to the SSSC are called Public Sector Financial Statements (PSFS).

The main data sources for the estimation of the value added of unincorporated enterprises (i.e. sole proprietors) owned by households (S.14) are annual tax declarations on business income (Form E), which they are required to submit to the Tax and Customs Board.

The main data sources for the estimation of the value added of non-profit institutions serving households (S.15) are the Tax and Customs Board’s data on social tax and payments subject to

social tax of non-profit institutions, and the latest available annual survey of non-profit institutions.

For regional GVA of S.13, compensation of employees is used. The indicators for calculating gross wages and salaries include average monthly gross wages and salaries in an enterprise, institution or organisation; basic wage or salary together with regular bonuses; earnings related to overtime; bonuses for working in night shifts and on public holidays; irregular bonuses and premiums; remuneration for time not worked; wages and salaries in kind; payments to employees' savings schemes; average number of employees in a quarter per month.

In the collection of data, the statistical unit is an enterprise, institution or organisation. The population of the survey consists of economically active units with at least one salaried employee. As a sampling frame, the statistical profile based on the Commercial Register is used; the statistical profile is updated every year and a stratified simple random sample is drawn. State and local government authorities and enterprises and enterprises with at least 50 employees are completely enumerated. The remaining part of the population is divided into two: enterprises with 1–9 employees and enterprises with 10–49 employees. As the sample was drawn by economic activity, post-stratification was used for calculating data by county and by type of owner of enterprise.

1.4 Compilation table and metadata table

The following table provides an overview of sources and methods used for the estimation of economic activities across institutional sectors. "Direct" refers to the bottom-up method and "indirect" to the top-down method.

Table 3. Sources and methods used for the estimation of economic activities across institutional sectors

Economic activity		**S.11**	**S.12**	**S.13**	**S.14**	**S.15**
A Agriculture forestry and fishing		Direct Survey-based			Indirect Survey-based	
B Mining and quarrying		Direct/indirect Survey-based			Indirect Administrative	

Economic activity		**S.11**	**S.12**	**S.13**	**S.14**	**S.15**
C Manufacturing		Direct/indirect Survey-based			Indirect Administrative	
D Electricity, gas, steam and air conditioning supply		Direct/indirect Survey-based			Indirect Administrative	
E Water supply; sewerage, waste management and remediation activities		Direct/indirect Survey-based			Indirect Administrative	
F Construction		Direct/indirect Survey-based			Indirect Administrative	
G Wholesale and retail trade; repair of motor vehicles and motorcycles		Direct/indirect Survey-based			Indirect Administrative	
H Transportation and storage		Direct/indirect Survey-based		Indirect Administrative	Indirect Administrative	
I Accommodation and food service activities		Direct/indirect Survey-based			Indirect Administrative	
J Information and communication		Direct/indirect Survey-based		Indirect Administrative	Indirect Administrative	
K Financial and insurance activities			Direct/indirect Survey-based, other		Indirect Administrative	
L Real estate activities		Direct/indirect Survey-based		Indirect Administrative	Indirect Administrative	Direct Survey-based
M Professional scientific and		Direct/indirect		Indirect	Indirect	

Economic activity		**S.11**	**S.12**	**S.13**	**S.14**	**S.15**
technical activities		Survey-based		Administrative	Administrative	
N Administrative and support service activities		Direct/indirect Survey-based			Indirect Administrative	
O Public administration and defense; compulsory social security				Indirect Administrative		
P Education		Direct/indirect Survey-based		Indirect Administrative	Indirect Administrative	Direct Survey-based
Q Human health and social work activities		Direct/indirect Survey-based		Indirect Administrative	Indirect Administrative	Direct Survey-based
R Arts, entertainment and recreation		Direct/indirect Survey-based		Indirect Administrative	Indirect Administrative	Direct Survey-based
S Other service activities		Direct/indirect Survey-based		Indirect Administrative	Indirect Administrative	Direct Survey-based
T Activities of households as employers					Indirect Administrative	

ESMS metadata can be found on the webpage of SE.[4]

[4] https://www.stat.ee/en/find-statistics/methodology-and-quality/esms-metadata/21406

2. Release and publication timetable, revision policy, access for the public

2.1. Timetable for release and publication of provisional and final estimates

2.1.1 Release calendar

According to the ESA 2010 Transmission Programme, provisional regional gross value added is released 12 months after the end of the reference period at NUTS 3 and NACE A*10 breakdowns. Final estimates are published 24 months after the end of the reference period. As the accounts are released only on an annual basis, the publication takes place in December. For the national database, the regional breakdown is more detailed than the required NUTS 3.

At the NUTS 2 level, Estonia is a single region. Gross value added is the only National Accounts indicator published at a more detailed regional level. This is done in order to provide a more comprehensive overview for local analysts. There is no publication of gross fixed capital formation or household indicators for NUTS 3 and beyond.

The release calendar for Regional Accounts is available on the website of Statistics Estonia: https://www.stat.ee/en/calendar

Press releases are available at: https://www.stat.ee/en/uudised

Table 4 shows the timetable and indicators published for Regional Accounts in the national database.

Table 4. Regional Accounts in the national database

Table	Timeliness	Indicators	Period
RAA0050	T+12 months	GDP and GDP per capita by county	1995 onwards
RAA0051	T+12 months	GDP by county and economic sector (primary, industry, services)	1995 onwards
RAA0052	T+12 months	GDP by NUTS 3 and economic activities	1995 onwards
RAA0053	T+12 months	Chain-linked GDP by NUTS 3	1995 onwards

2.1.2 Current revisions

Regional Accounts revisions are harmonised with National Accounts and released according to the publication timetable. As National Accounts revisions are published annually in August, there is a lag of a few months between the releases. As Regional Accounts are fully in line with National Accounts, there are no revisions to the domain outside of the National Accounts revision policy.

Current revisions can include new data and methodological improvements. Data revisions are only introduced in line with National Accounts to avoid differences in published data. Methodological improvements can be specific to Regional Accounts. This can happen, if a new methodology is introduced for estimating regional breakdowns. Regional Accounts aim to be in line with the general methodological approach of National Accounts. Therefore, no methodological updates for estimating national totals are introduced outside of the National Accounts framework.

2.2 Policy on benchmark revisions

Benchmark revisions follow the same policy as other revisions. There are no benchmark revisions for Regional Accounts outside of the general National Accounts framework. Benchmark revisions in National Accounts are introduced to Regional Accounts according to the publication timetable.

2.3 Comparability over time

The whole time series in Regional Accounts follows ESA 2010 guidelines. All periods follow the same methodology. Due to the domain being fully consistent with National Accounts, there is no break in time series. This guarantees that the time series is fully comparable starting from 1995.

As benchmark revisions are introduced to the time series at the same time for all periods, the time series remains fully comparable across every publication.

Updates to the population estimates from the Population and Housing Census are introduced to Regional Accounts during regular revisions.

In 2011, Estonia joined the euro area. As Estonian kroon had a fixed conversion rate, the estimates from 1995 to 2010 have been converted with the ratio 1 EUR = 15,6466 kroons.

2.4 Transmission to international institutions other than Eurostat

All regional GDP data are presented only on the webpage of the statistical database of Statistics Estonia. The data are transmitted only to Eurostat.

2.5 Accessibility for the public

The public can access 4 tables, which include information about GDP by county, by county and economic sector, by region and economic activity, by chain-linked method and region.

Economic sectors in the tables are divided into three categories: Agriculture, forestry and fishing, Industry and construction, and Services.

The industry and construction sector includes mining and quarrying, manufacturing, electricity, gas, steam and air conditioning supply, water supply, sewerage, waste management and remediation activities, construction.

Services include wholesale and retail trade, repair of motor vehicles and motorcycles, transportation and storage, accommodation and food service activities, information and communication, financial and insurance activities, real estate activities, professional, scientific and technical activities, administrative and support service activities, public administration and defence, compulsory social security, education, human health and social work activities, arts, entertainment and recreation, other service activities, households as employers and other activities.

Values, except in the chain-linked method table, are presented at current prices in million euros.

The following tables can be found in the national public database:

- Gross Domestic Product by County
  https://andmed.stat.ee/en/stat/majandus__rahvamajanduse-arvepidamine__sisemajanduse-koguprodukt-(skp)__regionaalne-sisemajanduse-koguprodukt/RAA0050
- Gross Domestic Product by County and Economic Sector
  https://andmed.stat.ee/en/stat/majandus__rahvamajanduse-arvepidamine__sisemajanduse-koguprodukt-(skp)__regionaalne-sisemajanduse-koguprodukt/RAA0051
- Gross Domestic Product by Region (NUTS 3) and Economic Activity
  https://andmed.stat.ee/en/stat/majandus__rahvamajanduse-

arvepidamine__sisemajanduse-koguprodukt-(skp)__regionaalne-sisemajanduse-koguprodukt/RAA0052

- Gross Domestic Product by Chain-Linked Method by Region (NUTS 3) https://andmed.stat.ee/en/stat/majandus__rahvamajanduse-arvepidamine__sisemajanduse-koguprodukt-(skp)__regionaalne-sisemajanduse-koguprodukt/RAA0053

2.6 Policy for metadata

Metadata on Regional Accounts can be found on the webpage of Statistics Estonia: https://www.stat.ee/en/find-statistics/methodology-and-quality/esms-metadata/21406

Additionally, all related methodological data are also published. The information on revisions in National Accounts is available at https://www.stat.ee/en/gdp-revisions.

3. Methodology for the calculation of regional GVA

This chapter provides an overview of methods and principles utilised for the estimation of regional GVA. As Regional Accounts are fully consistent with National Accounts, this inventory details how to arrive at regional estimates once the national estimates have been completed. The methodology for national estimates is described in the GNI Inventory.

The ESA 2010 Transmission Programme calls for NUTS 3 (5 regions) estimates at NACE A*10 level. However, the compilation process is more detailed. The regional breakdown in the compilation process is into 17 regions – 15 counties and 2 larger cities. The final estimates for economic activities are compiled at A*21 level. While the estimates for National Accounts are estimated at the two-digit NACE level, this does not make sense for Regional Accounts. Due to the size of the Estonian economy, the two-digit NACE can cause methodological problems and quality issues at the regional level. Using single-digit NACE codes also provides a better base for time series analysis.

In Estonia, National Accounts estimates are compiled for each institutional sector separately. This approach also carries over to Regional Accounts. Hence, all calculations are done not only by two-digit NACE codes but also by institutional sector. The final results are aggregated to S.1 for publication.

Regional estimates are compiled by a mixed method utilising bottom-up and top-down approaches. The bottom-up method is used to aggregate detailed source data from institutional units. The top-down approach is used for exhaustiveness, as there is no direct method for assuring the precise regional breakdown of items that are included into national estimates only at the two-digit NACE level.

All estimates for Regional Accounts are at current prices. As there is no regional price information available, previous year's prices and chain-linked values are estimated by using national deflators from National Accounts.

3.1 Principles applicable to all industries

The compilation of regional GVA follows the ESA 2010 guidelines and the "Manual on Regional Accounts Methods", 2013 edition. The bottom-up method is used where appropriate source data are available.

National estimates are compiled according to production and expenditure approaches. The income method is not independent in Estonia, as operating surplus is considered as a residual. However, at the regional level, there are not enough data sources to compile by the expenditure method. As a result, regional GVA is estimated only according to the production method. The production method is also used in the National Accounts for the headline GDP.

The main difference between National and Regional Accounts is caused by data from local KAUs, which is included for regional estimates. National Accounts use only enterprise level data. To adjust the SBS data for regional estimates, the data for enterprises with local KAUs are replaced to provide more accurate estimates. This is described in more detail in Chapter 3.1.3. Local KAUs are used only for S.11 sector estimates.

Institutional units in sectors S.11 and S.12 are considered as market producers and their GVA is estimated at the institutional unit level as the difference between output and intermediate consumption. For S.12, additional indicators are used to arrive at the regional structure. See more on this in Chapters 3.1.3 and 3.2.2. The estimated regional GVA structure is used to correct for differences between the bottom-up approach and national estimates.

While S.14 also comprises market producers, there is no adequate source for the bottom-up approach. As an alternative, indicators are needed to distribute national estimates between regions. For this, the information on income and wages and salaries of units is used. More information on activities in this sector can be found in Chapter 3.2.3.

Institutional sectors S.13 and S.15 are considered non-market producers. Here, the production method cannot be applied in the same way as for the above sectors. Instead, the cost-based method is used for estimating GVA. This means that GVA is estimated as the sum of compensation of employees, consumption of fixed capital and other taxes on production less other subsidies on production. Wages and salaries are used to match the regional estimates to national totals. See more on non-market producers in Chapters 3.2.3 and 3.2.4.

3.1.1 Available sources and information

Mostly the same data sources are used for Regional Accounts as for National Accounts. As National Accounts do not have a need for the regional dimension, some additional sources are required. This is necessary to provide a regional breakdown for institutional units whose multi-regional activities are not recorded in statistical surveys.

The data sources used for regional accounts are:

1. SBS, which provides detailed data on enterprises, local KAUs and self-employed households across economic activities. The data in the survey are enhanced by annual reports of enterprises presented to the Commercial Register.
2. Annual survey on financial statistics of financial service activities and activities auxiliary to financial services
3. Financial sector statistics produced by Eesti Pank
4. Data on household deposits and loans produced by Eesti Pank
5. Public sector financial statements (PSFS)
6. Survey data for non-profit institutions
7. Income reports of self-employed households from the Tax and Customs Board
8. Population and housing census

3.1.2 Use of benchmarks and extrapolations

For regional GVA, no benchmarking or extrapolations are used. Necessary source data are readily available for the production of estimates. The majority of data are provided by National Accounts and Enterprise Statistics units in the same department. Other sources that are needed are also used in the national estimates compilation process. As regional estimates are always fully consistent with national estimates, there is no need for additonal data sources. Regional estimates are compiled only after the completion of national estimates.

3.1.3 Treatment of multi-regional enterprises, sources and variables used

Large enterprises (e.g. supermarket chains, large manufacturers with various activities, banks) can have active operations in multiple regions. This is not an issue for regular National Accounts estimates, as the country is estimated as a whole. But for regional estimates, a misleading distortion is created if the entire operations of a company are accounted in the location where their headquarters is registered. Therefore, additional adjustments are required in order to provide a more precise regional overview of the economy.

Multi-regional enterprises are identified in three sectors – S.11, S.12 and S.13. Sectors S.14 and S.15 are comprised of smaller institutional units that operate in a single location. Due to different source data for each sector, separate methods are used for correcting for the multi-regional nature of enterprises .

For the S.11 sector, the data from SBS on local KAUs are used. As not enough data are available to make GVA estimates at local KAU level, wages and salaries are used to create a regional structure for each enterprise with local KAUs. This structure makes it possible to designate the appropriate share of the enterprises' GVA to each local KAU.

For S.12, no direct information on local KAUs is available. Therefore, various indicators are used to estimate the regional share of enterprises. For banks, regional data on household deposits and loans are used to estimate the regional structure. For other enterprises in the sector, the data on wages and salaries provide the necessary information.

For S.13, there are no local KAUs as such. However, there are many institutions that are either consolidated into the accounting of the overseeing ministry or reported as a single group of units in the public sector financial statements. These are museums, courts, jails, higher education institutions and some research centres. In this case, the wages and salaries of individual institutions are used to achieve a more precise regional breakdown. Unfortunately, these data are not available annually; and therefore, the structure from the most recent year is used.

3.1.4 Treatment of ancillary activities

Ancillary activities are treated in the same way as for national estimates. No additonal adjustments are made. If these units are only involved in ancillary acitivities, they are included together with the data of the headquarters of the business. This means that they are recorded as the same economic activity and in the same region as the main unit of the enterprise. They are recorded as local KAUs and assigned their own region, if they have active main operations for the enterprise.

3.1.5 Treatment of the Extra-regio

Estonia has no significant Extra-regio territory. Extra-regio for Estonia consists of diplomatic and military representatives. Estonia does not hold any notable economic territory (military bases, deposits of natural resources, scientific bases, etc.) outside of its borders. Therefore, no adjustments are made to account for Extra-regio.

3.1.6 Approach to exhaustiveness

In Regional Accounts, there is no direct attention paid to non-exhaustiveness. Non-exhaustiveness is covered at the national level. In economic activities where the bottom-up approach results in regional estimates that are not equal to the national totals, the difference is

assigned to regions according to the estimated regional GVA structure. In activities where the top-down approach is used, non-exhaustiveness is assigned to regions within the general GVA. The extent of exhaustiveness is presented in Table 5.

Table 5. Share of exhaustiveness in GVA in 2019, million euros

Industry	Exhaustiveness, mn euros	Share in GVA of the activity, %	Share in total GVA, %
A	80	11.5	0.3
B	1	0.6	0.0
C	237	6.5	1.0
D	2	0.4	0.0
E	2	1.2	0.0
F	279	16.7	1.2
G	216	7.2	0.9
H	97	5.7	0.4
I	88	18.1	0.4
J	84	5.2	0.4
K	3	0.3	0.0
L	67	2.7	0.3
M	116	9.1	0.5
N	67	7.3	0.3
O	0	0.0	0.0
P	9	0.8	0.0
Q	19	1.8	0.1
R	19	4.4	0.1
S	33	15.3	0.1
T	0	0.0	0.0
Total	**1,419**	**5.9%**	**5.9%**

3.1.7 Calculation of FISIM by user industries

In Regional Accounts, financial intermediation services indirectly measured (FISIM) cannot be estimated directly, as there are no suitable data sources available. The estimates are made solely in the national accounts. FISIM is distributed to regions along with the correction for non-exhaustiveness according to the regional GVA structure.

3.1.8 Adjustments for commuting

Regional Accounts use the production method to estimate regional GVA. Economic activities are measured by the location of the production and the legal address of institutional units. Therefore, no adjustment for commuting is necessary.

3.1.9 Transition from GVA to GDP

To arrive at GDP at market prices, net taxes on products need to be added to GVA. At the national level, this is done by adding taxes on products to GVA and subtracting subsidies on products. There is no data source available to estimate the regional breakdown of net taxes on products. Instead, the regional allocation is done in proportion to GVA.

3.1.10 Method used for the compilation of regional GDP per capita

Regional GDP per capita is calculated in the same way as national GDP per capita. To calculate regional GDP per capita, average annual population is used. Average annual population is the average of population in Estonia on January 1 in two consecutive years. The national population also includes a small number of people who have not been allocated to any region. This number is distributed to regions proportionately to regional population numbers. GDP per capita is calculated as a ratio between regional GDP and regional average annual population.

3.2. Specific methods and sources for compiling regional GVA

The majority of economic activities are estimated according to the production method principles described in Chapter 3.1. However, for some activities it is not possible to use the general bottom-up method to estimate regional GVA. This is due to lack of data sources or because there are different approaches to compiling estimates in National Accounts in general. In Regional Accounts, the methodology for the estimation of regional GVA is adjusted to various degrees. This concerns the following economic activities:

- A – Agriculture, forestry and fishing
- K – Financial and insurance activities
- L – Real estate activities
- O–Q – Various service activities in the government sector
    - O – Public administration and defence; compulsory social security
    - P – Education
    - Q – Human health and social work activities
- R–S – Arts, entertainment and recreation; Other service activities

The industrial sector, which covers mining and quarrying (B), manufacturing (C), energy (D), water and waste management (E) and construction (F), is almost entirely estimated according to the bottom-up method. This can be done, as these activities are mostly comprised of non-financial enterprises and the necessary data are gathered through the SBS. Only a small part of the activities consist of self-employed households. In the case of the latter, the necessary

adjustments are made proportionally to the wages and salaries of the respective units in these activities.

In other service activities, the estimation follows mostly the general bottom-up method. If there are non-market producers (S.13 and S.15) present in other activities, then to an extent the GVA is estimated as described in Chapters 3.2.3 and 3.2.4. This applies to the following activities:

- H – Transportation and storage
- J – Information and communication
- M – Professional, scientific and technical activities

The share of market and non-market producers is presented in Table 6.

Table 6. Share of market and non-market producers

Activity	Share of market producers, %	Share of non-market producers, %	Share in total GVA, %
A	100	0	3
B	100	0	1
C	100	0	15
D	100	0	3
E	100	0	1
F	100	0	7
G	100	0	13
H	95	5	7
I	100	0	2
J	95	5	7
K	100	0	5
L	97	3	10
M	83	17	5
N	100	0	4
O	0	100	6

P	5	95	5
Q	34	66	4
R	41	59	2
S	57	43	1
T	100	0	0
Total	83	17	100

3.2.1 Agriculture, forestry and fishing (A)

Agriculture, forestry and fishing covers 3 activities on the 2-digit NACE level:

- A01 Agriculture
- A02 Forestry
- A03 Fishing

For forestry and fishing, the regional estimation follows the approach described in Chapter 3.1. The regional GVA for agriculture is compiled separately. The SBS captures only a part of the activity. A more detailed and comprehensive overview is gathered in agricultural statistics through various surveys. This includes extensive data on crop areas and harvest, livestock and poultry monitoring, trading volumes and prices of agricultural products. All of these data are used by agricultural statistics to provide GVA estimates to National Accounts. The same principles are used to provide regional GVA estimates to Regional Accounts. These results are checked against data from SBS and local KAUs. The remaining difference between national and regional totals is allocated proportionally to regional GVA.

3.2.2 Financial and insurance activities (K)

Statistics on financial enterprises are compiled separately from every other economic activity. This is due to the nature of the sector, which also requires more extensive legal oversight. The financial sector has more regulations to follow and needs to report detailed statistics to separate authorities. The sector includes three activities on the 2-digit NACE level. However, the estimation of GVA is done in more detail by dividing the sector into subsectors. GVA in National Accounts is estimated individually for:

- K64 – Financial service activities, except insurance and pension funding
    - S.121 – Central bank

    - S.122 – Deposit-taking corporations except the central bank (commercial banks, savings loan associations)
    - S.124 – Non-MMF investment funds
    - S.125 – Other financial intermediaries, except insurance corporations and pension funds
    - S.127 – Captive financial institutions and money lenders
- K65 – Insurance, reinsurance and pension funding, except compulsory social security
    - S.128 – Insurance corporations
    - S.129 – Pension funds
- K66 – Activities auxiliary to financial services and insurance activities

There is no local KAU information similar to other activities available for the financial sector. But there are other data that can be used to approximate regional structures for different activities. FISIM is produced in K64 on loans and deposits. This production is allocated to regions according to the regional positions of loan balance and deposits of households, respectively. The central bank and some leasing and insurance corporations are designated directly to a single region, as they do not have a presence in other regions. The rest of the financial sector activites are allocated to regions according to the regional breakdown of wages and salaries in the financial activities.

3.2.3 Real estate activities (L)

Real estate activity is mostly made up of two institutional sectors – S.11 and S.14. The value added for S.11 can be estimated as described in chapter 3.1. However, a significant part 54% of total value added of the real estate activity is made up of the households sector. Of that, services of owner-occupied dwellings make up 46% of the total value added. Therefore, the information on dwellings is used to compile the regional breakdown of S.14.

The basis for the regional breakdown of dwellings come from the Population and housing census. While the data for real estate area could also be attained from the land catastre, it is not necessarily as accurate. This is due to the fact that some real estate is either unoccupied or used as holiday homes. Census provides the most detailed breakdown of actual occupied dwellings. A recent Eurostat's grant has made it possible to also identify the occupancy of dwellings via the consumption of electricity. This enables to validate the data from the census and the possibility to observe trends between censuses.

Until recently there was no data on the regional prices of real estate available. Therefore, the data on income was used to approximate the impact of prices on regional breakdown. However, another new development (based on search of the internet portals with proposals for real estate transactions) has made it possible to gather more detailed price data on real estate. As a result it is possible to combine regional real estate surface data and price information to arrive at a more direct regional breakdown for the value added of dwellings and S.14.

3.2.4 Public administration and defence; compulsory social security; education; human health services and social work activities (O–Q)

These activities are predominantly made up of non-market producers in the government sector. The national GVA of the public sector is estimated by the cost-based method, adding compensation of employees, consumption of fixed capital and taxes on products less subsidies on products. Regional Accounts follow the same principles. As consumption of fixed capital in National Accounts is estimated at the 2-digit NACE level, the bottom-up method cannot be properly utilised. National Accounts also include other indirect components that cannot be added to individual institutions. Therefore, another approach is needed to allocate GVA to regions. PSFS data are used to compile the information on wages and salaries by institutions. Due to PSFS data being consolidated, adjustments for multi-regional units are made as described in Chapter 3.1.3. Finally, national GVA is allocated proportionally to the regional totals.

3.2.5 Arts, entertainment and recreation and other service activities (R–S)

These two activities have the most mixed compilation process, as they are made up of three institutional sectors in relatively equal amounts. The regional GVA for units in the S.11 sector is estimated with the bottom-up production method. For units in S.13, the compensation of employees from PSFS data is used to allocate national GVA to regions. In case of S.15 units, the data are gathered through a separate survey intended for the non-profit sector. But similarly to the S.13 sector, national GVA is allocated to regions according to the compensation of employees.

3.3 Methods and sources for compiling regional GVA at current prices for the most recent year (preliminary data)

Compiling regional GVA at current prices for the most recent year deviates from the principles described in Chapters 3.1 and 3.2. The reason is that all the source data necessary for producing precise estimates for publication at T+12 months are not available.

The differences in methodology are due to missing source data. This starts with national totals, as at this point the most recent completed year in National Accounts is the sum of its quarters. This means that while the time series for national totals generally comes from Annual National Accounts (ANA), the last entry in the time series is from Quarterly National Accounts (QNA). The lack of detailed annual source data affects most of the compilation process.

The necessary annual data are available for only few components:

- GVA for agriculture
- Source data for the financial sector estimates
- Tax reports on income of self-employed households

As a result, GVA for regions can be estimated as described entirely for sectors S.12 and S.14 and for agricultural activity. For the rest of the activities and sectors, regional structures from the previous year are used. This means that preliminary results of regional GVA are estimated with national totals from QNA and regional structures from the year before. Regardless, the estimates are published for the most recent year in the same detail as the rest of the time series. This is according to NUTS 3 and A*10 for Eurostat data transmission and by counties for the national database. All estimates are updated for the publication at T+24 months.

3.4 Regional GVA at constant prices and regional growth rates

Due to the relatively small size of the Estonian economy, regional price information is not collected. This means that regional price indices are also not available. GVA is estimated at previous year's prices by allocating national GVA at previous year's prices proportionally to regional GVA at current prices. Regional GVA at constant prices is estimated only for regional totals at NUTS 3 level. This is done by using national GVA deflators.

Regional growth rates are calculated as a ratio between the reference period and preceding period.

4. Quality assessment and improvement

4.1 Self-assessment of the methodology for compilation of regional GVA

The methodology for the compilation of regional GVA is in line with ESA 2010 guidelines and general National Accounts principles used in Estonia. The estimates are fully harmonised with national totals. The revision policy follows the timetable of National Accounts, which is set up in accordance with the Harmonized European Revision Policy (HERP). Therefore, the general assessment of the quality of regional GVA is satisfactory.

The general quality could be further improved in two aspects:

- Timeliness of source data
- Methodological improvements

As there are few detailed annual data sources available for preliminary regional estimates at T+12 months, this could be improved with faster data collection and verification. However, it has to be kept in mind that regional data should remain in harmony with National Accounts. Following this principle, source data could be enhanced only if the data would also be available in time for National Accounts.

Methodological improvements would be most helpful in areas where the bottom-up approach cannot be used. As S.13 and S.15 use the cost-based approach in National Accounts as well, their regional structures can be approximated relatively well. But S.12 and S.14 could use advancements in estimating regional breakdowns.

4.2 Plans for further improvement

Statistics Estonia has recently completed a project on improving the estimation of dwellings and dwellings related services for National Accounts. The results provide a basis for improving the estimation of owner-occupied dwellings in regional accounts. This is expected to have a notable impact on regional allocation of real estate activities.

Another possible improvement for Regional Accounts is seen in S.13. The regional proportions of multi-regional institutional units in the government sector can be updated and methodologically improved with new data sources.

The Regional Accounts Unit is currently upgrading the technical side of the compilation process. Excel-heavy workflows are being configured for use in the statistical software R. This

will make the estimation process more streamlined and faster. It will also enable more detailed analysis, quality controls and consistency checks.

The improvements to Regional Accounts will be implemented during the regular compilation process as soon as they have been verified to be suitable for regular use.

Annex 1 – Regional GVA, compilation table (overview)

Table 7. Regional GVA compilation at current prices, 2019, million euros

	Bottom-up methods				Top-down methods	Adjustment to national accounts	Total	Share of GVA
Industry	Survey data	Administrative data	Specific methods	Sub-total				
	1	*2*	*3*	*4=1+2+3*	*5*	*6*	*7=4+6*	*8*
A	510	0		510		187	696	3%
B	222	0		222		1	223	1%
C	3,385	0		3385		252	3,636	15%
D	649	0		649		2	651	3%
E	197	0		197		3	200	1%
F	1,295	0		1,295		372	1,667	7%
G	2,761	0		2,761		261	3,022	13%
H	1,488	85		1,573		127	1,700	7%
I	394	0		394		90	484	2%
J	1,454	88		1,542		87	1,629	7%
K	1,103	0		1,103		7	1,110	5%
L	1,023	32	1,339	2,394		67	2,461	10%
M	886	216		1,103		175	1,277	5%
N	850	0		850		77	927	4%
O	0	1,504		1,504		0	1,504	6%
P	85	1,091		1,176		13	1,189	5%
Q	349	663		1,012		29	1,041	4%
R	211	205		416		25	441	2%
S	157	2		159		54	213	1%
T	0	0	14	14		0	14	0%
Total	**17,020**	**3,886**	**1,353**	**22,259**		**1,829**	**24,088**	

Annex 2 – Metadata of sources and variables used for the regionalisation of GVA by industry

Contact organisation	Statistics Estonia Economic and Environmental Statistics Department
Data description	Gross domestic product (GDP) by county and region at current prices, region's share in the GDP, GDP per capita, GDP per capita as percentage of Estonian average GDP by county and economic sector, by region and economic activity at current prices, region's share in value added, share of economic activity in region's value added GDP by chain-linked method by region, change compared to previous period, contribution to national GDP growth
Classification system	Estonian Classification of Economic Activities (EMTAK 2008) based on NACE Rev. 2 Nomenclature of Territorial Units for Statistics (NUTS)
Sector coverage	Counties, regions, economic activities
Statistical concepts and definitions	The regional gross domestic product (RGDP) is an aggregate for measuring the final outcome of the production activity of resident economic units in the region or county.
Statistical unit	Gross national economy Group of economic activities
Reference area	Estonia as a whole Regional units (Northern Estonia – Harju county; Central Estonia - Järva, Lääne-Viru and Rapla county; Northeastern Estonia – Ida-Viru county; Western Estonia – Hiiu, Lääne, Pärnu and Saare county; Southern Estonia – Jõgeva, Põlva, Tartu, Valga, Viljandi and Võru county) – data by six economic activity groups, chained value and its growth Counties – data for three economic sectors
Time coverage	Onwards from 1995
Base period	In the case of chain-linking method, the year preceding the accounting period (T – 1) is used as the base period.
Unit of measure	Financial indicators – million euros Growth by chain-linked method – percentage, share – percentage
Reference period	Annual
Confidentiality - policy	The dissemination of data collected for the purpose of producing official statistics is guided by the requirements provided for in § 32, § 34, § 35, § 38 of the Official Statistics Act.
Confidentiality - data treatment	The treatment of confidential data is regulated by the Procedure for Protection of Data Collected and Processed by Statistics Estonia (in Estonian). See more details on the website of Statistics Estonia in the section Legal Acts.

Release calendar	Notifications about the dissemination of statistics are published in the release calendar, which is available on the website. Every year on 1 October, the release times of the statistical database and news releases for the following year are announced in the release calendar.
Release calendar access	**Calendar**
User access	All users have been granted equal access to official statistics: dissemination dates of official statistics are announced in advance and no user category (incl. Eurostat, state authorities and mass media) is provided access to official statistics before other users. Official statistics are first published in the statistical database. If there is also a news release, it is published simultaneously with data in the statistical database. Official statistics are available on the website at 8:00 a.m. on the date announced in the release calendar.

The complete ESMS metadata on RA are available on the webpage of SE: https://www.stat.ee/en/find-statistics/methodology-and-quality/esms-metadata/21406#17-Data-revision-16