



EUROPEAN
STATISTICAL
SYSTEM

PEER REVIEW REPORT

ON COMPLIANCE WITH THE EUROPEAN STATISTICS CODE OF
PRACTICE AND FURTHER IMPROVEMENT AND DEVELOPMENT OF
THE NATIONAL STATISTICAL SYSTEM

LIECHTENSTEIN

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1 EXECUTIVE SUMMARY

Liechtenstein is a small country, and, in consequence, the Office of Statistics Liechtenstein is a small institution – with 11 members of staff it is by far the smallest in the European Statistical System. Smallness poses a number of challenges, but also brings benefits in some cases.

The Statistics Act describes the responsibilities of the Office of Statistics Liechtenstein and outlines the general statistical principles, drawn from the ES CoP, to be followed. The Statistics Act also describes the composition and role of the Statistics Commission, which gives advice to the Office of Statistics Liechtenstein and to the Government on issues relating to legislation, priorities, the work programme, etc.

In accordance with the Statistics Act, the Office of Statistics Liechtenstein plays an important role in collecting and correcting data for administrative registers, which until now have often been statistical registers as well. The Office of Statistics Liechtenstein is the only provider of official statistics, hence constituting the national statistical system and eliminating the need for resource-demanding coordination among different producers of official statistics. The statistical output is described in a rolling Multi-Year Work Programme, extended by one year annually. The small size of the population severely restricts the scope for sample surveys; indeed, only a few are undertaken, such as the European Health Interview Survey and the Business Tendency Survey, and a few census-type surveys. Instead, statistics are based to a large extent on administrative registers, allowing for a considerable production of good quality statistics with a limited workforce.

Liechtenstein has a substantial number of exemptions from European regulations, while the need for producing other statistics has been reduced, as exemplified by the Office of Statistics Liechtenstein not compiling a consumer price index but instead relying on the Swiss index. This is in part because the domestic market and the Swiss market are highly integrated and also because there is no monetary policy need for it, since Liechtenstein uses the Swiss Franc as its currency. Costs are also contained, and professionalism ensured, by relying on the government IT service provider. Moreover, the Office of Statistics Liechtenstein is run on an often-informal basis, which boosts some aspects of efficiency but also makes it more important to transfer tacit knowledge in the context of staff turnover. The workforce is highly educated and devoted but size does pose a challenge for training activities.

The Office of Statistics Liechtenstein has a very open attitude towards cooperation with statistical institutes abroad, with European and Eurostat cooperation seen as important, and close links to the Swiss National Statistical Institute in particular.

Dissemination of statistical results has traditionally relied on a number of publications in a fairly fixed format, but a newly introduced statistical portal, including inter alia a number of graphical tools, has met with strong demand. According to user satisfaction surveys, users are generally fairly satisfied with most of the statistical services they receive, though the timeliness of some statistics was a recurrent concern expressed to the peer review team. Besides user surveys and more informal channels, users' opinions reach the Office of Statistics Liechtenstein via the Statistics Commission.

Overall, there is a high level of compliance with the ES CoP. However, the peer review team identified seventeen recommendations, of which one is compliance-relevant and sixteen are improvement-related. They are grouped under three main headings and listed below with their related explanations.

RECOMMENDATIONS

I. Strengthening the independence and role of the Office of Statistics Liechtenstein in the data ecosystem

Since a number of registers maintained by the Office of Statistics Liechtenstein currently have dual administrative and statistical roles, there is a need to establish a clear separation by introducing a class of registers purely for statistical purposes. In November 2022, the Statistics Ordinance was supplemented with Article 8a stating that the Office of Statistics Liechtenstein can keep employment registers purely for statistical purposes. However, as there will still be a category of registers with a dual administrative and statistical purpose, the Government will retain a role in approving the establishment of new registers and the Government could, in principle, reclassify a statistical register to dual use.

Furthermore, the legal environment for the Office of Statistics Liechtenstein implies a need for Government approval of a range of activities, which in practice has not been much of a constraint but conveys an impression of Government control and also raises the risk that excessive control could be implemented if there were to be a change in Government. To address these concerns, a number of these approval rights should be attributed instead to the Statistics Commission (including approving the Office of Statistics Liechtenstein's Multi-Year Work Programme, the establishment of statistical registers and survey data collections). This would put the Office of Statistics Liechtenstein further away from direct Government influence, consistent with and in extension of the upcoming revisions of the Statistics Act, which will eliminate the need for approval of access to administrative data.

To comply with the ES CoP, the peer review team recommends:

1. The Government, supported by the Office of Statistics Liechtenstein, should reform the Statistics Act to separate administrative and statistical registers where relevant and to give the Statistics Commission more of a decision-making role by, in addition to its advisory function, taking over some of the Government's control over the activities of the Office of Statistics Liechtenstein. (Compliance-relevant: ES CoP, Indicator 1.1)

In the small country context, a role for the Office of Statistics Liechtenstein in maintaining registers for administrative use is understandable, but it also risks creating fears that statistical confidentiality may sometimes be compromised. While such fears seem largely unfounded, the Office of Statistics Liechtenstein should take action to clarify this role, differentiating it from its role as a producer of official statistics. This could be achieved by changes in its organisational set-up and by different branding of the two roles.

To improve beyond compliance with the ES CoP, the peer review team recommends:

2. The Office of Statistics Liechtenstein should aim for a greater and more visible separation between its two roles as a statistical office and a provider of registers for administrative use. (Improvement-related: ES CoP, Indicators 1.1 and 5.5)

Traditionally, the Office of Statistics Liechtenstein has reported back to administrative data holders on potentially erroneous observations discovered during its data validation processes. These reports have not been based on insights gained during statistical processes but resulted from simple mechanical validation checks, which could in principle have been undertaken at the originating agency. In substance, therefore, the reports have not threatened statistical confidentiality, but the Office of Statistics Liechtenstein should nonetheless take action to prevent its role from being misunderstood or being unduly expanded.

To improve beyond compliance with the ES CoP, the peer review team recommends:

3. The Office of Statistics Liechtenstein should circumscribe its practice of informing administrative data holders about potential errors in their data by clearly describing the limits of this practice so as to clarify the correct application of statistical confidentiality to the public. (Improvement-related: ES CoP, Indicator 5.5)

The Government has taken the initiative to promote Open Government Data, with the aim of making government data easily accessible by the population and has enlisted the support of the Office of Statistics Liechtenstein in this endeavour. This should be a springboard for the Office of Statistics Liechtenstein to assume more of a data steward function, firstly for data and statistics on the Open Government Data platforms but eventually more widely for all government data and statistics.

To improve beyond compliance with the ES CoP, the peer review team recommends:

4. Building on its role in the Open Government Data initiative, the Office of Statistics Liechtenstein should assume more of a data steward function, firstly by ensuring that the relevant data and statistics exhibited on Open Government Data platforms comply with the ES CoP. (Improvement-related: ES CoP, Indicators 8.7 and 4.2)

Government offices increasingly undertake or purchase empirical analysis based on sample surveys and produce statistics outside the realm of official statistics. In itself, greater reliance on statistical evidence is a positive development, but the quality of the information is often not clear and in the small country context the frequent solicitation of the population may risk “questionnaire fatigue” with negative spill overs for official statistics. This calls for the Office of Statistics Liechtenstein, jointly with the relevant authorities, to ensure adequate coordination to alleviate these deficiencies, with activities of this kind being made subject to addressing comments by the Office of Statistics Liechtenstein.

To improve beyond compliance with the ES CoP, the peer review team recommends:

5. The Office of Statistics Liechtenstein should strengthen coordination with the relevant authorities on government-sponsored data collection and statistics production outside the scope of official statistics as regards both quality requirements and survey design. (Improvement-related: ES CoP, Indicator 1bis.3)

In the Liechtenstein context, informal agreements often work better than written accords, which can be hard to manage and reduce flexibility. Hence, the peer review team understands the reluctance to adopt a generalised system of formal Memoranda of Understanding on the delivery of administrative data, but the Office of Statistics Liechtenstein should nonetheless aim to conclude written agreements in cases where data delivery functions less smoothly.

To improve beyond compliance with the ES CoP, the peer review team recommends:

6. The Office of Statistics Liechtenstein should periodically review the delivery of administrative data from different providers and, where necessary, aim to conclude formal agreements covering issues such as quality, timeliness, format and processes for change. (Improvement-related: ES CoP, Indicators 8.6 and 8.7)

In principle, the Statistics Act should ensure that the Office of Statistics Liechtenstein is informed about planned changes to government data collections with a view to being able to include statistical needs in decisions on such data collections. In practice, however, this information does not come as fast and systematically as it should. This suggests that the National Administration’s IT Department, the Office

of Information Technology, which is involved in most of such changes, should systematically and promptly inform the Office of Statistics Liechtenstein of such changes.

To improve beyond compliance with the ES CoP, the peer review team recommends:

7. The Office of Information Technology should provide the Office of Statistics Liechtenstein with systematic and timely information on plans for new or changed government data collections. (Improvement-related: ES CoP, Indicator 2.2)

With one exception, the Office of Statistics Liechtenstein does not rely on privately held data and there are no immediate plans to change this. Nonetheless, statistically worthwhile opportunities to access privately held data may arise. The Office of Statistics Liechtenstein, after considering its priorities and preferred *modi operandi*, should therefore be prepared for this eventuality, while also realising that the use of privately held data will usually imply a need for a consensual approach together with data holders.

To improve beyond compliance with the ES CoP, the peer review team recommends:

8. The Office of Statistics Liechtenstein should conceive a strategy for its potential use of privately held data in the future. (Improvement-related: ES CoP, Indicator 2.4)

II. Further strengthening internal processes

While reliance on the Office of Information Technology is necessary and it generally provides good services, the fact that it does not provide information on who has access rights to various registers is a concern. With some dual administrative and statistical registers (such as the Central Persons Register) also used by other Government entities, such concerns could well extend beyond the Office of Statistics Liechtenstein. The Office of Statistics Liechtenstein, possibly together with other Government entities, should raise this issue with the Office of Information Technology to solve this problem.

To improve beyond compliance with the ES CoP, the peer review team recommends:

9. The Office of Statistics Liechtenstein should agree with the Office of Information Technology on ways to monitor and vet the practice of the Office of Information Technology in granting access authorisations to registers. (Improvement-related: ES CoP, Indicator 5.5)

The peer review team encountered widespread agreement that the Office of Statistics Liechtenstein is squeezed on resources and that this contributes to widespread concerns about the timeliness of certain statistics, not least national accounts. In this context, the tendency for growing demand for statistics as reflected, *inter alia*, in new European statistical regulations, increases cost pressures and adds to concerns. Hence, while the Office of Statistics Liechtenstein should continue to pursue cost-effectiveness, its resource constraint should also be amended from the budget side.

To improve beyond compliance with the ES CoP, the peer review team recommends:

10. The relevant authorities should ensure that the budget allocated to the Office of Statistics Liechtenstein is adjusted to enhance timeliness and, furthermore, is adjusted on an ongoing basis to meet additional statistical demand. (Improvement-related: ES CoP, Indicators 3.1 and 13.1).

The Office of Statistics Liechtenstein has made great strides in the presentation of and access to its statistics by users in recent years but, within a context of resource constraints, similar progress could not be made on internal statistical processes, which still face a number of challenges, including the

absence of a systematic process of quality assessment. The Office of Statistics Liechtenstein needs to take action commensurate with its resources to strengthen the monitoring and auditing of quality of statistical output.

To improve beyond compliance with the ES CoP, the peer review team recommends:

11. The Office of Statistics Liechtenstein should undertake more formalised and standardised quality assessments of statistics based on a clear concept of quality and with appropriate prioritisation across statistics, while ensuring that all statistics are reviewed in due course. (Improvement-related: ES CoP, Indicators 4.4 and 4.3)

While progress has been made, the Office of Statistics Liechtenstein should further standardise and automate its statistical production process, with a focus on efforts directed at improving quality, robustness and cost efficiency. Such standardisation efforts should comprise quality assessments of input data and of underlying data related to statistical outputs, and the final phase of statistical production. These efforts should provide scope for greater automation, allowing both improved quality of output and resource saving.

To improve beyond compliance with the ES CoP, the peer review team recommends:

12. The Office of Statistics Liechtenstein should further standardise and automate parts of the statistical production process. (Improvement-related: ES CoP, Indicators 10.2 and 10.4)

The Office of Statistics Liechtenstein has a systematic “four eyes” policy, which ensures that all statistical publications are reviewed critically before publication by not only the person responsible but also a person who acts as an “auditor”. This makes good sense, but there is a trade-off to be struck between auditors becoming more knowledgeable about a statistic as they read more publications on it and at the same time lose some of the critical sense as they get familiar with it. At the same time, a greater turnover of “auditors” may help to spread good practices. Hence, the Office of Statistics Liechtenstein should take action to increase the mobility of “auditors”.

To improve beyond compliance with the ES CoP, the peer review team recommends:

13. To further enhance the quality of statistical output, the Office of Statistics Liechtenstein should consider ways to strengthen its “four eyes” quality control policy. (Improvement-related: ES CoP, Indicator 4.4)

Keeping staff skills adequate to the evolving tasks calls for continued efforts in training. However, there are obvious economies of scale in the supply of training which can be hard to reap for a small office, which therefore has to consider alternative options to in-person and in-house training programmes. The Office of Statistics Liechtenstein needs to avail itself of alternative approaches to training.

To improve beyond compliance with the ES CoP, the peer review team recommends:

14. The Office of Statistics Liechtenstein should strengthen its training policy with a particular emphasis on cooperation with other National Statistical Institutes on the supply of training and drawing relevant lessons from other small offices that supply training through electronic means. (Improvement-related: ES CoP, Indicator 7.6)

III. Continuing to strengthen communication and relations with external stakeholders

Like other statistical offices, the Office of Statistics Liechtenstein’s work programme is shaped by demand and feedback from users (both informal and through formalised channels, including the

Statistics Commission). In addition, the work programme is influenced by European commitments and investment needs to ensure statistics are developed and kept up-to-date as outlined in the Strategy 2020-2024 of the Office of Statistics Liechtenstein, but the process for prioritising and taking the various inputs onboard is not very clear. Hence, the Office of Statistics Liechtenstein needs to make its internal prioritisation process about expanding/introducing activities in the work programme or scaling back/phasing out activities from the work programme more transparent and systematic.

To improve beyond compliance with the ES CoP, the peer review team recommends:

15. The Office of Statistics Liechtenstein should make the process for prioritising activities in its work programme more systematic and transparent. (Improvement-related: ES CoP, Indicators 3.3, 11.1 and 11.2)

The Office of Statistics Liechtenstein operates a very clear and transparent policy on pre-release access to statistics, which is not to give such access except in (the rare) cases where a person is invited to speak on a release at a press conference. However, there is a single exception – based on a Government ordinance - to this very clear policy in the case of health statistics. The Office of Statistics Liechtenstein should take action to have this exception eliminated.

To improve beyond compliance with the ES CoP, the peer review team recommends:

16. The Office of Statistics Liechtenstein should implement its policy of no pre-release access to data for all statistics, including health statistics. (Improvement-related: ES CoP, Indicator 6.7)

While the academic community in Liechtenstein is also small, there can be great benefits for a statistical institute to collaborate with academia within or across borders. Such collaboration can provide feedback on statistical outputs, new methodological insights and ideas for new statistical outputs while also raising the profile of the statistical institute among pools of potential recruits. While there are cases of such collaboration in Liechtenstein, they seem very informal and person-based, which calls for the development of a more structured approach without becoming overly burdened by procedure. Hence, the Office of Statistics Liechtenstein needs to take action in this field.

To improve beyond compliance with the ES CoP, the peer review team recommends:

17. The Office of Statistics Liechtenstein should identify and pursue ways to strengthen collaboration with academia. (Improvement-related: ES CoP, Indicator 7.7)

In the spirit of continuous improvement integral to the European Statistical System (ESS), the NSI will interpret the recommendations, formulated in this report, into improvement actions for implementation within the national statistical system (NSS).

2 INTRODUCTION

It is recognised that quality is one of the European Statistical System's (ESS) comparative advantages in a world experiencing a growing trend of instant information and new challenges, driven by exceptional circumstances or the continuous need for faster but quality-assured data. The European Statistics Code of Practice (ES CoP) is the cornerstone of the ESS common quality framework, and the ESS statistical authorities have committed themselves to adhere to it.

In this context, it is crucial for the ESS to be equipped with a review mechanism, the peer reviews, supporting with credible evidence this self-commitment to adhere to the ES CoP. The objective of this review mechanism is to enhance the integrity, professional independence and accountability of the ESS statistical authorities. The first round of peer reviews was carried out in 2006-2008, followed by a second round in 2013-2015.

In 2017, the ES CoP was reviewed and extended and now encompasses 16 principles. This revised version of the ES CoP triggered a third round of peer reviews, being carried out in the Member States of the European Union and of the European Free Trade Association (EFTA), and Eurostat from 2021 to mid-2023. This round of peer reviews aims at improving the quality and trust in European statistics by assessing the compliance of the ESS with the principles of the revised ES CoP. The peer reviews cover the ESS statistical authorities (Eurostat, the National Statistical Institutes (NSIs) and selected Other National Authorities (ONAs)) developing, producing and disseminating European statistics. The peer reviews will be followed by a period of annual monitoring of the implementation of the improvement actions developed by the NSIs to address the recommendations laid down in the peer review reports.

The third round of peer reviews has the following two objectives:

- To review the compliance/alignment of the ESS with the ES CoP, in order to demonstrate to the ESS and to external stakeholders that the ESS is a system based on the principles of the ES CoP;
- To help NSIs, ONAs and Eurostat in their further improvement and development by indicating future-oriented recommendations; at the same time they should stimulate government authorities to support the implementation of these recommendations.

Each peer review is conducted by a team of four statistical experts (both from inside and outside the ESS). The peer review has four phases: completion of the Self-Assessment Questionnaires (SAQs) by a country; analysis of these SAQs by the peer review team; a country visit by the peer review team; and the preparation of the final report and ensuing recommendations by the peer review team. These recommendations are of two types:

- Compliance-relevant (ensuring compliance/alignment with the ES CoP);
- Improvement-related (less critical/technical supporting improvements).

A combination of an audit-like and a peer review approach is used when assessing the national statistical systems (NSS) in the countries to benefit from the positive aspects of both approaches. The audit-like approach requires the provision of documents as evidence, the ownership of the recommendations by the peer review expert team, and the right for the NSIs to express diverging views on the recommendations and to formulate the corresponding improvement actions. Whereas the peer review approach allows for common agreement within the ESS on the methodology, the objectives, scope and implementation arrangements, the focus on improvements and a peer learning process.

Although all principles of the ES CoP will be reviewed for all countries through the SAQ, the peer review experts are free to customise the country visit to concentrate on those principles where more clarification/explanation is needed. However, certain principles such as those concerning professional

independence and coordination and cooperation, as well as principles including elements of modernisation, will be assessed during the peer review visit for every member of the ESS.

In addition to the common principles to be addressed for every member of the ESS, the peer review team covered all the other principles in varying degrees of depth. This was not least due to the small size of the country and the national statistical institute, which has necessitated specific solutions to challenges facing all countries in a wide range of areas. In particular, areas looked at in-depth related to data collection, governance and confidentiality in conditions where economies of scale and scope explain the national statistical institute's involvement in the provision of data for administrative uses. More generally, its small size is leading to a reliance on informal procedures in many areas, both internal to the national statistical institute (e.g. concerning statistical procedures, methodology and quality), but also in relations with data providers and users which may indeed be efficient but may call for a minimum of structure to be imposed while avoiding overburdening small-scale activities.

In addition, the common principles were looked at with a particular view on how the principles could be best addressed in small country circumstances. For example, while in practice professional independence seemed to pose only limited challenges, the appearance of independence may be harder to establish when, for obvious reasons, IT solutions are harmonised across the national administration and bureaucratic distances between the statistical institute and leading government officials are small. Likewise, on coordination, there are no other producers of official statistics to coordinate, but the small population size severely limits the number of surveys that can be undertaken without negative spillovers on response rates across the board, necessitating a focus on cooperation with institutions undertaking surveys outside the field of official statistics.

Also, although the reports should not be used to compare one country to another, much effort has been made to ensure the harmonisation of the reports and the ensuing recommendations across the countries so that all countries are treated equitably.

The peer review of Eurostat was conducted by the European Statistical Governance Advisory Board (ESGAB).

3 BRIEF DESCRIPTION OF THE NATIONAL STATISTICAL SYSTEM

Legislation

The Office of Statistics Liechtenstein (OSL) is an administrative office of the Liechtenstein National Administration assigned to the Ministry for General Government Affairs and Finance. An independent office since 2009, the OSL is the only producer of official statistics. The Head of the OSL reports directly to the Prime Minister.

The OSL's tasks and responsibilities are set out in the Statistics Act, Liechtenstein Law Gazette LGBl. 2008 No. 271. The Statistics Act contains the essential legal provisions governing the OSL's responsibilities and lists a set of general statistical principles fully in line with the ES CoP. It furthermore contains provisions regarding organisation, data collection, data protection and data security, statistical publications and legal remedies in case of any breach of confidentiality.

Another important piece of the legislative framework is the Statistics Ordinance, Liechtenstein Law Gazette LGBl. 2009 No. 179, issued by the Government, which substantiates the Statistics Act on a few points. Notably, it defines the registers to be maintained by the OSL, including the harmonisation of the Population register of the municipalities, the Liechtenstein Employment Register and the Building and Dwellings Register, and outlines the required statistical publications. In November 2022 the Statistics Ordinance was supplemented with Article 8a stating that the OSL can keep employment registers for purely statistical purposes.

There are two Government decisions (2020) that state that the OSL is commissioned to share personal data for research purposes (e.g. surveys) (RA LNR 2020-720) and to coordinate surveys of persons conducted on behalf of the Government and official agencies in terms of methodology, context, timing and organisation (RA LNR 2020-724). In this way, the burden on respondents could be monitored and compliance with the methodological standards can be ensured.

Obligations regarding European data collections and transmissions in the field of official statistics are laid down in Annex XXI to the Agreement on the European Economic Area (EEA). European regulations enter into force for Liechtenstein as soon as they are incorporated into Annex XXI based on a decision of the EEA Joint Committee.

The Statistics Act also sets out the responsibilities of the Statistics Commission, a body of six to eight members appointed for four years and chaired by the OSL Director General, representing a variety of user groups, i.e., business associations, employee associations, municipalities, media, the scientific community and NGOs. The Commission meets twice a year and gives advice to the OSL on important issues such as legislation, the Multi-Year work programme, the state of the art of current projects and possible future projects, the OSL's workload, work priorities, etc.

Organisation

The OSL is located in the centre of Vaduz. There are no regional branch offices.

The OSL is structured into three Divisions (Registers and Accounts, Administrative Data and Surveys, and Publications) and two staff Units (Methodology and International Affairs, Quality Management). In practice, staff tasks often cross lines between divisions. The OSL is directed by the Head of Office (Director General) and the Deputy Head of Office assumes the functions of the Head of Office when he/she is unavailable.

Appointment procedures for the Head of the NSI

The appointment of the Head of the OSL follows the general rules for the appointment of State employees as defined in the State Employees Act, Liechtenstein Law Gazette LGBl. 2008 No. 144, Articles 8-11.

If the post of a Head of Office is vacant, it is publicly advertised in the official gazette by the Office of Human Resources and Organisation of the National Administration. After the announcement, the Office of Human Resources and Organisation receives applications, carries out the recruitment procedure along predefined lines (professional and personal suitability are decisive factors), and proposes the person to be appointed to the Government. The Government undertakes the appointment. Reasons for a termination/dismissal are listed in the State Employees Act, Articles 18-22 and 24, and refer to lack of performance, lack of willingness, economic reasons and impairment of the employment relationship due to lack of good faith.

Statistical programmes

According to the OSL Strategy 2020-2024, its mission is to provide relevant, reliable and coherent statistical information about society, the economy and the environment. The main objectives, supported by a number of outlined actions, are described as delivering relevant products, providing service-oriented communication and access, using up-to-date processes and being trustworthy as a provider of information and as an employer.

The OSL prepares a rolling Multi-Year Work Programme that is revised yearly and extended by one year at a time. The purpose of the document is to define the OSL's ongoing statistical activities and projects for the following two years. It also contains information on activities in previous work programmes which could not be carried out or are behind schedule.

The Statistics Commission examines the Multi -Year Work Programme and gives recommendations to the Government, which then approves the Multi -Year Work Programme.

Resources

At present, the OSL employs eleven people (10.8 full-time equivalents) and one position is vacant. Staff is highly educated, with 9 having university degrees once the current vacancy is filled. OSL staff has on average 10 years of seniority and is characterised by low staff turnover; 3 out of 4 changes between 2018- 2023 were due to retirements.

Relations with the National Administration

The Statistics Act stipulates that the offices of the National Administration shall inform the OSL in advance of the establishment and expansion of information systems and of changes in the data collection of statistically used characteristics and classifications, and that the OSL may make suggestions to the offices on data collection with the aim of improving the collection of statistical data and ensuring the required data quality.

ONAs involved in the peer review exercise

There are no ONAs in Liechtenstein.

Data access

In accordance with the Statistics Act, the OSL may use administrative data of the state administration for the preparation of statistical publications and maintains its own registers. At the time of the visit, access to administrative registers of other government authorities required Government approval, which had in practice always been given. Concerning surveys, the time required for the persons interviewed are kept as short as possible. Surveys are subject to the legal obligation to provide information and are predominantly of the census type. Sample surveys are rare as they quickly reach the point of overlapping samples, given the small population size. The municipalities are mandated to support official statistics by assisting in the conduct of surveys where necessary and by providing data from registers or other municipal data collections.

Relations with users / Dissemination of statistical products and services

The OSL conducts a survey of users every four years to check the quality of its services and user satisfaction. Additionally, the OSL carries out a web user analysis every year and the OSL staff often receives direct feedback in their daily contact with users. User needs are taken into account accordingly, analysed and discussed at staff meetings. They are then considered in planning processes or for at-once implementation, if feasible.

The OSL produces statistical publications on 88 different topics with different publication rhythms. Several publications appear monthly or several times a year, while others appear yearly or every few years. The OSL carries out special thematic evaluations on particular issues on a one-off basis for Government offices, research institutions, companies and private individuals.

A new statistical portal very much appreciated by users offers not only technically attractive options, but also advantages for users in terms of content. The breakdown of topics (from the previous 55 to currently 88 publications) improves the visibility of the information available. It has also increased the timeliness of statistics, as bigger publications could previously be held up by missing data or lack of staff resources for a minor area. In addition, the topics are increasingly linked and the search functions have been massively improved, making it much easier to find information. In addition to the statistical portal, the eTab portal (a separate platform) offers the possibility to create user-defined tables and in most cases the data is available in German and English, which improves data accessibility. A range of graphical tools has also been added. The OSL does not make use of social media.

The OSL provides microdata for research purposes upon request and based on a signed agreement in accordance with the Statistics Act. Take-up is limited given the small size of the research community, however, with an average of about 2 research projects per year making use of this facility.

4 PROGRESS/ADVANCEMENT IN THE LAST FIVE YEARS

Strengthening relevance and user orientation

In order to monitor user needs and undertake more frequent user surveys, regular user satisfaction surveys were carried out in 2018 and in 2023, the latter having been postponed by a year due to the implementation of the new statistics portal in 2022. Its results are available online and a more detailed analysis will be undertaken to determine tasks for further developments. Users' needs are also discussed in the biannual meetings of the Statistics Commission and improvements documented in its conclusions.

Records on yearly downloads of reports were available from 2010 to 2020 and such measurement using new software has been re-introduced recently. The first detailed analysis based on the results of the first 6 months is under preparation and should be available by the end of 2023.

The Strategy covering the period 2020-24 was published on the OSL's website and the elaboration of the new one for 2025-30 is currently underway. Preparations include a call for staff to come up with proposals and ideas which will be subsequently divided into groups corresponding to the structure of the ES CoP and discussed in small teams.

As stated in the previous peer review, the pricing policy and prices for statistical services are available online (since 2016), including for the use of microdata for scientific purposes.

For the users of statistics, a document called "Methodology and Quality" describing the production process has been drawn up for most statistical products. Its structure is uniform across statistics and, as a rule, the descriptions are updated with new publications of statistics and the content is checked by the member of the staff acting as 'the second pair of eyes' on the statistics in question.

Statistical portal

The new statistical portal launched in June 2022 was a major step forward in line with the recommendations from the previous peer review and paved the way to expand data dissemination by including interactive graphical tools. It also provides a search function and a searchable archive. The follow-up project is focused on introducing a variety of graphical tools (maps, grouped diagrams, etc.). Based on cooperation with the Civil Engineering and Geoinformation Office, population and job density are now available as interactive graphics on the geodata portal. The former use of pdf files for publications has been replaced by the statistical portal and the eTab portal, which is gradually enriched with new outputs and whose further expansion is planned (e.g., three new outputs before the end of 2023). The electronic glossary (definitions available in German and English) has become an integral part of the statistical portal. According to the user satisfaction survey in 2023, online publications are now easily accessible, based on a more detailed splitting of topics, and also clearly structured.

Resources

Human resources have been expanded since 2014 - from 9.1 to 10.8 full-time equivalents (FTE) in 2023. The allocation of resources to the quality and methodology areas has also been clarified as suggested in the previous peer review. Thus, according to the government decision in 2017, 0.9 FTE were assigned to the position of quality manager. In addition to the OSL's general quality issues, the quality manager is responsible for the quality aspects of the Central Persons Register and for some production tasks (vehicle statistics). However, due to the increasing workload related to the Central Persons Register, the capacity for general quality management has been insufficient to cover needs in this field. The position is currently vacant – the new quality manager will start working in November

2023. The “Methodology and International Affairs” unit was created in 2018 and resources for methodological issues were explicitly defined (currently 0.2 FTE).

Response burden

The coordination of data collections is among the responsibilities of the methodology unit and consists largely in the drawing of samples for surveys (including surveys undertaken outside the OSL). This approach to samples has supported more efficient measurement and observation of the response burden, as had been suggested in the previous peer review. Similarly, the OSL's coordination role in the field of surveys within the state administration at large has tended to reduce the response burden and even it out over time.

Further helping with the response burden, since 2018 businesses have been able to deliver data to the OSL online. All companies receive a letter with a login allowing them to access their data in the business register. In accordance with the instructions received from the OSL, they can see the current status of their data and correct them directly. In order not to waste time, checked but unchanged information remains invisible to the OSL and the employees only have to validate any changes. This approach has been positively influenced by the eGovernment Act on the obligation for the administration to use electronic communication and by the OSL's efforts aimed at increasing efficiency.

Use of administrative data

In accordance with the relevant articles of the Statistics Act, the OSL has been consulted in the majority of cases when administrative data were changed. For large projects in particular, the OSL has been involved from the very beginning and contributed to the developments (e.g. Register of Buildings and Dwellings). Draft laws amending or establishing information systems are public and, if noted, can be reviewed by the Director General of the OSL who can express the OSL's opinion if necessary.

Methodology and quality of statistical production processes

In line with the intention to systematically update methodological documentation, internal manuals describing in detail data collection, data processing and preparation of publications are now regularly updated and standardised files in pdf format are saved at the end of the production process. This allows versions of manuals relating to specific periods to be distinguished and a record of the processes to be kept, including in cases of data quality issues (e.g., problems in data validation). Thus, the series of manuals can serve as a tool for documentation and for transparency purposes, and as a guide for upcoming statistical production. An inventory of the manuals has been established.

The systematic testing of questionnaires is prescribed in the quality guidelines. As a rule, all the questionnaires are now tested and the time required to fill them in and provide responses for the more time-consuming surveys is monitored to estimate the associated response burden. For short questionnaires such assessment has been made internally.

5 COMPLIANCE WITH THE CODE OF PRACTICE AND FUTURE ORIENTATION

5.1 STRENGTHS OF THE NSI AND THE PARTICIPATING ONAs IN RELATION TO THEIR COMPLIANCE WITH THE CODE OF PRACTICE

Dedicated and well-educated staff

The peer review team was impressed by the manner in which the OSL, despite the very low number of staff, is facing the challenges involved in complying with its mission statement set out in the current Strategy 2020-24, “Relevant – Service-oriented – Contemporary – Reliable”. This may in part be related to the staff's dedication and high level of education. The OSL team consists of 12 employees (one currently vacant position will be occupied soon), of which 4 have PhDs and 5 are university or masters graduates. The jobs performed, the leadership and the working environment stimulate a participative culture of staff and these features were again reflected in the positive appreciation of the staff regarding their jobs when taking part in the 2022 staff satisfaction survey, describing positive features such as: the holistic nature and versatility of the job, role clarity, good cooperation with colleagues and managers, good environmental conditions and adequate space/work equipment. Underlining this satisfaction, average tenure is 10 years and over the 2018-2023 period most departures were due to retirement.

A statistical law that in many respects is closely aligned with the ES CoP

The Statistics Act adopted in 2009 contains legal provisions governing the OSL's responsibilities, the organisation of official statistics, data collection and data security. It also states that official statistics shall be guided by the statistical principles of the ESS and lists all the principles of the ES CoP.

Strict and clear professional criteria when appointing the OSL head

The job is publicly advertised if a new head of the OSL has to be recruited. The selection process is coordinated by the Office for Human Resources and Organisation of the National Administration and follows standard rigorous procedures. According to the Law on Civil Servants, professional qualifications have to be taken into consideration as a precondition for appointment as head of a National Authority. In the case of the OSL head, the skills required include familiarity with general administrative and managerial duties, and expert knowledge of statistics, economic sciences and business informatics, accompanied by several years' experience necessary for performing statistical tasks.

Availability of administrative and register data supporting a wide range of statistics

The OSL produces 88 publications covering 13 subject areas. This output is made possible by the richness of the administrative registers (more than 70% of statistics are based on such sources). At the same time, collaboration with administrative data holders is described as generally smooth. Surveys (either census-type surveys or sample surveys, which are rare) account for around 14% of statistics.

Informal solutions suitable for a small statistical office

Lines of communication and decisions, both within the OSL and with outside counterparts, are short. Hence, there is no perceived need for written agreements with the holders of administrative data,

helping to reduce the bureaucratic burden. During the peer review discussions, repeated mention was made of the strength of simple, short and informal lines of communication, instead of conventional document-based interaction, which would put a supplementary and unnecessary burden on the already small number of staff and lead to rigidity in responding to change. The flip side of this flexibility and reduced burden could in theory be solutions that are rather relation-specific and not standardised, but both the OSL staff and outsiders the peer review team talked with were not bothered by this risk.

Active cooperation with ESS and EFTA members

The OSL actively engages in international cooperation, especially with Switzerland and, to a lesser extent, Austria. Liechtenstein is a member of the Swiss Statistical Society as well as the Association of Regional Statistical Offices and regularly participates in meetings with the Swiss Federal Statistical Office. Through know-how exchange with the Swiss Federal Statistical Office (exchanges in statistical domains such as censuses, national accounts, the R&D survey, education statistics and the Eurogroup register) and Statistics Austria (on quality reporting), the trends and further developments in official statistics can be followed. As regards more direct division of labour, the exchange of company data or data for the calculation of health accounts with Switzerland is worth mentioning. Liechtenstein also directly uses the Swiss CPI.

Participation in the ESS working groups and director groups is supported if the agenda contains relevant subjects for Liechtenstein and staff is available to attend. In practice, the attendance rate at ESS meetings is around 10-20%. European training opportunities are exploited when relevant and staff is available to participate.

Innovative practices

The peer review team identified innovative activities that are noteworthy and potentially applicable to some extent in other national settings and would like to highlight the following initiatives:

- Each statistical publication is accompanied by a “Methodology and Quality” document, structured according to the European Quality Reporting Standards, which provides easy access to the description of data sources, concepts, definitions and classifications, processes and quality in considerable but not exhaustive detail. Any differences from the European definitions are mentioned. These documents are updated for every new production cycle.
- Each publication has a tab with the title “international databases”, with links to the corresponding Eurostat subject. The reference to the relevant international and European datasets is specified in the internal quality guidelines, with the last version updated in April 2023 due to the change of the publication format (online first).
- The active involvement, from the beginning, in several digitalisation projects of the National Administration, e.g., the new building permit application software (a web platform used for applying for building/construction permits, core software for managing applications), a new tax law and automatic data capture on tourism, with a view to ensuring that data relevant for statistics are collected.
- The automatic validation of register data (the Employment Register, the Central Persons Register and the Motor Vehicle Register) and the maintenance of a data warehouse that can be accessed with SAS, which reduces the need for new coding.

5.2 ISSUES AND RECOMMENDATIONS

5.2.1 Strengthening the independence and role of the Office of Statistics Liechtenstein in the data ecosystem

Until now, certain registers maintained by the OSL have been used for both administrative and statistical purposes. Consistent with the recommendation from the previous peer review and in order to avoid the use of statistical data for non-statistical uses, the Statistics Ordinance was supplemented in November 2022 with Article 8a stating that the Office of Statistics Liechtenstein can keep employment registers for purely statistical purposes. However, there is still a category of registers with a dual statistical and administrative purpose and the Government is set to retain control over the establishment of new registers and could possibly also reclassify registers.

The Statistics Commission has an advisory role to both the OSL and the Government (which the Statistics Commission advises, inter alia, on the OSL's Multi-Year Work Programme), though it is unclear to the peer review team how effective it is in that role. Its advice is not made public, and it was not heard in the final phases of producing the recently proposed changes to the Statistics Act, even though its remit consists of providing counsel on legal changes. It is chaired by the Head of the OSL, who will effectively be advised on matters related to the institution and will be party to the issue when the Statistics Commission advises the Government. Its membership consists of representatives from various interest groups, but it is not clear to what extent the members consult their relevant constituencies on matters before the meetings of the Commission.

Historically, the OSL has been constrained by its legal framework, primarily the Statistics Act, to seek Government approval for a range of activities. It is understandable that there should be some outside approval of the OSL's Multi-Year Work Programme, when a new administrative dataset is to be used for statistics or when new surveys are introduced (unless they are based on European legislation), but attributing this role to the Government could be seen as creating scope for political interference, even though this has never happened in practice. Planned amendments to the Statistical Act may create a distinction between registers for purely statistical purposes and registers for dual statistical and administrative purposes, but the decision to create a register is left to the Government, which can also decide to change the nature of an existing register. Moreover, the arrangements for pre-release access to statistics are currently set out in a Government ordinance, which may not be the instrument best suited to give the impression of a professionally independent statistical office.

All in all, the Government's direct role in many decisions may be seen as impinging on the OSL's independence and as posing both a reputational risk and a real risk, should the political environment change from what has been known so far. As far as reputational risk is concerned, evidence is scant but, perhaps significantly, in the 2023 user satisfaction survey respondents almost unanimously saw the OSL as objective but a somewhat smaller majority saw it as politically independent.

In this context, attributing many of the roles currently covered by the Government to the Statistics Commission could be seen as safeguarding the OSL's independence while at the same time providing appropriate checks and balances on an overly ambitious use of its independence. A very much secondary argument is that attributing such decision-making powers to the Statistics Commission would be consistent with it being chaired by the Head of the OSL, who according to the Regulation on European Statistics (223/2009, as amended) should neither seek nor accept instructions in professional matters. That said, raising the importance of the Statistics Commission and giving it more of a statutory role might call for a reconsideration of the composition and profiles of the rest of its membership.

To comply with the ES CoP, the peer review team recommends:

R1. The Government, supported by the Office of Statistics Liechtenstein, should reform the Statistics Act to separate administrative and statistical registers where relevant and to give the Statistics Commission more of a decision-making role by, in addition to its advisory function, taking over some of the Government's control over the activities of the Office of Statistics Liechtenstein. (Compliance-relevant: ES CoP, Indicator 1.1)

In a small country context, it is understandable that the OSL has been given the task of collecting information for government registers which are used administratively. Having parallel institutions and systems for the collection of data for administrative and statistical purposes would be a questionable use of very scarce resources. That said, the fact that the OSL has a legal data collection mandate (subject to government approval of the concrete data collection) with response being compulsory, while similar mandates do not exist for purely administrative uses, may also have played a role.

Nonetheless, there may potentially be a reputational risk when a statistical institute collects data that are then used for administrative purposes, even if nothing untoward takes place to compromise statistical confidentiality. Perhaps indicative of this risk, though the evidence should not be exaggerated, the OSL witnessed a fall in response rates subsequent to having more clearly declared that data collected could be used for general administrative purposes. But reputational risk could also apply to the OSL's activity more generally, even though there are relatively few relevant registers (the Central Persons Register and the Employment Register) which, in some cases, contain information which is not very sensitive (the Buildings and Dwellings register).

To mitigate the reputational risk and to further guard against the risk of an actual mishap taking place, the OSL should consider taking potential actions. Internal organisational changes establishing protective walls around different kinds of data collection may further protect against mishaps, though they are difficult to implement with resources being few and individual staff having to juggle a number of different responsibilities. Undertaking the data collections for the registers with dual use in the name of the national administration as a whole, rather than just the OSL, could potentially reduce reputational risk.

To improve beyond compliance with the ES CoP, the peer review team recommends:

R2. The Office of Statistics Liechtenstein should aim for greater and more visible separation between its two roles as a statistical office and a provider of registers for administrative use. (Improvement-related: ES CoP, Indicators 1.1 and 5.5)

Traditionally, the OSL has reported back to administrative data holders on potentially erroneous observations discovered during its data validation processes. In a context where, as described, other arrangements might lead to suspicions of the OSL being overly close to the Government and the administration, this practice could be a potential reputational risk.

In this context, it is important to get the message across that there is very little risk of statistical confidentiality being compromised. Such arrangements reflect the small country context. The OSL undertakes validation of the administrative data it has access to and is seen to do it well. However, the validations taking place have no statistical content but are based on using only the concrete dataset and comparing changes over time and various arithmetic constraints on individual records. As such, nothing would prevent the administrative data holders from doing the same validation, but it has traditionally been undertaken by the OSL.

The OSL probably has a strong interest in explaining these matters before outside concerns put pressure on it to do so. At the same time, the OSL has a clear interest in stating publicly that it will go no further in reporting back to administrative data holders so as to eliminate any pressure from the administration at a later stage for reporting back on dubious data based on real statistical insights.

To improve beyond compliance with the ES CoP, the peer review team recommends:

R3. The Office of Statistics Liechtenstein should circumscribe its practice of informing administrative data holders about potential errors in their data by clearly describing the limits of this practice so as to clarify the correct application of statistical confidentiality to the public. (Improvement-related: ES CoP, Indicator 5.5)

Open Government Data (OGD) is an important priority for the Government of Liechtenstein. An evaluation of the state of the art is currently being carried out by the Office of Information Technology (OIT) and the project should be launched in the autumn of 2023. The OSL has already informed the Ministry for General Government Affairs and Finance that it sees itself as an important actor to be involved in the discussions and decisions on the OGD strategy in Liechtenstein and has been assured that it will be invited for the corresponding meetings.

The OSL anticipates that it will play a central role in the implementation of the Government's ambitious initiative, and is aware that this will entail a major responsibility, an extremely wide field of work and a fast mobilisation of resources which are limited. A new position would then be created at the OSL with a data steward function for the coordination of actions related to data and statistics under the OGD. Ensuring that relevant data and statistics exhibited as part of the OGD comply with the ES CoP is potentially a very important stepping stone to ensure better coordination more generally of government data and statistics and to ensure quality throughout with reference to the statistical principles of the ESS and to the ES CoP.

To improve beyond compliance with the ES CoP, the peer review team recommends:

R4. Building on its role in the Open Government Data initiative, the Office of Statistics Liechtenstein should assume more of a data steward function, firstly by ensuring that the relevant data and statistics exhibited on Open Government Data platforms comply with the ES CoP. (Improvement-related: ES CoP, Indicators 8.7 and 4.2)

User needs are gradually increasing in Liechtenstein, as elsewhere in the EEA. In the case of Liechtenstein, Government offices are willing to use statistics and analyses produced outside the realm of official statistics to explain various relevant phenomena in the economy and in society. They order or purchase empirical analyses, data collections and statistics from research institutions outside the OSL (such as the *Liechtenstein-Institut* and *Stiftung Zukunft*), either based on surveys of samples drawn by the OSL or by pulling together available evidence from larger reports (e.g., Education report, Covid Report, Media usage, etc.). The know-how to do this would be available in the OSL, but, due to its lack of resources and the inability to free up resources at short notice, other institutions are entrusted by Government offices with the mandate to carry out the compilation of statistics with somewhat research-type characteristics.

Two kinds of issues are raised by these activities. Firstly, the small population implies strict limits on the number of surveys that can be conducted at any time without negative spill overs on other surveys, including for official statistics, calling for coordination across surveys. However, although the OSL typically gets involved because it is mandated to draw samples for surveys, its involvement often comes so late that decisions have already been made, at which point coordination is more difficult. Secondly, the quality and value-added of the information obtained is sometimes unclear and may also

call for some coordination with the OSL. The bottom line is that the OSL should agree on procedures with the relevant authorities so as to provide advice at the appropriate time to other institutions that perform surveys and should coordinate the surveys (with respect to content and timing). Observance of these procedures should be a condition for carrying out such surveys.

To improve beyond compliance with the ES CoP, the peer review team recommends:

R5. The Office of Statistics Liechtenstein should strengthen coordination with the relevant authorities on government-sponsored data collection and statistics production outside the scope of official statistics as regards both quality requirements and survey design. (Improvement-related: ES CoP, Indicator 1bis.3)

The quality and timeliness of statistical outputs depend on the cooperation between the OSL and administrative data holders. They are in close contact and exchange views to ensure various aspects of data quality. Nevertheless, in Liechtenstein and due to the size of the OSL, the exchange of information is informal and kept simple with very short channels of communication.

The peer review team was told both by OSL staff and the administrative data holders that they prefer this kind of informal interaction, arguing that cooperation is manageable, collaboration is easy, and that so far there have been few problems in sharing and transmitting administrative data. This is in contrast to formal arrangements which could be resource-heavy, complicate matters and reduce flexibility and workability. Further facilitating the current informal arrangements on the use of administrative data for the purpose of official statistics, National Administration offices are required by the Statistics Act to cooperate with the OSL. Nevertheless, the OSL currently has no written agreements with the holders of administrative data.

Even if the peer review team understands the cautiousness with respect to a generalised system of formal, conventional documents on the delivery of administrative data, in some cases, difficulties with data deliveries have arisen in practice (data transfers in the area of the environment were mentioned). Hence, there may be situations where the OSL cannot base its activity only on informal exchanges to influence the timeliness and quality of data supply, but should also rely on written agreements.

To improve beyond compliance with the ES CoP, the peer review team recommends:

R6. The Office of Statistics Liechtenstein should periodically review the delivery of administrative data from different providers and, where necessary, aim to conclude formal agreements covering issues such as quality, timeliness, format and processes for change. (Improvement-related: ES CoP, Indicators 8.6 and 8.7)

In principle, the Statistics Act should ensure that the OSL is informed about planned changes to, or the establishment of new government data collections with a view to being able to include statistical needs in decisions on such data collections. Nevertheless, consultations with administrative data providers (meetings or personal contacts) typically happen informally and not on a regular basis, meaning that relevant information may not be brought up in a timely manner. While the OSL could in principle monitor new legislation to detect changes in data collections, this is arduous and far from fail-safe. There could also be a risk of this leading to the OSL's intervention coming too late.

At a practical level, there is an agreement between the OSL and the Office for Information Technology (OIT), which states that the OSL should be informed about new data collections or changes to existing data collections by the OIT, which is involved in most of the national administration's projects concerning data collection. However, this information does not come as fast and systematically as it

should, even if the OSL holds monthly meetings with the OIT and an annual meeting in which the OSL and the OIT review the issues connected to statistics.

To improve beyond compliance with the ES CoP, the peer review team recommends:

R7. The Office of Information Technology should provide the Office of Statistics Liechtenstein with systematic and timely information on plans for new or changed government data collections. (Improvement-related: ES CoP, Indicator 2.2)

The OSL does not currently use privately held data for the purpose of official statistics. The single exception is the delineation of enterprise groups from the EuroGroup Register, the infrastructure for which is still under development at the OSL.

The Statistics Act mentions surveys, registers and administrative data as the main sources and does not exclude the use of other sources, such as privately held data. For the time being, there are no agreements or partnerships on the use of such data and the OSL has not made its priorities in this area clear.

Suitable occasions might of course arise and the peer review team was told that the OSL does not want to miss the chance to capitalise on new data sources, understanding that a consensual approach with data holders will be necessary. Hence, being prepared for such opportunities is important and could be helped by drawing up a strategy for this field.

To improve beyond compliance with the ES CoP, the peer review team recommends:

R8. The Office of Statistics Liechtenstein should conceive a strategy for its potential use of privately held data in the future. (Improvement-related: ES CoP, Indicator 2.4)

5.2.2 Further strengthening internal processes

The OSL does not have its own IT department, with all the National Administration's IT infrastructure being under the authority of the Office of Information Technology (OIT), with the aim of reaching economies of scale and scope as well as the supply of quality services in a small administration. All general IT tasks are executed by the OIT, including systems for registers which are kept in shared IT solutions to which many offices of the National Administration have access. User access rights are continuously kept up-to-date. The OIT generally provides good services to the OSL.

However, as manager/administrator of the respective registers, the OSL should have an overview of access rights to the appropriate data sets to be able to see how they are used within the National Administration and take action in case of any inappropriately assigned access rights. This is important to avoid any real or perceived risks to confidentiality. Similar concerns could well exist beyond the OSL, inter alia concerning administrative datasets to which the OSL has access.

Considering the future possibility of registers for exclusively statistical purposes, strict control must be exercised over the access to these statistical registers in order to respect the principle of statistical confidentiality.

To improve beyond compliance with the ES CoP, the peer review team recommends:

R9. The Office of Statistics Liechtenstein should agree with the Office of Information Technology on ways to monitor and vet the practice of the Office of Information Technology in granting access authorisations to registers. (Improvement-related: ES CoP, Indicator 5.5)

The OSL's small workforce carries a heavy workload despite the demand for statistics being reduced by a substantial number of exceptions from European regulations and the supply being facilitated through widespread use of administrative data and, to some extent, collaboration with the Swiss Federal Office of statistics.

At the same time, the OSL strives for a high quality of statistics and user satisfaction surveys indicate that users are generally satisfied with the statistical services they receive. In general, this assessment was confirmed during the discussions with the peer review team, but concerns were repeatedly expressed regarding the timeliness of statistics. This problem seems to be particularly acute in the case of complex statistics such as national accounts and GDP (where preliminary estimates are only effectively available after 14 months and in nominal terms only) but repeated delays in collecting statistics on poverty were also mentioned. In both cases, competing demands on the time of the relevant staff seems to be at the core of the issue, with each staff member being involved in several statistical outputs. Despite sympathy and understanding from users, who understand the OSL's limited resources, the situation is not entirely satisfactory.

The OSL is looking for ways to increase the efficiency of its production so as to be able to better satisfy user needs and the peer review team was told about several resource-saving initiatives in recent years and plans for the future. Even so, overcoming the challenges of timeliness is likely to call for an increase in resources.

However, with increasing demand for statistics as reflected in new EU regulations (together with increasing national user demand), pressure on resources seems set to increase in the future, which calls for ongoing adjustments in resources to be able to satisfy these demands.

To improve beyond compliance with the ES CoP, the peer review team recommends:

R10. The relevant authorities should ensure that the budget allocated to the Office of Statistics Liechtenstein is adjusted to enhance timeliness and, furthermore, is adjusted on an ongoing basis to meet additional statistical demand. (Improvement-related: ES CoP, Indicators 3.1 and 13.1)

In line with the OSL's current strategy, comprehensive internal quality guidelines have been drawn up to ensure a common understanding of quality in statistics and the uniform application of standardised procedures by the OSL's staff. Statistical publications are accompanied by a document on methodology and quality, which means that the quality information is part of the statistical publication and therefore easily accessible for users. For quality assessments of the outputs, the "four eyes principle" is applied – the first checks by the author of a statistical publication are followed by a subsequent step when a second person audits the output with a focus mainly on the plausibility and consistency of the results and their presentation. Hence, significant attention is paid to the quality of outputs including their accessibility, clarity, credibility and other conditions for the appropriate use of the statistics provided by the OSL.

Other important foci of quality control concern input data, development of quality indicators and monitoring of the quality of handbooks. By contrast, further progress is needed in process-based quality management in statistical production. This could be achieved by a more general approach to quality assessments. Indeed, all important quality aspects could be covered by systematic quality assessments covering the quality of products, relevant internal processes and relevant information flows.

The system could combine a "light" self-assessment approach at high frequency, with more in-depth and less frequent evaluations conducted by persons external to the product and its process. This could comprise other members of the OSL's staff (quality manager, methodologist, internal data users, etc.)

or even outside experts (including from academia or from other NSIs). Within this approach, full coverage of statistical activities or products should be ensured by regular evaluations only in the case of “light” assessments, while more detailed and thorough analyses should be performed infrequently and based on prioritisation to reflect the importance of individual statistics, perceived problems or concerns expressed by users and other stakeholders. The system should obviously be optimised and adapted to the OSL's specific conditions to ensure its manageability.

To improve beyond compliance with the ES CoP, the peer review team recommends:

R11. The Office of Statistics Liechtenstein should undertake more formalised and standardised quality assessments of statistics based on a clear concept of quality and with appropriate prioritisation across statistics, while ensuring that all statistics are reviewed in due course. (Improvement-related: ES CoP, Indicators 4.4 and 4.3)

The OSL's efforts to standardise procedures have been manifested in many areas. Quality guidelines, internal manuals, Methodology and Quality reports and other measures are significantly based on the common knowledge and experience of the OSL's staff.

There is awareness that further standardisation efforts are required, not least for the quality assessment of input data (plausibility checks and data validation), of underlying data related to statistical outputs and for the final phase of statistical production (database of processed data). Achieving such standardisation in statistical processes is a necessary condition for their widespread automation, allowing different steps in data processes to be executed by standardised, predefined and automated formulas and functions. Individual modules of data processing could be connected (e.g., generation of output tables enabled by a database of processed data). For these developments, further standardisation of metadata for the statistical production process would be extremely useful.

Such elaboration and deepening of standards connected with the extensive automation of processes requires considerable effort from staff and investments during the preparatory and startup phase, when it is necessary to develop, select and describe the respective concepts and definitions, their relations, conditions and consecutive steps, and to ensure the respective programming and testing of methods and tools. The benefits of such developments would include better coherence and consistency of data, faster data processing, overall quality improvements and robustness. The reduction of human inputs in routine operations allows the redeployment of staff competencies to more complex tasks, increasing the efficiency of statistical production.

To improve beyond compliance with the ES CoP, the peer review team recommends:

R12. The Office of Statistics Liechtenstein should further standardise and automate parts of the statistical production process. (Improvement-related: ES CoP, Indicators 10.2 and 10.4)

For quality control of statistical products in the OSL, the abovementioned “four eyes principle” applies, whereby the person responsible for a specific statistical product first checks the tables and text, then a second person checks the draft publication with a particular focus on the plausibility and consistency of the results. Other members of staff are not usually involved in the process (apart from the publication team). The process is standardised, and checks have to follow the procedure described in the internal quality guidelines. A standard form in Excel format enumerating all the steps within the quality assessment of the output has to be filled in for each publication.

The “four eyes” procedure is very useful as it allows potential deficiencies to be identified and resolved before the product is published, especially if more knowledgeable and experienced auditors for specific statistical products are involved. However, over time the ability to spot problems may be

dulled by routine. Hence, bringing in other employees as auditors of specific products could bring an assessment made with “fresh eyes”, posing new questions, providing more critical insights into the data and asking for more clarification of unclear or problematic issues. More turnover among auditors would also allow an enhanced transfer of techniques used for such controls to other statistical fields.

To improve beyond compliance with the ES CoP, the peer review team recommends:

R13. To further enhance the quality of statistical output, the Office of Statistics Liechtenstein should consider ways to strengthen its “four eyes” quality control policy. (Improvement-related: ES CoP, Indicator 4.4)

The vocational training of employees is considered by the OSL as an integral part of its staff’s personal development. Training needs and wishes are discussed annually as part of the performance review. Indeed, long tenures at the OSL point to the importance of training.

However, it is difficult to conduct regular training courses within the OSL, due to its very limited staff, and to establish a standard training plan for the fulfilment of various educational requirements. Therefore, the OSL’s staff is informed about and participates in the ESTP training courses, although work pressure and the time needed for travel are constraints. Similarly, the National Administration’s training programme is available for the OSL’s employees, but it focuses mainly on very generic skills.

To cover statistical training needs, cooperation with other NSIs might be particularly useful if the OSL’s staff could participate in training courses and seminars related to similar statistical products and processes. The absence of language barriers in some countries might support the involvement of the OSL’s staff in statistical training abroad, suggesting that cooperation with the Swiss Federal Office of statistics and Statistics Austria in this field is worth pursuing.

However, as was amply demonstrated during the COVID-19 pandemic, training does not have to take a physical form. Indeed, other small statistical offices provide their staff with easy-to-access online opportunities for training and the OSL may wish to draw inspiration from such experiences.

A different approach may also be needed as regards training on internally elaborated and developed procedures, guidelines or methods. The OSL’s quality guidelines or even quality assessments in future could be examples of such internal courses or seminars. Work pressure can be a constraint on offering such types of training in physical form, hence the possibility of using electronic means to create more flexibility for the parties involved should also be assessed for these purposes.

To improve beyond compliance with the ES CoP, the peer review team recommends:

R14. The Office of Statistics Liechtenstein should strengthen its training policy with a particular emphasis on cooperation with other National Statistical Institutes on the supply of training and drawing relevant lessons from other small offices that supply training through electronic means. (Improvement-related: ES CoP, Indicator 7.6)

5.2.3 Continuing to strengthen communication and relations with external stakeholders

The OSL’s Multi-Year Work Programme reflects a number of inputs from individual users bilaterally and through the Statistics Commission, inputs and ideas from staff, and evolving EU regulations. It also takes into account the aims outlined in the Strategy 2020-2024, while a new Strategy 2025-30 is set to emerge in 2024, taking into account the need for investments to be able to deliver on future demands. The outcome in the form of a final Multi-Year Work Programme reflects a number of trade-offs and

prioritisations between competing demands and the constraints within which the OSL operates – chiefly the tight resource situation. The peer review team has no reason to believe that a reallocation of resources could make some users happier without making any users worse off or sacrificing some other objective, but it is also possible that some reallocation at the margin could improve outcomes without causing a commensurate impairment to other objectives. This follows from the rather informal process leading to the Multi-Year Work Programme.

A more structured approach might help to shed more light on the trade-offs, prioritisations and choices inherent in producing the Multi-Year Work Programme, hence increasing transparency. It could also be helpful in a context of budgetary discussions to be able to say where marginal budget allocations would be best spent. Without becoming overly heavy, a process could be set up where the marginal costs of delivering more and the benefit it would deliver to a limited number of objectives could be described for individual budget items, making it clear how different weights on objectives would affect the allocation of resources. Also, the internal process of prioritising such as expanding/introducing activities in the work programme or scaling back/phasing out activities from the work programme should become more transparent.

To improve beyond compliance with the ES CoP, the peer review team recommends:

R15. The Office of Statistics Liechtenstein should make the process for prioritising activities in its work programme more systematic and transparent. (Improvement-related: ES CoP, Indicators 3.3, 11.1 and 11.2)

Pre-release access is another OSL activity that is subject to Government influence, in that a Government Ordinance sets the policy. The present Ordinance has a validity period of four years. In accordance with the Ordinance, the OSL does not generally grant pre-release access to its publications, a policy which is easy to understand and to communicate, and which treats all users equally as required by the ES CoP. Generally avoiding granting pre-release access to the Government and the Administration avoids tilting the playing field against potential political opponents. One exception to this policy is when people are invited to speak on a release at a press conference. Such press conferences are rare – occurring around twice a year – and are mostly concerned with first-time releases of new statistics or stand-alone publications. This exception is in line with the conditions under which the ES CoP envisages exceptions.

There is an additional exception, however, as regards releases of health-related statistics, for which the Minister is granted pre-release access. It is very difficult to see the merit of pre-release access in this particular case but not in others. Indeed, the ES CoP calls for exceptions to be well-justified, but it is hard to imagine justifications that apply to health-related statistics without also applying to a host of other statistics. While there have been no breaches of the embargo access, this exception nonetheless gives the impression of somewhat idiosyncratic Government interference in the OSL's activities, which is not helpful to its image as a professionally independent institution.

To improve beyond compliance with the ES CoP, the peer review team recommends:

R16. The Office of Statistics Liechtenstein should implement its policy of no pre-release access to data for all statistics, including health statistics. (Improvement-related: ES CoP, Indicator 6.7)

With its very small staff, the OSL has to look for outside advice on many issues while at the same time avoiding exhausting its absorption capacity and diverting too many resources into outside information-seeking. One avenue for seeking advice is to approach other statistical institutes and the OSL has certainly used this both at bilateral levels and at ESS level. In some cases, it has also had exchanges with the national academic community which, albeit small, has potentially useful knowledge in fields

of relevance to the OSL. However, it seems that sustained exchanges have mostly been in the macroeconomic field and, in addition to informal exchanges, have been pursued in a more regular structured forum. Informal exchanges can of course be very useful but they risk being vulnerable to staff turnover and to lapses due to work pressures.

Given the potential benefits, it would be worthwhile for the OSL to rethink its ways of collaborating with academia both within and possibly also across borders. Activities that could potentially be considered would include meetings on the OSL's Multi-Year Work Programme and development activities to identify potential inputs from academia, the appointment of academic advisory groups in the context of development activities, regular meetings on ongoing projects and statistical work, as appears to be the case in the macroeconomic area, the possibility of allowing students to undertake thesis work of mutual benefit at the OSL, etc.

To improve beyond compliance with the ES CoP, the peer review team recommends:

R17. The Office of Statistics Liechtenstein should identify and pursue ways to strengthen collaboration with academia. (Improvement-related: ES CoP, Indicator 7.7)

5.3 VIEWS OF THE NSI, AS THE NATIONAL COORDINATOR OF THE NSS AND THE PEER REVIEW, ON THOSE RECOMMENDATIONS WHERE THEY DIVERGE FROM THE PEER REVIEW EXPERTS' ASSESSMENT

The Office of Statistics Liechtenstein appreciates the work of the peer review team and has no diverging view on any of the recommendations.

ANNEX A – AGENDA OF THE VISIT

Timing	Topic	Participants
Day 1 - 29 August 2023		
08.00-08.50	Preparatory meeting	<p>The peer review expert team: All</p> <p>NSI: Ms Franziska Frick (DG, Head of publishing) Mr Simon Gstöhl (Staff unit Methodology and International Affairs)</p>
08:50-09:00	Coffee break	
09:00-09:30	Welcome	<p>The peer review expert team: All</p> <p>NSI: Ms Franziska Frick (DG, Head of publishing) Mr Simon Gstöhl (Staff unit Methodology and International Affairs)</p>
09:30-10:30	Presentation of NSS and NSI	<p>The peer review expert team: All</p> <p>NSI: Ms Franziska Frick (DG, Head of publishing) Mr Simon Gstöhl (Staff unit Methodology and International Affairs)</p>
10:30-10:45	Coffee break	
10:45-12:30	Professional independence and statistical law coordination	<p>The peer review expert team: All</p> <p>NSI: Ms Franziska Frick (DG, Head of Publishing) Mr Simon Gstöhl (Staff unit Methodology and International Affairs) Mr Michael Hilbe (Head of Registers and Accounts)</p>
12:30-13:30	Lunch	
13:30-14:30	Data and data governance	<p>The peer review expert team: All</p> <p>NSI: Mr Simon Gstöhl (Staff unit Methodology and International Affairs) Mr Michael Hilbe (Head of Registers and Accounts)</p>
14:30-14:35	Coffee break	

14:35-15:30	Data and data governance	The peer review expert team: All NSI: Mr Simon Gstöhl (Staff unit Methodology and International Affairs) Mr Michael Hilbe (Head of Registers and Accounts)
15:30-15:35	Coffee break	
15:35-16:30	Peer review expert team discussion	
Timing	Topic	Participants
Day 2 - 30 August 2023		
08.00-09:00	Past progress, plans for the future	The peer review expert team: All NSI: Mr Simon Gstöhl (Staff unit Methodology and International Affairs) Mr Michael Hilbe (Head of Registers and Accounts)
09:00-09:05	Coffee break	
09:05-10:40	Resources, effectiveness	The peer review expert team: All NSI: Mr Thomas Erhart (Deputy DG, Head of Administrative Data and Surveys) Ms Franziska Frick (DG, Head of Publishing)
10:40-10:50	Coffee break	
10:50-11:55	Processing, quality, methodology, confidentiality/Part. I	The peer review expert team: All NSI: Mr Simon Gstöhl (Staff unit Methodology and International Affairs) Mr Michael Hilbe (Head of Registers and Accounts)
11:55-13:10	Lunch	
13:10-14:15	Processing, quality, methodology, confidentiality/Part. II	The peer review expert team: All NSI: Mr Simon Gstöhl (Staff unit Methodology and International Affairs) Mr Michael Hilbe (Head of Registers and Accounts)
14:15-14:30	Coffee break	

14:30-16:00	Dissemination, relations with users and other externals	<p>The peer review expert team: All</p> <p>NSI: Ms Franziska Frick (DG, Head of Publishing) Mr Thomas Erhart (Deputy DG, Head of Administrative Data and Surveys) Ms Adina Tellenbach (Staff)</p>
16:00-16:05	Coffee break	
16:05-17:00	Peer review expert team discussion	
Timing	Topic	Participants
Day 3 - 31 August 2023		
09.00-09.55	Data providers	<p>The peer review expert team: All</p> <p>External participants: Ms Kerstin Appel / Kunstmuseum Liechtenstein, Human Resources Department Mr Oliver Hofstetter / Bank Frick & Co. AG, Team Leader Financial and Regulatory Reporting Mr Michel Schläppi / Fiscal Authority, Legal entities Auditor's office Mr Oliver Sprenger / Office of Education, Compulsory school and Kindergarten - Processing Stefan Tomaselli / Office of Public Health, Supervision and Statistics</p>
09:55-10:00	Coffee break	
10:00-10:55	Main users (Ministries)	<p>The peer review expert team: All</p> <p>External participants: Mr Daniel Risch / Ministry of General Government Affairs and Finance, Prime Minister Mr Martin Gächter / Financial Market Authority, Head of Financial Stability Unit / Macroprudential Supervision Mr Panagiotis Potolidis-Beck / Office of Foreign Affairs, Economy and Development, Head of Department Mr Mario Thöny / Ministry of Home Affairs, Economy and Environment, Government employee</p>
10:55-11:10	Coffee break	
11:10-12:05	Statistics Commission	<p>The peer review expert team: All</p> <p>External participants:</p>

		Ms Brigitte Haas / Liechtenstein Chamber of Commerce and Industry, Managing Director Ms Alicia Längle / Association of Human Rights, Managing Director Mr Rudolf Bucher / Association of Farmer's Organisation, Managing Director Mr Andreas Brunhart / Liechtenstein-Institut, Research Officer Economics, Head of Applied Economic Analysis
12:05-13:45	Lunch	
13:45-14:40	Media	The peer review expert team: All External participants: Ms Valeska Blank / Medienhaus (newspaper), Member of the Editorial Board, Head of Online
14:40-14:45	Coffee break	
14:45-15:40	Academia	The peer review expert team: All External participants: Mr Thomas Milic / Liechtenstein-Institut, Head of Policy Research Mr Martin Geiger / Liechtenstein-Institut, Interim Co-Director, Head of Research Economics Ms Tanja Kirn / University of Liechtenstein, Centre of Economics, Assistant Professor, Liechtenstein Business School Ms Doris Quaderer / Stiftung Zukunft (translation: Future Foundation), Project Leader
15:40-15:45	Coffee break	
15:45-16:45	Peer review expert team discussion	
Timing	Topic	Participants
Day 4 - 1 September 2023		
08.00-08.50	Clarifying issues / part I	The peer review expert team: All NSI: Ms Franziska Frick (DG, Head of Publishing)
08:55-09:00	Coffee break	
09:00-09:55	Clarifying issues / part II	The peer review expert team: All NSI: Ms Franziska Frick (DG, Head of Publishing)

09:55-10:00	Coffee break	
10:00-12:30	Meeting with the senior management of the NSI: conclusions and recommendations	The peer review expert team: All NSI: Ms Franziska Frick (DG, Head of Publishing) Mr Thomas Erhart (Deputy DG, Head of Administrative Data and Surveys) Mr Simon Gstöhl (Staff unit Methodology and International Affairs) Mr Michael Hilbe (Head of Registers and Accounts)

ANNEX B – LIST OF PARTICIPANTS

NSI

Ms Franziska Frick (DG, Head of Publishing)
Mr Simon Gstöhl (Staff unit Methodology and International Affairs)
Mr Michael Hilbe (Head of Registers and Accounts)
Mr Thomas Erhart (Deputy DG, Head of Administrative Data and Surveys)
Ms Adina Tellenbach (Staff)

Data providers

Ms Kerstin Appel / Kunstmuseum Liechtenstein, Human Resources Department
Mr Oliver Hofstetter / Bank Frick & Co. AG, Team Leader Financial and Regulatory Reporting
Mr Michel Schläppi / Fiscal Authority, Legal entities Auditor's office
Mr Oliver Sprenger / Office of Education, Compulsory school and Kindergarten - Processing
Stefan Tomaselli / Office of Public Health, Supervision and Statistics

Official sector (ministries, public institutions) as user of data

Mr Daniel Risch / Ministry of General Government Affairs and Finance, Prime Minister
Mr Martin Gächter / Financial Market Authority, Head of Financial Stability Unit / Macprudential Supervision
Mr Panagiotis Potolidis-Beck / Office of Foreign Affairs, Economy and Development, Head of Department
Mr Mario Thöny / Ministry of Home Affairs, Economy and Environment, Government employee

Statistics Commission

Ms Brigitte Haas / Liechtenstein Chamber of Commerce and Industry, Managing Director
Ms Alicia Längle / Association of Human Rights, Managing Director
Mr Rudolf Bucher / Association of Farmer's Organisation, Managing Director
Mr Andreas Brunhart / Liechtenstein-Institut, Research Officer Economics, Head of Applied Economic Analysis

Media

Ms Valeska Blank / Medienhaus (newspaper), Member of the Editorial Board, Head of Online

Academic community

Mr Thomas Milic / Liechtenstein-Institut, Head of Policy Research
Mr Martin Geiger / Liechtenstein-Institut, Interim Co-Director, Head of Research Economics
Ms Tanja Kirn / University of Liechtenstein, Centre of Economics, Assistant Professor, Liechtenstein Business School
Ms Doris Quaderer / Stiftung Zukunft (translation: Future Foundation), Project Leader