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HOW TO

NOTES

How to Collaborate Effectively to Improve Data Quality and Use in Revenue Administration and Official Statistics

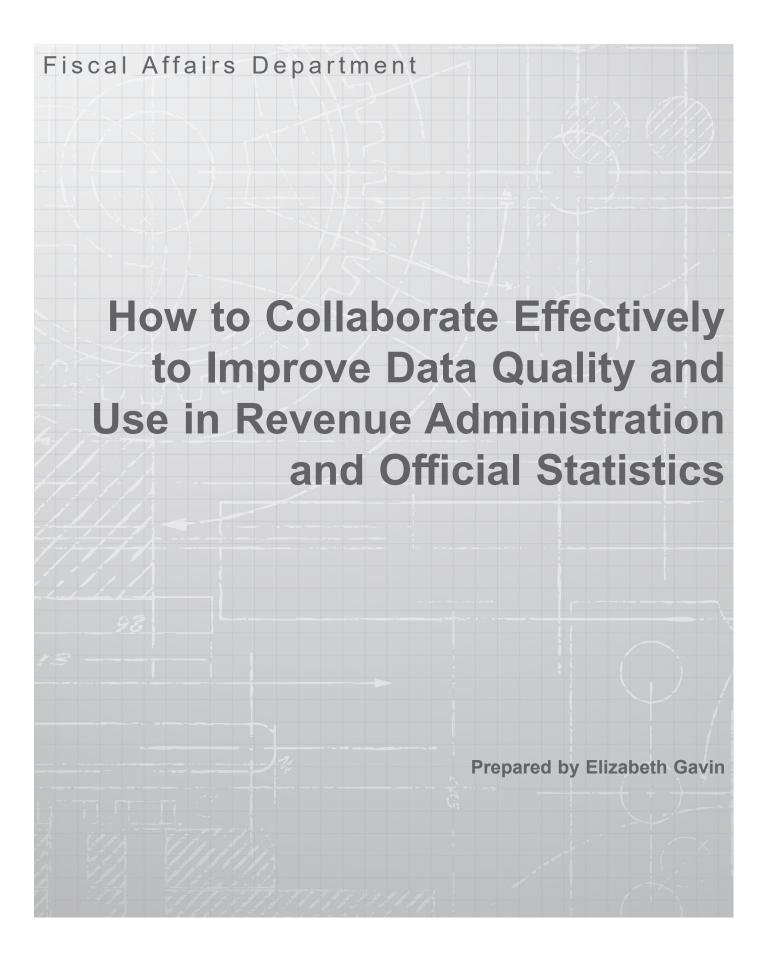# How to Collaborate Effectively to Improve Data Quality and Use in Revenue Administration and Official Statistics

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CONTENTS

ACRONYMS

ISIC	International Standard Industrial Classification of all Economic Activities
ISORA	International Survey on Revenue Administration
MOU	Memorandum of Understanding
NSO	National Statistical Office
RA	Revenue Administration
SBR	Statistical Business Register
SLA	Service Level Agreement
TADAT	Tax Administration Diagnostic Assessment Tool
TWG	Technical Working Group
VAT	Value-Added Tax

This note outlines the interest of Revenue Administrations (RAs) and National Statistical Offices (NSOs) in the quality of data at their disposal, and how collaboration between these organizations can contribute to improving data quality. The similarities between the data collection and processing steps in revenue administration and in the production of economic statistics underlie meaningful information and data sharing. Mutually beneficial collaboration between RAs and NSOs can be achieved, particularly in efforts to improve the coverage of registers and to update register information; classify economic activity; and analyze joint data to address data shortcomings. Since there are differences in concepts and definitions used in revenue administration and official statistics, dialogue is necessary to ensure the effective use of data from the partner organization. Collaboration can improve the quality of data available to both institutions: for RAs, this can assist in realizing improved taxpayer compliance and revenue mobilization, and for NSOs, tax-administrative data sources may enable expanded coverage of the economy in official statistics and reduce timeframes required for publishing economic time series and national accounts. Together, these outcomes can enhance the policy formulation, planning, and service delivery capability of governments. To that end, this note delineates concrete steps to engender sustainable and meaningful interchange of information and data between the RA and NSO.

1. Introduction

RAs and NSOs have strong shared interests in the completeness and accuracy of the data they collect and use. The RAs need accurate and up-to-date information on taxpayers to maximize taxpayer compliance within resource constraints. Statistics compiled and disseminated by the NSO are a key source of "independent" data needed to detect areas of taxpayer noncompliance and to estimate the tax gap.[1] On the

other hand, many NSOs already make use of administrative data sources—including revenue administration data—in compiling official statistics.[2] It follows that the accuracy and completeness of tax administration records are important to both RAs and NSOs.[3]

RAs and NSOs engage regularly with and collect data from individuals, businesses, and other organizations in their countries. Both organizations invest significant resources into the systematic collection and maintenance of data about citizens and taxpayers, more than most other government agencies. In many instances, the same people and businesses provide data to both RAs and NSOs, and often there is an overlap in the data they must provide.

Consequently, RAs and NSOs can benefit from working together to improve the accuracy and completeness of their respective data and, in so doing, reduce their data collection and management costs. Combining effort to update business registers means that data on a greater number of businesses can be validated and updated. Joint analysis of data serves to identify weaknesses in data coverage. NSOs can reduce data collection costs by using administrative data. Further, the use of revenue administration data rather than sample surveys can expand the coverage of the economy and enable more frequent and timely publication of statistics.

The benefits of better collaboration between RAs and NSOs, including data sharing, spill over to the whole government. Better revenue administration, revenue policy, and official statistics enhance the policy formulation, planning, and service delivery capability of the government.[4]

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[1] See IMF Technical Manuals and Notes TMN/17/04 (Hutton, 2017), TMN/17/05 (Thackray, ,2017) and TNMEA2018002 (Ueda,

2018) for detail on estimating the tax gap for VAT, Excise and CIT respectively.

[2] See IMF Working Paper "Using Administrative Data to Enhance Policymaking in Developing Countries: Tax Data and the National Accounts" (Rivas 2018).

[3] An example of how VAT fraud impacted trade and balance of payment statistics in the United Kingdom is discussed in the report "VAT Missing Trader Intra-Community Fraud: the Effects on Trade Statistics" (OECD 2004).

[4] The application of revenue administration data to the evaluation and formulation of tax policy has been covered in another how-to-note (Grote 2017).

Collaboration between RAs and NSOs also benefits citizens. The duplication of information requested of taxpayers by governments may be reduced if NSOs use administrative data. More generally, citizens will benefit from cost-effective and better service delivery from the RA, NSO, and broader public sector.

This note provides guidelines for developing and enhancing RA–NSO collaboration that benefits RAs, NSOs, and citizens. The note outlines areas of overlap in data requirements and similarities in processes in Section 2. Specific areas of collaboration that will benefit RAs and NSOs are detailed in Section 3. The note ends with guidance on how to establish and foster RA–NSO collaboration, drawing on the experiences of countries that have derived benefit from sharing information and data between their RAs and NSOs in Section 4.

2. Common Ground for RA–NSO Collaboration

RAs and NSOs are both major generators and intensive users of data. This section describes the reliance on and use of data collected by RAs and NSOs in executing their core responsibilities, and their requirements for data from external sources. Despite differences in mandates and outputs, there are similarities in how these organizations collect and process data and there is significant overlap in the data they collect, manage, and use. This serves to delineate areas of common ground where collaboration can enhance the efficiency and effectiveness of these agencies.

Many NSOs make use of data from external sources to produce official statistics. They use administrative data–both registration and transactional records—for a variety of purposes. The applications of administrative records include:

- Compilation and updating of a statistical business register (SBR); administrative records in general, and tax records in particular, are recommended sources for an SBR (see, for example, ADB 2014).
- Using administrative records as the primary source for compiling statistics (for example, trade statistics from customs administration records, unit prices from import records, national accounts statistics from value-added tax records and income tax returns).
- Blending administrative data with survey data to produce statistics, given that there is better coverage of small businesses through administrative sources than is generally possible through sample surveys.

- Employing value-added tax (VAT) and income tax records in compiling national accounts statistics.[5]
- Benchmarking sample survey results against administrative data aggregates.

RAs also use information and data from external sources in the course of administering tax. The data are required for many processes, which include:
- Pre-filling tax returns using third-party data.
- Compliance risk analysis and risk ranking.
- Validating the completeness and accuracy of information provided by taxpayers on their economic activity.
- Modeling and forecasting tax revenue.
- Monitoring noncompliance through quantifying the tax gap by tax type in a top-down approach, which relies on independent economic and social data.
- Formulating compliance-enhancing strategies, by drawing on information about taxpayer attitudes and behavioral patterns.

Parallels exist between key data collection and processing steps followed by RAs and NSOs, despite differences in their respective use of the data. Figure 1 depicts the similarities in data management and data flows for administering taxes that apply to businesses (for example, corporate income tax) or in which businesses pay taxes they have collected (for example VAT and pay-as-you-earn) and compiling statistics from surveys of businesses (for example, statistics on jobs and manufacturing outputs). Analogous processes are followed in the administration of taxes on individuals (for example, personal income tax) and statistics requiring data on individuals or households (for example, labor market statistics, income distributions, and so on.). The data flows are not unidirectional; the results of data validation may lead to further requests for information from taxpayers,[6] which could even lead to the updating of information held in registers.

The congruencies in data processing steps point to areas of collaboration between RAs and NSOs that could lead to the improved efficiency and effectiveness of each agency. These areas include:

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[5]Rivas (2018) covers country examples showing the ways in which tax data have been used in compiling national accounts.

[6]For simplicity, the term "taxpayers" will be used to refer to businesses, individuals, households, and other organizations in exercising either their obligations as taxpayers or as respondents to official statistical surveys.

Figure 1. Parallels in Data Management and Data Flows in Tax Administration and Economic Statistic Production

Source: IMF staff.

- Collaboration to improve the quality of registers in terms of coverage and the accuracy of information.
- The improvement of the quality of information on the nature of economic activity, also known as the "industry classification," of businesses or individuals.
- Sharing information on validation methods used to check for the completeness, consistency, and accuracy of information received from citizens.
- Collaborating on the development of concepts, classifications, definitions and methods to promote the interpretation and appropriate use of the data and statistical outputs of the other party.
- Sharing approaches to managing the collection and dissemination of data.

Data collected through NSO surveys and in the course of tax administration may be complementary. Household surveys are a key example: generally, they

provide better information on income below income tax thresholds than income tax records can, while underreporting high-end incomes. Although not straightforward, blending household survey information with income reported to the RA can provide a more complete picture of income distribution and inequality and may be useful in revealing income underreported to the RA.

3. Key Collaboration Areas

RA-NSO cooperation may mitigate data quality challenges and will support making more effective use of institutional and partner-held data. This section focuses on key areas in which working in concert can raise the quality of data available collectively and facilitate more effective use of data originating from the partner organization.

Box 1. Maintaining the Confidentiality of Taxpayer Information

Maintaining the confidentiality of information supplied by taxpayers to the Revenue Administration (RA) or National Statistical Office (NSO)—and the perception that the information is safe with the RA and NSO—is paramount to sustaining the supply of complete and accurate information from taxpayers. If taxpayers lose confidence that sensitive income information or details of their business practices will not remain confidential, they may withhold information from the RA or fail to respond in surveys conducted by the NSO.

There are several layers to protecting confidentiality and the perceptions thereof:

- Legislation is generally in place to protect the confidentiality of both taxpayers and survey respondents. It is important that RA-NSO engagement is aligned with the legislative framework and is seen to be aligned. In some cases, legislation may be too restrictive to allow for data flows that are needed to improve the quality of information available to the NSO and RA, in which case amendments can be made that stipulate what data can be shared and the purpose for which it can be shared.
- When RAs and NSOs engage in information and data sharing, they are often bound by a memorandum of understanding (MOU) or a service-level agreement, which sets out the measures to be taken to maintain the integrity and confidentiality of shared data. Details about what information is shared and for what purpose it may be used are often made explicit in the MOU, which should also be reviewed regularly.

- The staff of both RAs and NSOs often must sign an oath of secrecy. Staff working on partnership projects may sign the oath of the partner organizations as well, if this will reinforce perceptions that the confidentiality of data provided to either the RA or NSO will be maintained.
- Data can be used at the aggregate level when it is fit for purpose and granular data (microdata) can be anonymized by removing identifiers. In addition to more obvious identifiers such as names and addresses, rare characteristics can be suppressed in individual records or the characteristics can be mapped to a range rather than a unique value—for example, the age of a taxpayer. Some outlier records may need to be excluded or aggregated. These are examples of a range of practices developed to protect the identification of individuals during microdata analysis.
- Access to microdata can be provided within secure data facilities (data laboratories). These facilities are physically secure and access controlled. The computers in such a facility are not connected to any external network, and output devices such as USB ports are disabled. The analysis undertaken by users may be checked by an administrator to ensure that the identity of taxpayers cannot be recognized in the results, before providing the user with a copy of the analysis. South Africa and the United Kingdom use secure data facilities to provide research access to tax data.

Data and information can be shared between RAs and NSOs while keeping taxpayer confidentiality. Mechanisms to ensure that taxpayer information remains confidential during RA-NSO cooperation and joint use of data on taxpayers are discussed in Box 1.

Maintaining High-Quality Registers

RAs and NSOs need to allocate resources to developing and maintaining registers, which need continuous updating, as changes in the identities of the economically active population, the nature of their economic activity, their location, and contact details occur. The integrity of the registered taxpayer base is

the first key performance area in the Tax Administration Diagnostic Assessment Tool (TADAT).[7] Most RAs have formal register improvement programs.[8] NSOs expend considerable effort in ensuring the accuracy of register details and that information is updated as changes to businesses take place, particularly in

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[7]TADAT describes the desired outcome of taxpayer registration as: "All businesses, individuals, and other entities that are required to register are included in a taxpayer registration database. Information held in the database is complete, accurate, and up-to-date." (TADAT 2019)

[8]Fifty-six and 58 percent, respectively, of tax administrations indicated that they had formal programs to improve register quality in 2015 and 2016, respectively (ISORA 2016). This figure rose to 73 percent in 2016 and 2017 (ISORA 2018).

Table 1. Elements Required in Taxpayer Registers and SBRs

Taxpayer Registers (From the *TADAT Field Guide*)	SBRs (From *Guidelines for Building Statistical Registers in Africa*)
• Name • Address and contact details • Date of birth/incorporation • Nature of business activity and/or economic/industry sector, classified according to government or other recognized coding system • Taxpayer segment • Filing and payment obligations • Identity of associated entities and related parties	• Identification and contact data • Demographic data, for example, date when enterprise started operations, date when incorporated • Descriptive data, for example, activity status, legal form, institutional sector, economic activity • Linkages, for example, enterprises and enterprise groups to which they belong, establishments belonging to an enterprise

respect to large businesses. Resource constraints limit the ability to validate and maintain information on smaller taxpayers.

Key elements required in taxpayer registers and in SBRs overlap. The overlap is illustrated in Table 1.

Many countries use taxpayer registers together with tax returns to construct and update SBRs. The coverage and accuracy of taxpayer registers impacts the SBR.[9]

Joint RA-NSO maintenance of registers can be explored to optimize the use of resources and eliminate duplication of maintenance effort. Cooperation with the suppliers of data used in constructing SBRs is needed for SBR maintenance.[10] Where registers are less developed, joint register design can be considered. For example, the Gambia Revenue Authority and Gambian Bureau of Statistics have agreed that the design of the business register and the development of maintenance rules and processes should be a joint responsibility.

Classification of Economic Activity

Accurate classifications of taxpayers' and businesses' economic activity (industry classification) are needed by RAs and NSOs. Tax provisions can depend on economic activity and compliance improvement plans may be industry-specific.[11] As indicated in the previous section, the taxpayer's industry classification is included in taxpayer and statistical registers.

The same industry classification should be used by the RA and NSO. NSOs may develop a country-specific industry classification that is aligned

to the International Standard Industrial Classification (ISIC). Unless the RA uses this industry classification, it will not be possible to perform sectoral comparisons of trends in tax revenue aggregates and related economic aggregates from official statistics.

Ideally RAs and NSOs should use the same classification code for the same business entity. Differences in classification, particularly of large taxpayers, inhibit meaningful sectoral analysis that draws on both tax records and official statistics. In many countries NSOs "inherit" taxpayer classifications from the RA when taxpayer records are provided to them, but they may amend some classifications. In this case, it would be important to provide feedback on the changes made to the RA. Legislation often allows the NSO to disclose the contact details and classification of businesses on the register, while protecting the confidentiality of information provided by survey respondents.

Both NSOs and RAs will benefit from assistance provided by NSOs to RAs to improve the accuracy and completeness of taxpayers' economic activity classification. This has been achieved in two ways in several countries: NSOs can provide training in industry classification to RA staff and they may provide the RA with a "coder" that facilitates standard economic classification code assignments from the description of economic activity that is supplied. Inaccuracies in the classification of economic activity in data received from RAs is a challenge to many NSOs.[12] Improving the accuracy of economic classifications assigned within the RA is thus beneficial to the NSO.

Collaboration between RAs and NSOs can assist in the updating of industry classification. With continuous change in economic agents and the nature of their economic activity, it is difficult to maintain accurate classification of the economic activity of taxpayers.

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[9]See, for example, http://www.wiesbaden2018.bfs.admin.ch/agenda-papers/ where country reports to the Wiesbaden Group identify inaccuracies in address information and economic classification in taxpayer registers as challenges.

[10]Cooperation with data providers is necessary to understand the concepts, ensure the continued supply of data, and enable linkages to be made between various sources (United Nations 2020).

[11]See, for example, the discussion on compliance risk management in TADAT (2019).

[12]See, for example, the country reports to the Wiesbaden Group on Business Registers http://www.wiesbaden2018.bfs.admin.ch/agenda-papers/.

Thus, engagements with businesses by either the RA or NSO that bring inaccuracies in the recorded classification or changes in economic activity to light should be used to update the economic classification of businesses.

Analysis of Tax Administration Records and Official Statistical Data

Data sharing between NSOs and RAs can contribute to the effectiveness of each organization. Three examples highlighted in this note are:
- The use of tax administration records in compiling official economic statistics by the NSO.
- The use of official statistics in tax gap analysis by RAs.
- The probing of weaknesses in the coverage of registers and consequent data collection.

Tax administration records may be used to validate, supplement, or even replace sample surveys in compiling official statistics. This is an established practice in many countries. In some countries, the use of administrative (tax and other) data is a requirement rather than a choice. NSOs in Nordic countries and the Netherlands are required to use information already available within the government before committing resources to a survey. Revenue administration data relating to income tax, VAT, or employers' withholding tax will cover a larger number of businesses, particularly small businesses, that can be covered through a sample survey, given resource limitations. Many NSOs are experiencing increasing demands for statistical data that are more disaggregated by geography and economic activity, and for time series data of higher frequencies. There is also a cost to acquiring data needed to monitor progress against the Sustainable Development Goals. Since tax data were not captured for the purpose of producing economic statistics, they do not necessarily match standard statistical concepts and definitions. Thus, the NSO needs to understand from RAs in detail how their data are collated, and the processes associated with the data.

Tax gap analysis is a key component in compliance risk management. Independent economic data sources are needed to derive estimates of potential tax used in monitoring noncompliance through quantifying the tax gap (by tax type) in a top down approach.[13]

Among the most important data sources for estimating potential tax are aggregates produced by the NSO in the course of compiling national accounts. An RA needs to have a solid understanding of the concepts, definitions, and methods used to compile official statistics to make valid inferences when comparing trends in economic data with those seen in tax administration records.

Both NSOs and RAs encounter challenges in achieving complete coverage of economic agents in their respective registers, which, in turn, limits coverage of economic activity reported to them. Taxpayer records may provide better coverage of smaller registered businesses than sample surveys conducted by NSOs and may be particularly useful when there are poor survey response rates. RAs, however, receive limited (or no) information from businesses that are not registered for tax purposes. RAs should have an understanding of the potential taxpayer base.[14] The contribution of the informal sector to the economy may be significant. In the compilation of national accounts, the contribution of the non-observed economy is estimated—see Box 2. An understanding of the non-observed economy is relevant to the formulation of tax compliance strategies and tax policy.

Ongoing dialogue between RAs and NSOs is needed for the effective use of shared data. There will be differences in the definitions and concepts used in revenue administration and the production of official statistics. The impacts of these differences need to be understood when undertaking modeling or analysis that uses information from both sources. Examples of technical differences that need to be considered when analyzing data originating from administrative processes and surveys are provided in the Annex.

4. Guidelines for Effective Collaboration between RAs and NSOs

There are mutual advantages for RAs and NSOs to establishing an enduring information and data sharing partnership. In this section, steps towards effective collaboration and data sharing between RAs and NSOs are outlined.

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[13]For a more detailed discussion, see Keen (2015).

[14]TADAT (2019) requires a measure of "the extent of initiatives to detect businesses and individuals who are required to register but fail to do so."

Box 2. The Informal Economy and Taxation

The informal economy is part of the non-observed economy as defined in the *System of National Accounts 2008 (SNA 2008)*. The non-observed economy comprises activities that are not covered in regular data collection because they are underground, illegal, informal, undertaken by households for their own final use, too small, or omitted due to data deficiencies. In practice, the boundaries between these categories are not always clear-cut. Some—but not all—of the non-observed economy may be associated with entities that should be registered for tax but are not.

The *2008 SNA* recommends special data collection and estimation to include the non-observed economy in GDP, and especially for developing countries where the non-observed economy might be large. See *Measuring the Non-Observed Economy: A Handbook*, OECD 2002.

Key data sources in estimating the size of the non-observed economy are: household labor force surveys, household income and expenditure surveys, informal sector surveys, establishment surveys, focused studies, and relevant administrative data (for example, registration of market vendors).

Understanding how the non-observed economy contribution to GDP is estimated is useful in analyzing the gap between potential tax revenue and revenue being collected by Revenue Administrations. If a survey of small establishments is available, it may be possible to use these data together with national accounts aggregates to distinguish the contribution of entities that should be registered for tax from informal enterprises that fall below the tax registration threshold.

Step 1: Identify Potential Areas of Cooperation

Areas in which RA-NSO collaboration would be beneficial can be discussed in informal meetings, to craft a joint program of information and data interchange. Questions to ask include:
- What are the current key weaknesses in data from the perspectives of both revenue administration and the production of official statistics?
- What are the relative strengths of the RA and the NSO in data collection and management?
- Does the NSO understand revenue administration procedures and issues adequately to enable the most effective use of tax administration data?
- How can the RA and the NSO cooperate to improve the accuracy, currency, coverage, and completeness of SBRs and tax registers?
- How can a common industry classification of taxpayers by the RA and NSO be achieved?
- Does the RA require more disaggregated data from the NSO for revenue forecasting and tax gap estimates?
- Does the NSO require more disaggregated data from the RA for compiling GDP estimates and the sequence of accounts by institutional sector?

Step 2: Review Existing Legislation to Identify Amendments Required to Optimize RA-NSO Engagement

Enabling legislation generally provides both NSOs and RAs with the authority to collect the information they need.[15] The laws governing tax administration and the production of official statistics should be studied in the light of desired data flows between the RA and NSO. If the legal framework does not support data sharing that would be of mutual benefit to the institutions and in the national interest more generally, it may be necessary to amend the laws governing revenue administration information and official statistics.

Step 3: Formalize Working Relations with an MOU or an SLA

An MOU or SLA that formalizes the working relationship of the RA and NSO within the legal framework and gives effect to legal rights to obtain relevant data may be useful to drive RA-NSO collaboration. In many countries MOUs that set out the responsibilities of the RA and NSO and areas of joint responsibility (for example, joint development and maintenance of a register) are established. In some cases, the specifics of data flows between the organizations are included in an

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[15]All tax administrations indicated that they had powers to gather information in ISORA 2016 (Crandall 2019).

Box 3. Elements of a Memorandum of Understanding to Effect Revenue Administration-National Statistical Office Collaboration and Data and Information Sharing

The Memorandum of Understanding (MOU) should make explicit the legal basis for Revenue Administration-National Statistical Office (RA-NSO) collaboration. Elements to consider covering in the MOU include:

- The objectives of the collaboration (for example, joint maintenance of registers) and the intended outcomes.
- The constitution of a Technical Working Group (TWG) that meets regularly to work through technical issues, together with a Management Committee comprising members of senior management of both organizations to which the TWG is accountable.
- Data and information to be shared between the organizations, such as:
  - The provision of tax administration microdata by the RA to the NSO.
  - The provision of validated industry classifications by the NSO to the RA.
  - The provision of social, demographic, and economic statistics by the NSO to the RA that enable RA staff to compare trends in economic and tax aggregates, model, and forecast revenue and estimate tax gaps.
- The sharing of information by the NSO on methods, concepts, and definitions used in compiling official statistics that enable the RA to make effective use of the data.
- The sharing of information by the RA on administrative process, changes, and proposed changes in revenue administration and tax policy that are pertinent to the production of official statistics based on tax administration data (for example, a change in the VAT registration threshold), as well as estimates of levels of fraud that could impact statistics compiled using tax administration records.
- Sharing of information on quality assurance and validation methods
- Sharing of information on systems and processes used to collect and manage data and produce reports.
- Commitment by the organizations to meet defined and agreed quality standards in terms of data they exchange and to provide feedback on the quality of data received.
- Specifications of mechanisms/modalities for maintenance of data integrity and confidentiality.
- Specification of data to be exchanged: what data will be provided; how frequently data will be exchanged; and the format and media to be used to exchange data securely.

SLA. The SLA may be amended more regularly than the MOU as data sharing needs evolve. Elements that might be included in the MOU are listed in Box 3.

Step 4: Share Relevant Information That Is Not Confidential

Nonconfidential information about data produced and held by the RA and NSO may be shared before data sharing arrangements are formalized. Sharing such information will not breach the confidentiality of taxpayer- and survey respondent-provided information. Discussion on concepts and definitions in use, together with data quality assurance processes that are in place, aids the interpretation of already available data and the identification of potential projects to enhance data quality. Sharing information on recent or anticipated changes in revenue administration processes (for example, changes in tax thresholds or filing requirements) and official statistics outputs (for example, coverage of the economy or frequency changes in statistical series) is also important for analysis involving tax administration records and official statistical data.

Step 5: Jointly Undertake a Concrete Project with a Well-Defined Scope

It may be useful to begin with a joint project that will yield insights useful to both the RA and NSO and institutionalize practical collaborative working arrangements. Such projects can also serve to allay concerns

about maintaining the confidentiality of taxpayer information. Possible projects include:

1. Improving the register coverage and accuracy of data of a sector of national interest (for example, the construction industry).

2. Harmonizing the economic classifications of large businesses/taxpayers used by the RA and NSO.

3. Training of RA staff by the NSO on ISIC and the national standard economic activity classification.

4. Conducting a survey of taxpayers on their perceptions of the RA and compliance attitudes: many RAs conduct surveys of their taxpayers and often these surveys are outsourced,[16] given potential taxpayer sensitivity toward providing survey responses directly to the RA. NSOs may be able to assist in providing an independent data collection and processing service to the RA.

5. The estimation of the tax gap for an indirect tax using official economic statistics: This exercise will develop a deeper understanding of tax administration data and official statistics data, highlight data quality challenges, and provide direction on how the coverage and quality of data may be improved.

6. Comparing income distributions from NSO surveys and income tax records and examining the reasons for differences.

7. Publishing aggregate statistics on revenue collection.[17]

8. Making available anonymized revenue administration records in a secure environment for statistical and research purposes.

[16]Sixty-one percent of RAs undertake taxpayer surveys, and of these, half outsource surveys (ISORA 2016).

[17]Many RAs publish statistics on revenue collection (for example, Rwanda [RRA 2020], South Africa [National Treasury 2020], Uganda [URA, 2020]). The publication of tax statistics can serve to improve public understanding of revenue collections, offer transparency on tax incidence, and promote accountability.

Annex 1. Examples of Differences between Administrative Data and Survey Data

This note emphasizes that users of administrative data and survey data need to understand differences between data from different sources. Some examples of typical differences that may be encountered in working with tax administration data and official statistics are as follows:

- The entities contained in registers may differ. Taxpayer registers will contain records of legal and natural persons that are required to register for tax. In the case of large, complex businesses, it may be possible to have more than one registration for the same tax type (for example, where different payrolls are run within the business, each may be associated with a registration for pay-as-you-earn). SBRs may record distinct establishments, where components of an enterprise differ in economic activity and physical locations. As the economic activity of each entity in a taxpayer register or SBR should be recorded, this can, for example, lead to differences in sectoral aggregates.

- Unless there is close collaboration between the RA and NSO on industry classification, there are many reasons why disparate sectoral aggregates may not be associated with the same set of businesses. One of the reasons for this follows from the point above: the economic activity of each entity in a taxpayer register or SBR should be recorded. Thus, an RA may be recording all the economic activity associated with a large business as one type of activity, while this may be broken down into several economic activities in the SBR.

- Typically there is no exact correspondence between economic aggregates available from the compilation of National Accounts and any particular tax base. For this reason, adjustments are made to economic statistical aggregates to estimate tax gaps when applying RA-GAP methodologies (see, for example, Ueda (2018) where the relationship between the tax base for corporate income tax and gross operating surplus is set out).

- Trends in tax revenue aggregates do not mirror trends in measures of economic activity. In addition to the point made previously, tax policy changes and taxpayer behavior (including compliance) also affect tax revenue aggregates over time.

- There may be differences in the reference periods for statistical collections and the accounting periods for tax. Adjustments may be necessary to make meaningful comparisons of tax administration and economic statistics aggregates over time.

- There may be timing differences in the recording of taxable transactions and economic activity in national accounts. The System of National Accounts requires that transactions be recorded on an accrual basis. Most RAs record transactions on a cash basis.

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