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ISORA 2018

Understanding Revenue Administration

Prepared by William Crandall, Elizabeth Gavin, and Andrew Masters

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Executive Summary

Background

This publication presents the results of the International Survey on Revenue Administration (ISORA) 2018, encompassing responses from 159 national or federal tax administrations spanning profile information, performance, and practices in fiscal years 2018 and 2019. ISORA is the product of an international arrangement among four parties: the Inter-American Center of Tax Administrations, the IMF, the Intra-European Organisation of Tax Administrations, and the Organisation for Economic Co-operation and Development. The Asian Development Bank partnered with these parties in supporting participants in ISORA 2018.

ISORA data have been used in reports on tax administration prepared by the ISORA partners. As the most comprehensive source of standardized data on tax administration, ISORA data are increasingly being used in research and capacity development.

A major review of ISORA following the 2018 round recognized that, despite the value of the existing information to both the international partners and participating tax administrations, data quality could be further improved. In the future, the survey will comprise a far smaller set of annual questions for which data will be collected annually rather than biennially, together with periodic questions, and all survey data will be placed in the public domain. ISORA 2020 data, covering the 2018 and 2019 fiscal years, is planned to be released publicly toward the end of 2021.

Overall Analytical Approach

Following the shape of the previous publication *Understanding Tax Administration – International Survey on Revenue Administration 2016*, subject areas covered are grouped into three main components: (1) performance-related data, (2) profile data, and (3) practices and structural foundations for effective tax administration. Most analysis is again presented by grouping the 159 tax administrations as Small States (39 jurisdictions with a population of less than 1.5 million people; Lower-Income jurisdictions (51), and Higher-Income jurisdictions (69).

Comparisons of ISORA 2018 results against ISORA 2016 results are made, but the interpretation of changes in statistics based on numerical survey questions is complex, as different sets of administrations contributed data on particular subjects in the two rounds.

Key Points from Performance-Related Data

- Most statistics on performance measures show an improvement between ISORA 2016 and ISORA 2018. For most performance measures, more data points are available for ISORA 2018.
- As found in analysis of ISORA 2016 data, Small-State and Lower-Income jurisdictions generally lag behind Higher-Income participants.
- Lower-Income administrations generally show greater volatility in reported performance measures than Higher-Income administrations.

Key Points from Profile Data

- Slightly less than half the participating administrations (74 of 159) self-identified as semi-autonomous organizations.
- About 37 percent of participants (59 of 159) are responsible for both tax administration and customs administration.

- Participants reported the following average allocations of staff by function: front office functions (registration, service, returns, and payment processing)—30 percent; back office functions (audit, verification, and enforced debt collection)—38 percent; disputes and appeals—3 percent; and other functions—29 percent. Despite changes to the function categories between the 2016 and 2018 rounds, these percentages have changed very little.

- Overall, female staff make up 52 percent of tax administration employees, but only 43 percent of executives. The average proportion of female staff in Lower-Income jurisdictions is lower at 38 percent. Female staff make up a smaller proportion of staff in joint tax and customs administrations (49 percent). The two regions with the highest proportions of women tax administrators and tax administration executives are Europe and the Western Hemisphere (Americas and the Caribbean).

- More than 85 percent of administrations reported a dedicated large taxpayer office/program, unchanged from the ISORA 2016 result. However, the median percentage of net revenue administered through the large taxpayer office/program showed a dramatic increase between 2015 and 2017 from 45 percent to 57 percent, largely due to changes reported by Small States and Lower-Income jurisdictions. It appears that much of this change may be due to permitting administrations to provide an estimate of this percentage rather than providing the underlying data.

- There has been an increase overall in the proportion of administrations reporting the existence of a dedicated unit for High Net Wealth Individuals, from 19 percent in 2015 to 23 percent in 2017, despite a decline in the proportion of Small States reporting such a unit (13 percent in 2015, versus 10 percent in 2017).

Key Points from the Analysis of Practices and Structural Foundations for Effective Tax Administration

Seven indices were compiled from ISORA questions that cover practices (both administrative and operational) and structural foundations (laws, regulations, and policies) that underpin these practices, namely: Management and Human Resources Autonomy; Public Accountability; General Management; Human Resources Management; Service Orientation; Compliance Risk Management Foundations; and the Degree of Digitalization.

- Scores against these seven indices are positively correlated, reflecting that good practice or structure in one facet of tax administrations is often associated with good practice in other facets.

- The correlation observed in previous analysis (ISORA 2016) between Public Accountability and Service Orientation remains high. In addition, Service Orientation is also relatively strongly associated with Human Resource Management and Degree of Digitalization. Compliance Risk Management Foundations and Degree of Digitalization are also found to be relatively strongly correlated.

- For all indices, the responses from Higher-Income jurisdictions lead to average higher scores. Lower-Income jurisdictions show higher scores on average than Small States, except in the case of Degree of Digitalization, where they are the same.

- The Autonomy, General Management and Human Resource Management indices show the least dispersion in scores, with close to 60 percent of all administrations scoring over 80 (on a scale from zero to 100).

- Administrations that self-identify as semi-autonomous score higher on average against all seven indices than administrations that do not.

- Broken down by IMF region, administrations in Europe generally score highest against the seven indices. Regional differences in average scores are mostly smaller than by standard grouping (Small States, Lower-Income jurisdictions, Higher-Income jurisdictions).

Acronyms and Abbreviations

ADB	Asian Development Bank
ATI	Addis Tax Initiative
CIAT	Inter-American Center of Tax Administrations
CIT	Corporate Income Tax
FAD	Fiscal Affairs Department (of the IMF)
FTE	Full-time Equivalent
HIC	High-income Country
HNWI	High Net Wealth Individual
HR	Human Resources
IMF	International Monetary Fund
IOTA	Intra-European Organisation of Tax Administrations
ISOCA	International Survey on Customs Administration
ISORA	International Survey on Revenue Administration
LIC	Low-Income Country
LMIC	Lower-Middle-Income Country
LTO/P	Large Taxpayer Office/Program
OECD	Organisation for Economic Co-operation and Development
PAYE	Pay-As-You-Earn
PIT	Personal Income Tax
SSC	Social Security Contributions
RA-FIT	Revenue Administration Fiscal Information Tool
TADAT	Tax Administration Diagnostic Assessment Tool
UMIC	Upper-Middle-Income Country
VAT	Value-Added Tax

Acknowledgments

This departmental paper presents the results of the International Survey on Revenue Administration (ISORA) deployed during 2018 and covering fiscal years 2016 and 2017. It is made possible by the participation of 159 tax administrations from around the world that provided data. This survey round (the data collection aspect) was a joint venture with the Asian Development Bank, the Inter-American Center of Tax Administrations, the Intra-European Organisation of Tax Administrations, and the Organisation for Economic Co-operation and Development. This departmental paper was authored by a team of staff and external experts from the IMF Fiscal Affairs Department (FAD) led by Andrew Masters and including William Crandall (external expert), Elizabeth Gavin, and Kwesi Arhin (who provided excellent research assistance). The paper benefited from review by Katherine Baer and Mick Thackray also within FAD. Staff in the revenue administration divisions of FAD and in the IMF Regional Capacity Development Centers were most helpful in assisting with the conduct of the survey.

The authors' views as expressed in this paper do not necessarily reflect the views of the IMF, its Executive Board, or IMF management. Errors and omissions are the authors' sole responsibility. It should be noted that summary or aggregated information presented in this paper is derived from data that are self-reported by participants, and as such may be subject to review and change without prior notice.

Funding for the Revenue Administration Fiscal Information Tool/ISORA is provided both internally by the IMF and by the Revenue Mobilization Thematic Fund, formerly the Tax Policy and Administration Topical Trust Fund; both sources are gratefully acknowledged. Donor governments and organizations contributing to the Revenue Mobilization Thematic Fund are the Africa, Caribbean, and Pacific Group of States; Belgium; the European Union; Germany; Republic of Korea; Kuwait; Luxembourg; the Netherlands; Norway; and Switzerland.

Further documentation, data, and information are available online through the Revenue Administration Fiscal Information Tool Data Portal at http://data.rafit.org.

Most of the data used in this departmental paper have been sourced from the ISORA 2018 database, together with the ISORA 2016 database providing data for earlier fiscal years (2014 and 2015). Accordingly, where this is the case, no attribution is made in either figures or tables. Where data have been obtained elsewhere, the source is appropriately attributed.

1. ISORA 2018—General Overview

A. Introduction

The International Survey on Revenue Administration (ISORA) collects tax administration data from national or federal tax administrations. It surveys tax administration operations and other characteristics based on common questions and definitions agreed by four international organizations: the Inter-American Center of Tax Administrations (CIAT), the International Monetary Fund (IMF), the Intra-European Organisation of Tax Administrations (IOTA), and the Organisation for Economic Co-operation and Development (OECD). These four Parties signed a Memorandum of Understanding (MOU) governing the administration and management of this worldwide survey. For ISORA 2018, the ISORA Parties partnered with the Asian Development Bank (ADB) to provide assistance to its members who were participating in the survey.

A tax administration's participation in this survey is voluntary. ISORA is hosted on an online data collection platform (called the Revenue Administration Fiscal Information Tool, or RA-FIT) developed and administered by the IMF. The online platform includes built-in completeness and consistency checks to aid survey participants.

To date, ISORA has been run biennially, collecting data for two fiscal years each time. The survey rounds are named after the year in which data are collected. Table 1 summarizes the time periods covered by each round.

Table 1. ISORA Survey Rounds and Fiscal Years Covered

Survey Round	Year of Data Collection	Fiscal Years Covered in Survey Round
ISORA 2016	2016	2014, 2015
ISORA 2018	2018	2016, 2017
ISORA 2020[1]	2020	2018, 2019

[1]Launched in September 2020, data are not yet available at the time this paper was drafted.

A total of 159 tax administrations[1] participated in ISORA 2018, an 18 percent increase over ISORA 2016 participation. These participating administrations represent more than 90 percent of the worldwide economy and about 75 percent of tax administrations at the federal level.

B. Purpose of ISORA

ISORA is designed to gather tax administration data on a regular basis. Its main objectives are the following:

- Provide an improved focus on data management, performance measurement, and reporting by tax administrations
- Provide a set of comparable and standardized tax administration data to improve advice and analysis, in areas such as:
    - Understanding historical performance
    - Identifying trends and establishing baselines
    - Flagging policy and administrative inefficiencies
    - Providing data to facilitate focused and in-depth research
- Develop data and analyses that can improve cross-country comparisons
- Assist in developing international revenue administration performance measurement and reporting standards
- Improve the quality of revenue administration capacity development
- Provide necessary data to better calibrate revenue administration assessment tools, such as the Tax Administration Diagnostic Assessment Tool (TADAT)
- Assist senior executives of revenue administrations in managing and evaluating their administrations' performance

[1] Not all participants are sovereign states, but all are members of one of the international partner groups or have a relationship with one of the IMF Regional Capacity Development Centers.

ISORA uses common questions and definitions to ensure consistency and comparability. The survey collects information in three areas of tax administration: (1) performance-related data, (2) profile data, and (3) data on practices and structural foundations. ISORA relies on voluntary participation and self-reporting by national or federal tax administrations. It is not an evidence-based undertaking.[2]

ISORA is a data collection and reporting tool[3] that results in a database (an historical time series) that can be used for analytical and comparative purposes.

C. Restrictions on the Use of ISORA Data

ISORA partners and participants can access the ISORA databases for use in research and analysis. Aggregate data and some country-level data are publicly available. The RA-FIT Data portal (https://data.rafit.org) is used to provide access to both aggregate and country-level data.

Currently, there are certain restrictions on access to and use of ISORA data, depending on the partner-supported group. Tax administrations supported by the ADB, CIAT, and OECD have all consented to their data being made public. For the 2016 and 2018 surveys, administrations supported by the IMF and IOTA were not required to agree to the placing of their data in the public domain.

While country-specific ISORA data from IMF- and IOTA-supported administrations cannot be made public without that administration's express consent, aggregate statistics (of groups comprising at least five countries) and other data that are sufficiently anonymized to prevent identification may be made public.

Consequently, ISORA publications by the ADB, CIAT, and the OECD present country-specific data. But because of the confidentiality restrictions previously noted, this publication, like its predecessor *ISORA 2016: Understanding Revenue Administration*, presents only aggregated and anonymized data. Statistics such as the average or median (in the case where the distribution is highly skewed, and outliers are present) are used to provide comparisons between various groups of tax administrations.

From ISORA 2020 onward, however, all ISORA data will be placed in the public domain. Researchers outside ISORA partner and participant organizations will have access to all new ISORA data and will be able to include country-level analysis in papers and reports.

D. Publications Using ISORA Data

Regular data collection on tax administration is not new: the OECD has been collecting tax administration data since 2004; the IMF began collecting similar information in 2012; CIAT began publishing comprehensive tax administration data on Latin American countries in 2011; and IOTA regularly gathered data from its members for internal analysis and review.

While ISORA provides a single data collection survey, the partner organizations continue to produce their own analyses and contextualization of data in a manner that best meets the needs of their members.

With the launch of ISORA in 2016, the tax administration publications of the ISORA partners have come to rely on ISORA data. In addition, other research publications are increasingly using ISORA data to support their analysis, findings, and conclusions. Box 1 provides examples of publications by ISORA Partners that now use ISORA data, as well as examples of current research that has relied on ISORA.

[2] This is in contrast to TADAT, which is a formal evidence-based tool to assess tax administrative performance in the context of international good practice.
[3] For a discussion of revenue administration *data collection and reporting* and *analytical assessment* tools see: *Reforms of Tax Administration and Systems: A Mapping of Current Analytical Tools and Frameworks* (Norad Report 3/2020).

E. Changes and Improvements to ISORA from 2020 Onward

Following the ISORA 2018 round, and based on the experience gained from two full rounds of ISORA as well as previous data gathering efforts, the ISORA Executive Council (representatives of the four Parties who are signatories to the ISORA MOU) directed the ISORA Technical Working group to undertake a major review of the Survey.

Several conclusions were reached during this review:

- The Survey is large, especially as two years of data are collected simultaneously every second year. ISORA 2018 required participants to enter more than 1,700 total data points[4] (covering two fiscal years).
- ISORA data quality can still be improved. This metric can be achieved through better-worded questions, greater clarity in defining terms, and reducing the overall burden on participants.
- Timeliness of data could be improved through collection every year (rather than collection every two years for two fiscal years at a time).
- ISORA collects a great deal of useful non-numeric data (profile data) using yes/no questions, check boxes, and the like. These data do not change much over a single year, and collection in some of these areas could be much less frequent.
- Some Survey questions suffer from a low response rate. Participants either do not have the data, or they are unable or unwilling to produce data. Some may feel the time and effort to organize and report the data is not commensurate with benefits that might accrue.
- Confidentiality requirements related to data from IMF- and IOTA-managed countries are complicating the use of ISORA data and are inconsistent with good governance principles related to transparency.

As a result, the ISORA for 2020 and onward has been significantly overhauled:

- Survey size has been reduced from approximately 850 data points per year to an average of 250 data points per year.
- Many questions have been clarified and simplified. Questions with low analytical utility have been eliminated.
- A small number of questions will be asked annually, and a larger number will only be asked periodically (every four years). Data for the annual questions will be collected every year.
- Participants will be required to agree in advance that all data they provide in the Survey can be placed in the public domain.

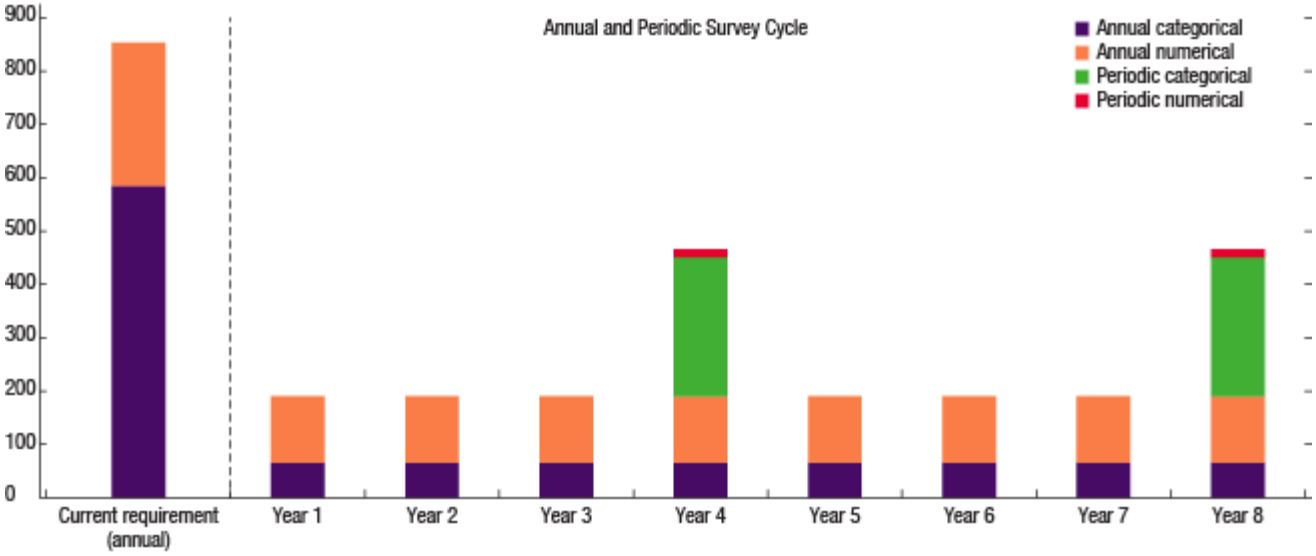
These changes will not only have a significant impact on the quality of the data collected in the Survey, but also reduce considerably the administrative burden on participants. Almost all existing ISORA numerical time series will continue to be collected annually. The ISORA Technical Working Group tries to avoid breaking series data.

Size reductions in the Survey, as measured by maximum data point requirements, are illustrated in Figure 1.

ISORA 2020 will collect two fiscal years of data (2018 and 2019) for the last time, but in the revised format. The first single year survey will be launched in 2021 (collecting data for 2020). The first periodic survey will likely be launched in 2023 (collecting data for 2022).

[4] *Total data points* is the best measure of the size of the Survey. A data point is simply a point in the online survey where a participant must insert a response. ISORA comprises two types of questions from which data points can be calculated: (1*) categorical questions*—yes/no questions and check boxes; and (2) *numerical* questions—specific currency, volume, or percentage inputs. Categorical questions are relatively straightforward, they do not require detailed data reporting systems, and tend not to change much year over year. Numerical questions on the other hand require participants to maintain up-to-date reporting systems and almost always change from one year to the next.

Figure 1. ISORA: Data Point Requirements



Source: IMF staff.

Box 1. Publications Using ISORA Data

ISORA 2016 Partner Publications

- OECD Tax Administration Series (TAS): *Tax Administration 2017 Comparative Information on OECD and Other Advanced and Emerging Economies* https://www.oecd-ilibrary.org/taxation/tax-administration-2017_tax_admin-2017-en
- CIAT Working Papers:
  - *Tax Administrations: Collection, Costs and Personnel Evidence for the CIAT Countries with data of ISORA,* https://biblioteca.ciat.org/opac/book/5560
  - *Making It Easier: Taxpayer Services, Cooperative Compliance and Tax Simplification*: ISORA data on tax certainty and tax administrations https://biblioteca.ciat.org/opac/book/5621
- IMF Departmental Paper: *ISORA 2016 Understanding Revenue Administration* https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2019/03/07/ISORA-2016-Understanding-Revenue-Administration-46337
- Asian Development Bank: *A Comparative Analysis of Tax Administration in Asia and the Pacific 2018 Edition* https://www.adb.org/publications/comparative-analysis-tax-administration-asia-pacific

ISORA 2018 Partner Publications

- OECD Tax Administration Series (TAS): *Tax Administration 2019 Comparative Information on OECD and Other Advanced and Emerging Economies* https://www.oecd.org/tax/administration/tax-administration-23077727.htm
- CIAT: Overview of Tax Administrations: structure; income, resources and personnel; operation and digitalization. ISORA (International Survey on Revenue Administration) https://biblioteca.ciat.org/opac/book/5686
- ADB: *A Comparative Analysis of Tax Administration in Asia and the Pacific 2020 Edition* https://www.adb.org/sites/default/files/publication/569626/tax-administration-asia-pacific-2020.pdf
- Selected conference presentations available at https://data.rafit.org/?sk=3dba84d7-1dd8-4533-b682-c0dfcb1d7f13

Box 1. Publications Using ISORA Data *(continued)*

Papers and Reports

- *State Institutions and Tax Capacity: An Empirical Investigation of Causality* https://www.imf.org/en/Publications/WP/Issues/2019/08/16/State-Institutions-and-Tax-Capacity-An-Empirical-Investigation-of-Causality-48555
- *Raising Tax Revenue: How to Get More from Tax Administrations?* https://www.imf.org/en/Publications/WP/Issues/2020/07/24/Raising-Tax-Revenue-How-to-Get-More-from-Tax-Administrations-49584
- *Tax Administrations' Capacity in Preventing Tax Evasion and Tax Avoidance* Available at SSRN: https://ssrn.com/abstract=3300589
- *Tax Certainty: Proposals for the Short Term and the Long Term*, Economics Discussion Papers, No. 2018-16, Kiel Institute for the World Economy, Kiel https://www.econstor.eu/bitstream/10419/174895/1/1014422841.pdf
- *Gender and Tax Policies in the Global South,* K4D Helpdesk Report https://www.ictd.ac/publication/gender-tax-policies-global-south-k4d/

2. Analysis of ISORA 2018 Data

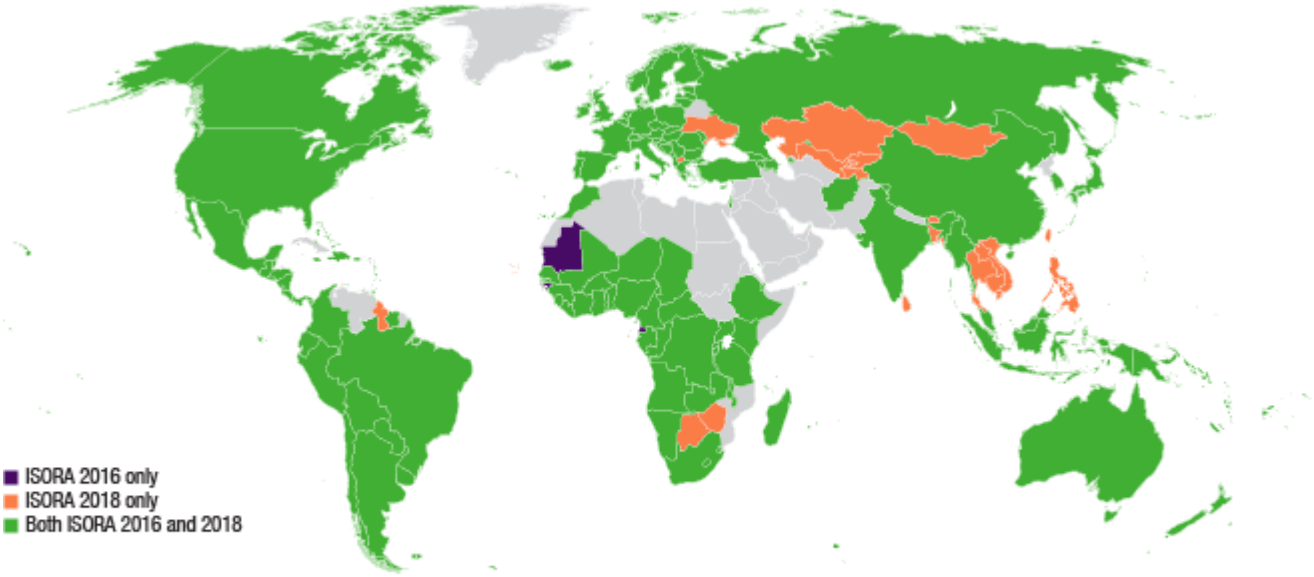
A. Participant Metrics and Overall Analytical Approach

Participant Metrics

As noted, there are 159 participating tax administrations in ISORA 2018. All have completed most of the information requested in the questionnaire for both fiscal years covered in the survey. Four administrations began but did not complete the survey, even for a single year.

The geographic distribution of the 159 ISORA jurisdictions participating in ISORA 2018 is shown in Figure 2. The figure also indicates the jurisdictions that participated in ISORA 2016.

Figure 2. Geographic Distribution of ISORA 2016 and 2018 Participants



Source: IMF staff.
Note: The boundaries, colors, denominations, and any other information shown on the maps do not imply, on the part of the International Monetary Fund, any judgment on the legal status of any territory or any endorsement or acceptance of such boundaries.

The numerical distribution of the 159 participants by World Bank–defined Income Group[5] and IMF region is shown in Table 2. The actual distribution of participants by IMF Region and World Bank Income Group can be found in Annex Table 1.

As was the case for ISORA 2016, ISORA 2018 responses from Low-Income Countries (LICs) are largely concentrated in sub-Saharan Africa, whereas Europe's responses are dominated by Upper-Middle-Income Countries (UMICs) and High-Income Countries (HICs). The numbers of participants in ISORA 2018 in the Middle East and Central Asia has grown, although they remain smaller than the participation numbers for any other region.

Most ISORA 2016 participants also participated in ISORA 2018. Thus, there are now four years of data available for 131 jurisdictions. The distribution of these 131 by World Bank income group and region is shown in Table 3.

[5] The World Bank groups countries by 2017 gross national income per capita as follows: low-income countries—$995 or less; lower-middle-income countries—$996 to $3,895; upper-middle-income countries—$3,896 to $12,055; and high-income countries—$12,055 or more.

Table 2. Number of Survey Participants by Income Group and IMF Region						
Group	**Sub-Saharan Africa**	**Asia and the Pacific**	**Europe**	**Middle East and Central Asia**	**Western Hemisphere**	**Total**
Low-Income Countries	19	0	0	2	0	21
Lower-Middle-Income Countries	14	13	2	3	4	36
Upper-Middle-Income Countries	5	11	11	4	19	50
High-Income Countries	1	8	30	0	13	52
Total	**39**	**32**	**43**	**9**	**36**	**159**

Table 3. Distribution of Number of Participants in Both ISORA 2016 and 2018 by Income Group and IMF Region						
Group	**Sub-Saharan Africa**	**Asia and the Pacific**	**Europe**	**Middle East and Central Asia**	**Western Hemisphere**	**Total**
Low-Income Countries	19	0	0	0	0	19
Lower-Middle-Income Countries	11	6	1	1	4	23
Upper-Middle-Income Countries	4	6	10	3	17	40
High-Income Countries	1	7	30	0	11	49
Total	**35**	**19**	**41**	**4**	**32**	**131**

The size of the institutions and jurisdictions participating in ISORA 2018 varies considerably. Table 4 shows the distribution of ISORA 2018 participants by country size.

The distribution of ISORA 2018 participants by country size shows an increase over ISORA 2016 participants across the board, over ISORA 2016 participants. The greatest increase is participants is in the group of Lower-Middle-Income Countries with a population of over 24 million.

A greater number of Fragile States participated in ISORA 2018 than in ISORA 2016.[6] Of the 42 states qualified as fragile by the IMF,[7] 25 completed ISORA 2018. The proportion of Fragile States for which ISORA data are available is thus 60 percent, lower than the proportion of the non-fragile countries that completed the survey. A breakdown of the fragile state ISORA 2018 participants and non-participants by income group is shown in Table 5.

Table 4. ISORA 2018 Survey Participants by Population Size					
Group	**Small States: < 1.5 Million People**	**1.5 to 7.5 Million People**	**7.5 to 24 Million People**	**> 24 Million People**	**Total**
Low-Income Countries	0	4	11	6	21
Lower-Middle-Income Countries	6	8	7	15	36
Upper-Middle-Income Countries	18	14	7	11	50
High-Income Countries	15	14	12	11	52
Total	**39**	**40**	**37**	**43**	**159**
Source: https://data.worldbank.org/indicator/SP.POP.TOTL					

[6] In *ISORA 2016 Understanding Revenue Administration* 18 fragile state participants were identified using the IMF 2015 classification. Using the IMF 2019 fragile state classification, there would have been 19 participants.

[7] *FCS Strategy Concept Note*. 2021. Washington DC: International Monetary Fund (unpublished).

Table 5. Fragile State Participation in ISORA 2018			
Group	**Fragile States Completing ISORA**	**Fragile States Not Completing ISORA**	**Percent Fragile States That Completed ISORA**
Low-Income Countries	14	8	64
Lower-Middle-Income Countries	7	6	54
Upper-Middle-Income Countries	4	3	57
High-Income Countries	0	0	–
Total	**25**	**17**	**60**

The lower level of participation by fragile states compared to non-fragile states, while unsurprising, implies that the statistics for fragile states in comparison with non-fragile countries should be treated with caution: the "weakest" fragile states are less likely to have participated. Only one of the four states classified as "high conflict" by the World Bank participated in either of the first two rounds of ISORA.

Response Rates in ISORA 2018

The preceding section shows that the overall participation rate for ISORA has improved—from 135 to 159 participants. For survey questions that require a mandatory response (yes/no questions, check boxes, etc.) there will be a corresponding increase in the number of responses available for analysis.

There has also been an increase in response rates for questions requiring a numerical response.[8] There could be two major reasons for this improvement: first, the 2018 questionnaire was revised based on response to 2016 ISORA, resulting in the simplification of certain questions, rewording and the provision of additional guidance; and second, a growth in the availability of management data to participating administrations.

ISORA 2016 and 2018 response rates for a sample of numerical questions are presented below. Figure 3 shows response rates for ten questions related to the tax administration's resources, resource allocation and planning volumes.

The figure demonstrates improvements in response rates to ISORA questions dealing with resources. It also confirms a trend, seen in ISORA 2016, where questions requiring more disaggregated data tend to have lower response rates. For example, the response rate for total full-time equivalents (FTEs) exceeds the rate for one of its subsets—audit, investigation, and verification FTEs. Further, greater improvement is seen in high-level resource information availability than in the more granular questions. Exceptions to the general trend are the response rates to questions on active taxpayers.

Similar response rate improvements can be noted in relation to questions concerning the tax administration's performance and outputs. The response rates to a further 10 questions are compared in Figure 4.

The most dramatic improvement can be seen in the data on audits. The growth in responses on audit-related questions may be associated with a simpler question construction. There has also been significant growth in the completeness of data on revenue and arrears. Lower response rates to more granular questions relating to performance and outputs are also evident.

ISORA 2018's larger number of data points supports a better understanding of the range and distribution of tax administrations' work volumes and performance outcomes. However, the larger set of tax administrations providing data in ISORA 2018 than in ISORA 2016 adds complexity to drawing conclusions from direct comparisons between aggregate statistics drawn from these two survey rounds.

[8] In both rounds of ISORA the online data collection platform requires a response to all applicable questions. In the case of numerical responses, however, the response may be a 'D' which denotes that the data are not available. The response rate is determined as the ratio of the number of numerical inputs provided for a particular question (excluding Ds, and zeroes where appropriate), to the number of responses that should have been provided.

Figure 3. ISORA 2016 and 2018 Response Rates Related to Resources and Planning Volumes
(Percent)

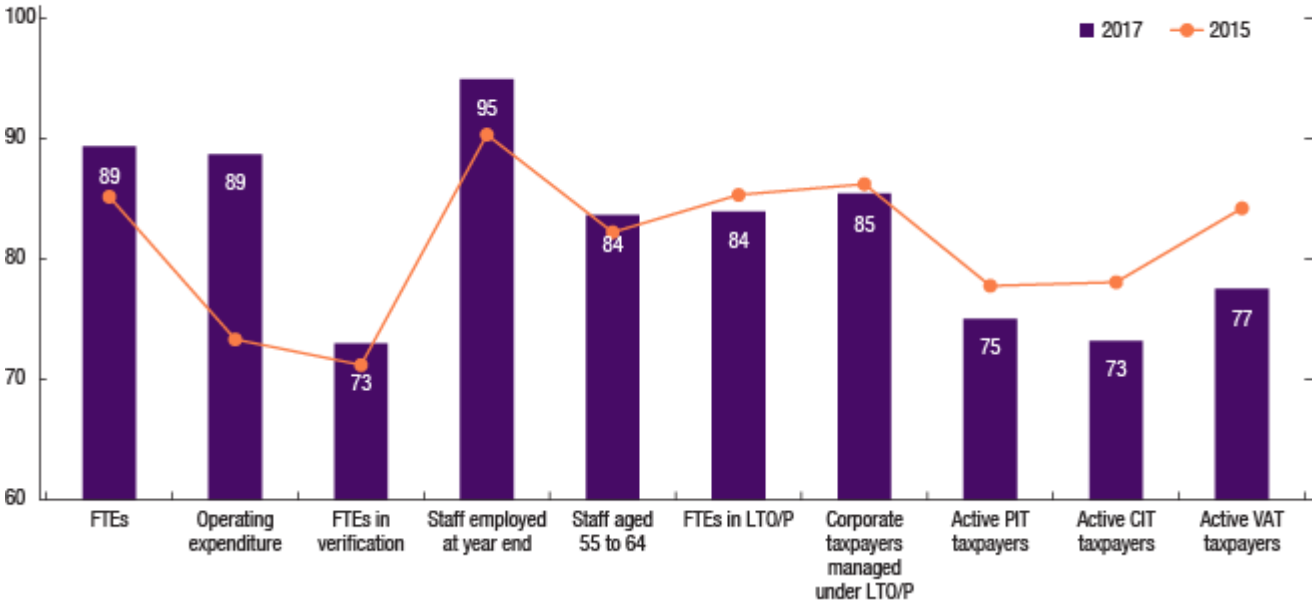
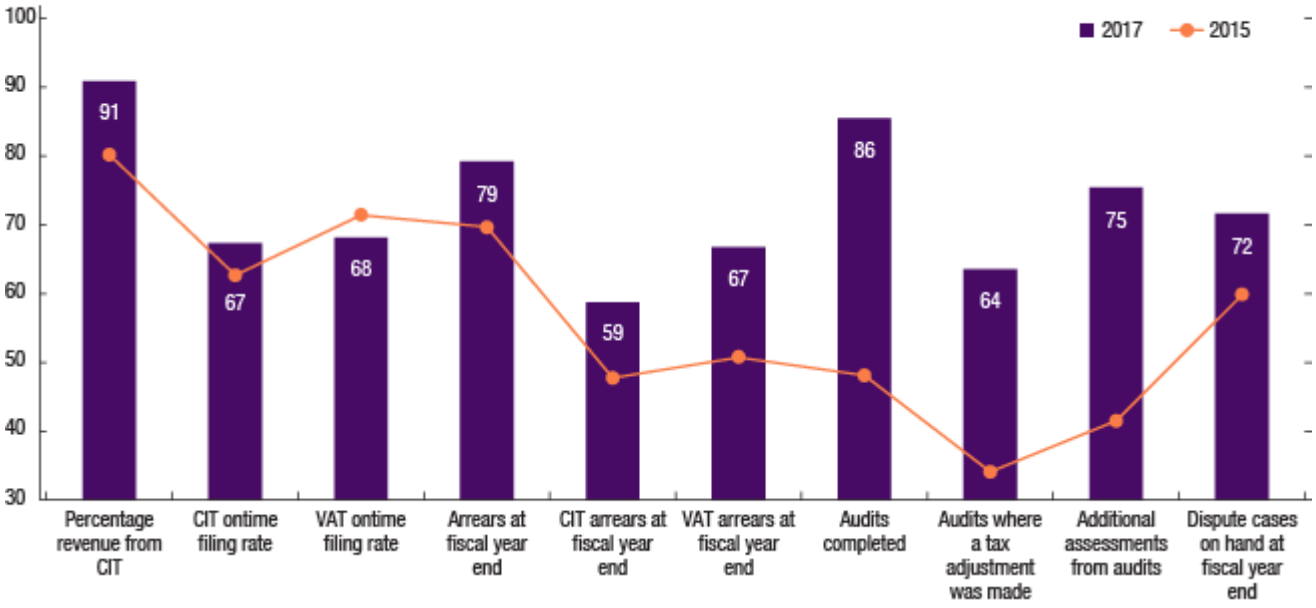


Figure 4. ISORA 2016 and 2018 Response Rates Related to Performance and Outputs
(Percent)



Analytical and Presentation Approach

Overall Approach

As was the case for this publication's predecessor (*ISORA 2016: Understanding Revenue Administration*), this publication considers tax administration data from ISORA 2018 along the following subject matter groupings: (1) performance-related data, (2) profile data, and (3) data practices and structural foundations—set out in Table 6.

Table 6. Grouping of ISORA Subject Matter Areas	
Area	**Examples**
Performance-Related Data	Return filing and payment, electronic filing and payment, tax arrears, audit/verification, disputes, cost of collection, and tax administration resources.
Profile Data	Institutional arrangements, scope, segmentation, registration, personal income tax withholding and reporting, information-gathering powers, collection powers, management issues, human resources, and compliance risk management.
Data on Practices and Structural Foundations	Indices on management and human resources autonomy; public accountability; general management; human resource management; service orientation; compliance risk foundations and digitalization.

These groupings permit a targeted analysis in terms of the general and specific interests of the IMF. Further, the third grouping, administrative and operational practices, is set up based on indices in seven specific areas, as noted in Table 6. These indices are calculated based on a participant's responses to a series of questions related to the topic at hand. The higher the number of positive responses, the higher the resulting index. There is an inherent assumption that positive answers reflect "good" practice.

Standard Groupings of Participating Administrations

During the analysis of previous surveys, including ISORA 2016, it became clear that there were significant differences in tax administration (both in performance and in other areas) between higher-income and lower-income jurisdictions. One obvious reason for this is the very characteristics of higher-income administrations (for example, adequate numbers of properly skilled staff, stable budgets, and advanced applications of information technology). However, it was also clear that these differences were more muted, and in fact, more difficult to explain in the context of four different levels of income grouping (LICs, LMICs, UMICs, and HICs). In some cases, the sample size is insufficient to make any inferences from four different income groupings. Analyzing ISORA data at four income levels is simply too granular for some of the data provided through the survey. Further, many small states, although largely higher-income countries, exhibit characteristics of lower-capacity, lower-income-tax administrations. Treating this group separately (that is, taking them out of the higher-income and lower-income groupings) increases the homogeneity of the groups, which leads to clearer differences in the statistics of these groups.

Therefore, like its predecessor, this publication uses a *standard grouping* of participants for most of its analysis, namely: (1) small states, (2) lower-income jurisdictions, and (3) higher-income jurisdictions. For this binary distinction in income level "lower" income will comprise both LICs and LMICs, and "higher" income will comprise UMICs and HICs. Both these groupings exclude small-state participants, that is, those with populations up to 1.5 million.[9]

Table 7 presents the number of participants by IMF Region and Standard Grouping. Annex Table 2 lists all the *participants* by IMF Region and Standard Grouping.

Except in a few instances, this publication does not present analysis by IMF Region. This approach is due to the significant predominance of a single standard grouping category in both sub-Saharan Africa and Europe, the lack of any predominant category in Asia and the Pacific, and the limited sample size for the Middle East and Central Asia.

Comparing ISORA 2018 Data against ISORA 2016 Data

Common practice throughout this publication will be to compare statistics (average or median) from data provided in ISORA 2018 (fiscal years 2016 and 2017) with the same statistics compiled from data provided in ISORA 2016 (fiscal years 2014

[9] Table 4 shows that most jurisdictions with a population of under 1.5 million are either UMICs or HICs. There is some differentiation evident between Lower- and Higher-Income Small States, but the differences are more muted by income group than is the case for larger jurisdictions. For example, resourcing measures such as taxpayers per full-time-equivalent, or population to full-time-equivalent which are very different for the Higher-Income and Lower-Income groups of administrations (see Figure 21) varies less by income group among the Small States.

Table 7. Number of Survey Participants by IMF Region and Standard Grouping						
Group	**Sub-Saharan Africa**	**Asia and the Pacific**	**Europe**	**Middle East and Central Asia**	**Western Hemisphere**	**Total**
Low-Income Countries	5	11	7	0	16	**39**
Lower-Middle-Income Countries	30	10	2	5	4	**51**
Upper-Middle-Income Countries	4	11	34	4	16	**69**
High-Income Countries	**39**	**32**	**43**	**9**	**36**	**159**
Total	5	11	7	0	16	**39**

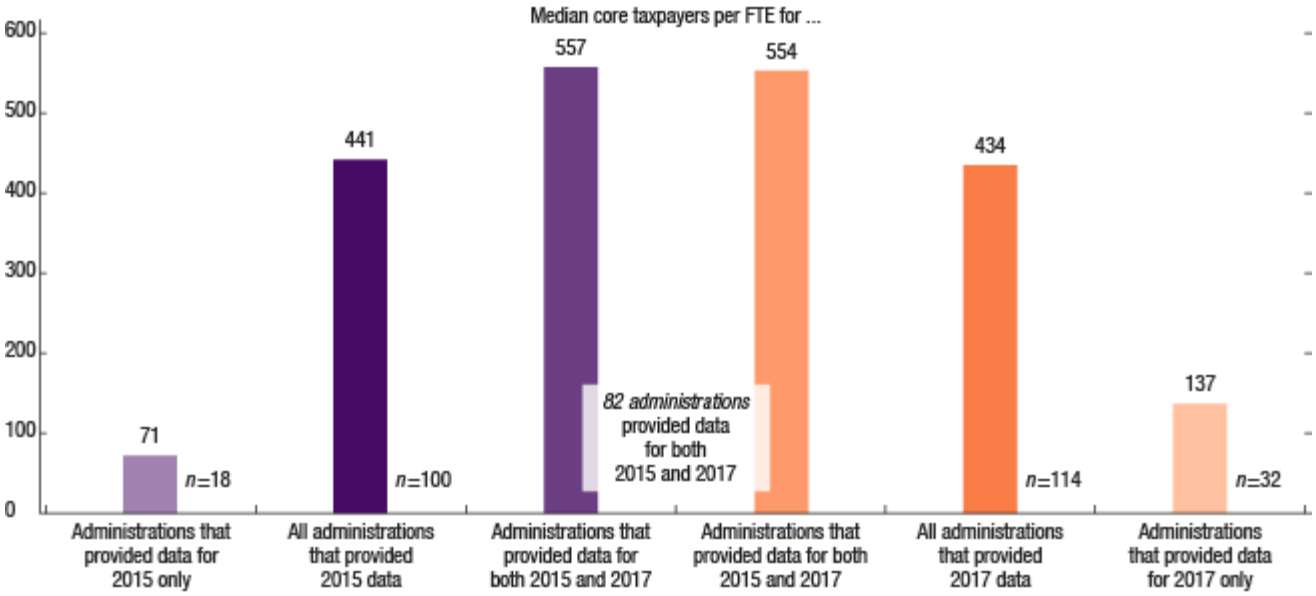
and 2015). In most cases, it will serve to illustrate the analytical point by comparing statistics for two years only—2017 with 2015. Nevertheless, it will occasionally be useful to look at trends over the four-year period (2014–17).

Changes observed in the average or median for different years in a survey like ISORA originate from both:

- Changes in *data values* provided by participants that provided data in both years
- Changes to the *sets of administrations* that provided data for the two periods.

This can be demonstrated using the example of the ratio of core taxpayers to FTEs.[10] Figure 5 compares the participation pattern for administrations submitting data for this measure between 2015 and 2017.

Figure 5. Ratio of Median Core Taxpayers to FTE: Participation Patterns for 2015 and 2017



Note: All purple bars relfect data for 2015; all orange bars reflect data for 2017.

There is a set of ISORA participants that contributes to both years, 82 in this example. However, there are also sets of participants that contributed the necessary data for only one of the two years—in this case, 18 provided data for 2015 only, while 32 administrations provided data for 2017 only. The medians for the "single-year" contributors and the "both year" contributors differ considerably from each other.

The figure illustrates the extent to which an aggregate statistic for groups of tax administrations can differ if the group members differ. It should also be noted that the shift in the aggregate statistic "averages" out participant changes in values that could be either positive or negative. While the medians for 2015 and 2018 for the group of 82 "both year" data

[10] This measure is discussed in full in Section C, and it covers taxpayers registered for PIT, CIT and VAT, and employers registered for PAYE.

contributors are close in value, there are administrations within this group that show either a sharp increase or a sharp decrease in this measure.

When comparing the statistics between survey rounds for the standard groupings used in this publication, there is an additional factor at play. Some of the ISORA participants that participated in both ISORA 2016 and ISORA 2018 transitioned between World Bank LMIC and UMIC classification. Hence there are changes in the composition of the lower-income grouping and the higher-income groupings.[11]

The complexities involved in interpreting large changes in aggregate statistics for fiscal years covered in different ISORA rounds should be borne in mind in the analyses that follow. Where changes are striking or unexpected, the factors contributing to the change will be discussed.

General Considerations

Support to Survey Participants

Each of the five ISORA partner organizations (ADB, CIAT, IMF, IOTA, and OECD) supports participants from their respective organization, meaning they assist them in completing the survey. However, there is a great deal of overlap in the memberships of the partners. For example, OECD supports 58, including a number from both CIAT and IOTA. Only 37 countries are actual OECD members; the rest are associated with the OECD Forum for Tax Administration. In addition, all participants are members of the IMF or are supported by the IMF Regional Capacity Development Centers.

This support includes promoting completion of the Survey, answering queries, providing assistance and explanations, following up to ensure completion, reviewing the quality of data, and addressing issues related to the use of the data.

Annex Table 3 shows 2018 ISORA participants by supporting partner organization.

Availability of ISORA 2018 Data Online

An Annex to this publication containing Excel tables of data corresponding to charts presented in this publication (generally depicting statistics by the standard grouping describe above), together with tabulations by World Bank Income Group, is available online through the ISORA data portal https://data.rafit.org. The tabs to be selected to reach these data are highlighted in Figure 6.

The data Annex also includes information on the number of observations used to derive the statistics of the groupings of administrations.

Other ISORA 2018 data are also available online. While this publication includes discussion and analysis of selected elements of the data collected through the ISORA 2018 survey, it is not intended to cover all collected data. Annex 2 provides a list of ISORA 2018 topics not specifically discussed here. Administration-level data pertaining to these topics are available to registered users.

Figure 6. Location of Data Appendix to this Publication on the ISORA Portal

[11] Three countries moved from the lower-income to higher-income grouping, while one transitioned from the higher-income grouping to the lower-income grouping. The IMF largely follows changes in the World Bank income classifications.

B. Performance-Related Data

Introduction

This section on performance data covers eight specific performance areas (including groups of measures) that are covered in ISORA. They are all generally quantitative measures, and most of the areas are also found in TADAT. These performance areas were also discussed in *ISORA 2016 Understanding Revenue Administration*, and as previously, the purpose of this section is to illustrate the ability of ISORA to collect performance-related data, rather than to provide an exhaustive list of all the quantitative performance measures in ISORA.

In addition to commonality between performance measures considered in TADAT and data collected through ISORA, a strong overlap exists between tax administration performance indicators available from ISORA and those used by the Addis Tax Initiative (ATI).[12] An arrangement has been made that facilitates the ATI's monitoring program use of data collected through ISORA—see Box 2.

Box 2. The Addis Tax Initiative and ISORA

***The ATI's Commitment 2 Tax Administration Performance Indicators*:** ATI members' progress against three commitments is monitored annually (see https://www.addistaxinitiative.net/ati-monitoring for more detail). ATI Commitment 2 is monitored through a set of quantitative and qualitative indicators that assess the partner countries' tax systems performance in raising domestic revenues. Tax administration indicators included in this set cover the following areas:

- Timely filing of declarations (or returns)
- Timely payment of taxes
- Use of electronic services
- The audit program
- Arrears management
- Dispute mechanisms
- Public accountability.

Engagement between the ATI and ISORA Technical Working Group: During 2018 The ISORA TWG met with ATI members to discuss the development of a common set of tax administration indicators that can be used globally. ISORA was identified as a key data source for the monitoring of ATI Commitment 2. Following consent by ISORA participants, ISORA data for 2015, 2016, and 2017 has been drawn from the ISORA 2016 and ISORA 2018 databases and used for Commitment 2 reporting by 16 countries in the 2018 ATI Monitoring Report.[1]

[1]The report is available online.

The key measures discussed in this section relate to:

- ***Return filing*—**on-time filing rates
- ***Payment*—**on-time payment rates
- ***Electronic filing and payment***
    - Percentage of returns filed electronically
    - Percentage of electronic payments

[12] The Addis Tax Initiative is a multi-stakeholder partnership that aims to enhance domestic revenue mobilization in partner countries (see http://www.addistaxinitiative.net).

- ***Tax arrears—***arrears at year-end as a percentage of total net taxes collected
- ***Verification***
    - Assessments raised through verification activity as a percentage of total net taxes collected
    - Verification activity per 100 active taxpayers (coverage rate)
    - Percentage of verification activities leading to adjustment (adjustment rate)
- ***Disputes***
    - Growth in internal dispute cases resolved during the year
    - Growth in year-end stock of objections (administrative disputes)
- ***Cost of collection*** (not measured in TADAT)—total recurrent expenditure as a percentage of total net taxes collected (excluding value-added tax [VAT] and excises on import)
- ***Tax administration resources compared to taxpayers and citizens***
    - Active core taxpayers per FTE (an FTE of 1.0 means resources equal to one staff member available for one full year)
    - Citizens per FTE

Return Filing

Filing of tax returns remains a critical process for all jurisdictions. Increasingly, the "on-time" filing rate is becoming a key performance measure in tax administration. In line with TADAT, the on-time filing rate is determined by taking the ratio of returns filed on-time during the period for a given tax type to the total number of "expected" returns for that same tax type over the same period.

On-time filing rates were determined for all main tax types[13] from the number of expected returns and the number of on-time returns. Where either of these numbers are not provided by a respondent, the rate cannot be calculated.[14] Figure 7 shows the median on-time filing rates per tax type for, 2015 and 2017. Filing rates can be computed for roughly 67 percent of the ISORA 2018 participants, compared to 60 percent for ISORA 2016.

In comparing 2017 with 2015, it is necessary to take into account the addition of new respondents and the removal of others, as well as the reported change in values for those jurisdictions submitting data for both years.

Overall, the VAT on-time filing rate of 86 percent continues to exceed that of other main tax types and is roughly the same for 2017 as it was for 2015 (85 percent). Filing rates in Higher- Income jurisdictions are without exception higher than for other groups in all taxes for both 2017 and 2015. Differences in rates between years are also discernable. This is in part due to different sets of administrations providing sufficient data in 2015 and 2017.

Small States have the lowest on-time filing rates for each tax type for 2017, continuing a trend reported previously for ISORA 2016. Underlying reasons for their rates could include a general lack of development in overall tax administration and less than optimal information management systems, as well as difficulties associated with scale and an inability to take advantage of specialization which is so necessary in modern tax administration.

Figure 7 shows that for small states, both corporate income tax (CIT) and personal income tax (PIT) on-time filing rates have increased (by 12 and 19 percentage points, respectively). Balancing that, median rates for pay-as-you-earn (PAYE) and value-added tax (VAT) are down (by 13 and 11 percentage points).

For lower-income jurisdictions, PIT, CIT, and VAT have decreased (by 2, 6, and 1 percentage points), while PAYE is up by 5 percentage points.

[13] These are direct taxes such as PIT and CIT and indirect taxes such as VAT and other goods and services taxes. *Main* taxes are sometimes called *core* taxes (for example, in TADAT where this includes social security contributions where they are a major source of revenue and domestic excises).

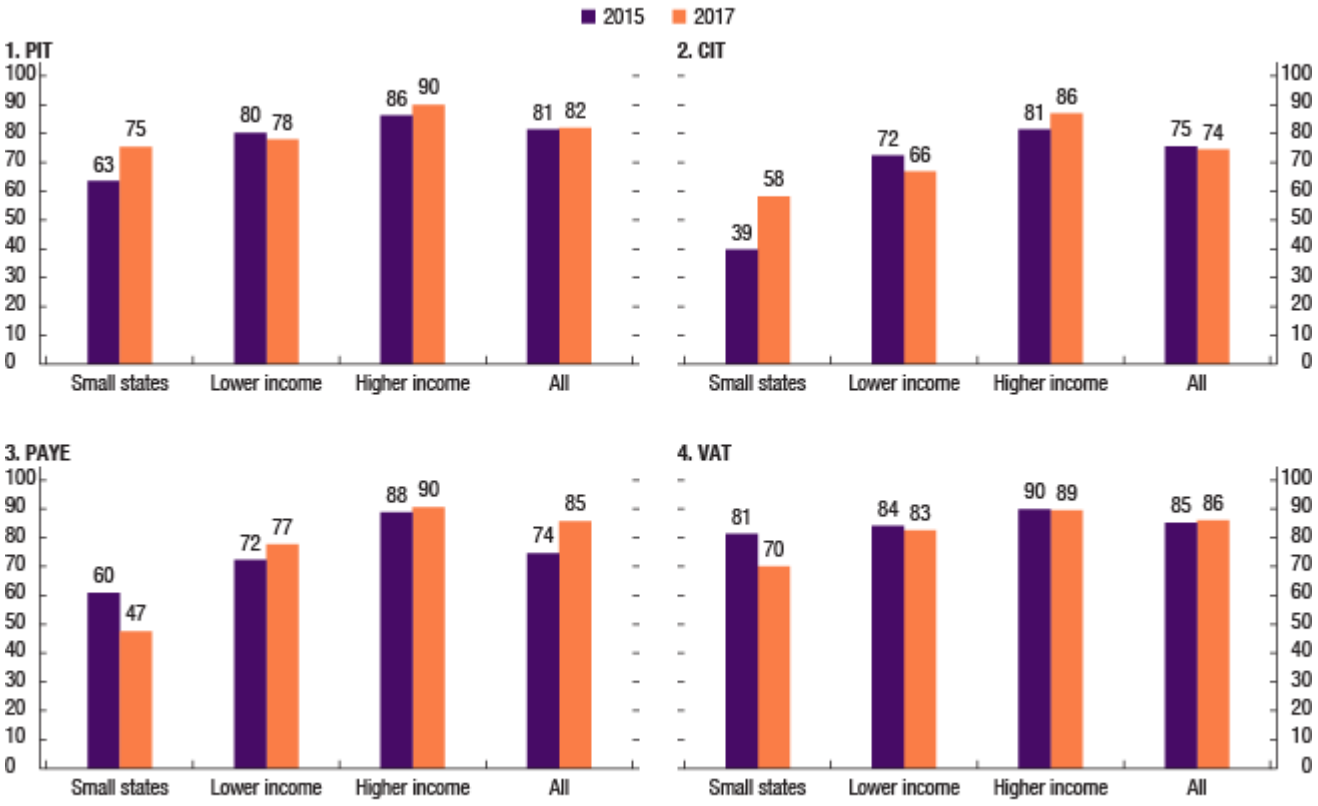
[14] Roughly equal numbers of participants provide the number of expected returns or the number of on-time returns. However, not all these participants provide both figures. For example, 111 and 108 participants provided figures for expected and on-time returns for CIT, but only 103 provided both figures.

For higher-income jurisdictions, PIT, CIT, and PAYE have all increased (4, 5, and 2 percentage points), while VAT is down marginally (from 90 to 89 percent).

Of those administrations that provided data in both years, the median percentage point difference in filing rates between 2015 and 2017 is shown in Table 8. In this table, negative values indicate a drop in filing rates from 2015 to 2017.

One aspect evident from Table 8 is that filing rates for higher-income countries are much less volatile than those for small states and lower-income countries.

Figure 7. Median On-Time Filing Rates for Main Tax Types, 2015 and 2017



Note: CIT = corporate income tax; PAYE = employers withholding such as pay-as-you-earn; PIT = personal income tax; VAT = value-added tax.

Table 8. Median Percentage Point Difference in Filing Rates, 2015 vs. 2017				
Group	**CIT**	**PIT**	**PAYE**	**VAT**
Small States	2.5	0.4	–18.1	0.9
Lower Income	–6.8	–5.2	–0.9	1.7
Higher Income	0.6	0.3	2.1	0.0
All	**0.7**	**0.3**	**0.2**	**0.1**

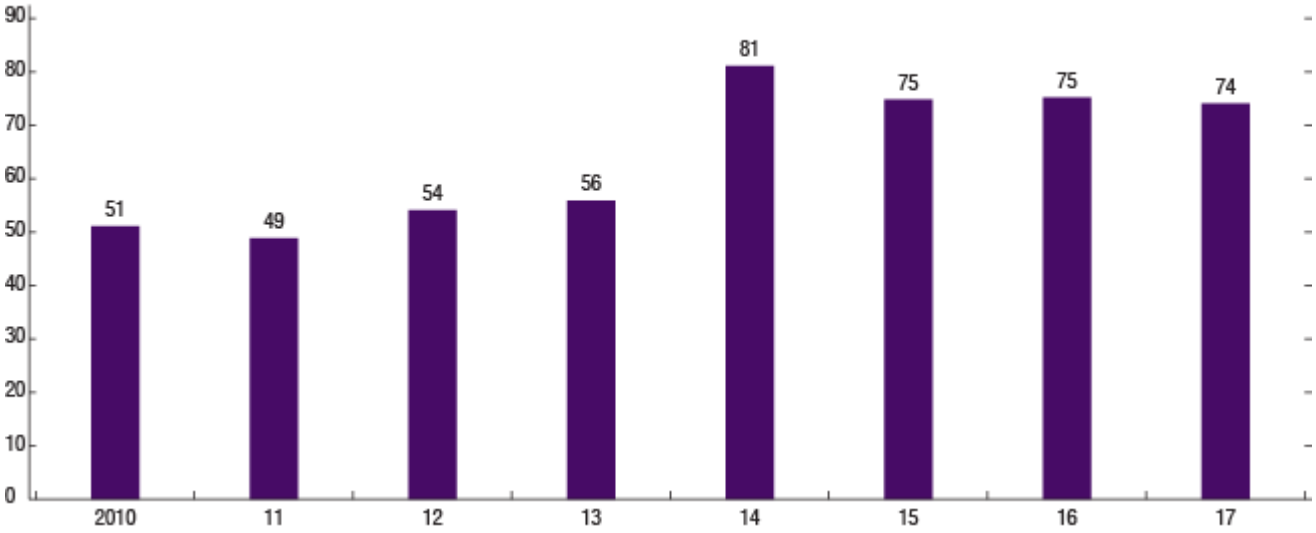
Median on-time filing rates for CIT for the period 2011 through 2015 were analyzed in the predecessor to this publication.[15] Figure 8 extends the time series for median on-time filing rates for CIT through to 2017.

As has been noted, there is very little change in the reported CIT on-time filing rate between 2015 and 2017. The major change occurred between 2013 and 2014, and the more detailed study from ISORA 2016 identified the many technical reasons for the large change and concluded that it could not be interpreted purely as an indication of greater taxpayer

[15] See IMF. 2019. *ISORA 2016: Understanding Revenue Administration.* The percentages in Figure 8 do not correspond exactly with the figures used in the ISORA 2016 analysis, as that publication used percentages only from countries that provided data for all six years (2010–15).

compliance. Despite many changes between ISORA 2016 and ISORA 2018 it was not expected there would be dramatic changes in on-time return filing rates, and this expectation has been borne out by the data for 2016 and 2017.

Figure 8. Median On-Time Filing Rates for CIT for the Period 2010 to 2017



Payment

ISORA collects similar information for on-time payments as it does for on-time filing. For the purposes of performance measurement, this section will review the on-time payment rate for main taxes.

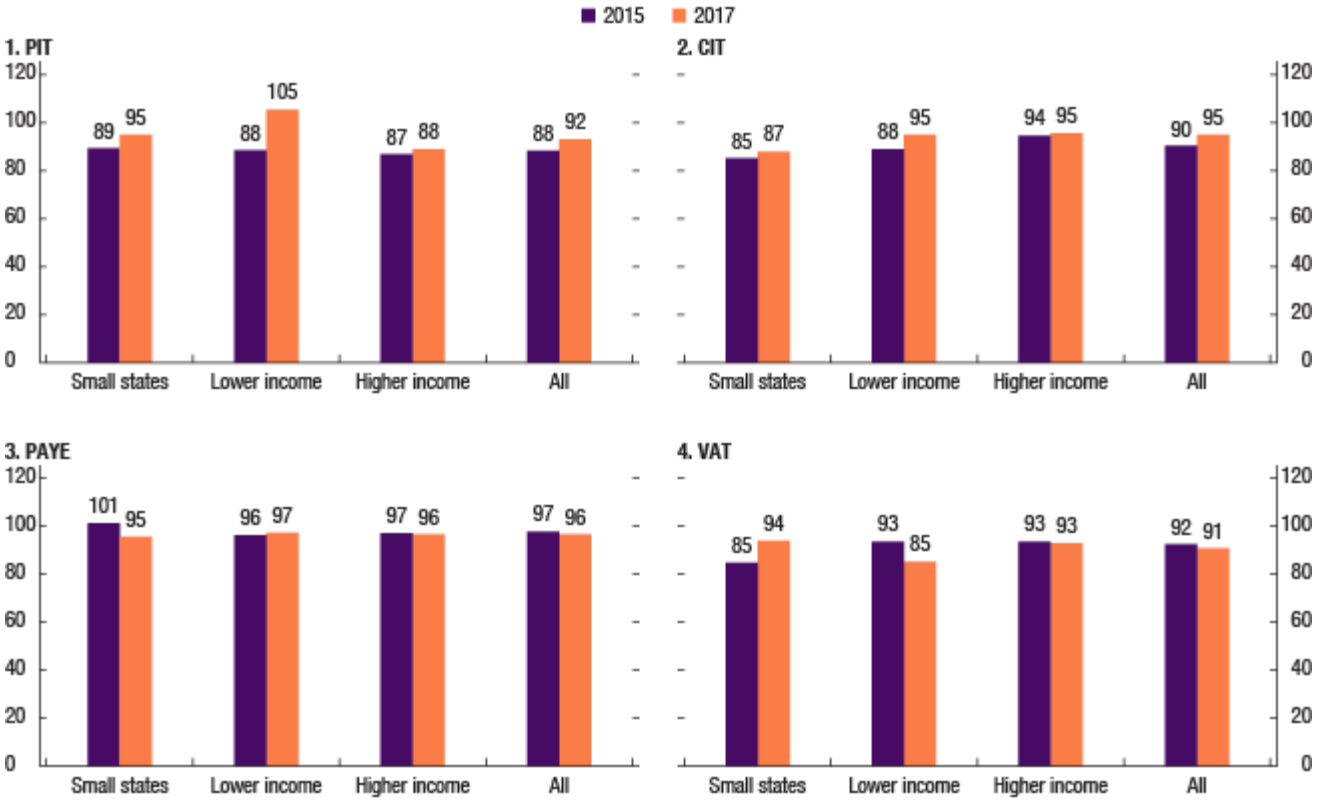
TADAT examines two measures in respect of on-time payment, both having to do with VAT only: (1) on-time payment rate *by number* of payments and (2) on-time payment rate *by value* of payments. VAT is taken to be a proxy for the other tax types.

In line with the expectation that large taxpayers are more compliant, the on-time payment rate by value generally exceeds the on-time payment rate by number.

The ISORA completeness or response rate for on-time payment is low, in fact significantly lower than for on-time filing. For 2017, more than 65 percent of jurisdictions provided all data necessary to compute on-time filing rates. For on-time payment rates, the comparable figure is about 46 percent. Results from ISORA 2016 were similar, so this remains a concern for all the ISORA partners and raises a note of caution when using the data and derived analyses.

The on-time payment rate is defined as the value of payments received by due date as a percent of the estimated value of payments expected by due date. In Figure 9, on-time payment rates *by value* are presented for 2015 and 2017 for all four main taxes—but not *by number* as these data are not requested in ISORA.

Figure 9. Median On-Time Payment Rate by Value, 2015 and 2017



Note: CIT = corporate income tax; PAYE = employers withholding such as pay-as-you-earn; PIT = personal income tax; VAT = value-added tax.

Looking at overall on-time payment rates from 2015 to 2017: PIT is up 4 points to 92 percent, and CIT is up 5 points to 95 percent while PAYE is down one point to 96 percent; VAT is down one point to 91 percent.[16]

Within this overall picture, several other observations are possible:

- Differences by income group and Small States do not appear to be significant, with almost all values over both years clustered within a 10-percentage-point range. PIT for lower-income countries is the sole exception.
- Rates by group are not consistent across tax type. For example, depending on tax type and year, each grouping has examples where their rates are highest, lowest, or in-between.

While data in this area should improve over time, caution should be exercised in using these ISORA 2017 data relating to on-time payments.

As has been noted earlier in this publication, these aggregate statistics can disguise massive swings both ways. Between 2015 (ISORA 2016) and 2017 (ISORA 2018), various changes have occurred. For example, on any given set of ISORA data, there will be new jurisdictions reporting (including new participants and old participants who had previously not reported data) and jurisdictions that previously reported but are now not reporting or who have dropped out of ISORA altogether. In addition, there will be changes in values reported by jurisdictions providing the data in both years. These factors combined complicate any aggregated analysis of the change between ISORA 2016 and ISORA 2018.

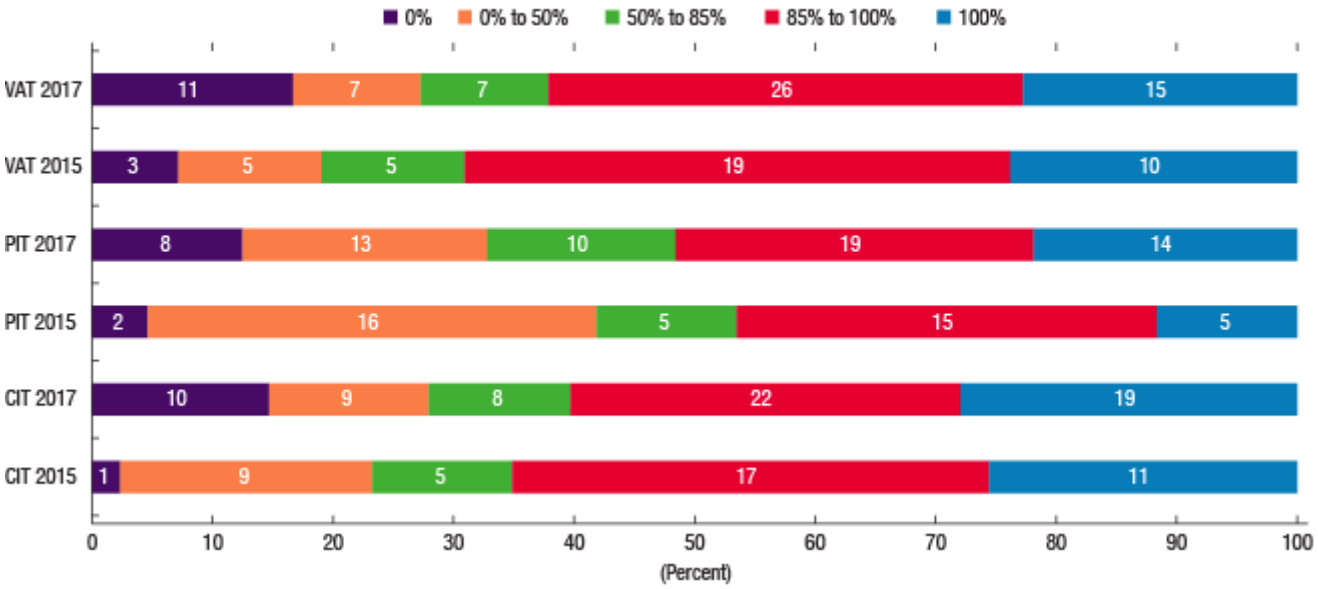
[16] Some medians of more than 100 percent are observed. As the on-time payment rate is calculated as the ratio of on-time payment to expected payments, the rate will be greater than 100 percent if the estimated expected payment is less than the on-time payment. Many administrations report larger values for on-time payment than the expected payment. The reason for this is not clear.

Electronic Filing and Payment

ISORA seeks data on filing by channel, that is, paper, online, or in the case of PIT, by deemed acceptance.[17] It also seeks data on payment rates by channel, that is, online, via agency, in person. It is posited that on-line filing and payment rates can be a measure of tax administration performance.[18] Many administrations are striving to increase these rates to improve service and to increase efficiency.

On-line filing response rates for ISORA 2018 continue to be low but show a marked improvement over 2016. Depending on the year and tax type, ISORA 2016 had data available for some 50 jurisdictions, while in the current survey the corresponding number is about 70. This is a low response rate overall—well under 50 percent of total ISORA participants, with most responses coming from Higher Income jurisdictions. Less than a quarter of all Small States and Lower-Income jurisdictions provided information on filing channels used. For VAT, PIT, and CIT the number of 2015 and 2017 responses are shown by online filing rate in Figure 10.

Figure 10. Number of Responses by On-Line Filing Rate for VAT, PIT and CIT, 2015 and 2017



Very few among those providing e-filing channel information indicated that no electronic filing occurred. It appears therefore that administrations offering e-filing facilities were more likely to provide channel information; hence, the statistics derived from the responses will be skewed toward administrations that offer electronic filing. These factors suggest that the development of e-filing channels and the monitoring of filing channels go hand in hand. It is not clear why most jurisdictions are not able to provide filing channel information, as this suggests that the information is not used widely for planning purposes.

For 2017, approximately a quarter of respondents providing return filing channel information indicated that 100 percent of CIT returns are received online (the corresponding figure for VAT and for PIT is just less than a quarter). More administrations record an online filing rate of between 85 and 100 percent than a rate between 0 and 85 percent. It appears that administrations that offer e-filing are generally successful in getting CIT and VAT taxpayers to submit returns electronically. The online filing rates for PIT lag those of CIT and VAT for 2015, but they have somewhat caught up for 2017. This may in part be due to administrations developing digital processes for legal persons before they do so for natural persons.

The average percentages of returns filed electronically for CIT, PIT, and VAT for 2015 and 2017 for administrations reporting e-filing (that is, excluding responses indicating that no returns were filed online) are set out at Figure 11. It is clear from this

[17] "Deemed acceptance" refers to returns that are fully pre-filled by the administrations and do not require a response from the taxpayer.
[18] Both measures are used in TADAT.

figure that the e-filing rates for participants from Higher-Income jurisdictions are generally higher than those from participants from Lower-Income jurisdictions and Small States.

This is not surprising given the push in Higher-Income jurisdictions to publicize and promote electronic filing of tax returns. Taxpayers in these countries would also in general be more familiar with undertaking other transactions electronically. It is also not surprising to find CIT and VAT e-file rates in these jurisdictions reaching a saturation point (that is, above 85 percent for both 2015 and 2017) while PIT lags at under 80 percent in each year for these Higher-Income jurisdictions. Slightly less than a third of administrations in Higher-Income jurisdictions that provided channel information indicate a 100 percent e-filing rate for CIT and VAT. Given the nature of PIT in Higher-Income jurisdictions, and its many peripheral uses such as social benefits delivery, current levels of e-filing may continue to grow until reaching a saturation point: roughly 20 percent of Higher-Income respondents report 100 percent electronic filing for PIT. Nonetheless, PIT e-filing did show considerable growth in Higher-Income countries over the 2015–17 period.

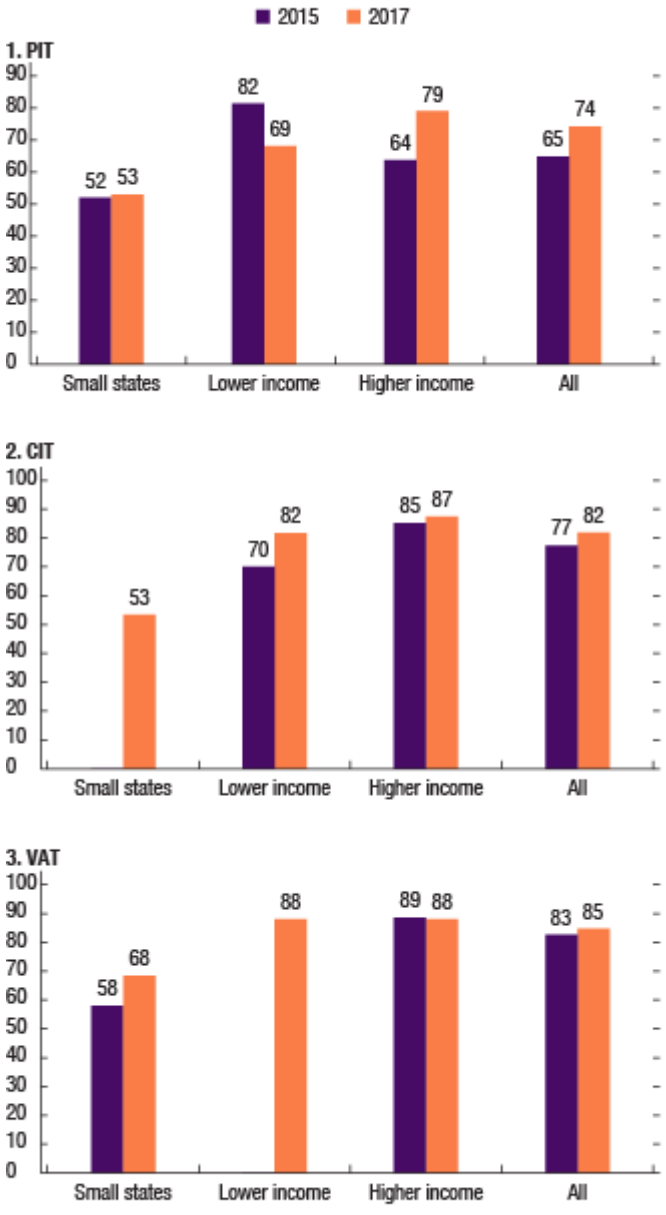
Online payment rates are available for even fewer jurisdictions than online filing rates. These very low response rates, especially for such a widely accepted measure of performance, will continue to affect the applicability of any analytical conclusions.

Both ISORA 2018 and 2016 ask for the percentage of electronic payments by number. Table 9 presents for 2015 and 2017 the average percentage of electronic payments by number (for countries that participated in both surveys).

Overall, the percentage of online payments has increased by approximately 20 percent. This is not unexpected given that taxpayers are increasingly making online payments for many other types of transactions. Higher-Income participants have increased the number of electronic payments by some 10 percent, with both Small States and Lower-Income participants reporting larger increases. However, these latter increases are based on a very small sample size.

ISORA 2018 also collects information on average percentage of online payments by value, presented in Table 10.

Figure 11. Average Percentage of Returns Filed Electronically by Tax Type, 2015 vs. 2017



Note: CIT = corporate income tax; PIT = personal income tax; VAT = value-added tax.

As may be expected, percentages by value generally exceed percentages by volume (number) because the latter often include large numbers of low-value payments, associated with taxpayers less likely to transact electronically.

Table 9. Average Percentage of Electronic Payments by Number of Payments, 2015 and 2017		
	Percentage of online payment by number, 2015	**Percentage of online payment by number, 2017**
Small States (4/4)	–	–
Lower Income (6/4)	47	–
Higher Income (20/34)	54	57
All (30/42)	**47**	**57**

Table 10. Average Percentage of Electronic Payments by Value, 2017	
	Average online payment by value, 2017
Small States (10)	46
Lower Income (8)	60
Higher Income (35)	64
All (53)	**60**

Tax Arrears

Reducing outstanding tax arrears is a priority of all tax administrations. A commonly used performance measure in this regard is the ratio of the stock of total tax arrears at year-end to total tax collections for the year. This is a performance outcome area[19] for TADAT, wherein a ratio is computed for each of the past three fiscal years and a three-year average taken to score this dimension.

ISORA collects information to compute the ratio of year-end tax arrears as a percentage of total net tax revenue; however, these data may not be directly comparable to TADAT as ISORA 2018 participants sometimes include in their revenue totals VAT collected at the border by customs and sometimes do not.[20] To ensure comparability, VAT collected on imports is excluded from tax revenue. To the extent that this is a factor, ISORA-computed ratios may be overstated.

In ISORA 2018 data were requested on arrears collected, arrears written off, and new arrears established during the fiscal year. These enable the determination of the change in arrears compared to total net tax collection. However, fewer participants provided figures for these components in the change in arrears (105, 72, and 98, respectively) than for closing stock of arrears (125).

Figure 12 sets out the median values for tax arrears at year-end as a percentage of total net tax collection for 2015 and 2017. While this measure enjoys fairly high acceptance, some caution in its use is advised (see IMF publication related to ISORA 2016).[21]

From Figure 12, it can be seen that tax arrears as a percentage of total net revenues are increasing for both Small States and Lower-Income participants over the 2015 to 2017 period. The ratios for Higher-Income participants show much greater stability. Overall, significant tax revenues remain uncollected, and these can be expected to grow especially when results from FY 2020 are reported as these will reflect the impact of the COVID-19 pandemic.

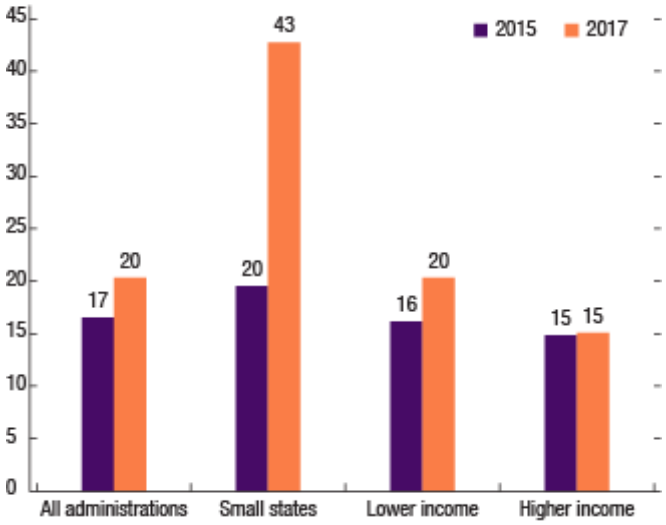
[19] TADAT defines the measure as "the value of total core tax arrears at fiscal year-end as a percentage of total core tax revenue collections for the fiscal year." The numerator in this ratio, that is, total core tax arrears, includes all core tax arrears including penalties and interest, both collectible and uncollectible. The denominator includes the total amount of core tax collected (net of refunds) by the tax administration during the year.

[20] Some ISORA partners only focus on tax administration and as such do not regard VAT on imports as a tax collected by the tax administration.

[21] For a more complete discussion of these cautions, see the previous IMF publication — *ISORA 2016; Understanding Revenue Administration*, p. 29.

The ISORA collects information on the percentage of total debt considered uncollectible by the administration. For 2017, the median is 38 percent overall, and 40, 33, and 45 percent, respectively for Small States, Lower-Income, and Higher-Income participants. These figures are based on a relatively low response rate of 48 percent.

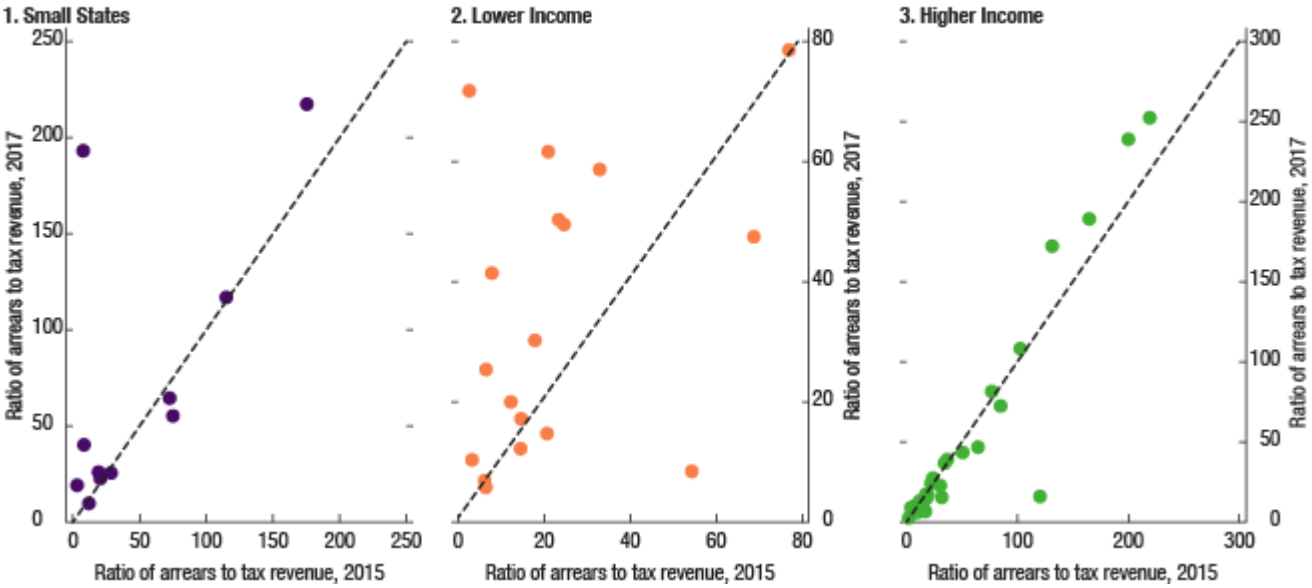
Figure 12. Median Tax Arrears at Year-End as a Percentage of Total Net Tax Collected, 2015 and 2017



Despite a significant increase in survey responses in this area (74 percent of participants for 2017 versus 62 percent for 2015), the data on arrears continue to be beset with implausibly high and implausibly low figures, and skew distributions. This means medians will be much more useful than averages for comparisons.

One way of looking at this issue is to examine a scatter diagram of the relationship between arrears reported by administrations in 2015 and 2017 (as a percent of net tax revenue). This is presented at Figure 13 for the 73 participants who provided figures for both years. For these, the median goes from 14.7 percent in 2015 to 16.9 percent in 2017.

Figure 13. Relationship Between Arrears Reported in 2015 and 2017 by Standard Grouping
(Percent of tax revenue)



If there were no change between arrears as a percent of tax revenue in 2015 and 2017, values would lie along the dotted line. Values above the line indicate an increase in values for 2017. Correspondingly, values below indicate a decrease. In addition, the further the distance from the dotted line, the greater the change within the two-year period.

For Higher-Income countries, ratio values cluster along the dotted line, indicating, as does Figure 12, that there has been little change over the two years in question. It is noteworthy, however, that there are many extremely high values in these ratios, a clear signal that some Higher-Income countries are still running very high debt levels.

For the Lower-Income countries, most of the data points lie above the dotted line, indicating the significant increases in the ratio between 2015 and 2017 that are evident in Figure 13. The volatility observed in reported arrears may in part be due to

inconsistencies in measurement over time. Volatility in arrears reported by Small States is also evident in both the smaller and larger arrears ratios.

Verification

Verification comprises a variety of interventions typically undertaken by revenue administrations to check whether taxpayers have properly reported their tax liabilities. The primary verification intervention undertaken by revenue administrations is usually described by the term ”tax audit” or ”tax control.” However, across revenue administrations audit interventions vary in their scope and intensity. ISORA uses the following definitions for verification:

- ***Comprehensive Audit*** – an intervention that is usually in-depth, covers multiple taxes, numerous issues and tax years, and is mostly carried out at the premises of the taxpayer.
- ***Issue-oriented Audit*** – an intervention usually focused on specific issues, taxes, or tax years, and normally carried out at the premises of the taxpayer.
- ***Desk Audit*** – an intervention usually resulting from an in-office review of information returned by the taxpayer and normally takes the form of further written or telephonic enquiries.
- ***Automated Audits*** mean any system/rule-based activities undertaken by the authority in an automated manner.

With these descriptions in mind, this analysis focuses on two main performance measures for audit: (1) assessment results, or audit effort and (2) coverage and adjustment rates. Results are measured by the percentage of total tax revenue provided through verification activities. Coverage rate is measured by verification activity per 100 active taxpayers and adjustment rate is measured by the percentage of the verification activity that leads to an adjustment in the tax liability of the taxpayer.

As will be noted in the next section on profile data, approximately 30 percent of all tax administration staff are engaged in activities related to verification, so these functions are a substantial consumer of scarce tax administration resources.

Verification Results

Turning to the first measure of performance—verification results—there has been an increase in the number of data points available on assessments raised and responses to questions on audit type in ISORA 2018 compared to ISORA 2016, particularly in respect of issue-oriented and desk audits. Table 11 compares audit type responses available in 2015 with 2017.

Table 11. Responses to Audit Type Questions 2015 vs. 2017

Audit type	Number of Responses 2015	Number of Responses 2017	Change in Number of Responses	Percent Respondents Providing Data 2015	Percent Respondents Providing Data 2017
Comprehensive	76	88	+12	56	55
Issue-Oriented	66	89	+23	49	56
Desk	49	65	+16	36	41

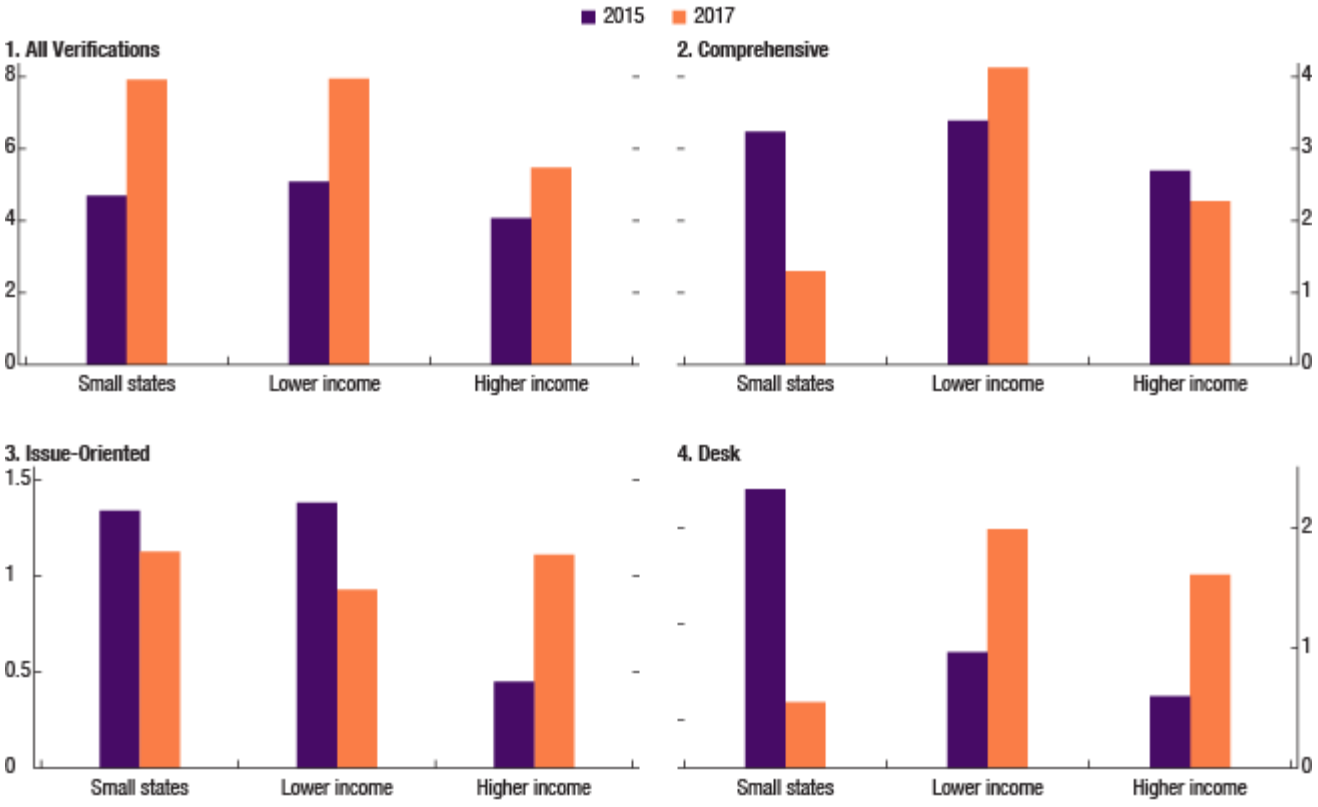
The increase in the number of responses is partly the result of the increase in the number of ISORA participants. In addition, some of the increase could be from the way in which the questions were asked, which differed for ISORA 2016 and 2018. For 2018, respondents were first asked for aggregated information, and then for detailed breakdowns by audit type (and later by tax type). However, for ISORA 2016, specific information was asked related to the three audit types and totals were then calculated by the online survey form. The 2018 method sometimes encourages greater completion by participants. All these factors are also at play in looking at the changes (increases *or* decreases) discussed in Figure 12.

In addition to the three audit types noted above, ISORA also collects information on automated audits. The definition of this category was slightly altered for ISORA 2018. For 2017, non-zero responses were received from only 18 administrations, for which the median assessments raised (percent of tax revenue) is 0.25 percent. Almost two-thirds of the 18 administrations (11 to be exact) are in the Higher-Income grouping. Some 50 administrations said they raised zero. More than half of the Small States indicated that they do not raise any assessments from automated verifications. The audit effort reported from

the automated audits is relatively small, even for Higher-Income countries with sophisticated automated third-party matching programs. This may be because potentially large under-declarations identified through automated checks are referred for follow up through one of the other types of audit. ISORA definitions may need to be improved in this area.

Figure 14 provides information for 2015 and 2017 on assessments raised through verification activity as a proportion of tax revenue by audit type.

Figure 14. Median Assessments Raised through Verification Activity
(Percent of tax revenue)



Note: For 2015, All verifications included "Other," and for 2015 All verifications include automated audits. Not all the administrations that provided results for all verifications provided data for comprehensive audits, issue-oriented audits and desk audits. Consequently, the result for "All verifications" differs considerably from the sum of the results for comprehensive, issue-oriented and desk audits, despite the relatively small contribution of automated verifications or audits.

Figure 14 shows the net result of a mixture of increases and decreases between the years 2015 and 2017. The following observations can be made:

- Underlying values for Small States often have large variations, and in the case of Small States these variations result in a reduction in assessments as a percentage of revenue for all audit types.
- For Lower-Income countries, the respective percentages are up for comprehensive and desk audit, and down for issue-oriented audits. This result may in part be because of inconsistent data in previous years, but there is not yet a long enough time series to determine the reasons. In future it may be possible to analyze the balance between audit types that is necessary for an effective audit program.
- For Higher-Income countries, issue-oriented and desk audit percentages have increased while the percentage for comprehensive audit has declined.

Among other things, this could be an indication of countries changing the mix of audit types being applied over different years.

Coverage

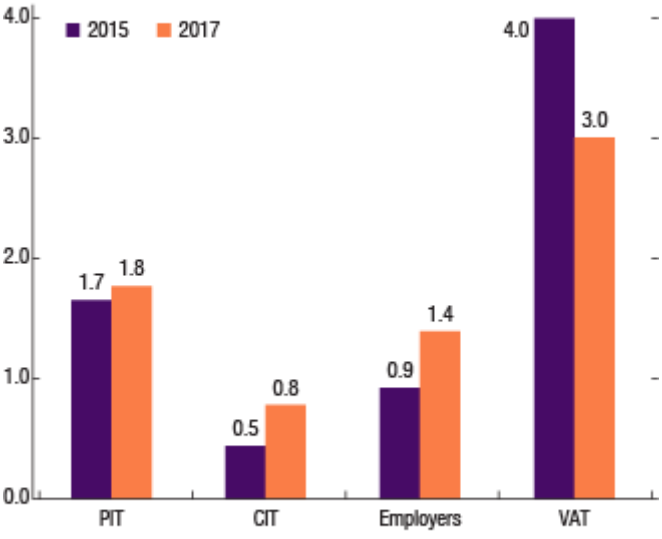
The second performance indicator is the verification coverage and adjustment rates. Neither coverage nor adjustment rates, on their own, can act as a definitive performance measure for verification. For example, coverage could be high or

increasing, but with little impact on directly measurable results. This could mean that the increased verification activities are not being well targeted and are not based on an effective risk-based approach. Adjustment rates could be high or increasing, and this too might not impact results as many other factors could be at play. However, taken together, results along with coverage and adjustment rates can be a useful indicator of progress in an administration's verification program.[22]

Figure 15 sets out the verification activity per 100 active taxpayers for 2015 and 2017. Low reporting rates in 2015 make it difficult to compare coverage by standard grouping over time. Response rates continue to be poor in 2017 for the Lower-Income group in particular.

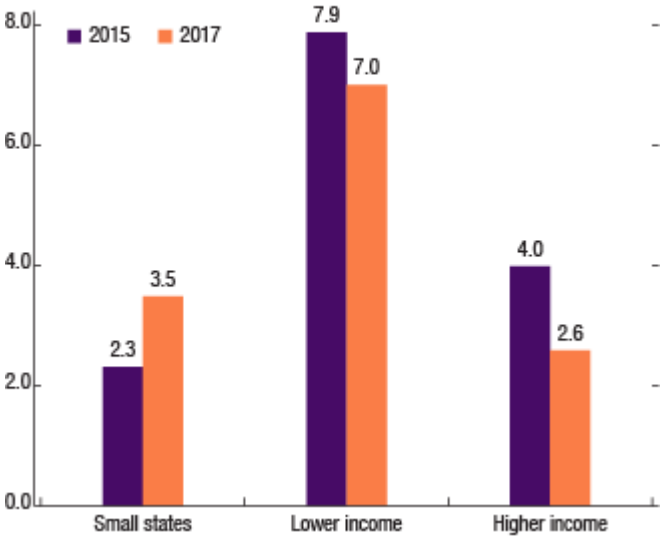
Comparing 2017 with 2015, coverage rates have improved for all tax types except VAT. Despite this apparent drop in VAT coverage, verification coverage rates for VAT remain considerably higher than for other taxes. VAT coverage rates have experienced a 25 percent drop for Higher-Income participants, and approximately a 10 percent drop for Lower-Income participants. This trend is presented in Figure 16.

Figure 15. Verification Activity per 100 Active Taxpayers
(Median for all administrations)



Note: CIT = corporate income tax; PIT = personal income tax; Employers = employers withholding such as PAYE; VAT = value-added tax.

Figure 16. VAT Audits per 100 Active VAT Taxpayers, 2015 and 2017



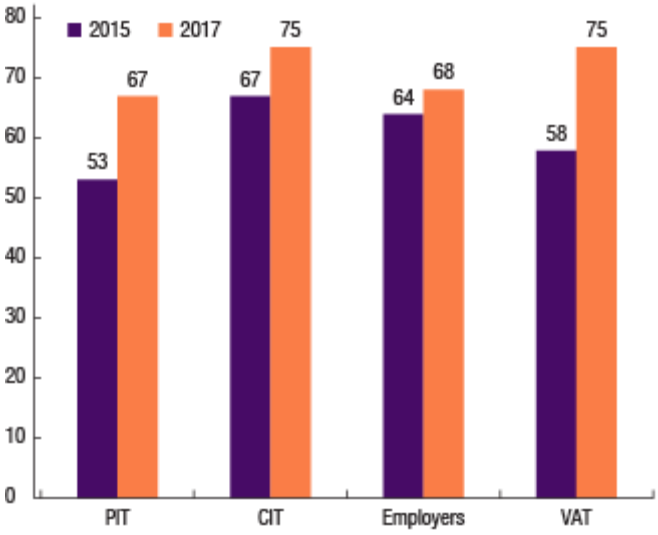
Adjustment Rate

As noted earlier, the adjustment rate is measured by the percentage of the verification activity that that leads to an adjustment in the tax liability of the taxpayer. Figure 17 shows the percent of verification activities leading to adjustment by tax type while Figure 18 sets out adjustment rates for VAT by standard grouping.

Generally speaking, response rates for adjustment rates are poor. Response rates for VAT on coverage and adjustment are 38 percent in 2015 and 42 percent for 2017—and these are higher than those for other tax types. Having said that, those who do respond show increases across the board in adjustment rates for all tax types.

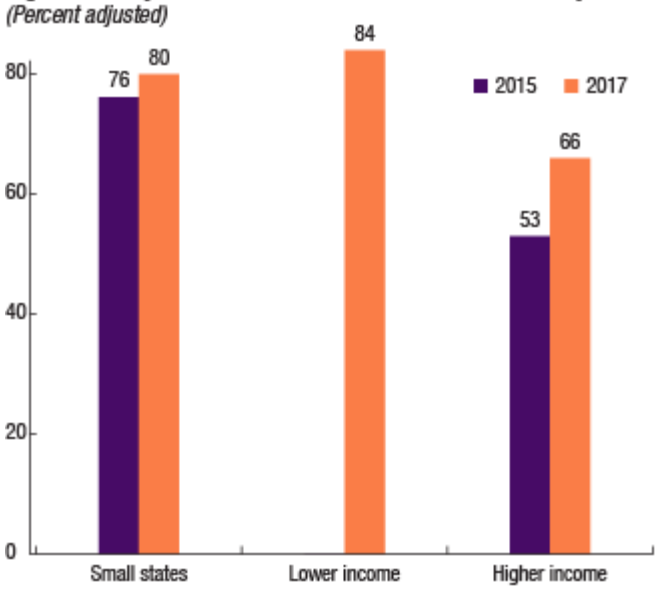
[22] TADAT does not deal with any specific measures for verification results, or coverage or adjustment rates. It focuses more on the qualitative aspects of verification programs, their application to core taxes, the use of risk-based case selection, and the like. TADAT notes that verification programs have a far wider import than simply raising additional revenues—they also have critical roles in providing a deterrent and obtaining intelligence for the administration.

Figure 17. Median Adjustment Rate of Verification Activities by Tax Type
(Percent adjusted)



Note: CIT = corporate income tax; PIT = personal income tax; Employers = employers withholding such as PAYE; VAT = value-added tax.

Figure 18. Adjustment Rate of VAT Verification Activity
(Percent adjusted)



Note: There were fewer than five responses by Lower Income jurisdictions in 2015.

Disputes

Access to effective dispute processes is a key feature of a sound tax administration and a fair tax system. A dispute process must safeguard a taxpayer's right to challenge an assessment resulting from an audit and to get a fair hearing. The process should be based on a legal framework, be known and understood by taxpayers, be easily accessible, guarantee transparent independent decision-making, and resolve disputed matters in a timely manner.

In many cases, there are two kinds of disputes: objections (cases filed with the tax administration and reviewed in an informal or administrative process by the tax administration); and appeals (cases filed with a court or tribunal).

ISORA collects volume information on both kinds of disputes (internal and external). Two potential performance measures in this regard are (1) the growth in the number of cases resolved and (2) the size of the outstanding administrative review backlog at year end, measured by the number of cases outstanding.

The response rate for ISORA 2018 questions regarding disputes has improved considerably in comparison to ISORA 2016 (68 percent compared to about 30 percent) although some of this improvement could be the result of no longer requesting information on the value of taxes subject to objection, which in the past had proven difficult for many participants to obtain.

Because of the low response rate for ISORA 2016, it may be more useful to look at changes between the two years covered in ISORA 2018—2016 and 2017. Table 12 provides the median growth rates between 2016 and 2017 for (1) the number of informal dispute cases (objections) resolved in the fiscal year and (2) the number of objections cases on hand at the end of the fiscal year (that is, the backlog).

Table 12. Disputes: Growth Rates Between 2016 and 2017 (percent)

Group	Median Growth in Number of Cases Resolved in Fiscal Year	Median Growth in Number of Cases on Hand at End of Fiscal Year
Small States (23/20)	–11	6
Lower Income (29/25)	10	17
Higher Income (57/53)	–4	4
All (109/98)	**–3**	**8**

Note: Numbers in parentheses equal the sample size for data supplied in each column.

In the case of a measure like objections, large fluctuations in this measure may well be possible, especially in smaller countries where annual volumes can vary considerably in the normal course of business. In addition, there can be other factors—such as tax policy changes, changes in the number of taxpayers, and other economic circumstances over which the tax administration has little or no control—that can change the volume of objections submitted.

Table 12 shows that Small States actually had negative growth (minus 11 percent) in number of cases resolved (that is, production) and an increase in the cases on hand at year-end (6 percent), a measure of backlog. For Lower-Income countries, the comparable percentages are 10 and 17, and for Higher-Income countries –4 and 4. While it might be expected that a decrease in productivity might result in an increase in backlog, and vice-versa, this is clearly not always the case. However, this is a more likely scenario for Higher-Income countries that have more stability in the annual flow of objections.

Cost of Collection

The cost of collection is a widely used measure of tax administration efficiency, and sometimes effectiveness. In its simplest expression "cost of collection" can be defined as the ratio of the cost of collecting revenue (that is, a measure of "input") to the revenue collected (a measure of "output"). Despite the popularity of this measure for performance purposes, it needs to be used with great caution. Refer to the IMF publication related to ISORA 2016 for a discussion of these cautions.[23]

ISORA collects data that can be used to compute the "cost of collection" ratio. For the purposes of analyzing ISORA data, the cost of collection ratio is defined as:

$$\frac{\textit{Total recurrent expenditure}}{\textit{Net revenue collected less VAT on imports}}$$

This formula ensures the compatibility of the numerator and the denominator used in calculating the ratio. The use of recurrent expenditure only, that is, the exclusion of capital expenditure, makes for a less volatile measure over time.

For 2015 and 2017, respectively, information sufficient to compute the cost of collection ratio was provided by 76 and 127 participants, respectively. This represents a significant increase in survey responses in this area (80 percent of participants for 2017 versus 51 percent for 2015); however, the data on cost of collection continue to suffer from implausibly high and implausibly low figures, and skew distributions. This means medians will be much more useful than averages for comparisons. The median cost of collection for 2015 for Small State, Lower-Income, and Higher-Income participants is set out in Table 13.

Table 13. Median Cost of Collection 2015 and 2017 (Percent)

Group	2015	2017
Small States (11/30)	1.2	1.6
Lower Income (19/33)	0.9	1.4
Higher Income (46/64)	0.9	0.8
All (76/127)	**0.9**	**1.0**

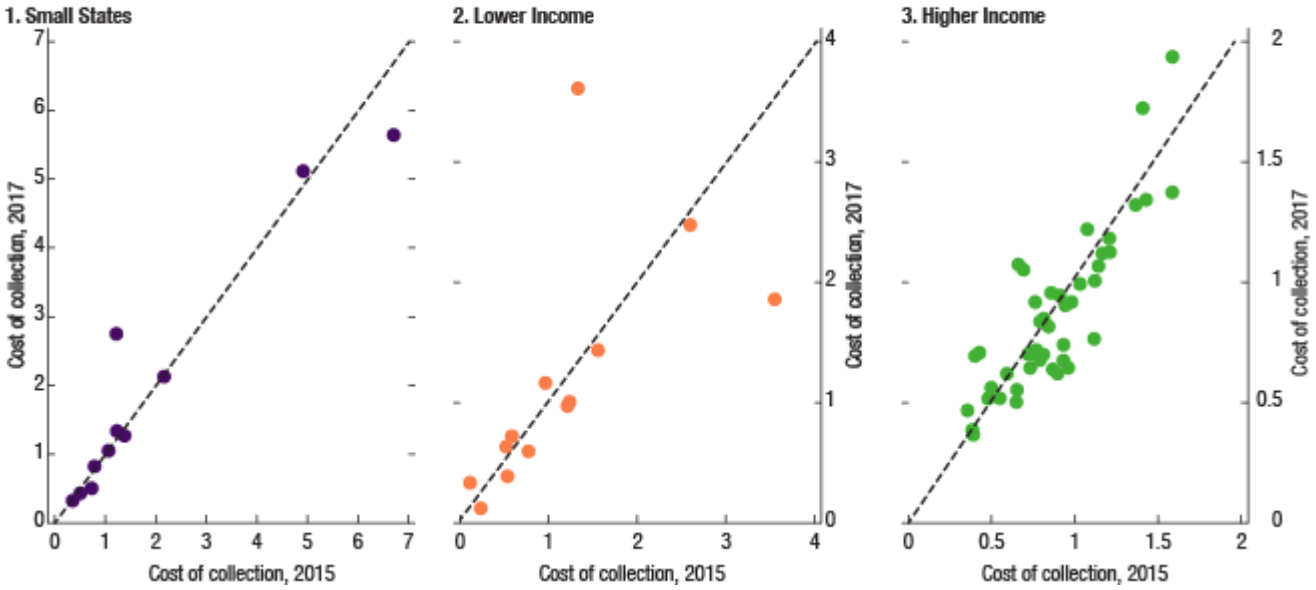
Note: Numbers in parentheses equal the sample size for data supplied in each column.

From Table 13, the figures for Small States and Lower-Income countries seem to be creeping up in aggregate—but most of this may be ascribed to the change in the number of administrations that responded. The median for the 56 countries that provided data in 2017 but not in 2015 is 1.42 percent (many Lower-Income countries and Small States among them), while the medians for 2015 and 2017 for the 71 countries that provided data for both years are 0.87 and 0.81 percent, respectively.

One way of looking at this issue is to examine a scatter diagram of the relationship between cost of collection reported in 2015 and the same figure reported in 2017. This is presented at Figure 19 for the 71 participants who provided figures for both years.

[23] See *ISORA 2016: Understanding Revenue Administration*, pp. 36–37.

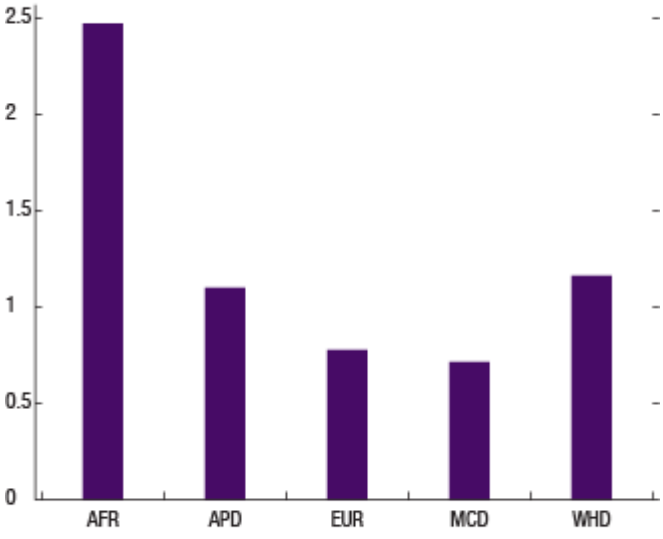
Figure 19. Scatter Plot Showing Cost of Collection in 2017 Against Cost of Collection in 2015
(Percent)



Values above or below the dotted line indicate an increase or decrease in cost of collection for the administration between 2015 and 2017. As is the case with other performance measures covered by ISORA, figures for Higher-Income administrations figures tend to be more stable over time—in Figure 19, values for higher income are clustered along the dotted line, and fall in the range of 0.4 to 2 percent, indicating relatively little year-over-year change. Small States, barring two jurisdictions, also show relatively constant rates over time.

The median cost of collection by IMF region is shown in Figure 20.

Figure 20. Median Cost of Collection by IMF Region
(Percent)



Note: AFR = sub-Saharan Africa; APD = Asia and Pacific; EUR = Europe; MCD = Middle East and Central Asia; WHD = Western Hemisphere.

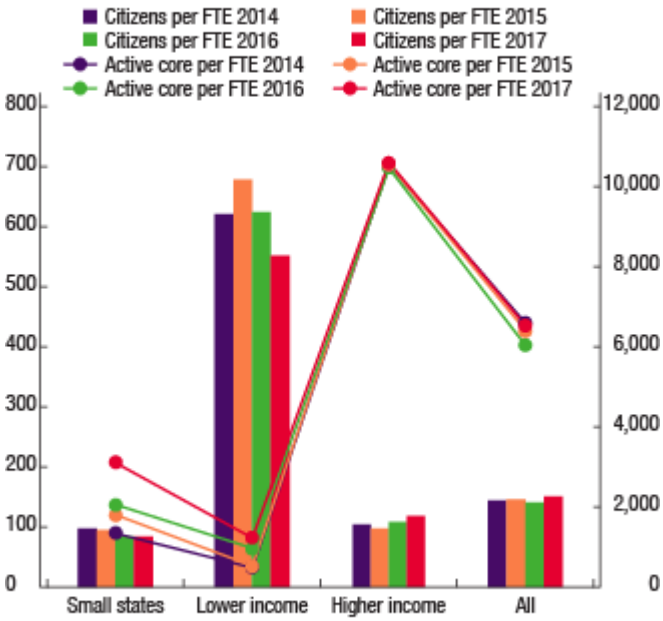
Cost of collection by region varies considerably. Intra-regional comparisons with these data can be grossly distorted as a result of some of the cautions mentioned at the front of this section. Comparisons within regions may well be more useful, especially as there may be more revenue-system comparability within regions. Further, institutional arrangements may impact the reporting of operational budget, and institutional arrangements vary considerably by region. For example, the median cost of collection reported by self-declared semi-autonomous administrations is 1.03 percent, against 0.90 percent reported by administrations within ministries. The median cost of collection for the 20 administrations that indicate a legislated "percentage-of-revenue-collected" formula for determining budget and provided data to determine cost of collection was 1.08 percent. In addition, the median cost of collection of tax administrations that are not joint with customs is 0.95 percent, against the reported median cost of collection of 1.07 percent by tax administrations that are co-managed with customs administrations. As the latter administrations share resources between customs and tax administration, the cost of collection associated with tax administration alone is generally an approximated value.

Tax Administration Resources in Relation to Taxpayers and Citizens Served

In the previous version of this publication using ISORA 2016 data, an analysis was made of the size of the administration (measured in FTEs) against two population comparators—"active taxpayers" and "citizens." While these measures may not lend themselves directly to the adoption of particular international benchmarks (owing largely to fundamental differences in tax administration roles, including non-tax roles, across jurisdictions), they can be important points of comparison with outside administrations known to be similar and internally within the same tax administration at different points in time.

Figure 21 sets out two different measures: (1) the median active core taxpayers per FTE (represented by lines) and (2) citizens per FTE (represented by bars). For each, data are supplied for FY 2014 through 2017.

Figure 21. Active Core Taxpayers; and Citizens per FTE, 2014 to 2017



Source: World Bank DataBank.
Note: FTE = full-time equivalent.

In case (1), core taxpayers are those registered and active for PIT, CIT, VAT, and employers. These values may be considered as a proxy for workload per unit of labor, and hence a measure of efficiency, where workload is expressed by the number of active taxpayers for whom services (and enforcement) must be provided, and the labor unit is one FTE.

In case (2), the number of citizens per FTE is provided. The roles of many tax administrations go beyond traditional tax roles, hence they may interact with and provide services to citizens other than active taxpayers. The data on number of citizens used to calculate the citizen to FTE ratio comes from the World Bank DataBank.[24]

Distinct patterns are seen by standard grouping, that persist across the four-year time period. The Higher-Income grouping has by far the highest taxpayer to FTE ratio, approximately three times that of Small States in 2017, and six times the ratio for Lower-Income administrations. On the other hand, the Lower-Income grouping has by far the highest citizen to FTE ratio, five to six times that of Small States and the Higher-Income grouping.

The relationship of these patterns is of course linked to the variation in the ratio of active taxpayers to population between Lower-Income and Higher-Income countries, which is discussed in a later section. The result on taxpayers per FTE suggests significantly greater efficiencies in Higher-Income jurisdictions, perhaps in part from automation and increased use of electronic services. One might expect an economy of scale in FTEs required for the administration of a tax system, and so the lower ratios for Small States are not unexpected. Since there are reasonable explanations for the large differences among the three groups, international comparisons across the groups will likely not be meaningful. However, comparisons within the groups, or comparisons over time for a particular jurisdiction, may be informative.

Some trends are apparent across the four years of data: while both ratios remain fairly constant for the Higher-Income grouping, the taxpayer-FTE ratio seems to be growing for both Small States and the Lower-Income grouping. Together with a slight decline in the citizens served per FTE figure, this suggests increasing efficiency over time. However, as different sets of administrations provided information in different years, this trend should be interpreted with caution.

Summary Comment on Performance Measures

All ISORA 2018 performance measures have been assessed for 2016 and 2017 by grouping (Small State, Lower Income, and Higher Income). A certain amount of year-over-year volatility remains in ISORA data based on an overall assessment of

[24] See World Bank DataBank.

responses. However, there are improvements in most measures of performance, and the number of respondents has increased.

As a rule, the Lower-Income and Small States lag the Higher-Income participants. This is borne out by examining the illustrative examples for 2017 in Table 14.

Table 14. Illustrative Example of ISORA Indicators for 2017 (in percent)

Group	VAT On-time Filing rate	CIT On-time Filing rate	VAT On-time Payment rate	CIT On-time Payment rate	Debt Ratio	VAT e-filing Rate	CIT e-filing Rate	Cost of collection
Small States	70	58	94	87	43	68	53	2
Lower Income	83	66	85	95	20	88	82	1
Higher Income	89	86	93	95	15	88	87	1
All	**86**	**74**	**91**	**95**	**20**	**85**	**82**	**1**
Fragile States	79	63	94	93	21	–	–	2

Also shown in Table 14 are the corresponding performance indicators for the Fragile States. The fragile state participants, bar one, fall either under the Lower-Income grouping (19) or Small States (five). The on-time payment and filing rates for the fragile states are in a similar range to those of the Lower-Income grouping and to Small States, although the number of Fragile State respondents that provide data for the calculation of on-time payment rates is low. Their median debt ratio is in line with that reported by administrations in Lower-Income jurisdictions. Fewer than five Fragile States reported non-zero e-filing rates, and hence no comparison can be provided. Several, however, report a zero e-filing rate. The cost of collection ratio is higher for these states. While Fragile States do not lag Lower-Income countries or Small States for some of these measures, they do appear to lag in respect of offering electronic service channels and their efficiency as measured by cost of collection is low.

As has been noted, ISORA is not an evidence-based process. Quality control of ISORA responses is limited to general plausibility and technical checks such as ensuring proper use of local currency values to the nearest thousand across all forms, and that significant variations across years have been queried. Content accuracy is 100 percent the responsibility of the participating jurisdiction.

Future iterations and analyses of ISORA data will need to focus more on these measurable performance indicators to assist participants in making effective use of ISORA to improve performance in tax administration. ISORA will continue to work with ATI and others to promote and improve the reporting of performance in tax administration.

C. Profile Data

Introduction

Profile data include both qualitative and quantitative data on a variety of aspects of tax administration. Some of these data are the kind of information that changes rarely or does not change much from year to year. Other data are volumetric in nature and is expected to change from year to year.

This section provides a wealth of data about the shape and nature of the tax administrations that participate in ISORA. For instance, information is collected around the following topics:

- The institutional structure of the tax administration
- Its scope of activities
- The size of the tax administration (FTE and budget) and how these resources are deployed by function
- Characteristics of the tax administration's workforce

- The existence and structure of large taxpayer offices or programs, including the share of total tax revenue from large taxpayers
- The registration of taxpayers
- Compliance risk issues—approaches, strategies, priorities.

Generally, this section focuses on legal framework, structure, inputs, and outputs. Tax administrations have found it useful to compare themselves with peer organizations in these areas, and one of the major contributions of ISORA in this regard has been the harmonization of terminology and definitions such that there is a much-improved commonality and uniformity so that "like" is being compared with "like."

Institutional Arrangements

This section deals with governance structures of tax administrations (or of comanaged tax and customs administrations) and with management boards where they exist.

There are two common models for tax administration: (1) organizations composed of single or multiple directorates that are part of the ministry of finance and (2) semi-autonomous organizations, with or without a management board. In addition, there are two basic types of tax administration in terms of *main responsibility areas*: (1) those in which tax administration and customs administration are separate organizational entities and (2) those in which tax and customs administration are comanaged in the same organization.

ISORA participants self-assess as to whether they are a semi-autonomous organization. The survey does not carry a specific definition of "semi-autonomous," although the categorization has been used in surveys of tax administration for close to two decades.[25] Varying degrees of autonomy are possible, and hence "semi-autonomy" reflects a range within the autonomy spectrum. In some jurisdictions, there is a more formal governance structure called a Revenue Authority (RA) which is normally established by separate enabling legislation that sets out the parameters of autonomy (or semi-autonomy) for the organization. As the concept of semi-autonomy must always be viewed as a range within a spectrum, this category of governance is also difficult to define with precision.[26]

Based on participants' self-assessment of their semi-autonomy status, the governance situation for 2017 for all 159 ISORA participants is as set out in Table 15. The semi-autonomous group covers both those that incorporate a management board and those that do not (more on management boards below). This breakdown is displayed against those jurisdictions which are tax administration only, and those where tax administration and customs administration are comanaged in the same organization. In Table 15, eight participants who indicated "other" for their institutional arrangements were included in the "Within Ministry" figures.

For 2017, 74 participants (or 47 percent) self-identified as semi-autonomous organizations, down from 50 percent in 2015. This reflects the characteristics of participants added for ISORA 2018 rather than any change in status of participants.

[25] OECD surveys that underpinned the *Comparative Information Series* and more lately the *Tax Administration Series* have used this since 2004.
[26] "RA refers to a governance model for revenue administration where traditional ministry of finance departments (tax and usually customs administrations) are established as an organization or agency with a degree of autonomy from government and independence from standard public service policies. A more precise definition of RA is not really possible since these governance models cover a range on a spectrum." IMF. 2006. "Revenue Authorities: Issues and Problems in Evaluating Their Success." IMF Working Paper, Fiscal Affairs Department.

Table 15. Institutional Arrangements Matrix, 2017			
Institutional Arrangement	**Semi-autonomous**	**Within Ministry**	**All**
	Number		
Tax only	32	68	100
Tax and Customs	42	17	59
All	**74**	**85**	**159**

Regarding tax administration–only versus tax and customs administration co-managed, 100 of 159 (63 percent) participants were tax-administration-only in 2017. Just a third of this group indicated they were semi-autonomous. The tax-and-customs group is significantly different, with more than 70 percent (42 of 59) indicating a semi-autonomous arrangement.

When looked at through the lens of the grouping of Small State, Lower-Income, and Higher-Income jurisdictions, some additional patterns emerge. This information is presented in Figure 22.

From the data in Figure 22, it is evident that the Small-State participants are much more likely to be part of the Ministry of Finance and less likely to be semi-autonomous than their Lower- and Higher-Income counterparts. They are also highly likely to be tax administration–only organizations. This overall situation has not changed much from 2015.[27]

The profile for the Lower- and Higher-Income groups has changed with the addition of more countries for 2017. In 2015, these two groups had close to 60 percent semi-autonomous and 60 percent tax administration only. For 2017, the Higher-Income group is 57 percent for semi-autonomous, versus 49 percent for Lower-Income. The Higher-Income group is 65 percent tax administration only, and the Lower-Income group 59 percent. Again, these differences are largely attributable to the additional number of participants.

Among fragile state participants, 40 percent self-identified as semi-autonomous, while more than two-thirds (68 percent) were tax-administration only organizations. These ISORA participants were thus less likely to be semi-autonomous, or to be part of a joint tax-customs organization than participating administrations in non-fragile jurisdictions.

ISORA sought certain specific information from those participants self-identifying as semi-autonomous (that is, did they have a management board; if so, was it a decision-making or advisory board; the number of board members; and the number of private sector board members).[28]

Figure 22. Institutional Arrangements for Standard Groupings, 2017
(Percent)

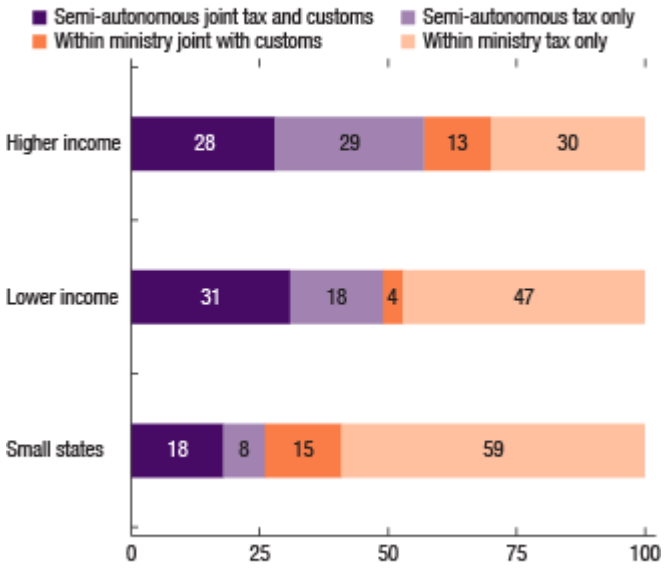
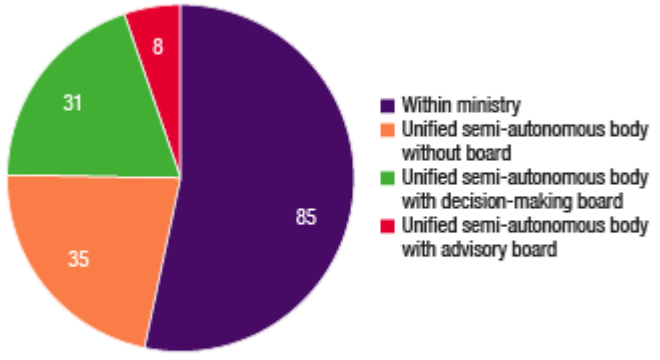


Figure 23. Institutional Arrangements Including Nature of Management Board, 2017



Note: Tax administrations that selected "other" for their institutional arrangements are included in "Within Ministry".

Related responses are summarized in Figure 23 and Table 16. More than half (53 percent) of the 74 participants who self-identified as semi-autonomous indicated they had a management board, and for 80 percent of these (31 of 39) the management board is decision-making rather than advisory.

[27] This may be related to economies of scale. Post ISORA 2018, there has been growing interest from Small States in exploring the RA model.
[28] The IMF is currently conducting research into issues and practices related to semi-autonomy, including the role of boards in tax administration—the results of this research are expected to be published in 2021.

The average number of board members is eight, with an average of three of those from the private sector. These percentages are almost identical to the corresponding numbers for 2015.

Table 16. Management Board Size by Type, 2017		
Type of Board	**Average Number of Board Members**	**Average Number of Private Sector Board Members**
Decision-making Board (31)	8.2	2.6
Advisory Board (8)	8.8	2.9
All Boards (39)	**8.3**	**2.7**
Note: Numbers in parentheses equal the sample size for data supplied in each column.		

Scope

The *scope* of a tax administration is defined as the range of the taxes and other revenues collected, and the activities carried out. Typically, a tax administration collects up to four general categories of revenue: (1) main taxes, (2) other taxes, (3) social security contributions, and (4) non-tax revenues.

- For the purposes of this publication, *main taxes*[29] is comprised of direct taxes such as PIT and CIT, and indirect taxes such as VAT[30] and other goods and services taxes. VAT on imports is normally collected at the border by customs, which may or may not be part of the same organization as tax administration.
- *Other taxes* is a standard category of taxes that includes, inter alia: domestic excises, motor vehicle taxes, real property, wealth taxes, estate and inheritance taxes, and others.
- *Social security contributions* (SSCs) are all compulsory payments that confer an entitlement to receive a (contingent) future social benefit where they are a major source of revenue and collected by the tax administration.
- *Non-tax revenues* include such items as welfare benefits, child support, property valuation, student loans, retirement savings, lotteries/gambling/gaming, and a broad spectrum of others.

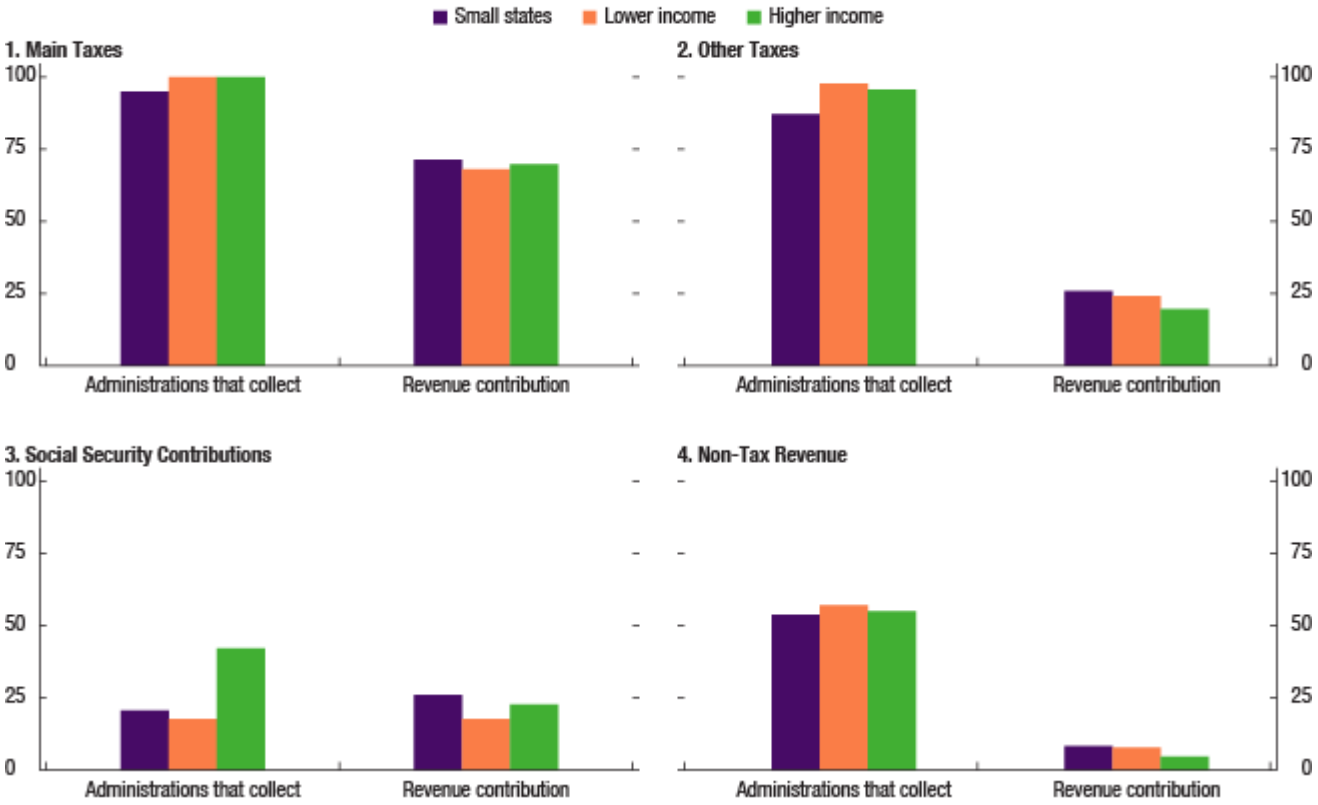
ISORA provides information about revenue categories collected and the share of net total revenue those categories represent. Figure 24 presents a series of graphs by standard grouping on each of the four revenue categories for 2017. Each graph shows two sets of bars: the first is the proportion (percent) of participants collecting the category in question; the second is the proportion (percent) of total net revenue the category represents for those administrations collecting that category of revenue.

In most cases, the percent of administrations collecting the category and its respective share of total net revenues for those that do collect are broadly similar. Using the example of non-tax revenues, this category is collected by slightly more than 50 percent of all tax administrations in each grouping—and represents less than 5 percent of total net revenue in each grouping. The revenue collected from the main taxes is the highest proportion of total revenue, and far higher than any of the other sources, for all three groupings.

This is not the case for SSCs. In this example, Higher-Income countries are twice as likely to collect SSCs than Lower-Income or Small States, although differences in share of total net revenue where SSCs are collected are not nearly so pronounced.

[29] TADAT uses the term ”core taxes” which, in addition to the ”main taxes” described in this document, also includes social security contributions (where a major source of revenue) and domestic excise taxes.
[30] This will include reported values for VAT on import whether collected by a comanaged tax and customs administration or by a customs-only administration.

Figure 24. Percentage Collecting and Contribution to Total Net Revenue of the Four Revenue Categories, by Standard Grouping, 2017



It is also interesting to note that where other taxes and non-tax revenues are collected by *Lower-Income countries* and *Small States* they constitute a greater share of total net revenue than is the case for the collection of these categories by *Higher-Income countries*.

Non-tax revenue is collected by 85 ISORA participants (about 53 percent), while 42 (26 percent) collect social security contributions. It should also be noted that certain of the non-tax roles assigned to tax administrations do not result in the collection of any revenue.

In addition, substantial numbers of jurisdictions are involved in the collection of *other taxes* (131 of 159, or 84 percent), and that the revenue contribution associated with them is also significant. International organizations have consistently advised countries that these functions need to be properly resourced within the tax administration, to ensure they do not divert resources away from collecting core taxes. As additional taxes are introduced, the administration thereof should be adequately resourced. The types of other taxes collected by participants is shown in Figure 25.

ISORA also provides information on the percentage of participants executing non-tax roles or activities, and the average number of non-tax roles per participant. Figure 26 provides the 2017 information on average number of non-tax roles. Table 17 shows the average number of other taxes collected and non-tax roles for 2017. The incidence of non-tax roles remains largely unchanged since 2015.

Figure 25. Types of Other Taxes Collected, 2017

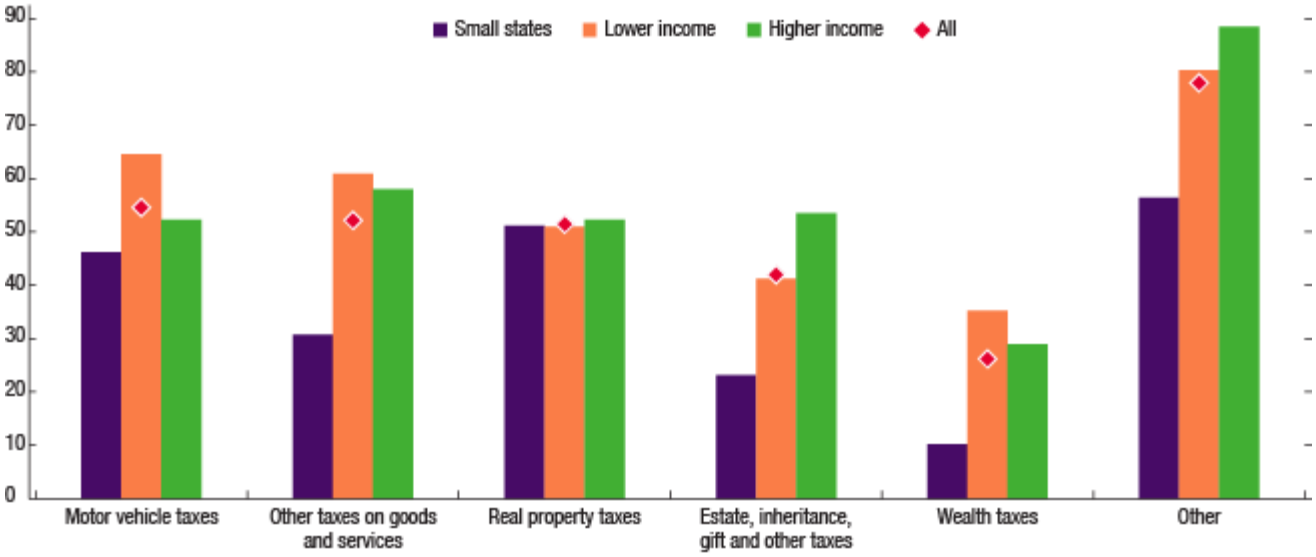


Figure 26. Participants with Specific Non-Tax Roles, 2017
(Percent)

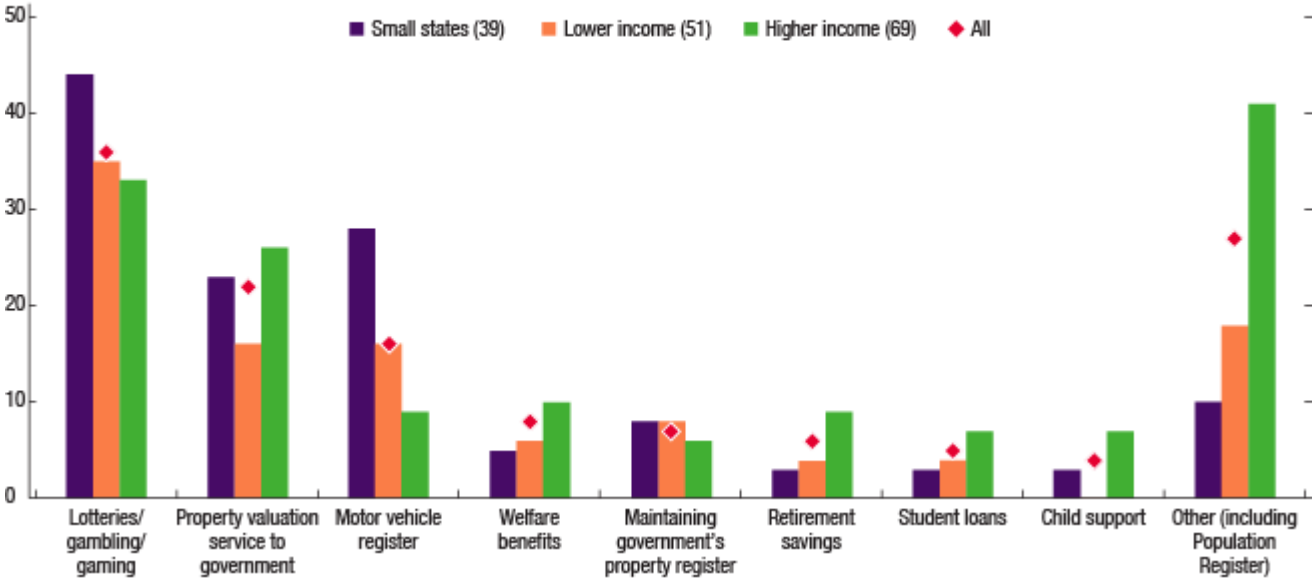


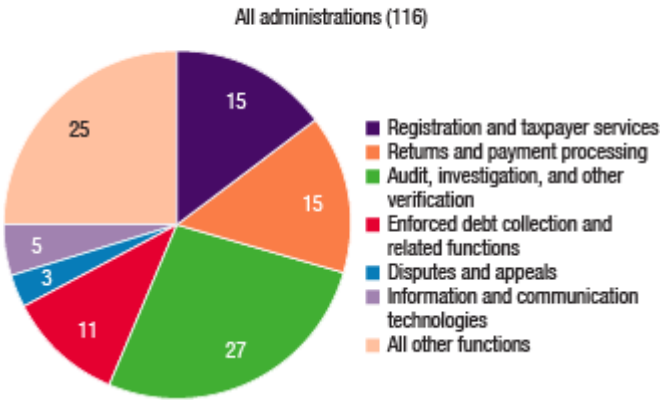
Table 17. Average Number of Non-Tax Roles Executed and Other Taxes Collected, 2017		
Group	**Other taxes collected**	**Non-Tax roles executed**
Small States (39)	2.6	1.3
Lower Income (51)	4.2	1.1
Higher Income (69)	4.0	1.5
All (159)	**3.7**	**1.3**
Note: Numbers in parentheses equal the sample size for data supplied in each column.		

Allocation of Tax Administration Staff by Function

ISORA collects data on how tax administrations allocate staff resources (FTEs) by function. This is often a useful point of comparison for tax administrations involved in the difficult task of allocating scarce resources across the spectrum of tax administration activity. ISORA participants are asked to provide FTEs (an FTE of 1.0 means resources equal to one staff member available for one full year) for all tax administration functions.[31]

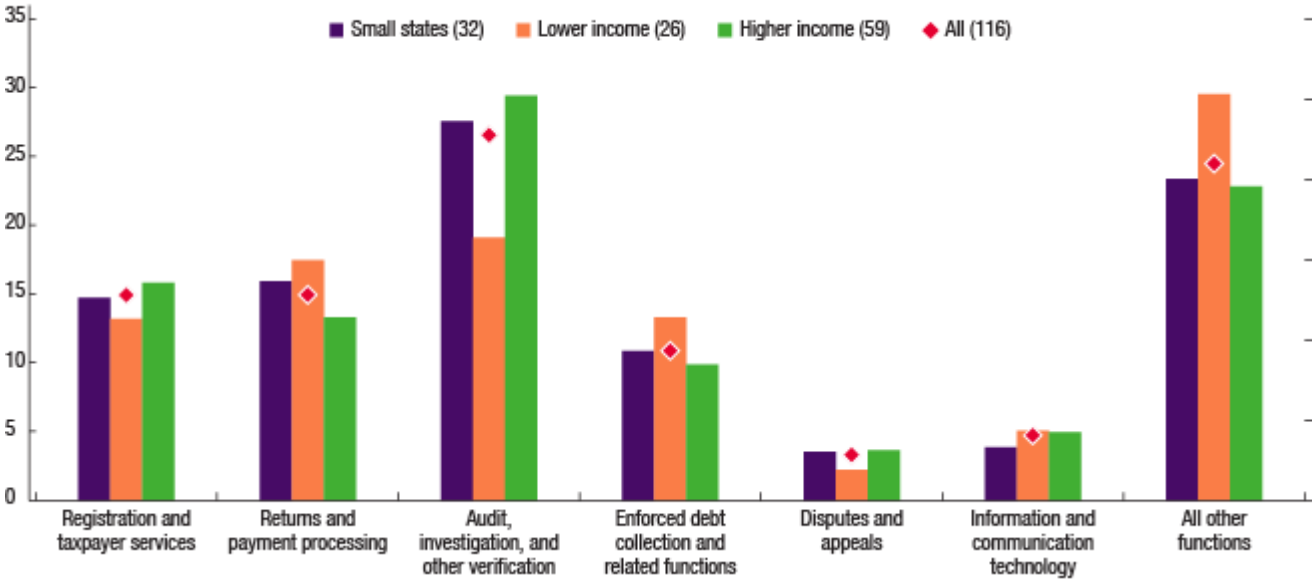
Figure 27 shows the staff allocation by function for 2017 (average percentage). Only data from administrations that provided data for all functional categories have been included in the analysis. This limits the administrations considered to 116. Figure 28 provides the FTE by function according to standard grouping.

Figure 27. Full-Time Equivalent by Function, 2017
(Average percent)



The proportion of staff allocated to audit and verification is the largest across the functional groups, except for the "All Other" category. However, it is clearly significantly lower for Lower- Income jurisdictions than for those in the Small States or Higher-Income groups (19 percent as opposed to 28 and 29 percent, respectively). Other than for audit and verification, there is relatively little difference in functional distribution across the standard groupings. The Higher-Income group shows a lower proportional allocation of resources to the processing of payments and returns, which perhaps reflects a greater degree of automation.

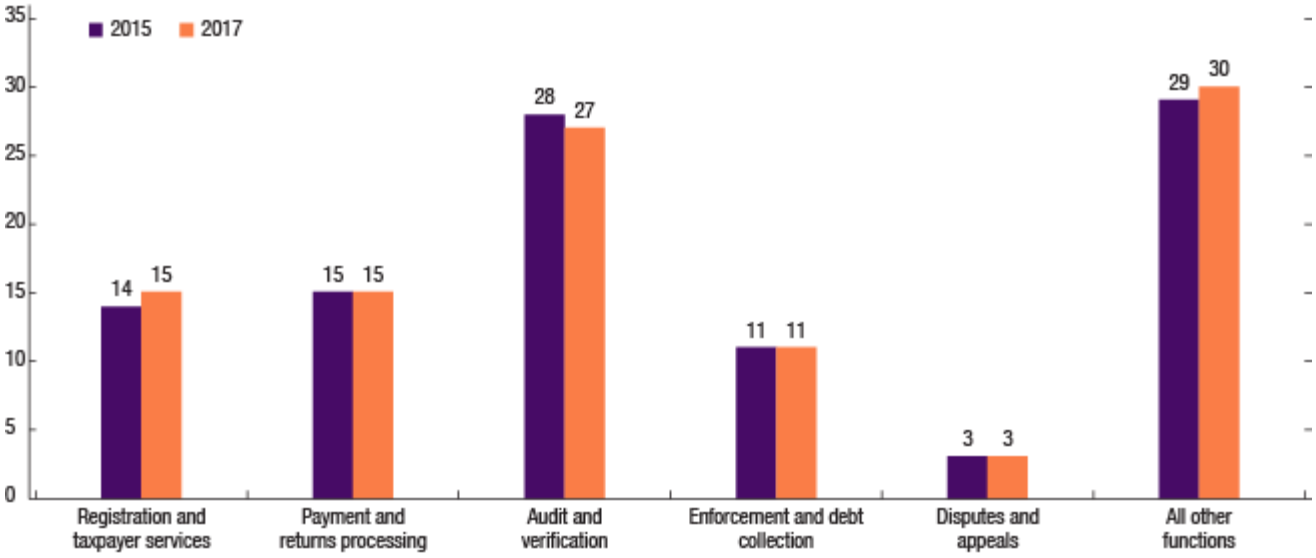
Figure 28. Average Percent of FTE by Function by Standard Grouping, 2017



Over the period 2015 to 2017, the number of ISORA participants increased from 135 to 159. The number providing data related to FTE by function also increased—from 87 to 116, representing an increase in response rate for this survey question from 64 percent to 73 percent. Further, despite these changes, FTE allocation by function has remained remarkably consistent over this period. Figure 29 compares overall distribution of FTE by function between 2015 and 2017.

[31] **Tax Administration**: includes functions both at headquarters and operating offices related to – ***Registration and Taxpayer Services*** – taxpayer registration, taxpayer services, and education; ***Returns and Payment Processing*** – processing returns (including electronic returns), processing payments (including electronic payments), reconciling accounts and processing refunds; ***Audit, Investigation, and Other Verification*** – audit, investigation, and other tasks involved with verification of taxpayer statements and claims; ***Enforced Debt Collection and Related Functions*** – debt collection and enforcement; ***Dispute and Appeals*** – management of objections and appeals; ***ICT*** – activities related to ICT infrastructure, software development, ICT security, maintenance, and any other ICT functions; ***Other Functions*** – activities not covered by the prior descriptions.

Figure 29. Comparison of FTE by Function, 2015 vs. 2017



There was a change in the definition of "all other" between 2015 and 2017. In 2015, all other included: ***Other Tax Operations Functions*** – activities not covered by the prior descriptions, for example, staff involved in interpretations and rulings and ***Support Activities –*** all administrative, human resource management, IT, and other overhead functions, both at headquarters and in operational offices. For 2017, this was changed to: ***ICT*** – activities related to ICT infrastructure, software development, ICT security, maintenance, and any other ICT functions and ***Other Functions*** – activities not covered by the prior descriptions. This change does not seem to have affected the percentages of FTEs assigned to the first five functions, all of which retained the same definition.

Staff Demographics

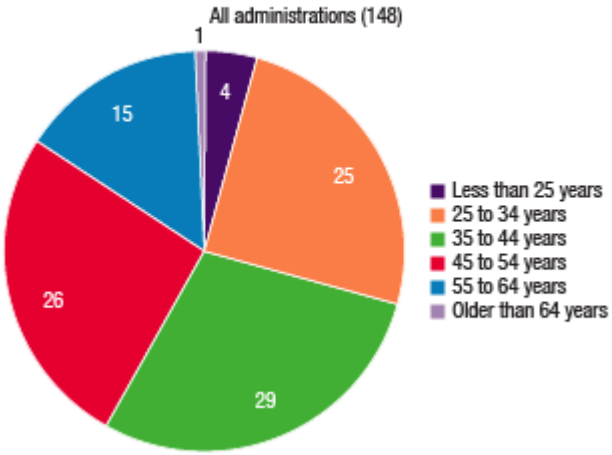
ISORA collects various information about staff in the tax administration[32] including by age, length of service, and gender. This section presents summary information on these features.

Age

Figure 30 shows the percentage of staff by age group for all participants that provided data on the age of staff.

Figure 30 reveals that the percentage of tax administration staff 45 and older in 2017 is 42 percent (for 2015 it was 44 percent). By comparison, based on International Labour Organisation (ILO) statistics the proportion of the general labor force 45 and older is about 36 percent.[33] The over-representation of tax administration in the older age groups continues and will have challenging consequences for management.

Figure 30. Staff by Age Group, 2017



[32] For these staff demographic elements of ISORA, most participants representing comanaged tax and customs organizations provided data based on their entire organization.

[33] International Labour Organisation. 2018. *Labour Force by Sex and Age*, www.ilo.org/ilostat

These challenges become even more apparent when the age profiles are broken down by standard grouping (see Figure 31).

As noted, 42 percent of the staff of tax administrations are in the 45 and older age bracket. Differences in the age distribution in this bracket are evident among the three standard groupings. Tax administrations in Lower-Income jurisdictions have a younger work force with only about 33 percent in the 45 and older bracket. For Small States, the comparable figure is 34 percent and for Higher-Income ISORA participants it is 51 percent. These percentages have not changed appreciably from 2015.

Length of Service

The length of service of staff by percentage for all ISORA participants is shown in Figure 32, and the same information by standard grouping is at Figure 33.

In general, the high proportion of staff with service of 20 years or more fits the profile of long staff tenure in specialized, technical work areas.

Figure 31. Staff Age Distribution by Standard Grouping, 2017
(Percent)

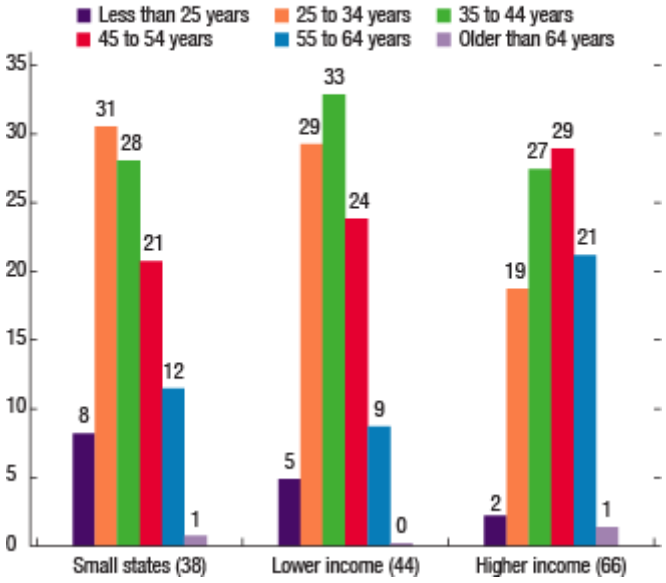


Figure 32. Service Profile of Tax Administration Staff, 2017
(Percent)

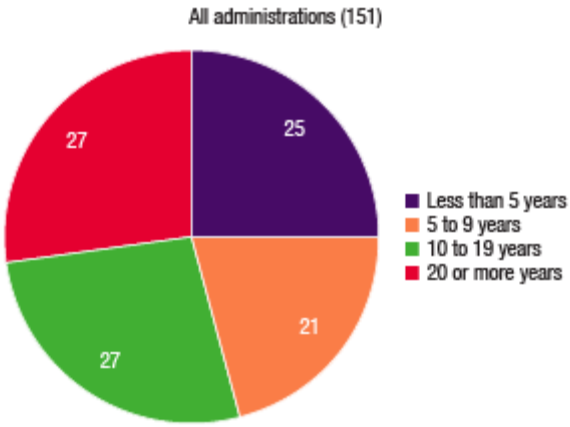
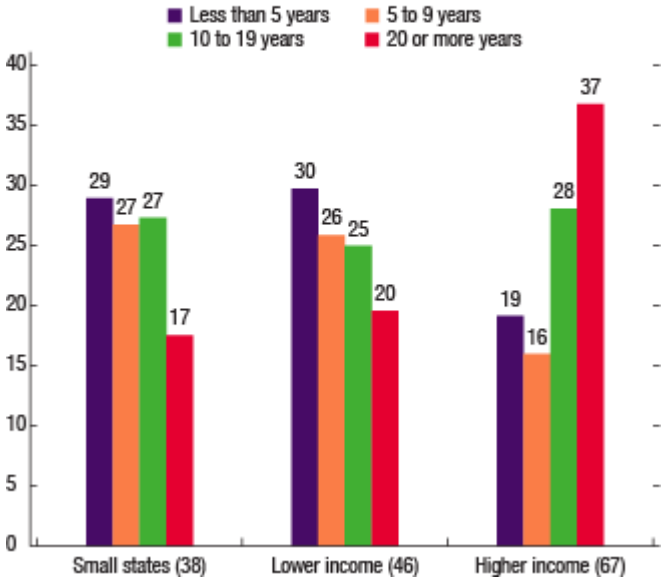


Figure 33. Service Profile of Tax Administration Staff by Standard Grouping, 2017
(Percent)



As might be expected, given the difference in age profile of staff in jurisdictions by income grouping, there is also a strong difference in the percentage of staff by length of service. Higher- Income jurisdictions benefit from a high proportion of experienced staff: two-thirds of their staff have 10 or more years of service but have had relatively small intakes of new staff. More than a quarter of the staff of Small States has been taken on in the past five years. These results are not substantially different from those recorded for 2015.

The age and length-of-service profiles are both consistent with a picture in which staff growth has taken place more recently in tax administrations in Lower-Income jurisdictions and in Small States. From the experience of providing capacity development to revenue administrations, there is evidence of a number of factors contributing to lower retention of tax

administration staff in Lower-Income jurisdictions than in advanced economies, such as limited retention policies and less mature HR systems. Among fragile states that participated in ISORA 2018, less than a third of their staff (33 percent on average) had more than 10 years of service in comparison with 45 percent for the Lower-Income jurisdictions and 58 percent on average for administrations in all non-fragile jurisdictions.

Gender

ISORA collects data on the percentage of female staff and the percentage of female executives in administrations. Studies show that gender equality within a country boosts economic growth and contributes to better development and social outcomes.[34] Given the importance of gender equality, Box 3 delves into more detail on factors that appear to impact gender balance within tax administrations. The percentage of female staff among ISORA participants for 2015 and 2017 is shown in Figure 34. The figure also shows the percentage of female executives.[35]

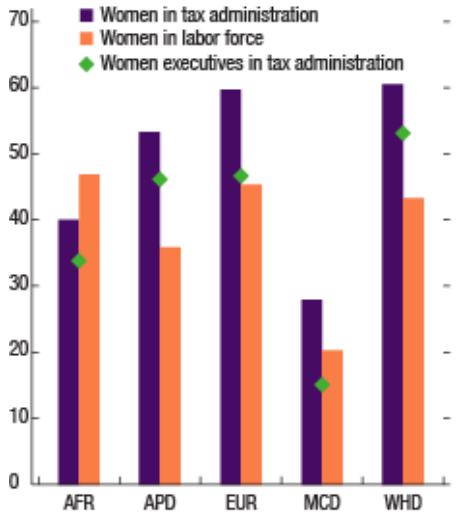
Box 3. Gender in Tax Administration

In addition to differences by standard grouping, distinct regional differences in the proportions of female staff and executives are observed. As is the case for the age distribution of staff,[1] this could be explained by regional differences in the proportion of women in the labor force. Box Figure 3.1 shows these proportions by IMF region.

There does appear to be a broad relationship between the proportion of women in the labor force and in tax administrations; only in sub-Saharan Africa is the ratio for tax administrations lower than the proportion of women making up the labor force.

One might expect a closer relationship between the proportion of female staff in tax administrations and those employed in the public sector; in many countries the proportion of women employed in the public sector exceeds the proportion of women in the labor force. However, data on the proportion of women employed in the public sector for the time period around 2017 are limited,[2] largely to countries in Europe and the Americas. For the set of countries in Europe for which both figures are available, the average percentage of women in tax administration is less than the average percentage of women in the public sector by 4 percentage points, while for the corresponding set of countries in the Americas this difference goes the other way, with the percentage of women in tax administration exceeding the percentage in public administration by 3 percentage points. The individual histories and characteristics of tax administrations most likely plays an important role in shaping current gender balance.

Box Figure 3.1. Percentage Female Staff and Executives in Tax Administration by IMF Region and Percent Females in Labor Force, 2017
(Average percentage)



Source: Regional labor force proportions from ILO data on labor force for sub-Saharan Africa, Asia and the Pacific, Europe and Central Asia, MENA, and the Americas.
Note: AFR = sub-Saharan Africa; APD = Asia and Pacific; EUR = Europe; MCD = Middle East and Central Asia; WHD = Western Hemisphere.

ISORA also collects information on policies and work arrangements that might impact gender balance within tax administrations. Figure 38 shows the proportion of women staff and executives in tax administrations that have a diversity policy, a policy on flexible working arrangements and allow various flexible work practices.

[1]Discussed in more detail in *ISORA 2016 Understanding Revenue Administration*.
[2]See the Worldwide Bureaucracy Indicators, for which there are data points for 40 countries between 2016 and 2018.

[34] Links to various studies.

[35] No definition of "executive" was provided in ISORA 2018. From scrutiny of the data it is evident that the meaning of "executive" varies among tax administrations: the ratio of "executives" to staff provided by 11 administrations is more than a third, while the ratio is less than 1 percent for 18 administrations. Thus, the individual ratios for participants are not necessarily comparable.

Box 3. Gender in Tax Administration *(continued)*

Box Figure 3.2 shows that flexible work arrangements, in particular flexible working hours, and the accommodation of regular remote working, are associated with higher proportions of female staff and higher proportions of women executives. From ISORA 2018 data alone it cannot be determined whether administrations with higher proportion of women executives are more likely to adopt flexible working arrangements, or whether these arrangements play a role in women being more likely to occupy executive positions in administrations that are more flexible. Answering this question and others related to executive diversity—such as possible linkages between the executive diversity of administrations and performance outcomes—requires deeper analysis and involves the assembly of additional relevant data.

Box Figure 3.2. Percentage Female Staff and Executives in Tax Administrations that have Various Policies and Flexible Work Arrangements in Place, 2017
(Average percentage)

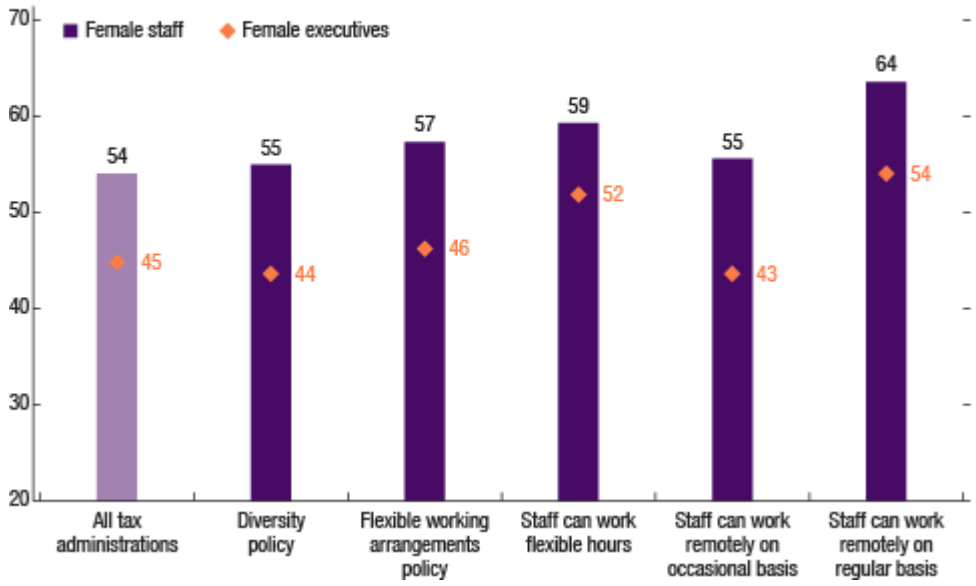
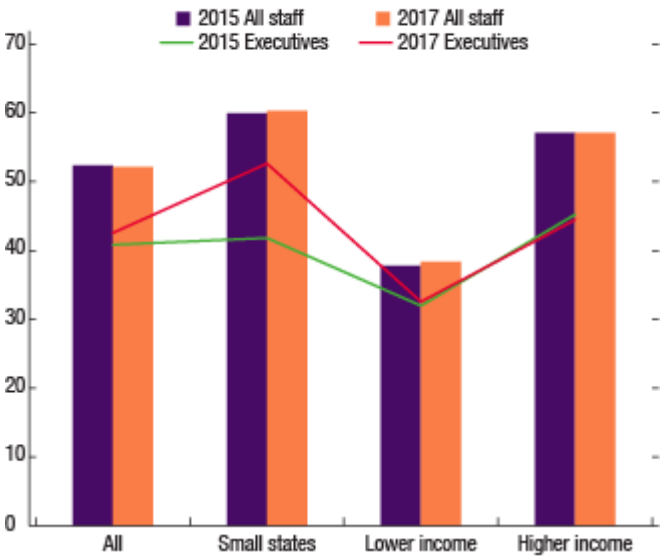


Figure 34. Female Staff and Executives, 2015 and 2017
(Average percent)



The proportion of female staff, as well as female executives, is generally higher in tax administrations in Higher-Income jurisdictions and Small States than in Lower-Income jurisdictions. In each group, the average percentage of female executives is lower than the proportion of female staff. There is little discernable change between 2015 and 2017. Small States generally have relatively few executives, so larger fluctuations in the proportion of female executives is likely over a short time period. Factors that may influence the proportion of female staff and executives are discussed in Box 3.

With the recent completion of the inaugural International Survey on Customs Administration (ISOCA),[36] it is possible to look more broadly at revenue administration (tax *and* customs). Figure 35 shows the proportion of female staff and female executives in revenue administrations.

Figure 35. Percentage Female Staff and Executives in Tax Administrations, Joint Tax and Customs Administrations and Customs Administrations (2017)

Note: Data for tax administrations and joint administrations from ISORA; data for customs administrations from ISOCA.

The average proportions of female staff and executives in customs administrations are lower than those of tax administrations, while the proportions of female staff and executives in comanaged tax and customs organizations unsurprisingly fall between the two. The results obtained in ISOCA are in line with the results of a survey conducted in 2019 by the World Customs Organization,[37] which found the workforce in customs administrations to be 38 percent female. In most revenue administrations, women are underrepresented amongst executives.

Figure 36 shows female proportions of staff and executives in revenue administrations disaggregated by the standard groups.

The broad patterns observed above remain visible for each group. The difference in female staff proportions between tax and customs administrations is less pronounced in the Lower-Income grouping, which exhibits the lowest average proportions for all revenue administrations.

Segmentation

Modern, effective tax administration requires the segmentation of the taxpayer base to manage taxpayers according to risk, both from a service and enforcement perspective. The typical segments administrations find most useful are denominated by taxpayer size, with special measures and approaches for the very large and the very small. The large taxpayers are generally those subject to the main taxes and which meet other specific criteria or thresholds. The small taxpayers are often those subjected only to income tax and/or other regimes, such as those based on turnover limits. Another increasingly used segment is High Net Wealth Individuals (HNWI), a high-risk group with respect to reporting income.

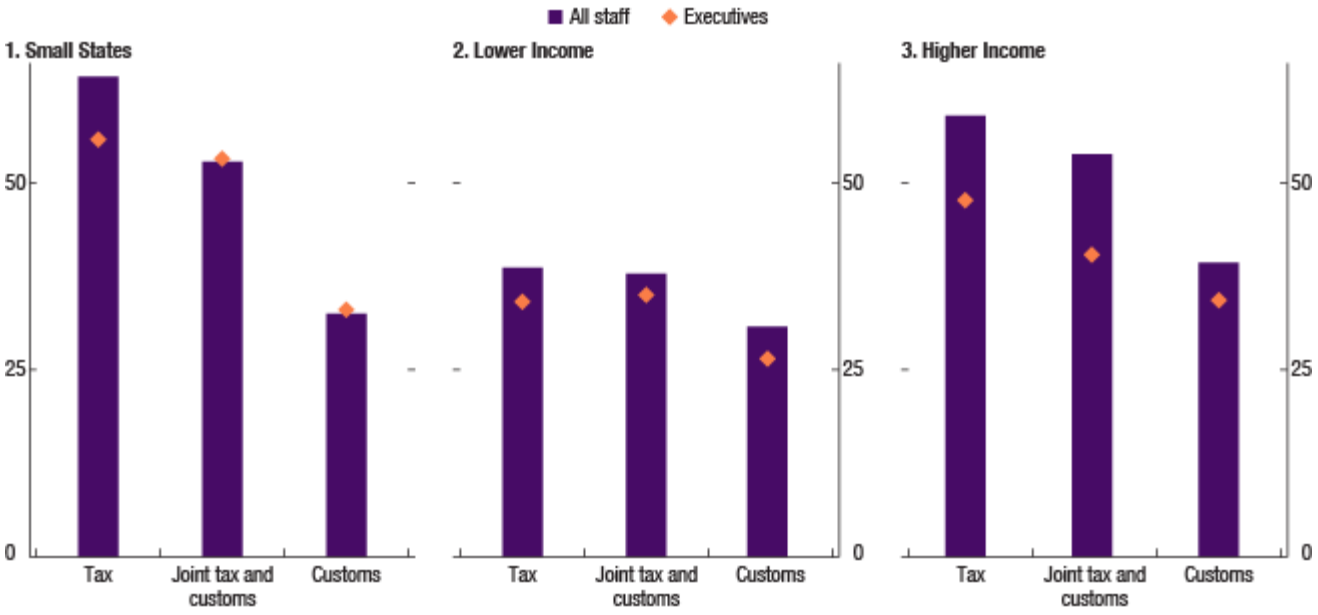
This section presents information on the following:

- The existence of a large taxpayer office or program (LTO/P), HNWI program, and simplified tax regime for small taxpayers
- Share of net revenue collected through an LTO/P and percent of CIT taxpayers managed by the program
- The criteria for determining large taxpayers and range of functions carried out by LTO/Ps
- The criteria for determining HNWI taxpayers and range of functions carried out by HNWI programs
- The proportion of participants using various simplified regimes for small taxpayers.

[36] ISOCA 2018, the product of collaboration between the IMF and World Customs Organization, was a prototype survey to test the survey instrument and processes. Participation rates were lower than ISORA participation rates and anticipated survey rates in the full survey. Despite this, staff gender data were provided by over 20 customs administrations that are not administered jointly with a tax administration.

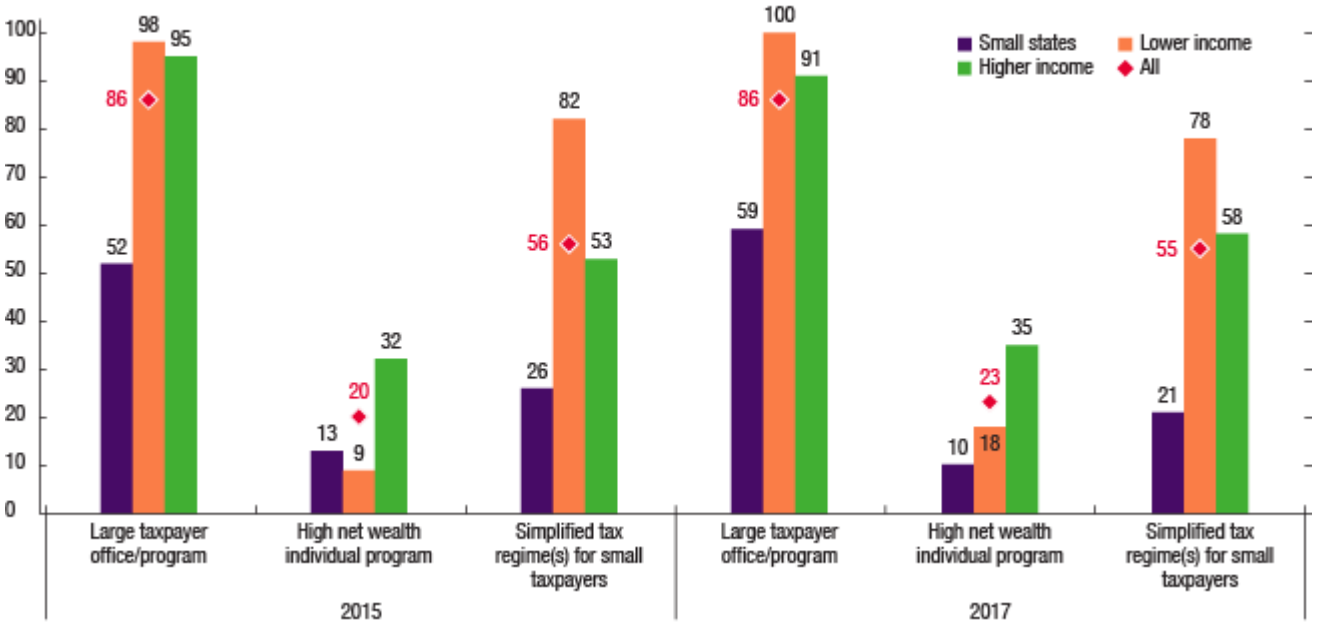
[37] See World Customs Organization new release.

Figure 36. Percentage Female Staff and Executives in Tax Administrations, Joint Tax and Customs Administrations and Customs Administrations by Standard Grouping (2017)



ISORA participants were required to provide basic information about the segmentation of their taxpayers. Figure 37 identifies the number of administrations who provided information about whether they did in fact utilize the three most common segmentation groupings: (1) a large taxpayer office or program (LTO/P), (2) an HNWI program, and (3) a simplified regime (based on legislation) for small taxpayers.

Figure 37. Administrations with LTO/P, HNWI and Small Taxpayer Regimes, 2015 vs. 2017



In terms of using a segmentation approach for its largest taxpayers, almost all Lower-Income and Higher-Income ISORA participants have a specific large taxpayer office or program. For the Small State participants, only 60 percent use this approach. This is not a surprising result, as the issue of scale at the very smallest of the Small States may well preclude the formal establishment of an office or program that focuses specifically on the largest taxpayers. It is also possible that some

of these very Small States do in fact have a special focus on their largest taxpayers, but it is not considered a formal program as such. Overall percentages do not change appreciably between 2015 and 2017.

HNWI programs have been a matter of increasing emphasis in recent years especially in the Higher-Income jurisdictions. This group is considered extremely high risk, with a complex mix of business and tax dealings. The percentage of countries reporting a focus on this segment increased between 2015 and 2017 for the Higher-Income jurisdictions (from 32 to 35 percent) and has doubled over the period for Lower-Income jurisdictions (from 9 to 18 percent). However, for Small State participants it has decreased (13 to 10 percent).

Some administrations use a simplified tax regime for the small taxpayer segment, where the amounts of tax revenue at stake are disproportionately low and where, for many administrations, the availability of adequate books and records is also low. This could help to explain why the incidence of a specific regime for small taxpayers for Lower-Income participants is close to 80 percent for both 2015 and 2017 versus an average rate of just over 55 percent for all participants (both years).

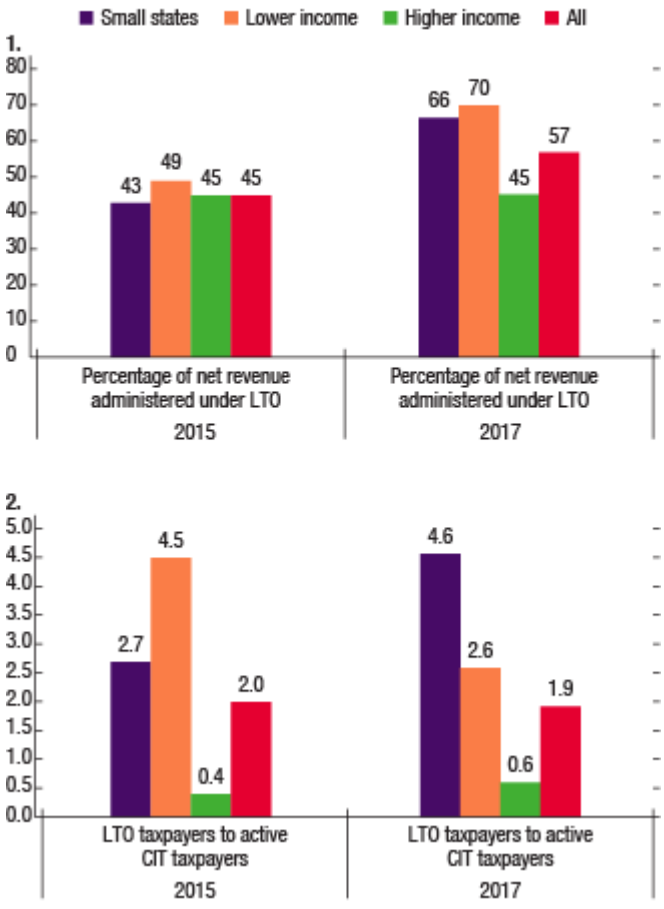
Two measures often used as indicators of a sound structure for LTO/Ps are the percentage of total net revenue,[38] collected through the LTO/P, and the percent of CIT payers included. These elements are shown in Figure 38 for both 2015 and 2017.

The median percentage for all participants of total net revenue collected through the LTO/P is approximately 45 percent for 2015. Furthermore, in 2015 percentages collected for Lower- and Higher-Income groups were similar. For 2017, this situation has changed significantly. The median percentage for all has increased to 57 percent, and the rates for Lower-Income countries are much higher than those for Higher-Income jurisdictions (70 percent versus 45 percent). Box 4 provides further background on these changes.

CIT taxpayers included in the LTO/P are significantly lower for the Higher-Income group. This is expected as Higher-Income participants have much higher rates of CIT taxpayers per citizen compared to their Lower-Income counterparts. The ratio of active CIT taxpayers to citizens is more than four times lower in Lower-Income jurisdictions than in Higher-Income jurisdictions (the median proportions are 2.6 percent and 0.6 percent, respectively—see section on Registration).

Participants who indicated they had an LTO/P were asked to provide information about criteria used to select taxpayers for this segment. This information is shown in Figure 39.

Figure 38. Median Percentage of Revenue Collected and of Active Corporate Taxpayers in the LTO/P, 2015 and 2017



From Figure 39, the vast majority of ISORA participants continue to use turnover as a key criterion for including a taxpayer in the LTO/P. Economic sector or economic activity is second most used, followed by taxes assessed or paid. Other criteria were also indicated, especially for the Higher-Income group. Examples of companies included in LTO/Ps in the ”other criteria” column include multinationals, companies that serve as a local branch of an international company, and smaller companies or subsidiaries that form part of a group, while individuals with international business interest and “Very Important

[38] The ISORA survey asks participants to indicate the LTO/P share of *total net revenue*, defined as including CIT, PIT, VAT, employer withholding taxes, as well as other revenues.

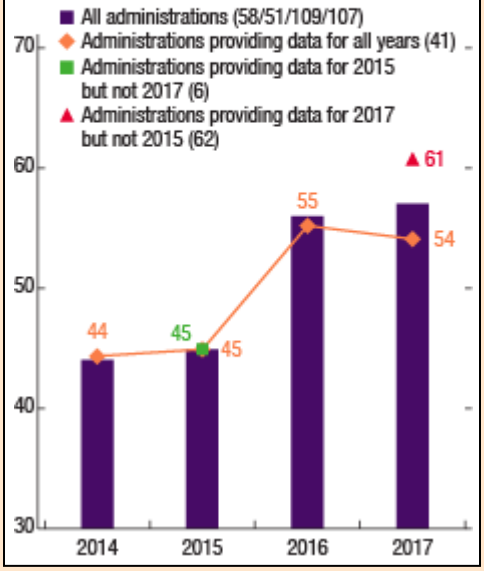
Box 4. Digging Deeper into the Difference between LTO Collections in 2015 and 2017

There are several possible reasons why LTO collections in 2017 show dramatic growth over 2015 figures. Among these are the following:

- *A change in methodology:* LTO revenue collections as a percentage of total net revenue were calculated from the explicit provision of revenue amounts by tax type in 2015, while administrations were asked directly for "the actual or estimated percentage of net revenue administered under this program (the LTO/P) in relation to total net revenue." In other words, in 2015 separate information on actual revenues was required for each tax type, whereas in 2017 a single percentage figure for all revenues, actual or estimated, was all that was required.
- *Different sets of administrations provided data for 2015 and 2017:* Not only were there far more participants for 2017, but a far higher proportion of participants provided the estimated proportion of LTO revenue for 2017 than provided actual collection figures for LTOs for 2015.
- *There could have been significant changes to the LTO/Ps and their operations:* Such changes could relate to the proportion of taxpayers managed through the LTO/P, the resourcing of the LTO/P, economic factors; tax policy changes, or the adoption of new approaches that increased collections appreciably. But while such changes could account for large shifts in revenues collected within/outside the LTO/P for individual administrations, it is unlikely that they would make such a difference in aggregate.

To understand better why the LTO collections reported in ISORA appeared to have changed dramatically, the data reported by administrations that provided figures from 2014 through to 2017 were examined. Data for this group were also compared with administrations that reported data in either only 2015 or 2017. Box Figure 4.1 shows the median LTO/P collections for these groups.

Box Figure 4.1. LTO Revenue as Percent of Net Revenue Reported between 2014 and 2017
(Median)



The figure shows a far greater change in median LTO/P collections between 2015 and 2016 than between 2014 and 2015 or 2016 and 2017 for the 41 administrations for which there are data for all four years. This suggests that change in the way the data were collected most likely contributed to the difference. The change in median disguises even more dramatic changes for individual administrations: eight administrations recorded a more than 15 percentage point decrease from 2015 to 2017, while 12 recorded a more than 15 percentage point increase.

The figure also shows that the 62 administrations providing data for 2017 but not for 2015 (this includes 13 administrations that did not participate in the earlier round of ISORA) generally provided a higher estimated LTO/P revenue as a percentage of net revenue than other administrations providing data for 2017. There may also be a contribution to the change seen between 2015 and 2017 because of the nature of the LTO/P in these administrations.

Persons" (VIPs) are also included in some LTO/Ps and this group may comprise members of parliament and senior government officials, who may not be HNWIs.

Relatively few LTO/Ps provide full-service (that is, the full range of tax administration functions - registration, taxpayer services, returns and payment processing, audit, enforced collection of arrears, and dispute resolution). Figure 40 indicates the range of tax administration functions provided by the LTO/P.

It is clear from Figure 39 that a considerable mix of functions is provided through the LTO/P, with audit being the most common function at 96 percent overall. Some 23 percent of all participants with an LTO/P report having all functions in the LTO/P. For 2015, the corresponding figure was 19 percent.

Figure 39. Taxpayer Selection Criteria for LTO/P, 2017
(Percent)

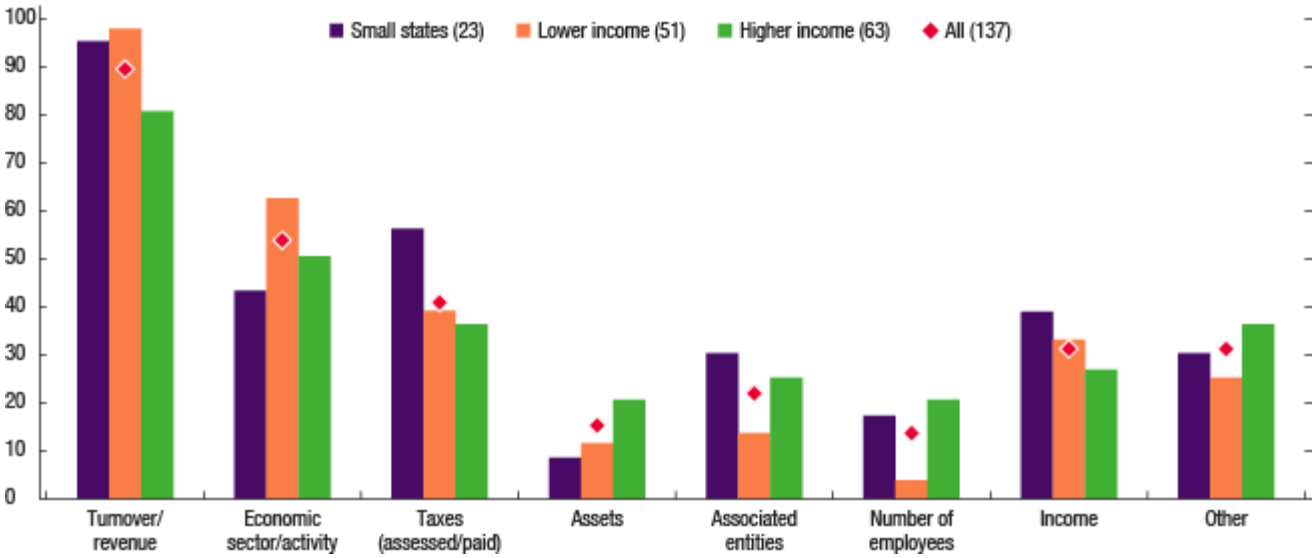
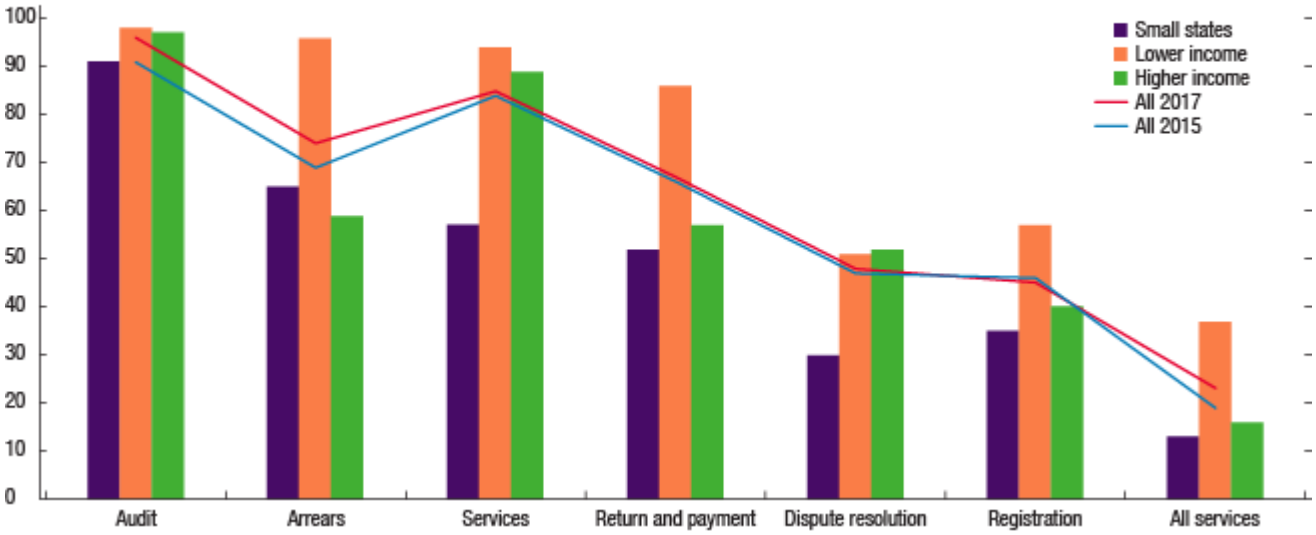


Figure 40. Range of Functions within LTO/Ps, 2015 and 2017
(Percent)



As for the LTO/Ps, ISORA also compiles data on HNWI programs, including criteria for including taxpayers in the program and range of functions administered. This is displayed in Figures 41 and 42, respectively.

Not surprisingly, wealth and income level dominate the criteria for including a taxpayer in the HNWI program. The prominent person (VIP) criterion is sometimes used primarily as a special service convenience and not necessarily as a risk management tool. The range of functions performed in the HNWI program is similar to LTO/P with audit being a function performed by more than 80 percent of all HNWI units. The service function is the second most commonly performed function, suggesting that tax administrations consider it important to provide good services to HNWIs, and thereby encourage voluntary compliance. Collection enforcement (arrears) is a somewhat less frequent function than for LTO/P. A possible explanation for this is that HNWI activities may result in a large number of tax debts involving a large number of people and often small amounts, especially if criteria such as prominent persons adds large numbers of taxpayers. These debts might be more effectively managed through the normal arrears collection function. Consequently, proportionally fewer HNWI units than LTO/Ps offer all services.

Figure 41. Criteria Used to Define HNWIs, 2017
(Percent that use criterion)

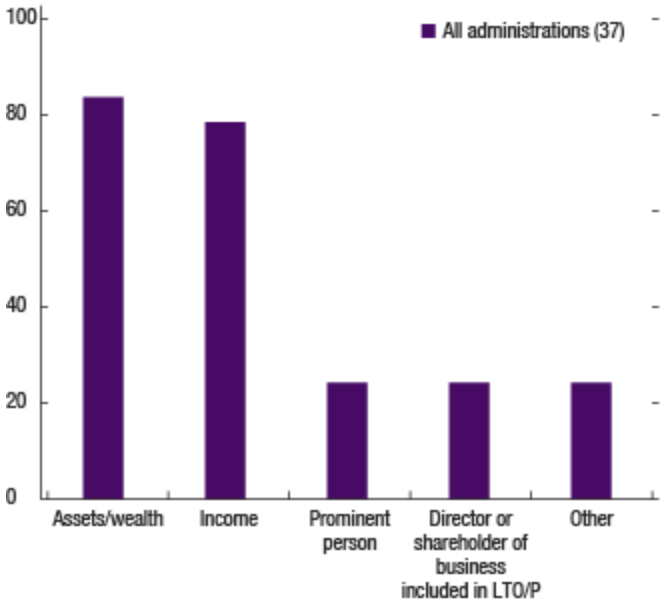
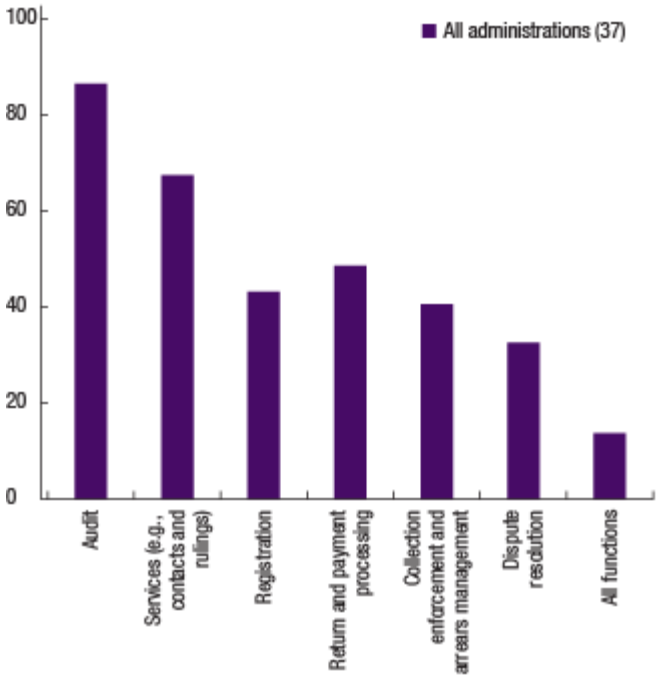
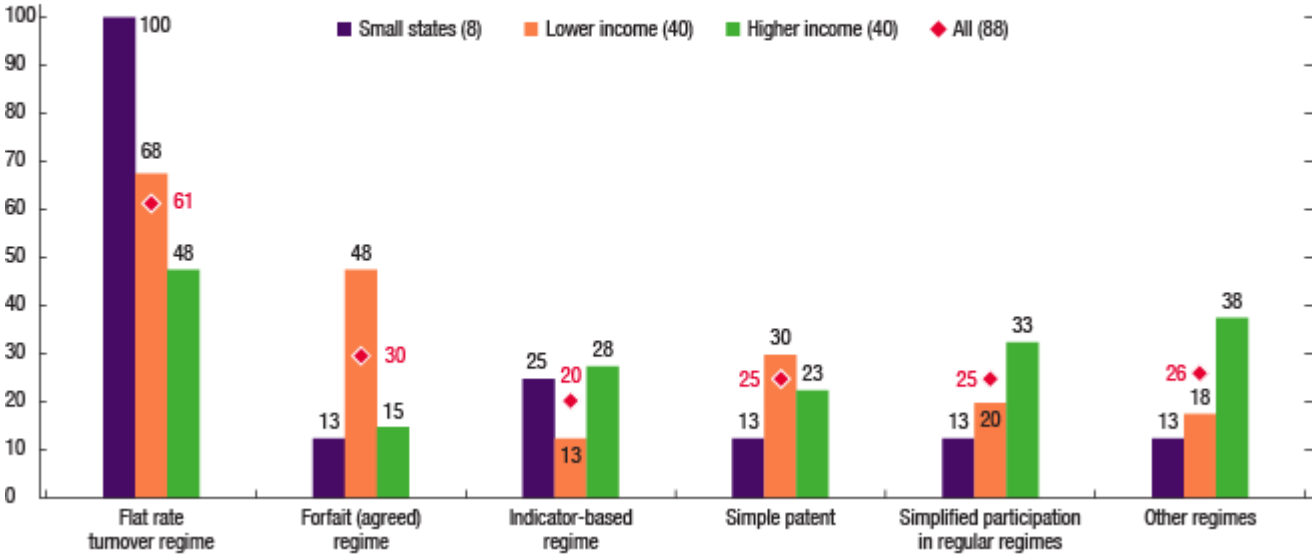


Figure 42. Functions Performed by HNWI Unit, 2017
(Percent of HNWI units that perform function)



Simplified regimes for small taxpayers are another way tax administrations tackle the issue of risk and ensure as many citizens as possible are included in the tax system even if they pay only small amounts. This segment has many taxpayers that provide relatively little in revenue. Further, in Lower-Income jurisdictions, small taxpayers are less likely to maintain adequate books and records for the tax administration to examine. Figure 43 shows the percentage of participants with specific regimes for small taxpayers using the various types of regimes. Comparing the regimes reported in 2015 and 2017 shows that most administrations are now operating more than one regime (an average of 1.8 per administration) than previously (average 1.3 per administration in 2015).

Figure 43. Incidence of Small Taxpayer Regimes, 2017
(Percent)



Registration

Taxpayer registration is a critical function for tax administration—it is the platform on which all other functions are built. ISORA covers some basic aspects of the registration function, including:

- Use of a Taxpayer Identification Number (TIN)
- Active taxpayers and total taxpayers on register, by tax type
- Registration channels
- Improving the quality of the tax register.

Almost all tax administrations indicated the use of TINs in 2017. For PIT, only 2 percent of administrations do not use a TIN, while for CIT and VAT this figure is 1 percent.

ISORA seeks information on both total registered taxpayers and active taxpayers. The question of total taxpayers on the registry versus active taxpayers was dealt with extensively in the predecessor to this publication (*ISORA 2016—Understanding Revenue Administration*). In general, there is an expectation that active taxpayers would be a subset of total taxpayers on the register. A significant difference between the two can be indicative of poor taxpayer registry quality or even systemic issues such as the inability to de-register taxpayers. Having a good understanding of the active taxpayer base is important for forecasting workload for such functions as return processing and payment. Having a high-quality and up-to-date register is critical for other functions, such as filing compliance and searching for cases of non-registration.

It is not entirely clear why so many jurisdictions are unable to provide both total and active taxpayers, or seemingly do not make the distinction between the two. There are examples of administrations participating in ISORA that appear to have changed their practice of distinguishing (or not) between total and active taxpayers on register. Further study on this question will be necessary.

For those participants who provided total taxpayers and active taxpayers, Figure 44 shows the median ratio of active taxpayers to total registered taxpayers, excluding administrations who provided the exact same number for both.

From Figure 44, it is clear that the Lower-Income grouping generally continues to carry a smaller proportion of active taxpayers on their registers, and thus a higher proportion of inactive taxpayers. Many of these Lower-Income administrations have less developed registration systems and are known to have problems with basic register quality and specific issues such as de-registration. However, the magnitude of this difference with the other groupings is somewhat less than it was for 2015, which may indicate a general improvement in register quality. For 2017, the percentage of active to total for Lower-Income jurisdictions has increased for all four tax types. The growth in the number of active taxpayers from 2015 to 2017 exceeds 100 percent in some jurisdictions.

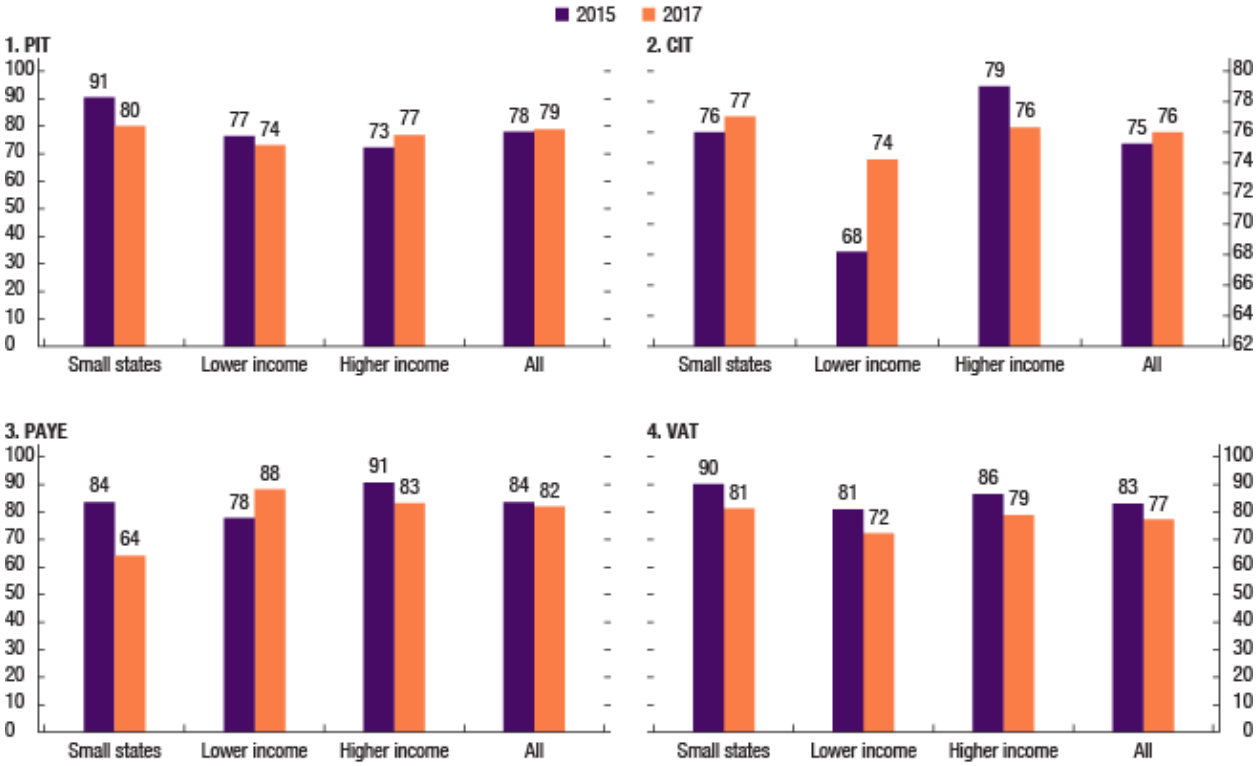
There are some striking features from Figure 44 regarding differences between 2015 and 2017. For example, there is a 7 percent drop in the active/total ratio for VAT for Higher-Income countries. About 3 percentage points (of the 7) are the result of changed responses by participants for 2017. The rest is due to the change in mix of the Higher-Income jurisdictions (some withdrew, others were added). Also, there was a 20 percent drop in the active/total ratio for Small States for PAYE. About 13 percentage points (of the 20) are the result of changed responses by participants, the remainder due to the change in mix. A contribution to this may be the additional explanatory notes provided on the concept of an ”active taxpayer” in the questionnaire.

It can also be useful to examine the ratio of taxpayers to citizens.[39] Figure 45 provides, for 2015 and 2017, taxpayers as a percentage of citizens.

Lower-Income participants have consistently lower values for all tax types, and these are lower by an order of magnitude for PIT and VAT. There can be many reasons for this including poor-quality tax registries; weaker administrative capacity to monitor compliance with filing and payment obligations; significant grey economy issues (non-registrants); general economic conditions; final withholding PIT systems; and higher VAT thresholds.

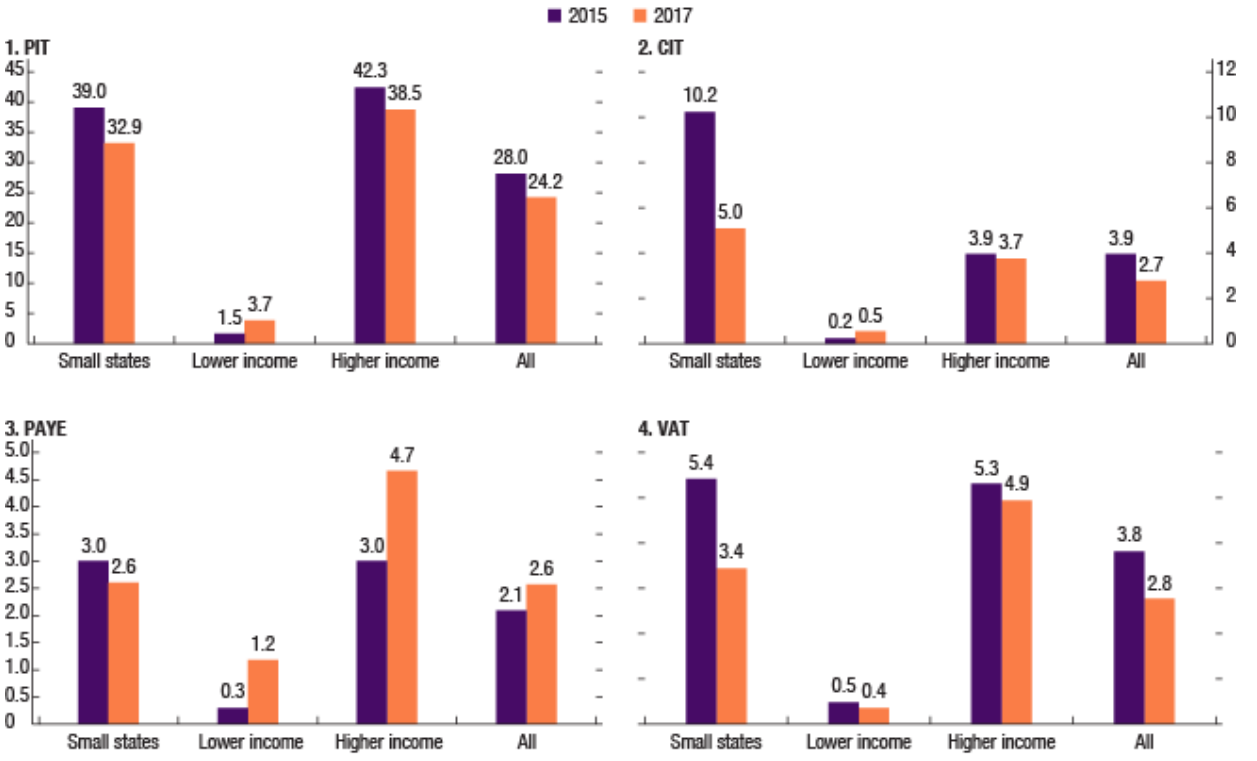
[39] This calculation uses active taxpayers where the data are provided, or total taxpayers where active is not provided.

Figure 44. Median Ratio of Active to Total Registrants by Tax Type, 2015 vs. 2017



Note: CIT = corporate income tax; PIT = personal income tax; Employers = employers withholding such as PAYE; VAT = value-added tax.

Figure 45. Active Taxpayers as a Percentage of Citizens, 2015 vs. 2017



Note: CIT = corporate income tax; PIT = personal income tax; Employers = employers withholding such as PAYE; VAT = value-added tax.

Compliance Risk Approaches

This section provides information on some of the observations and aspects of compliance risk management [40] that are covered in the ISORA survey, viz.:

- The formal approach to managing compliance risk
- Compliance strategy priorities
- Priority focus areas
- Tax gap estimation.

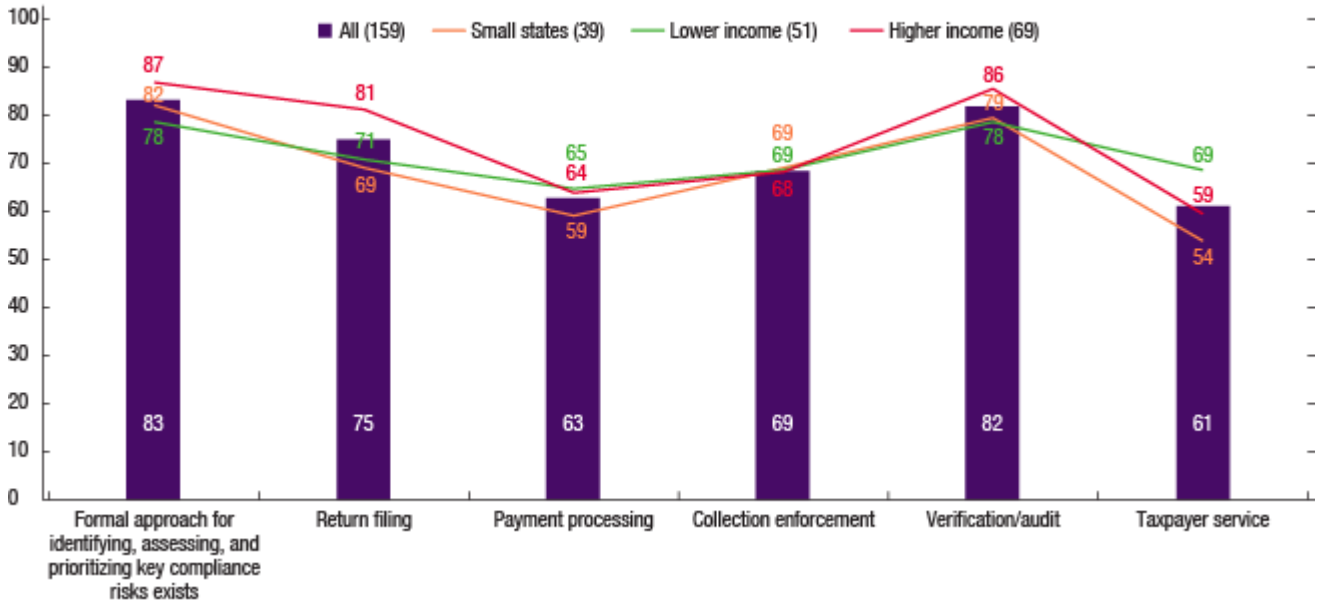
Formal Approach to Managing Compliance Risk

ISORA participants were asked to indicate whether they had a formal approach for identifying, assessing and prioritizing key compliance risks, and, if so, in which areas they had such a formal approach. The percentage of participants answering "Yes" to the overall question, and the percentage answering "Yes" for each area are shown at Figure 46.

From the data in Figure 46, it can be observed that:

- All three standard groupings are reporting similar levels of formal approaches to compliance risk management across tax administration functions. This is a change from 2015 where administrations in both Lower-Income and Higher-Income jurisdictions reported they were much more likely to have a formal approach to identifying, assessing and prioritizing key compliance risks across a range of tax administration functions than administrations in Small States. This change is the net result of additions and subtractions in the number of ISORA participants as well as changed values reported for 2017.
- Across all groups, audit and verification activities remain most likely to have formal compliance risk approaches (83 percent overall), while taxpayer service and payment processing are least likely (61 percent and 63 percent, respectively) to have formal compliance risk approaches.

Figure 46. Formal Approaches to Compliance Risk, 2017
(Percent)



[40] A discussion on criteria for audit case selection can be found in this publication's predecessor—*ISORA 2016 Understanding Revenue Administration.* These criteria are essentially the same for ISORA 2018 as they were for 2016.

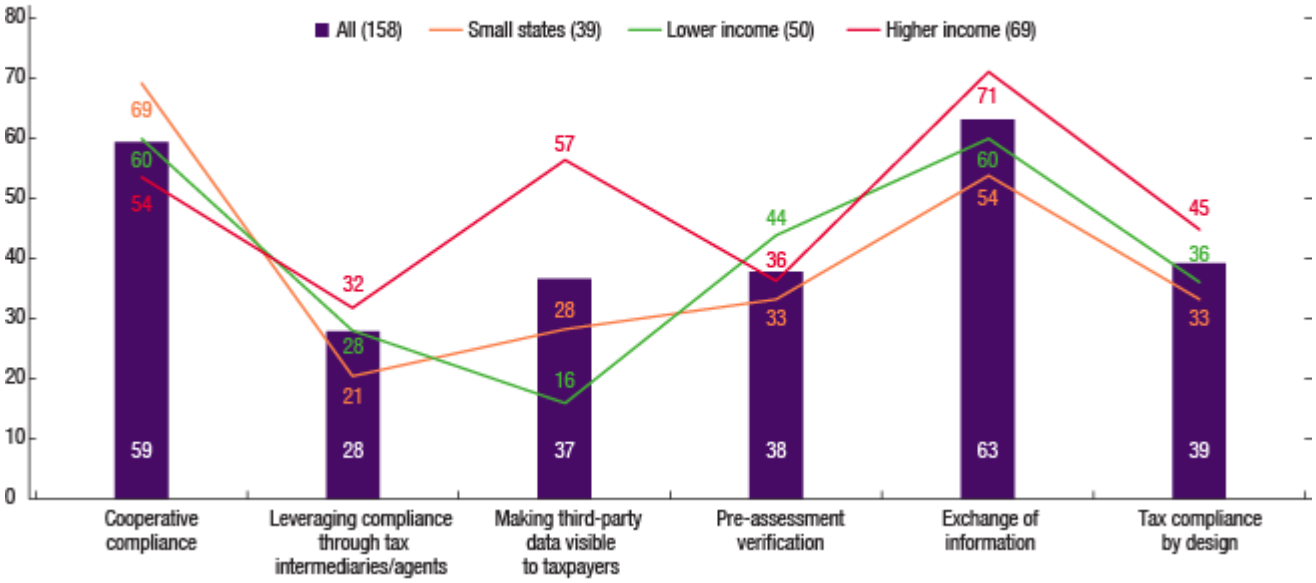
Compliance Strategy Priorities

Administrations were asked whether various approaches used in compliance strategies were high, medium, or low priority. The focus is on which strategies were identified as high priority. The percentage of participants identifying various compliance approaches as high priority are set out in Figure 47.

This issue follows the normal pattern that has been established, that is, Higher-Income jurisdictions are generally making more recently introduced approaches a higher priority in managing risk.

The 2017 results displayed in Figure 50 are very similar to the results for 2015. The biggest differences seen amongst the groupings continue to be in the priority associated with making third-party data visible to taxpayers and in the exchange of information, where administrations in Higher-Income jurisdictions are considerably more likely to attach a high priority to these approaches. The greater emphasis on utilizing third-party data among the Higher-Income group is consistent with the picture of administrations in these groupings having the capacity to make use of electronic channels to obtain information from taxpayers and other third parties and analyze the data for use in service or enforcement. It is interesting to note that the gap has widened in this area between 2015 and 2017, with the Higher-Income group showing an increase of 19 percent and the Lower-Income group a decrease 36 percent. Again, this is partly due to the change in mix and number of participants, as well as the change in reported values.

Figure 47. High Priority Compliance Approaches, 2017
(Percent)



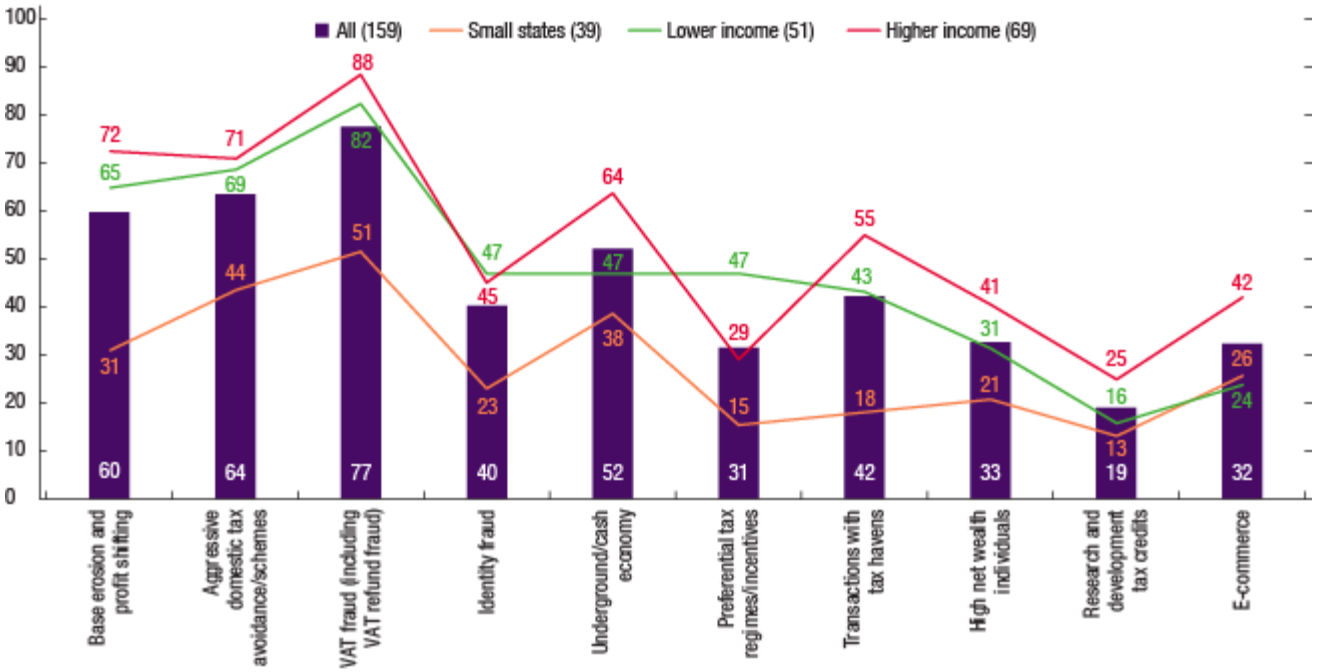
Priority Focus Areas

Administrations were also asked to denote whether a dozen focus areas for compliance were regarded as high, medium, or low priority. Ten areas were indicated as high priority by more than 20 percent of the ISORA participants. These are included in Figure 48.

From the data in Figure 48, it can be seen that:

- When compared to 2015 results, Small States continue to assign a generally lower priority focus than the Lower- and Higher-Income groups.
- VAT fraud is a high priority for more than 70 percent of ISORA's participants. This is consistent with higher coverage levels of VAT audits in comparison with Income Tax (see audit section). The lower frequency of prioritization of VAT fraud by Small States is in line with a lower proportion of Small States collecting VAT (74 percent) than in Lower-Income and Higher-Income jurisdictions (both over 90 percent).

Figure 48. High Priority Focus Areas, 2017
(Percent)



- For Lower-Income jurisdictions, "preferential tax regimes and incentives" is a high-priority focus area, which is not surprising, as many Lower-Income jurisdictions offer tax incentives. The difference between Lower- and Higher-Income groups on this focus area is less dramatic for 2017 than it was for 2015.
- More tax administrations indicated that HNWIs were a priority in 2017 than in 2015, in line with the growth in HNWI units.
- Tax administrations in Higher-Income jurisdictions are more likely to focus on aggressive domestic tax avoidance schemes than peers in other groupings. Administrations in Higher-Income jurisdictions are also more likely to focus on the underground or cash economy than the peers in other groupings, despite the fact that generally Lower-Income jurisdictions would have a larger proportion of economic activity associated with the cash economy.

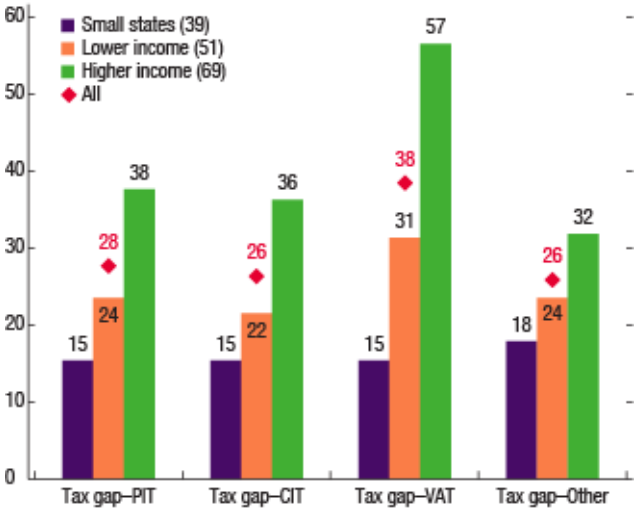
Tax Gap Estimation

The ISORA survey asks participants to indicate whether they produce tax gap estimates for PIT, CIT, VAT or Other Taxes. Responses to these questions are presented in Figure 49.

Figure 49 shows Higher-Income jurisdictions most likely to formally estimate tax gaps for all major tax types (38 percent for PIT, 36 percent for CIT, and 57 percent for VAT). Small State jurisdictions are least likely to produce tax gap estimates.

More administrations indicate that they estimate the VAT gap than any other tax gap. Better established methodologies exist for VAT gap measurement (for example, the IMF's RA-GAP program) and data are more readily available than for the estimation of gaps associated with direct taxes. In comparison to 2015, the percentage of all jurisdictions producing tax gap estimates for VAT for 2017 has increased from 35 to 38 percent, due largely to an increase from 45 percent to 57 percent for the Higher-Income jurisdictions.

Figure 49. Tax Gap Estimates Conducted by Tax Type, 2017
(Percent)



Conclusion

Some selected conclusions from the profile data are as follows:

- Slightly less than half of participating administrations (74 of 159) self-identified as semi-autonomous organizations.
- About 37 percent of participants (59 of 159) are responsible for tax administration and customs administration.
- By tax administration function, participants overall reported the following: front office functions (registration, service, returns and payment processing)—about 30 percent of staff; back-office functions (audit, verification, and enforced debt collection)—about 42 percent of staff; disputes (objections and appeals)—about 3 percent of staff; and other operational and support functions—about 30 percent of staff. These percentages are very similar to those provided for ISORA 2016.
- More than 85 percent of respondents report having dedicated Large Taxpayer Offices or Programs.
- The Higher-Income group has 21 percent of tax administration employees aged 55 or older. The comparable figures for Small States and Lower-Income participants are 12 percent and 9 percent, respectively.
- Overall, female tax administration staff make up 53 percent of tax administration employees, but only 40 percent of executives.

D. Practices and Structural Foundations for Effective Tax Administration

Introduction

As noted in Part II of this publication, this section includes seven indices on different subjects that provide a broad perspective on tax administration activity. These indices are based on ISORA questions that deal with practices (both administrative and operational) as well as the structural foundations (laws, regulations and policies) that underpin those practices.

Each index has nine to 16 components, and each component is based on one or more specific ISORA questions, so each index is associated with a large amount of data. The use of an index is an attempt to distil this large amount of data into a format suitable for monitoring changes over time and facilitate self-evaluation by a tax administration of its practices and institutional framework based on comparisons with other jurisdictions.

The indices are calculated on the basis of a participating jurisdiction's responses to a series of questions related to the topic at hand, where a positive response (often a "yes" to a "yes/no" question) is essentially considered a "good" practice or institutional framework feature. The higher the number of "yes" or equivalent responses, the higher the resulting index. The resulting index is thus a reflection of the degree of "good" practice or the extent of "good" structural foundations.

The ISORA data set was not specifically designed to produce indices of this nature. However, they are a direct by-product of the ISORA responses and considered to be a useful indicator for administrations to compare their situations with peers.

Indices of this nature were used in the previous publication on ISORA 2016. Three of the four indices from that analysis have been retained – autonomy, public accountability, and service orientation. While these are similar to the indices presented here, they are not exactly comparable for two reasons: (1) the exact set of questions used differs slightly, and (2) the indices in this publication use a weighting system that was not used in the earlier set.[41]

The seven indices are described here:

[41] It is recognized that each yes/no question in each index does not necessarily have the same "weight" in scoring the value of the index. Therefore, depending on a judgment of the relative importance of the question to the index at hand, the authors have assigned a weighting of 1, 2, or 3 to each question, based on their collective experience in tax administration.

- *Management and Human Resources Autonomy*: this is a measure of the degree of autonomy provided by the government to the tax administration based on relevant laws, regulations and policies
- *Public Accountability*: this measures the extent to which a participant makes information public, part of a visible commitment to accountability and transparency. This is often looked at in tandem with the Autonomy index described above, as high levels of autonomy normally require a high degree of transparency
- *General Management*: this covers several important general management topics, indicating the extent to which certain institutional features and practices can contribute to 'good' management. It includes elements of an integrity framework
- *Human Resources Management*: a measure of the extent to which modern human resources practices and policies that support an effective tax administration are applied in the administration
- *Service Orientation*: measures the extent to which a range of specific practices and services are taxpayer-centric
- *Compliance Risk Management Foundations*: a measure of the extent to which sound compliance risk practices and institutional features can support compliance with the tax laws
- *Degree of Digitalization*: this comprises practices and features that are associated with the degree of digitalization of the administration, considered an essential aspect of modern tax administration.

Annex 3 provides background information on each index as follows:

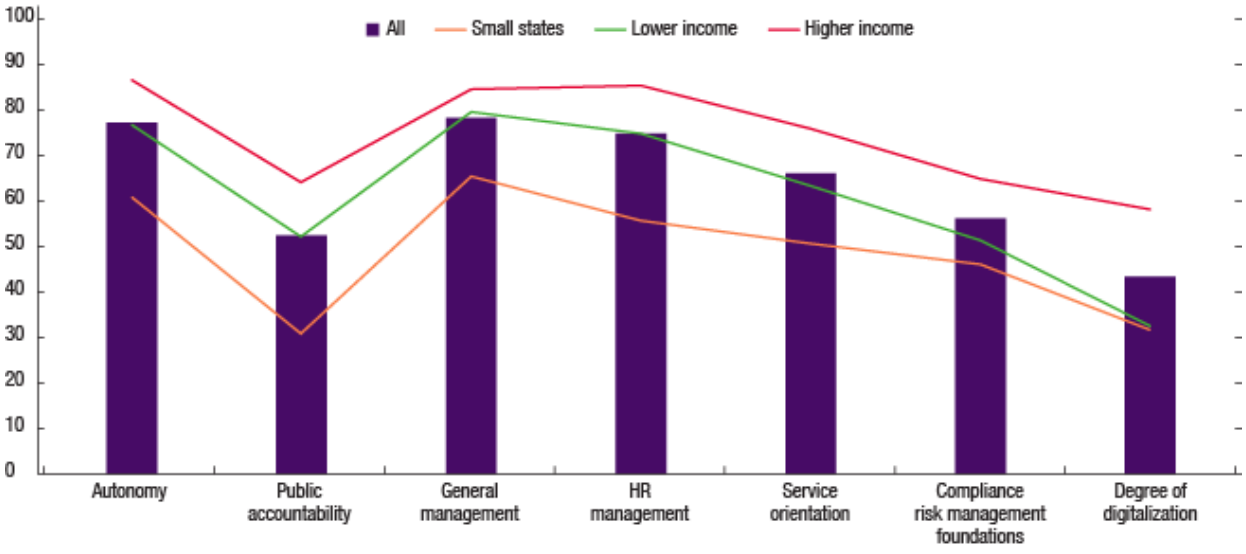
- The specific ISORA 2018 question(s) used for the index
- The relative weighting applied for each question.

As some practices covered by the questions in ISORA 2018 are pertinent to more than one index, some ISORA responses contribute to more than one index. For example, various delegations of authority to manage human resources contributes both to the Autonomy index, as well as to the Human Resource Management index, as such authority provides a foundation for more effective and efficient management of human resources.

Analysis

Figure 50 sets out the results (average scores) for the seven indices under consideration for the standard grouping of Small States, Lower-Income, and Higher-Income ISORA participants. The indices are all scaled to have a maximum value of 100. The bars in Figure 50 represent the average score for the seven indices described above, and the lines represent the scores of the three standard groups of participants. It can be seen from Figure 50 that:

Figure 50. Average Scores for Indices Related to Practices and Institutional Foundations, 2017, by Standard Grouping



- For all indices, Higher-Income jurisdictions score highest, and Small States score lowest. Lower-Income participants are in the middle, except for the ”Degree of Digitalization” index, where they are tied with Small States. This is generally true throughout ISORA, where Higher- Income participants frequently report better performance and more productive structural arrangements than Lower-Income and Small State participants.
- Autonomy, General Management, and Human Resources Management indices score highest for all three groupings. The similar behavior of these indices is in part due to an overlap in components of these indices.
- Public Accountability and Degree of Digitalization score lowest for all three groupings. The lower scores for Public Accountability are surprising, as there is a general expectation that that more autonomy is often associated with increased public accountability.

Within the standard groupings, there is a wider range of scores. Figure 51 show the counts of administrations with scores in the range shown on the *x*-axis for all the indices.

These indices show distinct differences in the distribution of scores for all administrations. For three indices—Autonomy, General Management, and Human Resource Management—most administrations score more than 80. The remaining indices show less clustering in scores, with Public Accountability showing the greatest degree of variation.

The average scores against these indices have been determined for three other sets of groupings: first, the group of administrations that self-identify as semi-autonomous versus those that do not, and second, by geographic region, and third, by fragile states versus non-fragile jurisdictions. Figure 52 shows the average scores by institutional arrangements (agency type).

On average, self-identifying semi-autonomous tax administrations score higher against all seven indices. That they score higher in terms of Autonomy is not surprising; arguable the relatively high score of those that do not identify as semi-autonomous is the more interesting result. The differences in scores for these two groups are most pronounced for Public Accountability and Human Resource Management.

Figure 53 depicts the average scores of tax administrations by IMF region.

The widest spread of average score by region is seen in Public Accountability and the Degree of Digitalization. The results for Europe largely reflect the scores seen for Higher-Income countries, while sub-Saharan Africa follows the pattern of Lower-Income countries. The scores for Western Hemisphere administrations reflect the blend of Small States and Higher-Income countries in the region. Middle East and Central Asia administrations are not representative of the region as a whole as there is limited representation of North Africa and the Middle East.

Finally, Figure 54 shows the average index scores for fragile state participants versus non-fragile states. As the majority (76 percent) of the fragile state respondents fall under the Lower-Income grouping, the average for the non-fragile Lower-Income grouping is also included.

For all indices, the average for the fragile states is lower than that of the non-fragile states, and the fragile state average is also lower than the average for Lower-Income non-fragile states. The most significant difference is seen in the Degree of Digitalization index, from which it seems that fragile states have not digitalized their tax operations, including service channels, to nearly the extent that other administrations have done so. The next three largest differences are seen in Service Orientation, Public Accountability and Compliance Risk Management Foundations. As will be shown in the following section, these four indices have the strongest association with the number of active taxpayers per FTE, which to some extent measures the “reach” of the tax administration into economic activity. These results are not inconsistent with those reported in the section on performance indicators, where e-filing was shown to be largely lacking in administrations within Fragile States, and their cost of collection was relatively high.

Figure 51. Histograms of Scores for Indices Related to Practices and Institutional Foundations, 2017, by Standard Grouping

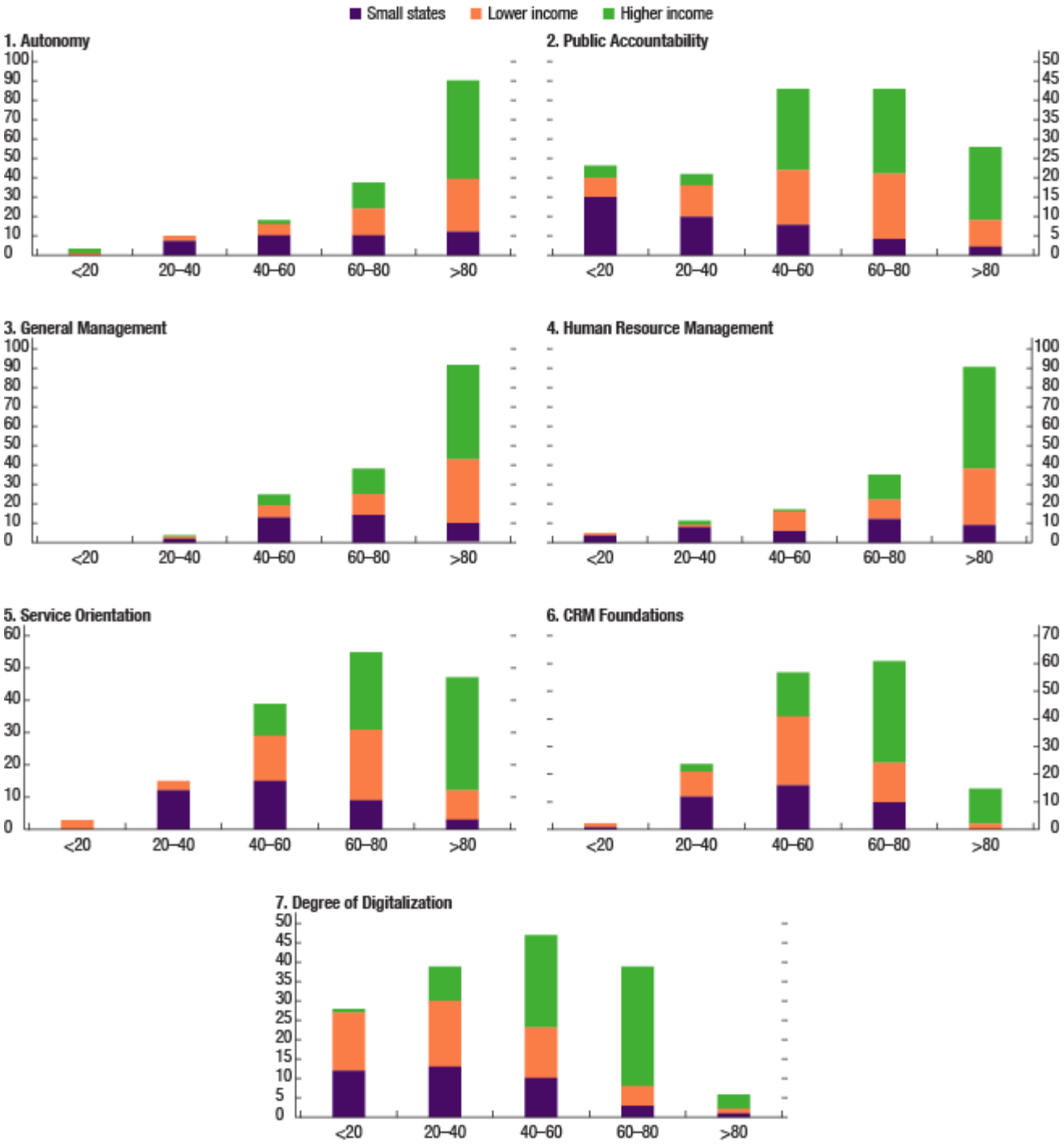


Figure 52. Scores for Indices Related to Practices and Institutional Foundations, 2017, by Agency Type

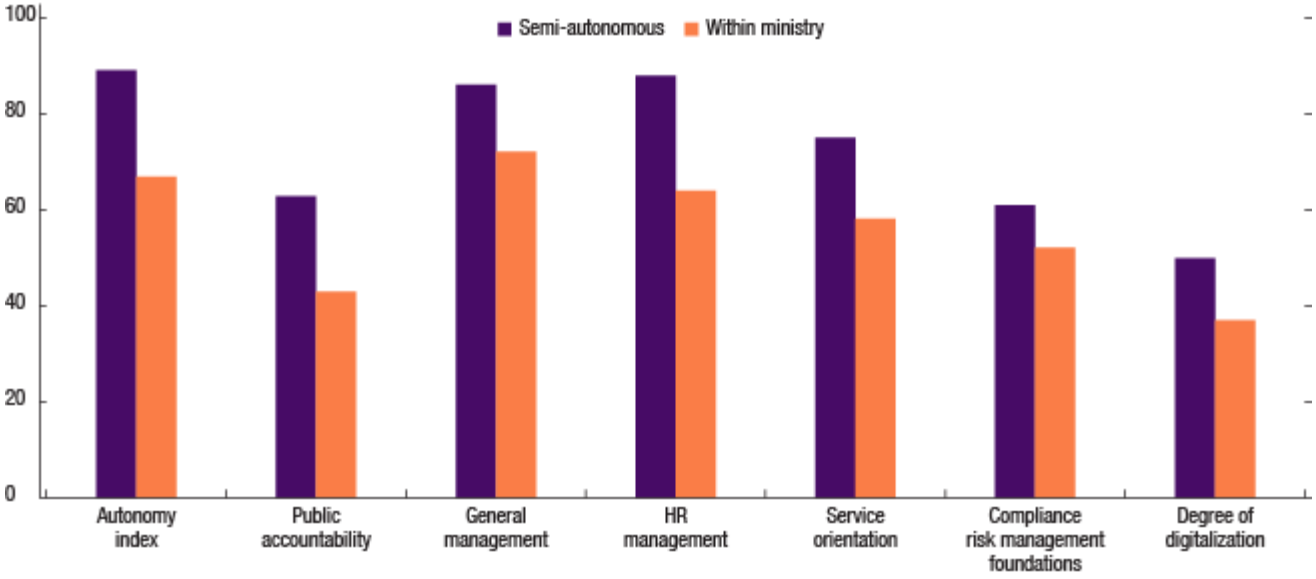
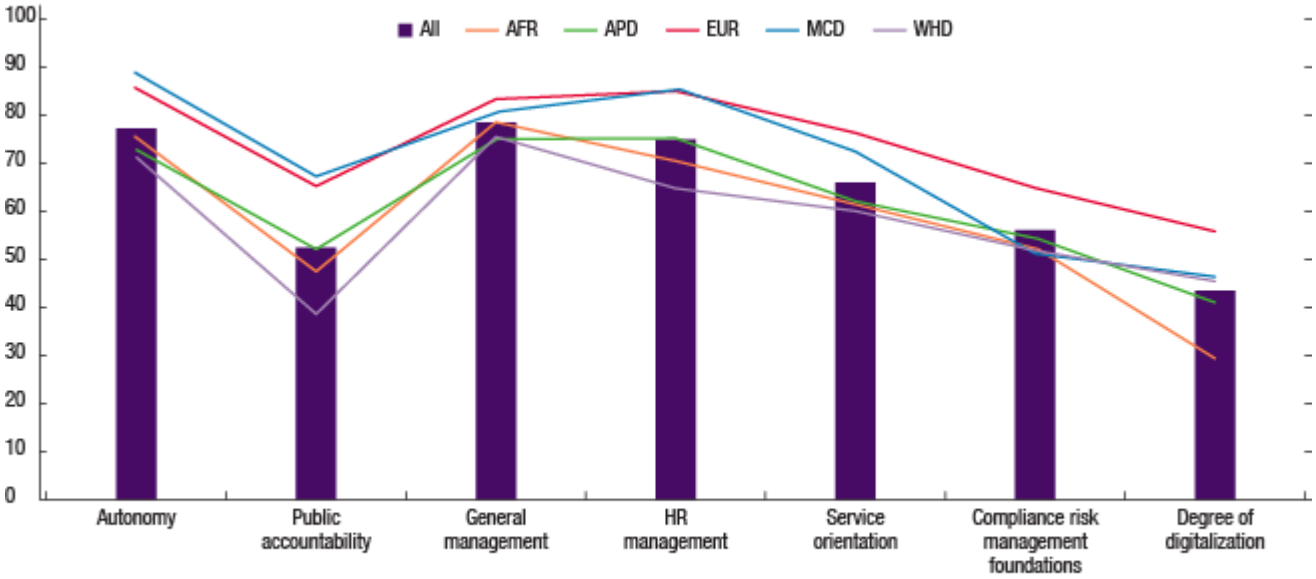
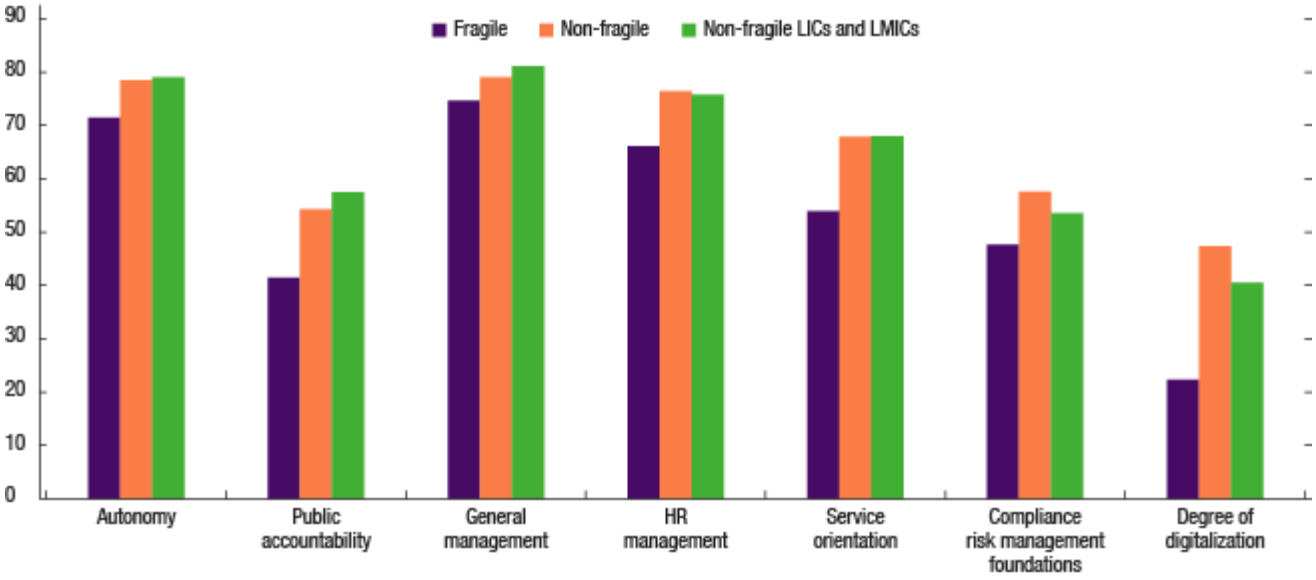


Figure 53. Scores for Indices Related to Practices and Institutional Foundations, 2017, by IMF Region



Note: AFR = sub-Saharan Africa; APD = Asia and Pacific; EUR = Europe; MCD = Middle East and Central Asia; WHD = Western Hemisphere.

Figure 54. Scores for Indices Related to Practices and Institutional Foundations, 2017, by Fragile and Non-Fragile Respondents



Relationships Among the Seven Indices

Unsurprisingly, there are strong correlations among these seven indices. The correlations are shown in Table 18.

Table 18. Correlations Between the Institutional Foundations and Practices Indices

	Autonomy	Public Accountability	General Management	HR Management	Service Orientation	CRM Foundations	Degree of Digitalization
Autonomy	1	0.50	0.44 (0.73)	0.48 (0.82)	0.54	0.39	0.43
Public Accountability		1	0.54	0.55	0.64 (0.73)	0.58	0.54
General Management			1	0.49	0.54	0.42	0.43
HR Management				1	0.62	0.43	0.44
Service Orientation					1	0.581	0.62 (0.68)
CRM Foundations						1	0.64 (0.65)
Degree of Digitalization							1

Note: Results in blue give the correlations between indices where common components have been removed. Duplicate components were removed from the General Management and HR Management indices to determine their correlation with Autonomy; one component was removed from Public Accountability before determining the correlation with Service Orientation; one component was also dropped from Degree of Digitalization in determining is correlation with Service Orientation; and common components were removed from the Digitalization index in determining the correlation with Compliance Risk Management Foundations. For these five cases, the number in parentheses gives the correlation without excluding the common elements.

From Table 18 it can be seen that:

- All the correlations are positive. This is not unexpected. Within tax administration, good practices or structures in one sphere are often associated with good practices in other spheres.
- The strongest pairwise correlations observed are between:

  - The Degree of Digitalization and Compliance Risk Management Foundations
  - Service Orientation and Public Accountability (as observed in previous analysis of ISORA 2016 data)
  - Service Orientation and Degree of Digitalization
  - Human Resource Management and Service Orientation

- There is an appreciable but somewhat lower correlation between Autonomy and Public Accountability, despite the significantly lower average score for Public Accountability and Autonomy.

Do Administrations' Practices and Institutional Foundations Impact Performance?

It is assumed that good practice in tax administrations is associated with better outcomes. For a number of reasons, including the need to consider a range of measure that are interconnected, the difficulty of achieving standardized measures across heterogenous tax administrations, this is a complex area to analyze quantitatively.

In principle ISORA data can contribute toward a better understanding of the determinants of better tax administration performance. As a simple illustration of what may be possible the question can be asked: are higher scores against these seven indices associated with better performance? Correlations of these seven indices with some of the performance measures discussed in an earlier section of this report are shown in Table 19.

Table 19. Correlations Between the Practices Indices and Performance Measures

	Autonomy	Public Accountability	General Management	HR Management	Service Orientation	CRM Foundations	Degree of Digitalization
CIT on-time filing rate	0.23	0.18	0.25	0.20	0.18	0.13	0.25
VAT on-time filing rate	0.22	0.29	0.24	0.23	0.30	0.17	0.18
Arrears as percentage of tax revenue	–0.16	0.01	–0.10	–0.09	0.03	0.03	0.02
Taxpayers per FTE	0.06	0.26	0.11	0.11	0.25	0.40	0.50
Cost of collection	–0.07	–0.13	–0.07	–0.01	–0.12	–0.17	–0.20

The results are mixed. Modest correlations are seen for the on-time filing rates with all of the indicators, but there is no apparent relationship between any of the indices and the arrears measure. As discussed earlier, the arrears figures collected through ISORA show considerable variability year over year, which may reflect both measurement issues and the impact of factors not recorded in ISORA, for example, whether a country has debt write-off laws, and whether or not such laws are actually implemented. The strongest associations are between the Degree of Digitalization and Compliance Risk Management Foundations indices and active taxpayers per FTE, an indicator of efficiency. As expected, Cost of Collection shows negative (if small) correlation with all the indices.

This simple exercise illustrates the complexity involved in analyzing factors that improve administrations' performance, but also suggest the promise of developing evidence-based advice to administrations in the future as better standardized performance measures and information on practices becomes available.

Conclusion

Seven indices have been introduced that cover a range of practices, both administrative and operational, and structural foundations for effective tax administration.

All the indices demonstrate a similar pattern—Higher-Income jurisdictions are further ahead of Small State and Lower-Income jurisdictions in implementing good practices and setting up good structural foundations. There are correlations among all seven indices, and a degree of correlation with some of the tax administration performance measures presented in this report. Some of these relationships bear closer examination as data from future ISORA surveys covering a longer time period become available.

As was noted in the introduction to this section, indices can serve a useful purpose in distilling a large amount of data into a simplified structure for comparison. More and more research papers on the general subject of revenue administration are using these ISORA examples or developing their own indices from ISORA data.

Annex 1. ISORA 2018 Participation

Annex Table 1.1. ISORA 2018 Participants by IMF Region and World Bank Income Group[1]

	Sub-Saharan Africa (39)	Asia and Pacific (32)	Europe (43)	Middle East and Central Asia, incl. North Africa (9)	Western Hemisphere, including Caribbean (36)
LICs (21)	Benin Burkina Faso Burundi Central African Republic Chad Congo, Democratic Republic of Ethiopia Gambia, The Guinea Liberia Madagascar Malawi Mali Niger Rwanda Sierra Leone Tanzania Togo Uganda			Afghanistan, Islamic Republic of Tajikistan	
LMICs (36)	Angola Cabo Verde Cameroon Congo, Republic of Côte d'Ivoire Eswatini Ghana Kenya Lesotho Nigeria São Tomé and Príncipe Senegal Zambia Zimbabwe	Bangladesh Bhutan Cambodia India Indonesia Lao People's Democratic Republic Mongolia Myanmar Papua New Guinea Philippines Solomon Islands Vanuatu Vietnam	Moldova Ukraine	Kyrgyz Republic Morocco Uzbekistan	Bolivia El Salvador Honduras Nicaragua
UMICs (50)	Botswana Gabon Mauritius Namibia South Africa	China, P.R.: Mainland Fiji Malaysia Maldives Marshall Islands, Republic of Nauru Samoa Sri Lanka Thailand Tonga Tuvalu	Albania Bosnia and Herzegovina Bulgaria Kosovo, Republic of Montenegro Republic of North Macedonia Republika Srpska Romania Russian Federation Serbia, Republic of Turkey	Armenia, Republic of Azerbaijan, Republic of Georgia Kazakhstan	Argentina Belize Brazil Colombia Costa Rica Dominica Dominican Republic Ecuador Grenada Guatemala Guyana Jamaica Mexico Montserrat Paraguay Peru St. Lucia St. Vincent and the Grenadines Suriname

Annex Table 1.1 *(continued)*

	Sub-Saharan Africa (39)	Asia and Pacific (32)	Europe (43)	Middle East and Central Asia, incl. North Africa (9)	Western Hemisphere, including Caribbean (36)
HICs (52)	Seychelles	Australia Hong Kong SAR Cook Islands Japan Korea, Republic of New Zealand Singapore Taiwan Province of China	Austria Belgium Croatia Cyprus Czech Republic Denmark Estonia Finland France Germany Greece Hungary Iceland Ireland Israel Italy Latvia Lithuania Luxembourg Malta The Netherlands Norway Poland Portugal Slovak Republic Slovenia Spain Sweden Switzerland United Kingdom		Antigua and Barbuda Aruba Barbados Bermuda Canada Chile Panama St. Kitts and Nevis Trinidad and Tobago Turks and Caicos Islands United States Uruguay Virgin Islands, British

Note: Numbers in parentheses are the number of jurisdictions per row or column. HICs = high-income countries; LICs = low-income countries; LMICs = low-middle-income countries; UMICs = upper-middle-income countries.
[1]Countries identified as fragile according to the IMF 2019 classification are shown in red.

Annex Table 1.2. ISORA 2018 Participants by Supporting Partner Organization[1]

Asian Development Bank (14)	Inter-American Center of Tax Administrations (17)	International Monetary Fund (60)	Intra-European Organization of Tax Administrations (10)	Organization for Economic Co-operation and Development (58)
Afghanistan, Islamic Republic of	Aruba	Angola	Albania	Argentina
Bangladesh	Barbados	Antigua and Barbuda	Armenia (Republic of)	Australia
Bhutan	Bermuda	Belize	Azerbaijan (Republic of)	Austria
Cambodia Kazakhstan	Bolivia	Benin	Bosnia and Herzegovina	Belgium
Kyrgyz Republic	Dominican Republic	Botswana	Moldova	Brazil
Lao People's Democratic Republic	Ecuador	Burkina Faso Burundi	Montenegro	Bulgaria
Mongolia	El Salvador	Cabo Verde	Republic of North Macedonia	Canada
Philippines	Guatemala	Cameroon	Republika Srpska	Chile
Sri Lanka	Guyana	Central African Republic	Serbia (Republic of)	China
Taiwan Province of China	Honduras	Chad	Ukraine	Colombia
Tajikistan	Jamaica	Congo, Democratic Republic of		Costa Rica
Uzbekistan	Nicaragua	Congo, Republic of		Croatia
Vietnam	Panama	Cook Islands		Cyprus
	Paraguay	Côte d'Ivoire		Czech Republic
	Suriname	Dominica		Denmark
	Trinidad and Tobago	Eswatini		Estonia
	Uruguay	Ethiopia		Finland
		Fiji		France
		Gabon		Georgia
		Gambia (The)		Germany
		Ghana		Greece
		Grenada		Hong Kong SAR
		Guinea		Hungary
		Kosovo, Republic of		Iceland
		Lesotho		India
		Liberia		Indonesia
		Madagascar		Ireland
		Malawi		Israel
		Maldives		Italy
		Mali		Japan
		Marshall Islands, Republic of		Kenya
		Mauritius		Korea (Republic of)
		Montserrat		Latvia
		Myanmar		Lithuania
		Namibia		Luxembourg
		Nauru		Malaysia
		Niger		Malta
		Nigeria		Mexico
		Papua New Guinea		Morocco
		Rwanda		The Netherlands
		Samoa		New Zealand
		São Tomé and Príncipe		Norway
		Senegal		Peru
		Seychelles		Poland
		Sierra Leone		Portugal
		Solomon Islands		Romania
		St. Kitts and Nevis		Russian Federation
		St. Lucia		Singapore
		St. Vincent and the Grenadines		Slovak Republic
		Tanzania		Slovenia
		Togo		South Africa
		Tonga		Spain
		Turks and Caicos Islands		Sweden
		Tuvalu		Switzerland
		Uganda		Thailand
		Vanuatu		Turkey
		Virgin Islands (British)		United Kingdom
		Zambia		United States
		Zimbabwe		

[1]Economies that participated in both ISORA 2016 and 2018 are shown in black; economies that did not participate in ISORA 2016 are shown in blue.

Annex Table 1.3. ISORA 2018 Participants by *Standard Grouping* and by *IMF Region*

	Sub-Saharan Africa (39)	**Asia and Pacific (32)**	**Europe (43)**	**Middle East and Central Asia, including North Africa (9)**	**Western Hemisphere, including Caribbean (36)**
Small States (39)	Cabo Verde Eswatini Mauritius São Tomé and Príncipe Seychelles	Bhutan Cook Islands Fiji Maldives Marshall Islands, Republic of Nauru Samoa Solomon Islands Tonga Tuvalu Vanuatu	Cyprus Estonia Iceland Luxembourg Malta Montenegro Republika Srpska		Antigua and Barbuda Aruba Barbados Belize Bermuda Dominica Grenada Guyana Montserrat St. Kitts and Nevis St. Lucia St. Vincent and the Grenadines Suriname Trinidad and Tobago Turks and Caicos Islands Virgin Islands, British
Lower Income (51)	Angola Benin Burkina Faso Burundi Cameroon Central African Republic Chad Congo, Democratic Republic of Congo, Republic of Côte d'Ivoire Ethiopia Gambia, The Ghana Guinea Kenya Lesotho Liberia Madagascar Malawi Mali Niger Nigeria Rwanda Senegal Sierra Leone Tanzania Togo Uganda Zambia Zimbabwe	Bangladesh Cambodia India Indonesia Lao People's Democratic Republic Mongolia Myanmar Papua New Guinea Philippines Vietnam	Moldova Ukraine	Afghanistan, Islamic Republic of Kyrgyz Republic Morocco Tajikistan Uzbekistan	Bolivia El Salvador Honduras Nicaragua

Annex Table 1.3. *(continued)*

	Sub-Saharan Africa (39)	Asia and Pacific (32)	Europe (43)	Middle East and Central Asia, including North Africa (9)	Western Hemisphere, including Caribbean (36)
Higher Income (69)	Botswana Gabon Namibia South Africa	Australia China Hong Kong SAR Japan Korea Malaysia New Zealand Singapore Sri Lanka Taiwan Province of China Thailand	Albania Austria Belgium Bosnia and Herzegovina Bulgaria Croatia Czech Republic Denmark Finland France Germany Greece Hungary Ireland Israel Italy Kosovo, Republic of Latvia Lithuania The Netherlands Norway Poland Portugal Republic of North Macedonia Romania Russian Federation Serbia, Republic of Slovak Republic Slovenia Spain Sweden Switzerland Turkey United Kingdom	Armenia, Republic of Azerbaijan, Republic of Georgia Kazakhstan	Argentina Brazil Canada Chile Colombia Costa Rica Dominican Republic Ecuador Guatemala Jamaica Mexico Panama Paraguay Peru United States Uruguay

Annex 2. ISORA 2018 Data Set Topics Not Discussed in this Publication

This annex provides reference information for data sets from ISORA 2018 that are not specifically discussed in this publication. Items marked with an asterisk have been previously discussed in the equivalent document relating to ISORA 2016[42]:

- Academic qualifications
- Administrative sanctions for non-disclosure
- Advance payments
- Audit case selection criteria*
- Audit performance measurement
- Automatic Exchange of Information
- Capital expenditures
- Cash payment
- Cooperative compliance
- Debt collection powers*
- Electronic invoicing
- Fees for service
- Filing frequency regimes
- Fiscal year ends and accrual/cash accounting
- Fragile states*
- Full time, part time, contractual staff
- Information gathering powers*
- Innovation
- Office networks for tax administration
- Organizational features
- Outsourcing of activities*
- Percentage of revenue formula
- Policy advice to finance ministries
- Pre-filling of tax returns
- Refunds

[42] IMF. 2019. *ISORA 2016. Understanding Revenue Administration*. publications@imf.com. This publication also contains aggregate statistics related to fragile states.

- Reporting details of taxes withheld
- Reviews by external bodies
- Rulings
- Service demand channels
- Small and medium enterprises
- Tax crimes
- Taxpayer complaints
- Taxpayer Identification number
- Tax intermediaries
- Time limitations for audit interventions
- Treatment of VAT credits
- VAT return types by income group
- Voluntary disclosures
- Withholding systems

Annex 3. Composition of Indices

Annex Table 3.1. Management and Human Resources Autonomy

Component	Weight	ISORA 2018 Questions	
		Form	Question
Does the tax administration:			
(a) Exercise discretion over the operating budget?	3	2A	2.b
(b) Exercise discretion over the capital budget?	2	2A	2.c
(c) Establish performance standards?	1	2A	3
(d) Determine its own internal structure?	3	2A	2.a
(e) Determine work requirements? *(Yes, for all or some)*	2	3B	4.a.i
(f) Make appointments of new staff? *(Yes, for all or some)*	3	3B	4.a.ii
(g) Decide on promotion of existing staff? *(Yes, for all or some)*	3	3B	4.a.iii
(h) Decide skills and qualifications required for appointment or promotion? *(Yes, for all or some)*	2	3B	4.a.iv
(i) Place staff within a salary range? *(Yes, for all or some)*	1	3B	4.a.vi
(j) Terminate employment. *(Yes, for all or some)*	3	3B	4.a.vii
(k) Apply disciplinary sanctions? *(Yes, for all or some)*	2	3B	4.a.viii
Weighted maximum score	25		

Annex Table 3.2. Public Accountability

Component	Weight	ISORA 2018 Questions	
		Form	Question
Does the tax administration:			
(a) Publish its strategic plan?	3	2B	1.b
(b) Publish its annual business/operations plans?	3	2B	1.d
(c) Make public a formal set of service delivery standards?	3	2B	1.f
(d) Publish the results it achieves against the formal service delivery standards?	2	2B	1.g
(e) Publish its annual report?	3	2B	1.i
(f) Make key compliance risks public regularly?	2	2B	1A.b
(g) Make reports of outcomes in addressing compliance risks public regularly?	2	2B	1A.c
(h) Publish the results of taxpayer satisfaction surveys?	1	7	5.c
(i) Have a document that formally sets out taxpayer rights?	3	7	12
(j) Have a specific mechanism for managing taxpayer complaints:			
i. Internal?	1	7	13
ii. External?	1	7	13
(k) Publish periodic estimates of the tax gap?	1	9A	7.a.i, 7.b.i, 7.c.i, 7.d.i
Weighted maximum score	25		

Annex Table 3.3. General Management

Component	Weight	ISORA 2018 Questions	
		Form	Question
(a) Prepare a strategic plan	3	2B	1.a
(b) Prepare annual business/operations plans	2	2B	1.c
(c) Prepare an annual report	3	2B	1.h
(d) Integrity framework includes legislation (law or part of a law)	1	2B	1.m
(e) Has code of conduct, either one of:	1		
i. public service wide code of conduct;		2B	1.n
ii. own code of conduct		2B	1.o
(f) Integrity strategy includes internal awareness campaign	1	2B	1.r.iv
(g) Integrity strategy includes Integrity Action Plan	1	2B	1.r.i
(h) Have enterprise-wide risk policy	2	2B	1.l
(i) Have an internal audit (assurance) function	3	2B	1.k
(j) Exercise discretion over the operating budget	3	2A	2.b
(k) Exercise discretion over the capital budget	2	2A	2.c
(l) Determine its own internal structure	3	2A	2.a
Weighted maximum score	25		

Annex Table 3.4. Human Resource Management

Component	Weight	ISORA 2018 Questions	
		Form	Question
(a) Can make appointments of new staff	3	3B	4.a.ii
(b) Can decide on promotion of existing staff	3	3B	4.a.iii
(c) Can decide skills and qualifications required for appointment or promotion	2	3B	4.a.iv
(d) Can terminate employment.	3	3B	4.a.vi
(e) Can apply disciplinary sanctions	3	3B	4.a.vii
(f) Periodically survey staff - must include all 3 elements:	1		
i. Assess staff engagement;		3B	5.a.i
ii. Share results with staff;		3B	5.a.ii
iii. Engage staff in action plans		3B	5.a.iii
(g) Has staff performance management. system that includes the following elements:	1		
i. Individual plans;		3B	5.b.i
ii. Specific objectives;		3B	5.b.ii
iii. Annual evaluation		3B	5.b.iii
(h) Performance can be linked to pay - must include both elements:	1		
i. More pay for good performance;		3B	5.c.i
ii. At least one of Reduced pay for poor performance or denial of increment for poor performance		3B	5.c.ii, 5.c.iii
(i) Have HR strategy	3	3B	6.a
(j) Have Training strategy in place	2	3B	6.b
(k) Have job rotation procedures in place	1	3B	6.c.ii
(l) Have policies for flexible working arrangements	1	3B	6.d
(m) Have a diversity policy	1	3B	6.g
Weighted maximum score	25		

Annex Table 3.5. Service Orientation

Component	Weight	ISORA 2018 Questions	
		Form	Question
(a) Does the administration have a formal set of service delivery standards?	2	2B	1.e
(b) Does the administration use information on compliance burden to stakeholders?	2	2B	1.p
(c) Are stakeholders involved in the design of services?	1	2B	4
(d) Can taxpayers register through other agencies?	1	5	1.a.ii, 1.a.iii.
(e) Can taxpayers register simultaneously for multiple taxes?	1	5	1.f
(f) Does the administration have a formal taxpayer service and assistance strategy?	3	7	1
(g) Does the administration conduct taxpayer satisfaction surveys?	2	7	5
(h) Is special provision made for taxpayers with disabilities?	1	7	7.a
(i) Are services (telephonically/on the web) provided in languages other than the official language?	1	7	7.d, 7.e
(j) Does the administration have a web site?	3	7	8.a
(k) Are rulings provided to taxpayers?	3	7	9
(l) Are taxpayer rights set out in a formal document?	3	7	12
(m) Does the administration have a specific mechanism for managing taxpayer complaints:			
i. Internal?	1	7	13
ii. External?	1	7	13
Weighted maximum score	25		

Annex Table 3.6. Compliance Risk Management Foundations

Component	Weight	ISORA 2018 Questions	
		Form	Question
(a) Is there a formal approach for assessing and prioritizing key compliance risks for the following:			
i. Return Filing;	1	2B	1
ii. Payment processing;	1	2B	1
iii. Collection enforcement	1	2B	1
iv. Verification/audit	1	2B	1
v. Taxpayer services	1	2B	1
(b) Is there a program to improve the tax register quality?	1	5	4
(c) Are PIT/CIT/VAT/Other tax gaps produced?	2	9A	7.a, 7.b, 7.c, 7.d
(d) Are electronic invoices used to monitor compliance?	1	9A	8.b
(e) Are random audits conducted?	1	9B	6
(f) Are there computer-based systems for 3rd party data?			
i. Employer wage and salary information;	3	9B	1.a
ii. Financial Institutions;	1	9B	1.b
iii. Any other category	2	9B	1.c – 1.k
(g) Does the administration undertake automated verifications? *(administration must provide a number of automated verifications undertaken)*	2	9B	3.b.iv
(h) Are the following payments to individuals reported to the administration:			
i. Salaries and wages;	1	6A	5.a
ii. Dividends/Interest;	1	6A	5.b, 5.c
iii. Any other category?	1	6A	5.d – 5.i
(i) Does the administration have a Large Taxpayer Office/Program?	3	4	1
Weighted maximum score	25		

Annex Table 3.7. Degree of Digitization

Component	Weight	ISORA 2018 Questions	
		Form	Question
(a) Are either of the following innovative technologies in place: blockchain/Artificial Intelligence?	1	2B	5.a, 5.c
(b) Is an e-registration channel available?	1	5	3.a.i
(c) Are e-filing channels used for PIT/CIT/VAT/PAYE? *(administration must provide numbers of returns e-filed)*	3	6A	9.b – 9.d
(d) Are e-payment channels used for PIT/CIT/VAT/PAYE? *(administration must provide numbers of e-payments)*	3	6B	4.a, 4.b
(e) Is e-filing mandatory?	2	6A	3.b
(f) Is e-payment mandatory?	2	6B	1.b
(g) Which of the following web-based services are available?			
i. Online services, e.g. updating information, making requests;	3	7	8.d
ii. Integrated taxpayer accounts?	3	7	8.c
(h) Does the administration provide mobile applications to access taxpayer account information?	1	7	8.h
(i) Is 'joined up all of government services' high priority?	1	7	1.c
(j) Is making third party data visible to taxpayers high/medium priority?	2	9A	5.c
(k) Are there computer based systems for managing third party data?	1	9B	1.a – 1.k
(l) Are automated verifications undertaken? *(administration must provide a number for automated verifications undertaken)*	2	9B	3.b.iv
Weighted maximum score	25		

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