# OVERVIEW OF TAX ADMINISTRATIONS IN CIAT COUNTRIES

**Results of ISORA 2022**

**Carlos Garcimartin and Santiago Díaz de Sarralde Miguez**

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# Acknowledgments

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# Executive summary

▸ This updated edition of the **Overview of Tax Administrations in CIAT Countries** is based on data provided by the new version of the International Survey on Tax Administrations (ISORA), which has been collected during 2022 and contains data from the tax administrations for year 2021.

▸ **The tax administrations (TAs) of 174 countries participated in ISORA 2022**, 18 more than in the previous edition. Among them are 38 CIAT member countries (three more than in the previous edition). Although countries of all income levels are represented in the survey, the majority are middle and high income (54.6% and 31% of countries, respectively).

▸ **ISORA collects information on multiple aspects of the TAs, which for this document have been summarized in four large blocks:** 1) instruments administered, collection and budget; 2) available human resources; 3) organization and operational functioning (segmentation and registration of taxpayers, taxpayer service and assistance, filing of returns and payment of obligations, coercive collection of debts and auditing and tax control); and 4) innovative techniques and information and communication technologies (ICT) applied to tax management and improvement of tax compliance.

## Administered revenue and financial resources

▸ **Income Tax (IT), both personal and corporations, is present in almost all countries:** 90.8% and 92.0%, respectively. Value Added Tax (VAT) is also a tax collection tool widely spread (82.2% of cases). Excise taxes have a greater presence; nevertheless, lesser than the previous ones, 58% of the ISORA countries. **The administration by TAs of social security contributions is more limited** (27.6% of ISORA participants).

▸ **The average values for CIAT member countries do not differ appreciably from the global ISORA averages:** broad diffusion of IT for personal and corporations (94.7% of cases), VAT (86.8%) and, to a lesser extent, excise taxes (73.7%).

▸ The differences in terms of the tax instruments administered, together with the diversity in the design of taxes and tax bases, means that there is a **high degree of heterogeneity in the volume of collection**. The Total Net Revenue (TNR) managed by TAs reached in 2021 an average value of 17.6% of GDP for ISORA countries, with a wide variability by countries and groups. **The average for CIAT member countries (17.2% of GDP; 0.6 points higher than in ISORA 2020)** is slightly lower to the global average and that of upper middle-income countries. The average TNR

per capita for ISORA was U$S 3,875 per capita, higher than the one of CIAT (U$S 3,266; US$ 505 more than in 2019) and more than double the LAC average (U$S 1,441).

▶ **The differences are much smaller when considering TNR in relation to Total Government Income**. The overall average for ISORA is 58.9%, with slightly higher figures for CIAT and LAC averages (62.2% and 60.5% of the total, respectively).

▶ **Income Tax has the highest incidence in tax collection:** 41.3% of the total for all ISORA countries, divided almost equally between corporate income tax (CIT) and personal income tax (PIT). It is followed by VAT, which, on average for the whole ISORA, accounts for 30.1% of the TNR. For CIAT member countries, the relative contribution of the main collection instruments is similar to those recorded for all countries in ISORA, although with a greater relative relevance of CIT than PIT. In addition, PIT has a much more significant relevance in high-income countries, while it is the opposite for CIT and VAT.

▶ **In CIAT member countries, VAT plays a leading role**, particularly in several LAC countries, such as Paraguay (54%), Belize (51.9%), Chile (51.6%), El Salvador (49.6%), Ecuador (49%) and Guatemala (48%). In higher income countries, the main instrument is PIT, as in Canada (52.7%), the United States (43.1%), Spain (42.3%) or Italy (39.8%). CIT also occupies an important place in a wide range of countries, especially in LAC countries, as well as in others in Africa. The relative magnitude of social contributions is only relevant in the few countries with integrated TAs (Argentina, Brazil, the United States or the Netherlands).

▶ **The budget available to the TAs participating in ISORA averages 0.214% of GDP**, distributed between an operating or current component (0.193% of GDP and 90.4% of the total) and a capital component (0.021% of GDP and 9.6% of the total). The CIAT countries, on average, have a smaller budget (0.153% of GDP), both with respect to ISORA as a whole and to LAC (0.2% of GDP). The budget (as a percentage of GDP) is higher as the income level of the countries rises.

▶ **Expenditure on salaries is the main component of the operational part**, with an overall average of 67.8%; somewhat higher for the CIAT group of countries (68.6%) and lower in LAC (65.5%). In contrast, **expenditures on information and communication technologies (ICT) account for a small percentage** of total current expenditures (8.9% for ISORA; 9.4% for CIAT; 7.3% for LAC), with a clear upward trend as higher income levels are reached.

▶ For all ISORA countries, the ratio between revenues collected and the budget, which can be interpreted as the "cost of collection" of the tax administration, is 1.23; in other words, **the average cost of collecting one hundred monetary units is 1.23**. This cost is lower for CIAT countries (1.04) and somewhat higher for LAC (1.41), and clearly decreases with income level.

- In the particular case of the CIAT countries, in terms of budget size, some Caribbean countries stand out (Barbados and Jamaica, with 0.387% and 0.565% of GDP, respectively), compared to others where it is around one tenth (Bermuda, the United States and India), in addition to Morocco, Paraguay, Brazil, Ecuador and Costa Rica, with values below 0.1% of GDP. The wide dispersion is repeated with respect to the share of salaries in operating/current expenditures, ICT expenditures and the cost of collection.

## Characteristics of the employed staff

- **By the end of 2021, the total number of jurisdictions participating in ISORA will have accumulated a workforce close to 2 million workers** (in full-time equivalence - FTE). Of these, 457 thousand belong to CIAT member countries (23.1% of the total) and just over 97 thousand to LAC countries (4.9% of the total).

- In terms of population, **the average for the ISORA countries as a whole is close to 5,000 inhabitants per FTE worker** (about 1,000 less than in the previous edition of ISORA), similar to that of the CIAT countries (4,920) and higher than that of LAC (3,583). The number of population per worker decreases rapidly as the income level of the countries increases. However, the size of the workforce in relation to the number of taxpayers shows a different picture. With larger figures for PIT than for CIT or VAT, the averages for CIAT countries are notably higher than the global average for ISORA in all cases and also than those reflected in the previous edition of the survey: 1,003 in CIAT and 653 taxpayers in ISORA in the PIT; 100 and 86, respectively, in the CIT; and 195 and 91 in VAT, respectively.

- **Within CIAT, there is great heterogeneity in terms of personnel employed**. Not only in absolute staff size, but also in relative terms, with countries ranking well above global or regional averages.

- **The annual balance of FTE personnel in TAs in all ISORA countries for fiscal year 2021 was negative** (-2,074 workers), as well as in CIAT and LAC countries (-3,110 and -1,277, respectively). In fact, this negative balance for ISORA as a whole is due only to the sharp drop in upper middle-income countries (-10,508), as the balance is positive in the rest. In fact, 64 ISORA participants (12 of which are CIAT members) recorded a positive balance during 2021 (36.8% of the total), this proportion being relatively lower as the income level increases.

- **The average FTE entry rate for ISORA (8.0%) was higher than the FTE exit rate (2.7%)**. Among CIAT and LAC countries, entry rates are lower than the overall average, while exit rates are similar. By income level, no clear pattern is observed.

▶ **By CIAT country, the dynamics of personnel employed show large fluctuations during 2021, with the largest positive balances (above 1,000 net FTEs) in Canada and the Netherlands**. In the opposite direction, France, India, and Italy recorded the most notable negative balances, with net staff reductions of more than 1,500 workers. The variability is very high in terms of annual FTE inflow and outflow rates.

▶ **The RRP function (Registration, Returns and Payments) alone accounts for the largest percentage of FTE staff for the total country average in ISORA** (31.3% of employees), followed by the AIV function (Audit, Investigation and Verification) with 24.5%. At a distance, the EDC function (Enforced Debt collections) occupies 11.9% of the workforce. These proportions are quite similar for the CIAT average and, in general, also for other relevant country groupings, with a few exceptions.

▶ **The average proportion of FTE personnel assigned to headquarters is 23% in ISORA**, slightly lower than in CIAT countries and higher than in LAC, with a markedly decreasing pattern as the income level of the countries increases.

▶ In CIAT countries, the differences in the distribution of personnel employed by function are very large. In some cases, the general regularities are maintained, with the registration function (RRP) as the main destination of FTE personnel, although in some countries, such as Chile, Spain, Mexico, Ecuador or Costa Rica, the audit function (AIV) occupies most of the staff.

▶ **On average for the ISORA countries, the bulk of the workforce is concentrated in the three ranges between 25 and 54 years of age**. The same age range accounts for 75% of the workforce in CIAT countries and 80.7% in LAC. There is some aging of the workforce in high-income countries. The average age for low-income countries is 43.3 years, 40.4 for lower middle-income countries, 42.7 for upper middle-income countries and 45.9 for high-income countries. In the case of LAC, the average is 42.2 years, lower than the global ISORA average (43.3 years) and that of CIAT countries (44.4).

▶ **Among CIAT countries, there are some with relatively older employee populations**, such as Portugal, Spain, Bermuda, Italy or the Netherlands, whose ages are concentrated between 45 and 64 years. **Others, on the other hand, can be considered comparatively young**, as they are concentrated in the 25 to 44 age brackets, as in Honduras, Angola, Kenya, Bolivia, Belize, Trinidad and Tobago and the Dominican Republic.

▶ **In general, years of service increase with the income level of the countries**. The approximate average length of service of employees is 11.5 years in low-income countries, 11.6 in lower middle-income countries, 12.7 in upper middle-income countries, and 13.4 in high-income countries. In the ISORA countries as a whole, the average length of service of the workforce is 12.5 years, 12.3 years for CIAT and 11.9 years for LAC.

At the CIAT country level, the majority of the workforce is older than 19 years in Portugal, Spain, Brazil, France, Italy, the Netherlands, Argentina, Paraguay, Morocco, Costa Rica and Chile, among others. In stark contrast, other countries, such as Bolivia, Ecuador, Cuba, Angola, Panama, Kenya, Guatemala or, obviously, Honduras (with 100% of new employees, given the recent and complete renewal of its staff), show a composition of their staff with less accumulated experience.

**In global average for all countries included in ISORA, women represent 51.7% of the workforce, occupying 39.4% of executive positions**. The averages for CIAT are 54.5% and 44.0%, respectively, while in LAC they account for 58.8% and 50.3%, respectively. In general, the participation of women increases with the income level of the countries, both in the total workforce and in executive positions. However, the gap between these two indicators - overall participation and participation in executive positions - is smaller in low-income countries than in high-income countries.

**The overall average for ISORA for the proportion of personnel with a bachelor's degree is 41.7%, while 21.2% of the staff has a graduate degree**. The percentages for CIAT and LAC are higher in the case of basic university training (49.1% and 49.9%, respectively) but lower in postgraduate training (16% and 10.5%).

**There is great variability among CIAT countries**. The participation of women in the total workforce ranges from 15.7% in India to 87.5% in Bermuda, and in executive positions it ranges from 11.1% in Paraguay to 75% in Belize. Regarding the academic background of the staff, there are countries where the percentage of those with a master's degree or equivalent exceeds 30%, while in several of them it does not reach 5%, and there are also cases where the proportion of university graduates exceeds 70%.

## Organization and operational performance

The main and most widespread taxpayer segmentation technique is the **special offices or programs for large taxpayers (LTO), which by the end of 2021 were present in 81% of ISORA** participating countries, 89.5% of CIAT countries and 81.8% of LAC countries.

**On average, LTOs contribute more than half of the total net income of TA** (55%). This share is similar for the average of CIAT countries (54.3%) and higher in LAC (61.5%), and decreases with the income level of the countries, from 66.9% in low-income countries to 43.1% in high-income countries.

▶ **Schemes for high net worth individuals (HNWI) were implemented in 24.1% of the ISORA** countries, contributing on average 3.2% of the TNR. In CIAT countries, these percentages rise to 39.5% of the countries and 4.3% of the TNR, while for LAC these figures stand at 21.2% and 1.5%, respectively. The existence of these schemes, as well as their contribution to tax collection, increases as the income level of the countries rises.

▶ **LTOs were present at the end of 2021 in almost all CIAT** countries and their contribution to collection is very significant in several of them. By the end of 2021, HNWI schemes were present in 15 of the 38 CIAT member countries participating in ISORA, with Brazil, the United States and Spain being relatively significant in terms of the collection involved.

▶ **In-person registration of taxpayers is still the main channel (87.9%) among ISORA participating countries**. However, **the availability of digital channels (online or through applications) has grown significantly compared** to paper registration by mail.

▶ **CIAT countries exceed the average adoption of online computerized registration (73.7%)**, while LAC countries are slightly below (63.6%). By income level, there are large differences in the adoption of these new online technologies, which are present in 88.9% of high-income countries, but only 38.1% of low-income countries.

▶ **71.3% of ISORA TAs monitor incoming contact**s with a view to refining existing channels and exploring the introduction of newer ones. This percentage was even higher (86.8%) in CIAT and LAC countries (78.8%). By income, this monitoring is more frequent in high-income (83.3%) and upper-middle-income (72.5%) countries than in low-income (66.7%) and lower-middle-income (59.1%) countries.

▶ On average for the countries participating in the ISORA survey, the telephone channel accounted for the highest percentage of incoming contacts (35.2% of the total), **followed by online (26.5%), which has already overtaken in-person procedure (18.1%)**. In contrast, the relative participation of digital assistance, e-mail, and postal mail (paper) is low. In both CIAT and LAC, on average, the three main channels coincide, although "online" communication is already the first (35.4% in CIAT and 32.6% in LAC).

▶ If digital channels (online, digital assistance and e-mail) are considered together, ISORA's average had already surpassed the "telephone/paper" set as the main channel for taxpayer service communication. This is even more clearly in the situation of CIAT and LAC.

- **By CIAT member countries, the monitoring of incoming contacts by service is a widespread practice**. As for the most commonly used contact channels, although there is a wide variety of situations, there is a sharp contrast between the existence of some countries with a clear orientation towards online digital communication and others where in-person communication still predominates.

- **In the group of countries in ISORA, the percentages of timely returns are 62.9% for CIT, 67.8% for PIT and 75% for VAT**. The same proportions are for CIAT countries: 64.6% for CIT, 71.9% for PIT and 68.9% for VAT. For the LAC average, the figures are much lower than the global averages. By income level, there is a clear positive relationship with income level.

- The overall ISORA averages for returns filed through electronic channels are 72.8% for CIT, 79.2% for PIT and 68.5% for VAT. These percentages increase for the three taxes mentioned in the CIAT countries (87.4%, 91.6% and 87.7%, respectively), while for LAC they are lower, except for VAT. The differences by income level are very evident.

- **At the individual CIAT country level, the percentages of timely filing are very different among them and among the three main taxes**. The implementation of electronic filing in CIAT countries is very high; in a significant number of them it reaches 100%.

- **For the average in ISORA, payment on time reached 81.5% for CIT, 73.8% for PIT and 83.1% for VAT**. For CIAT countries the averages are 83.5% (CIT), 67% (PIT) and 83.9% (VAT) and for LA 77.3%, 58.6% and 82.1%, respectively.

- The relative proportions of payment through electronic channels reaches a global average in ISORA of 68.8%, for the number of payments, and 75.5%, for their value within the total collection, which is a significant increase with respect to the previous edition of ISORA. **CIAT member countries show a high implementation of digital channels for tax payments:** 71.5% of the amount of payments received and 82% of the value, which also implies a significant increase over the previous survey. By income levels, although there is a clear gap, it has been strongly reduced compared to the previous edition of ISORA.

- **The global average in ISORA of the proportion of personal income tax withheld at source is 67.8%**; for CIAT countries it is even higher (76.5%); and for LAC countries it is somewhat lower (64.9%). There is also a positive relationship between this indicator and the income level of the different countries. Both the overall average and the CIAT and LAC averages have increased with respect to the previous edition of ISORA, and there has been a significant convergence of the lower-income countries towards the levels of the high-income countries.

▶ **The percentage of payment on time varies notably among CIAT countries**, with several cases standing out with figures around or above 90% for the three taxes. Payment through electronic channels is very high in several countries. As regards the percentage of personal income tax collected through withholding taxes, despite the diversity of situations, in some CIAT countries they are very widespread.

▶ On average in the ISORA countries, debts, and late payments, as a percentage of tax collection, are somewhat higher in CIT (35.6% of tax collection) than in other taxes (16.6% in PIT; 26.9% in VAT) or in total TNR (31.5%). The values in both CIAT and LAC are higher in the three taxes and in the total.

▶ **The proportion of "recoverable" debt is close to 60% for ISORA countries**, with somewhat lower percentages for CIAT and LAC countries. On average for the countries included in ISORA, outstanding debt experienced a 4.1% drop in 2021 compared to 2020, which may be influenced by the circumstances of the COVID-19 crisis. This drop is somewhat smaller for CIAT (-3.2%) and LAC (-1.1%) countries.

▶ **The effectiveness of audits, measured by the number of audits with respect to the total in which a tax adjustment was carried out, is 65.9% on average in ISORA**, compared to 67.7% in CIAT countries and 68.3% in LAC. A negative relationship is observed in terms of income levels. In terms of yield - additional revenue as a percentage of total revenue - the average for ISORA is 10% for CIT, 3.4% for PIT and 4.1% for VAT, with an overall yield of 4.2% for TNR. In both CIAT and LAC countries, the yield is lower in CIT and VAT, as well as in the total.

▶ **In general, CIAT countries exhibit high percentages of audit effectiveness**, with positive results in terms of additional revenue generated.

## Digital transformation and technological innovation

▶ **In recent years, progress has been made in the development of pre-completed** tax return systems. A total of 49.4% of ISORA countries carry out these procedures for some of the main taxes, with an even higher percentage among CIAT countries (65.8%) and somewhat lower in LAC countries (48.5%). The use of this technique shows a clear increasing pattern with the income level of the countries.

▶ **Of all the countries in ISORA, 36.8% have a mandatory electronic invoicing system** for some or all taxpayers. CIAT countries lead in the degree of adoption of this tool, with 50% of the total, while in LAC this percentage reaches 39.5%. Unlike most technological innovations for tax management, it is not the high-income countries that lead in the implementation of electronic invoicing, but the middle-income countries. In almost half of the ISORA and CIAT countries, the use of electronic invoicing devices is present.

▶ **In 58%, 65.8% and 57.6% of ISORA, CIAT and LAC countries, respectively, cooperative compliance mechanisms are applied to large taxpayers**, which, moreover, show a notable increase since the previous edition of ISORA. Such mechanisms also exist for "other taxpayers" (in 34.5% of ISORA countries) and, more recently and more narrowly, for high net worth individuals (in 17.2% of all countries). The relative number of jurisdictions with these programs decreases as income levels increase. There is also a tendency to incorporate cognitive-behavioral methodologies for the control of tax noncompliance. **Most CIAT countries have already adopted some or all of the above techniques**, confirming a trend that had already been observed.

▶ **Data science / analytical tools is implemented or in process in 64.9% of ISORA countries**, 89.5% of CIAT members and 72.7% of LAC, with its presence in TA increasing with the income level of the countries. **Artificial intelligence (including machine learning) is installed or close to it in 39.7% of ISORA countries**, 52.6% of CIAT and 27.3% of LAC, with a minimum value of 9.5% in low-income countries and a maximum of 64.8% in high-income countries. Very close behind is "Cloud Computing", with percentages of use/implementation of 39.1% in ISORA, 47.4% in CIAT and 36.4% in LAC, also with higher levels of diffusion as the income level of the countries increases. With lower levels of implementation, appears the "Distributed log or blockchain technology. It should also be noted that both in CIAT countries and in LAC there has been a clear increase in all these techniques since the previous edition of ISORA.

▶ **72.4% of the ISORA countries have "Application Programming Interfaces (APIs)"** (in use or in the implementation phase), almost six points more than in the previous edition of the survey, while in CIAT this percentage reaches 84.2% (4.2 points more) and in LAC 63.6% (almost 9 points more). **Digital identification technologies have also had an acceptable diffusion**: 29.3% in the ISORA total, below the proportion observed for CIAT (34.2%), but higher than in LAC (27.3%). Their use increases as the income level of the countries rises.

▶ **"Virtual assistants" are used or are in the implementation phase in 43.7% of the total number of countries included in the survey**, in 65.8% of CIAT members (almost 23 points higher than in the previous edition) and in 42.4% of LAC countries (more than 26 points higher than in the previous edition). **"Government or whole -of- government identification systems"** are present in 52.3% of the countries in ISORA, in 52.6% of the CIAT countries (almost 10 points higher than in the previous edition) and in 42.4% in LAC (13.4 points higher). **"Robotic process automation"** has less diffusion, although it is increasing. These three elements of innovation, in general, have greater penetration as the income level of the countries increases.

## Final Comments

▶ The casuistry is very large in practically all the areas of TA analyzed, both between and within groups of countries. Nevertheless, **some trends that had already been detected in previous editions of this Overwiew are confirmed**. Digital transformation has been reinforced through the incorporation of innovative technological solutions. Although there is still a significant gap in this area depending on the country's income level, this gap is closing.

▶ CIAT member countries have, in general, lower budgets than the ISORA average. However, their average collection cost is lower. In addition, their staffing presents valuable characteristics, such as the participation of women, higher than the ISORA average both in the overall staff and in executive positions, or training (half of the staff has a university education). Finally, it should be noted **that digital transformation is progressing rapidly among CIAT countries**.

# Introduction

This document provides the updated edition of the Overview of Tax Administrations in CIAT Countries based on the data provided by the new version of the International Survey on Revenue Administration (ISORA). This new version of ISORA has been compiled during 2022 and contains data from the tax administrations of 174 countries referring to the year 2021, which is, therefore, the reference point for the analysis of the most relevant results that has been extracted from the survey.

These results have been prepared based on the standardized information on tax administrations provided by ISORA. In order to facilitate the presentation and synthesize the various aspects of the tax administrations included in the survey, in this Overview, as in previous versions, we have grouped them into four large blocks: 1) instruments administered, collection and budget; 2) available human resources; 3) organization and operational functioning (segmentation and registration of taxpayers, taxpayer service and assistance, filing of returns and payment of obligations, coercive collection of debts and auditing and tax control); and 4) innovative techniques and information and communication technologies (ICTs) applied to tax management and improvement of tax compliance.

For each of these blocks, attempts have been made to identify general trends and stylized facts, presenting the average results for: i) the total number of countries in ISORA; ii) CIAT members; iii) Latin American and Caribbean countries; and iv) the four income levels defined by the World Bank. In addition, the results for CIAT member countries that participated in this edition of ISORA are also presented individually.

Since the information refers to 2021, it is important to point out that it already incorporates the effect of the COVID-19 pandemic, which has accelerated some changes in the tax administrations that were already being observed, especially regarding the digital transformation of the main operational processes and taxpayer services. On the other hand, it also reflects undesired effects that, circumstantially, conditioned the functioning of the administrations. Therefore, the information presented in this document should be analyzed from this dual perspective, as a continuation of those medium-term trends that may have been accelerated by the pandemic and as results in the particular context of the year following the outbreak of the pandemic.

After this brief introduction, the background of ISORA and its international coverage in this 2022 edition are described below. Subsequently, the aforementioned four large blocks into which the information derived from the survey has been divided are examined

# 1. The ISORA 2022 survey and CIAT countries in the international context of tax administrations

The International Survey on Revenue Administration (ISORA) is an initiative developed by five organizations: the International Monetary Fund (IMF), the Intra-European Organization of Tax Administrations (IOTA), the Organisation for Economic Co-operation and Development (OECD), the Inter-American Center of Tax Administrations (CIAT) and, since 2018, the Asian Development Bank (ADB).

ISORA collects standardized information on tax administrations. In particular, it contains data on various topics that, for the purposes of this Overview and its previous versions, we have summarized in four large blocks: 1) instruments administered, collection and budget; 2) available human resources; 3) organization and operational functioning (segmentation and registration of taxpayers, taxpayer service and assistance, filing of returns and payment of obligations, coercive collection of debts and auditing and tax control); and 4) innovative techniques and information and communication technologies (ICT) applied to tax management and improvement of tax compliance.

The latest edition of ISORA, compiled during 2022, contains data from the national[1] tax administrations (TAs) of 174 countries for tyear 2021, which will be the benchmark for the analysis of the most relevant results extracted from the survey. This is therefore 18 jurisdictions more than in the previous edition (ISORA 2020; data 2018-2019[2]), which in total represent 96% of global GDP and 92.8% of the total population of the planet in 2021. These include 38 CIAT member countries (three more than in the previous edition), which accumulate 41.3% of GDP and 37.2% of the world's population (2,928 million).

According to the World Bank's, income classification criteria, 31% of the countries that responded to ISORA in this edition correspond to high-income jurisdictions, with a majority participation from Europe and Central Asia (more than half of the countries in this group), North America and several from Latin America and the Caribbean, and East Asia and the Pacific (Table 1). Slightly more than half of the countries (54.6%) fall into intermediate income groups ("upper middle income", with 29.3%,

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1 Although not captured in the ISORA information, in some countries with federal political organization there are also tax administrations in subnational governments that operate independently from the central government (ISORA participants), which have full responsibility for managing certain fiscal instruments (tax and non-tax).

2 The main trends observed in these aspects can be consulted in previous versions of this document (Díaz de Sarralde Miguez, 2018a and 2019; Morán and Díaz de Sarralde Miguez, 2021).

3 The criteria can be consulted at https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups. In addition, it is worth mentioning that the classification is for 2021.

and "lower middle income", with 25.3% of the total), which, in addition to the aforementioned regions, also include Asian, African and Oceania countries. Finally, 12% corresponds to low-income jurisdictions, the vast majority of which are located in Sub-Saharan[4] Africa. ISORA thus provides detailed information for all continents and regions, although with few participants in the North Africa and Middle East region (Figure 1).

**Table 1:** Number of countries participating in ISORA 2022. Classification by geographic region, income level, and membership in CIAT and OECD. Year 2021

| Country Groups (Regions) | Number of countries in ISORA | INCOME LEVEL | | | | | CIAT Member | | OECD Member | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Low | Lower Middle | Upper Middle | High | N.R. | Yes | No | Yes | No |
| East Asia and Pacific (EAP | 33 | 0 | 14 | 8 | 9 | 2 | 0 | 33 | 4 | 29 |
| Europe and Central Asia (ECA) | 50 | 0 | 4 | 15 | 30 | 1 | 5 | 45 | 27 | 23 |
| Latin America and the Caribbean (LAC) | 33 | 0 | 4 | 19 | 9 | 1 | 25 | 8 | 4 | 29 |
| Middle East and North Africa (MENA) | 7 | 0 | 2 | 3 | 2 | 0 | 1 | 6 | 1 | 6 |
| North America (NA) | 3 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 2 | 1 |
| South Asia (SA) | 8 | 1 | 6 | 1 | 0 | 0 | 1 | 7 | 0 | 8 |
| Sub-Saharan Africa (SSA) | 40 | 20 | 14 | 5 | 1 | 0 | 3 | 37 | 0 | 40 |
| **Total of Countries (ISORA 2021)** | **174** | **21** | **44** | **51** | **54** | **4** | **38** | **136** | **38** | **136** |

**Note. N.R.:** not rated by the World Bank.

**Figure 1:** Countries participating in the ISORA 2022 survey, classified by income level (World Bank criteria)



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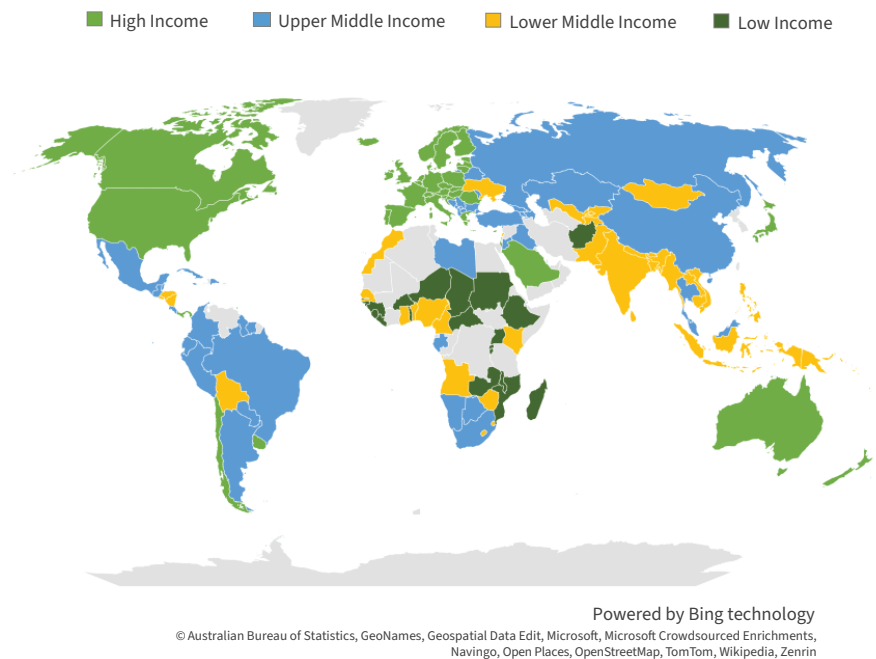
Thirty-eight OECD member countries participated in this edition of the survey, mostly from Europe and Central Asia, but also from North America, LAC, the Middle East and North Africa and Asia-Pacific. For their part, 38 CIAT member countries also participated in ISORA 2022, with representation in most regions of the planet, except for East Asia and the Pacific and, logically, with a greater prominence in LAC. In each of the sections that make up this Overview, the results and responses of all CIAT countries that participated in the survey will be presented, but,

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4 The total does not add up to 100% because there are several countries not rated by the World Bank.

as a preview of their diversity, it may be noted that these 38 countries differ, in the first place, in terms of their income level: 14 of them (37%) correspond to high-income countries; 15 (39%) are classified as upper middle-income and 9 (24%) belong to the lower middle-income group, with no low-income country. In addition, as noted above, the majority of

CIAT countries belong to the LAC region (25 of the 38). On the other hand, 11 ISORA 2022 participants are simultaneously OECD and CIAT members (Table 2). As for the responsibilities of these agencies, although all of them focus on the management of most internal taxes, 14 of them (37%) jointly integrate the administration of customs resources.

**Table 2:** CIAT Member Countries. Main classification characteristics of tax administrations surveyed in ISORA 2022. Year 2021

| CIAT Countries | Code | Region | Income Level | OECD Member | Integration with Customs |
|---|---|---|---|---|---|
| Angola | AGO | ASS | Lower Middle | No | Yes |
| Argentina | ARG | ALC | Upper Middle | No | Yes |
| Aruba | ABW | ALC | High | No | N.D. |
| Barbados | BRB | ALC | High | No | No |
| Belize | BLZ | ALC | Upper Middle | No | No |
| Bermudas | BMU | AMN | High | No | No |
| Bolivia | BOL | ALC | Lower Middle | No | No |
| Brazil | BRA | ALC | Upper Middle | No | Yes |
| Canada | CAN | AMN | High | Yes | No |
| Chile | CHL | ALC | High | Yes | No |
| Colombia | COL | ALC | Upper Middle | Yes | Yes |
| Costa Rica | CRI | ALC | Upper Middle | Yes | No |
| Cuba | CUB | ALC | Upper Middle | No | No |
| Dominican Rep. | DOM | ALC | Upper Middle | No | No |
| Ecuador | ECU | ALC | Upper Middle | No | No |
| El Salvador | SLV | ALC | Lower Middle | No | No |
| France | FRA | EAC | High | Yes | Yes |
| Guatemala | GTM | ALC | Upper Middle | No | Yes |
| Guyana | GUY | ALC | Upper Middle | No | Yes |

| CIAT Countries | Code | Region | Income Level | OECD Member | Integration with Customs |
|---|---|---|---|---|---|
| Honduras | HND | ALC | Lower Middle | No | No |
| India | IND | ASU | Lower Middle | No | Yes |
| Italy | ITA | EAC | High | Yes | No |
| Jamaica | JAM | ALC | Upper Middle | No | No |
| Kenya | KEN | ASS | Lower Middle | No | Yes |
| Mexico | MEX | ALC | Upper Middle | Yes | Yes |
| Morocco | MAR | MNA | Lower Middle | No | No |
| Netherlands | NLD | EAC | High | Yes | No |
| Nicaragua | NIC | ALC | Lower Middle | No | No |
| Nigeria | NGA | ASS | Lower Middle | No | No |
| Panama | PAN | ALC | High | No | No |
| Paraguay | PRY | ALC | Upper Middle | No | No |
| Peru | PER | ALC | Upper Middle | No | Yes |
| Portugal | PRT | EAC | High | Yes | Yes |
| Spain | ESP | EAC | High | Yes | Yes |
| Surinam | SUR | ALC | Upper Middle | No | Yes |
| Trinidad and Tobago | TTO | ALC | High | No | No |
| United States | USA | AMN | High | Yes | No |
| Uruguay | URY | ALC | High | No | No |

# 2. Administered revenue and financial resources

Beginning with the block of administered revenues and financial resources, it should be emphasized, firstly, that there is a wide diversity among the different tax administrations in terms of the tax revenues for which they have direct responsibility, both in terms of their level and their relative structure. Similarly, there is also a high degree of heterogeneity in terms of the financial resources available to them to carry out their tasks and functions. From the relationship between the two concepts, it is possible to have an approximate idea of the implicit cost of tax collection, although we are aware that this is often influenced by issues inherent to each country, which requires that comparisons should be made with caution. With this caveat in mind, these dimensions are analyzed below, based on the results of ISORA 2022, with the aim of identifying the most significant stylized facts.

## 2.1 Instruments collected and administered by the TAs

According to ISORA 2022, there is a great variety among countries with respect to the number and type of tax instruments managed by their respective tax[5] administrations (Table 3). Among them, Income Tax (IT) stands out, both personal and corporates, present in almost all countries: 90.8% and 92.0%, respectively[6]. The Value Added Tax (VAT) is also a widespread revenue-raising element (82.2% of cases). Excise taxes are also present in the majority, but less than the previous ones, 58% in ISORA countries, and, unlike VAT, they are more common in low-income countries (66.7%) than in high-income countries (55.6%).

As for other complementary instruments to traditional internal taxes, there is greater heterogeneity, both between regions and between income levels. Thus, in the case of social security contributions, their administration by TAs is limited (27.6% of ISORA participants) and with a majority presence only in Europe and Central Asia and North America and more important in upper middle (39.2%) and high (33.3%) income jurisdictions.

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5   As indicated, the data collected in ISORA and presented in this document do not include information on fiscal instruments (tax and non-tax) managed by the tax administrations of subnational governments.

6   These figures and other similar ones throughout the document should be interpreted as the number of countries out of the total with an affirmative response. For the rest, the answer may be negative or not available.

At the aggregate level, the average values for CIAT member countries do not differ appreciably from the global ISORA averages (Figure 2): broad diffusion of PIT and CIT (94.7% of cases), VAT (86.8%) and, to a lesser extent, excise taxes (73.7%). Compared with the group of OECD member countries, certain differences are observed: lower frequency of excise taxes in the case of the OECD (68.4%) and higher frequency of VAT (97.4%) and social contributions (36.8%) (Table 3).

**Table 3:** Types or categories of tax revenues. Percentage of countries (of each selected group) in which the tax administration has direct responsibility for these instruments. Year 2021.

| Country Groups | PIT | CIT | Total VAT | Excises | Social Security (SSC) | Non-Tax |
|---|---|---|---|---|---|---|
| **ISORA** | **90.8** | **92.0** | **82.2** | **58.0** | **27.6** | **56.3** |
| East Asia and Pacific | 87.9 | 90.9 | 69.7 | 33.3 | 6.1 | 45.5 |
| Europe and Central Asia | 96.0 | 96.0 | 96.0 | 62.0 | 60.0 | 70.0 |
| South Asia | 75.0 | 75.0 | 62.5 | 50.0 | 25.0 | 12.5 |
| Sub-Saharan Africa | 92.5 | 92.5 | 85.0 | 62.5 | 10.0 | 60.0 |
| Latin America and the Caribbean | 93.9 | 93.9 | 84.8 | 75.8 | 21.2 | 60.6 |
| North America | 66.7 | 66.7 | 33.3 | 66.7 | 66.7 | 33.3 |
| Middle East and North Africa | 71.4 | 85.7 | 57.1 | 42.9 | 14.3 | 28.6 |
| Low Income | 85.7 | 85.7 | 81.0 | 66.7 | 4.8 | 61.9 |
| Lower Middle Income | 86.4 | 88.6 | 79.5 | 56.8 | 18.2 | 38.6 |
| Upper Middle Income | 96.1 | 94.1 | 84.3 | 62.7 | 39.2 | 60.8 |
| High Income | 90.7 | 94.4 | 87.0 | 55.6 | 33.3 | 64.8 |
| CIAT Members | 94.7 | 94.7 | 86.8 | 73.7 | 26.3 | 60.5 |
| Non CIAT Members | 89.7 | 91.2 | 80.9 | 53.7 | 27.9 | 55.1 |
| OECD Members | 100.0 | 100.0 | 97.4 | 68.4 | 36.8 | 63.2 |
| Non OECD Members | 88.2 | 89.7 | 77.9 | 55.1 | 25.0 | 54.4 |

**Figure 2:** Types or categories of tax revenues. Percentage of countries (in ISORA and CIAT) in which the tax administration has direct responsibility for these instruments. Year 2021
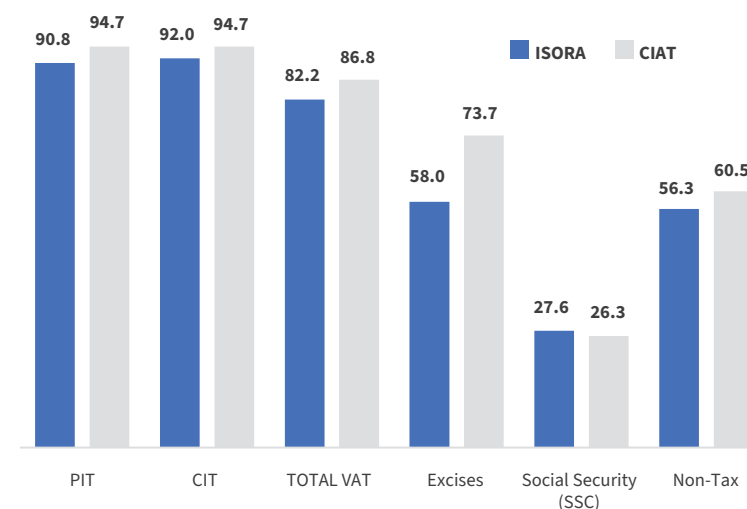


At the individual level of CIAT member countries, although there is a wide diversity of situations, certain regularities are also observed. Thus, for example, the administration of PIT and CIT and VAT (when it exists) is very generalized, while excise taxes are also very frequent and, in cases where they are not applied or not under the responsibility of the TAs, other more specific taxes are usually found, such as, for example, those levied on motor vehicles. On the other hand, taxes levied on different manifestations of property (real estate, wealth, inheritances, and bequests) are rarer among CIAT countries. Another element of heterogeneity lies in the administration of social security contributions and other non-tax revenues.

**Table 4:** Types or categories of tax revenues, under the direct responsibility of the tax administrations surveyed by ISORA 2022. CIAT member countries. Year 2021

| CIAT Countries | PIT | CIT | Total VAT | Excises | Vehicles | Real Estate | Wealth | Inheritance | Other taxes | Social Security (SSC) | Non-Tax |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Angola | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes |
| Argentina | Yes | Yes | Yes | Yes | | | Yes | | Yes | Yes | Yes |
| Aruba | | | | | | | | | | | |
| Barbados | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes |
| Belize | Yes | Yes | Yes | | | | | | Yes | | |
| Bermudas | | | | | | | | | Yes | | |
| Bolivia | Yes | Yes | Yes | Yes | | | Yes | | Yes | | |
| Brazil | Yes | Yes | Yes | Yes | | Yes | | | Yes | Yes | Yes |
| Canada | Yes | Yes | Yes | Yes | | | | | Yes | Yes | Yes |
| Chile | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | |
| Colombia | Yes | Yes | Yes | Yes | | | Yes | | Yes | | |
| Costa Rica | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | | |
| Cuba | Yes | Yes | | Yes | Yes | Yes | | Yes | Yes | Yes | Yes |
| Dominican Rep. | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes |
| Ecuador | Yes | Yes | Yes | Yes | Yes | | | Yes | Yes | | Yes |
| El Salvador | Yes | Yes | Yes | Yes | Yes | Yes | | | | | Yes |
| France | Yes | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | | Yes |
| Guatemala | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Guyana | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | | Yes |
| Honduras | Yes | Yes | Yes | Yes | | | Yes | Yes | Yes | | Yes |
| India | Yes | Yes | Yes | Yes | | | | | Yes | | |
| Italy | Yes | Yes | Yes | | | Yes | Yes | Yes | Yes | | |
| Jamaica | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Kenya | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | | Yes |
| Mexico | Yes | Yes | Yes | Yes | Yes | | | | Yes | | Yes |
| Morocco | Yes | Yes | Yes | | Yes | | | | Yes | | |
| Netherlands | Yes | Yes | Yes | | Yes | | | Yes | Yes | Yes | Yes |
| Nicaragua | Yes | Yes | Yes | Yes | Yes | Yes | | | | | Yes |
| Nigeria | Yes | Yes | Yes | | | | | | Yes | | |
| Panama | Yes | Yes | Yes | Yes | | Yes | Yes | | | Yes | Yes |
| Paraguay | Yes | Yes | Yes | | | | | | Yes | | |
| Peru | Yes | Yes | Yes | Yes | | | Yes | | Yes | Yes | Yes |
| Portugal | Yes | Yes | Yes | Yes | Yes | Yes | | | Yes | | Yes |
| Spain | Yes | Yes | Yes | Yes | | | | | Yes | | Yes |
| Surinam | Yes | Yes | | Yes | Yes | | Yes | | Yes | Yes | Yes |
| Trinidad and Tobago | Yes | Yes | Yes | | Yes | Yes | | | Yes | | Yes |
| United States | Yes | Yes | | Yes | Yes | | | Yes | Yes | Yes | |
| Uruguay | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | |

## 2.2  Magnitude of administered revenue

These differences in terms of the tax instruments administered by the different TAs, together with the diversity in the design of taxes and tax bases, result in a high degree of heterogeneity in the volume of collection, as shown in Table 5. In particular, the Total Net Revenue (TNR) managed by TAs reached in 2021 an average value of 17.6% of GDP for ISORA countries, with a wide variability, from 1% in Brunei to 45.9% in Denmark, and with averages by country groups that are clearly increasing with income level, from 10.8% of GDP for low-income countries to 22.1% in high-income[7] countries. The simple average for CIAT member countries (17.2% of GDP; 0.6 points higher than in ISORA 2020[8]) is slightly lower than the global average and that of upper middle-income countries (17.7% of GDP), although it is above the LAC average (16% of GDP).

Another indicator that allows us to observe the existing gaps between countries is the TNR per capita (in dollars). The average for ISORA was US$ 3,875 per capita, higher than that of CIAT (US$ 3,266; US$ 505 more than in 2019) and more than double the LAC average (US$ 1,441). This indicator also reflects a clear upward trend with income level: only US$ 85 for low-income countries, US$ 354 for lower middle-income countries, US$ 1,325 for upper middle-income countries and US$ 9,359 for high-income countries.

In contrast, the differences are much smaller when TNR is considered in relation to Total Government Income. The global average for ISORA is 58.9%, with slightly higher figures for CIAT and LAC averages (62.2% and 60.5% of the total, respectively). Moreover, this indicator does not show any clear pattern with respect to the country's income level, with all the averages being around the global average (Figure 3).

**Table 5:**    Total Net Revenue (TNR). Alternative measures (in percentages of GDP, in dollars per capita and in percentages of Total Government Revenue). Simple averages for selected groups of countries. Year 2021

| Country Groups | Total Net Revenue (TNR) (as % of GDP) | Total Net Revenue per capita (in dollars) | Total Net Revenue (as % of Total) Government Revenue |
|---|---|---|---|
| **ISORA** | **17.6** | **3,875** | **58.9** |
| CIAT Members | 17.2 | 3,266 | 62.2 |
| Latin America and the Caribbean | 16.0 | 1,441 | 60.5 |
| Low Income | 10.8 | 85 | 60.0 |
| Lower Middle Income | 13.3 | 354 | 56.3 |
| Upper Middle Income | 17.7 | 1,325 | 62.1 |
| High Income | 22.1 | 9,359 | 57.6 |

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7   It is important to reiterate that these are the tax revenues administered by the TAs. For total revenues, please refer to the Tax Collection Database BID-CIAT (https://www.ciat.org/base-de-datos-de-recaudacion-bid-ciat/). Furthermore, it is also necessary to clarify that all statistics included in ISORA and processed in this document correspond to fiscal year 2021, which, in some cases, may not coincide with the corresponding calendar year, as is the case of several CIAT countries.

8   However, comparisons over time must be taken with caution, given that the group of countries varies between ISORA editions, according to the year. In addition, in the averages shown in this paper, in some cases, extreme values that distorted the results have been eliminated.

**Figure 3:** Total Net Revenue (left panel, in percent of GDP; right panel, in percent of Total Government Revenue). Simple averages for selected groups of countries. Year 2021
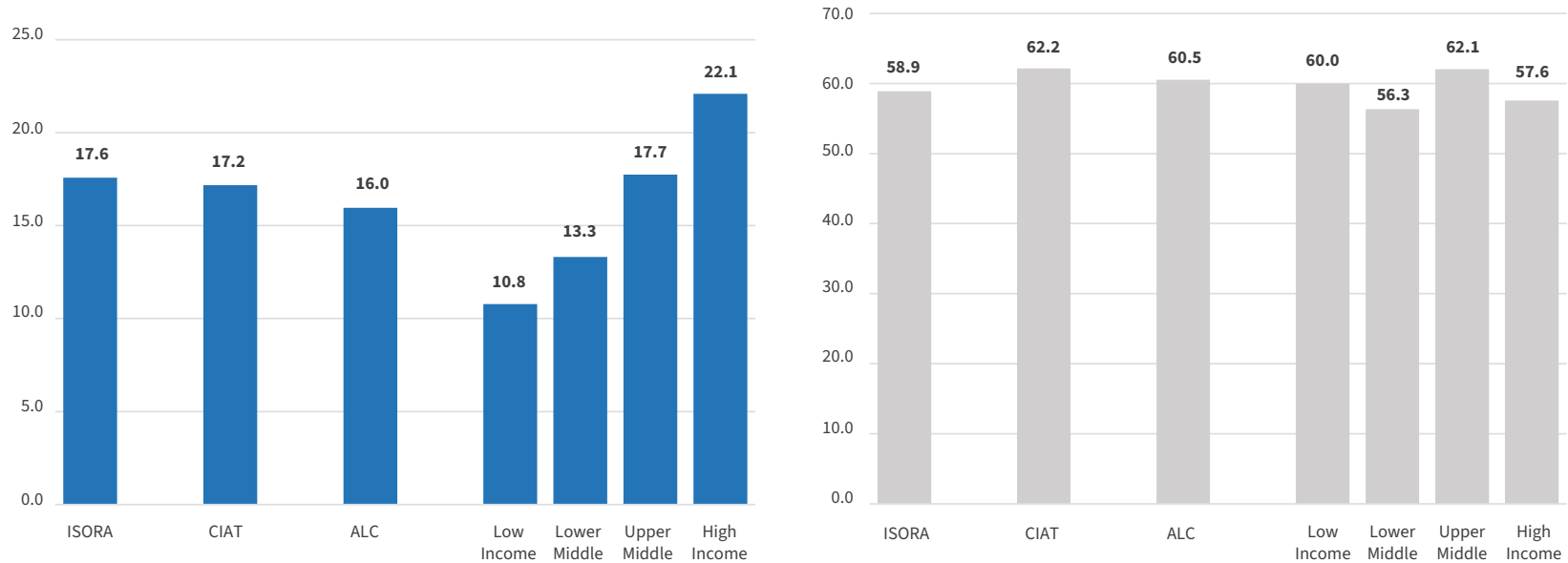


The analysis by CIAT countries shows notable differences among them for the three indicators considered. In percentages of GDP, they range from a minimum value in Nigeria (5.6%), with values also well below the CIAT average in India (8%), Bermuda (8.2%) or Paraguay (8.5%), and a maximum value in the Netherlands (33.9%), with several countries also clearly above the average, including France (26.9%), Suriname (26.2%), Italy (24.4%) or Portugal (23.8%). In per capita terms, the countries with the highest income levels (the Netherlands, France, Canada, Bermuda, the United States, Italy, Portugal, and Spain) stand out, as might be expected, with annual figures of more than US$5,000 per capita. At the other extreme are Nigeria, India, Angola, Nicaragua, and Honduras, with values below US$ 500. Finally, as a percentage of total government income, while in Suriname, Guatemala, Peru, and Guyana the TNR represents more than 85%, in Ecuador, Angola and India it is less than 40% (Table 6).

**Table 6:**     Total Net Revenue (TNR). Alternative measures (in percentages of GDP, in dollars per capita and in percentages of Total Government Revenue). CIAT member countries. Year 2021

| CIAT Countries | TA Total Net Revenue (TNR) (as % of GDP) | Total Net Revenue per capita (in dollars) | Total Net Revenue (as % of Total Government Revenue |
|---|---|---|---|
| Angola | 9.4 | 193 | 38.3 |
| Argentina | 22.6 | 2,406 | 67.5 |
| Aruba | n.a. | n.a. | n.a. |
| Barbados | 17.5 | 3,008 | 57.5 |
| Belize | 9.5 | 594 | 42.5 |
| Bermudas | 8.2 | 9,193 | n.a. |
| Bolivia | n.a. | n.a. | n.a. |
| Brazil | 19.5 | 1,503 | 63.5 |
| Canada | 19.4 | 10,175 | 47.8 |
| Chile | 18.4 | 2,986 | 70.7 |
| Colombia | 13 | 817 | 48 |
| Costa Rica | 12.0 | 1,509 | 76.3 |
| Cuba | 44.9 | n.a. | n.a. |
| Dominican Rep. | 13.6 | 1,151 | 87.1 |
| Ecuador | 12.1 | 719 | 35.4 |
| El Salvador | 19.0 | 886 | 73.6 |
| France | 26.9 | 11,757 | 51.2 |
| Guatemala | 12 | 587 | 94 |
| Guyana | 15.2 | 1,521 | 85.3 |

| CIAT Countries | TA Total Net Revenue (TNR) (as % of GDP) | Total Net Revenue per capita (in dollars) | Total Net Revenue (as % of Total Government Revenue |
|---|---|---|---|
| Honduras | 15.3 | 423 | 60.4 |
| India | 8.0 | 181 | 39.6 |
| Italy | 24.4 | 8,738 | 51.0 |
| Jamaica | 21.9 | 1,133 | 67.4 |
| Kenya | 13.1 | 271 | 77.3 |
| Mexico | 16.8 | 1,688 | 70.8 |
| Morocco | 16.8 | 649 | 69.6 |
| Netherlands | 33.9 | 19,554 | 76.9 |
| Nicaragua | 13.3 | 275 | 46.5 |
| Nigeria | 3.6 | 75 | 50.1 |
| Panama | n.a. | n.a. | n.a. |
| Paraguay | 8.5 | 508 | 45.6 |
| Peru | 18.5 | 1,224 | 87.0 |
| Portugal | 23.8 | 5,848 | 53.3 |
| Spain | 18.5 | 5,572 | 42.4 |
| Surinam | 26.2 | 1,380 | 100.0 |
| Trinidad and Tobago | 15.5 | 2,489 | 71.0 |
| United States | 12.9 | 9,050 | 41.5 |
| Uruguay | 16.7 | 2,990 | 61.2 |

## 2.3   Relative structure of administered revenues

As for the composition of Total Net Revenue, IT is the tool that collects the most, 41.3% of the total for all ISORA countries, divided almost equally between CIT and PIT. This is followed by total net VAT (domestic and imports[9]), which, on average for the whole of ISORA, accounts for 30.1% of the TNR. The remaining revenues are made up of other taxes (excise, property, and customs taxes, among others), with an average contribution of 18.5%; social contributions (6.8% for the average ISORA); and non-tax revenues (3.4%) (Table 7).

For CIAT member countries, the relative contribution of the main collection tools is similar to those recorded for all countries in ISORA, with a slight difference with respect to IT, which represents 41.0% of TNR, but with a greater relative relevance of CIT (23.3%) than PIT (17.8%). This bias in favor of CIT is even greater in LAC, where the weight of PIT is even lower (14.7%), although with an increase compared to the previous edition of ISORA (13.1%). social security contributions are also lower (3%), which is offset by higher weights of VAT (35%) and other taxes (20.3%).

By income level, PIT has a much more significant relevance in high-income countries (25.1%); and it is the opposite for CIT (17.7% compared to 29% in lower middle-income countries). In contrast, VAT, although it contributes a considerable part of the TNR in all groups of countries (between 28.2% and 36.9%), has considerably less weight in higher-income countries than in lower-income countries. The relative contribution of social contributions is only significant in upper middle-income and high-income countries (8.8% and 8.9%, respectively). In contrast, non-tax revenues are only relatively important among low-income countries (7.1%) and, to a lesser extent, upper middle-income countries (5.4%) (Figure 4).

**Table 7:**   Relative structure of revenues administered by the TA (as percentages of TNR). Simple averages for selected groups of countries. Year 2021

| Country Groups | PIT | CIT | Total VAT | SSC | Other Taxes | Non-Tax |
|---|---|---|---|---|---|---|
| **ISORA** | **20.7** | **20.6** | **30.1** | **6.8** | **18.5** | **3.4** |
| CIAT Members | 17.8 | 23.3 | 30.8 | 5.2 | 19.0 | 4.0 |
| Latin America and the Caribbean | 14.7 | 22.6 | 35.0 | 3.0 | 20.3 | 4.4 |
| Low Income | 21.5 | 16.4 | 36.9 | 0.0 | 18.1 | 7.1 |
| Lower Middle Income | 17.9 | 29.0 | 28.2 | 2.0 | 21.6 | 1.3 |
| Upper Middle Income | 16.0 | 19.9 | 32.8 | 8.8 | 16.9 | 5.4 |
| High Income | 25.1 | 17.7 | 28.4 | 8.9 | 18.0 | 1.8 |

9   Figures net of drawback values, even when the import component is collected by Customs.

**Figure 4:** Relative structure of revenues administered by the TA (as percentages of TNR). Simple averages for selected groups of countries. Year 2021
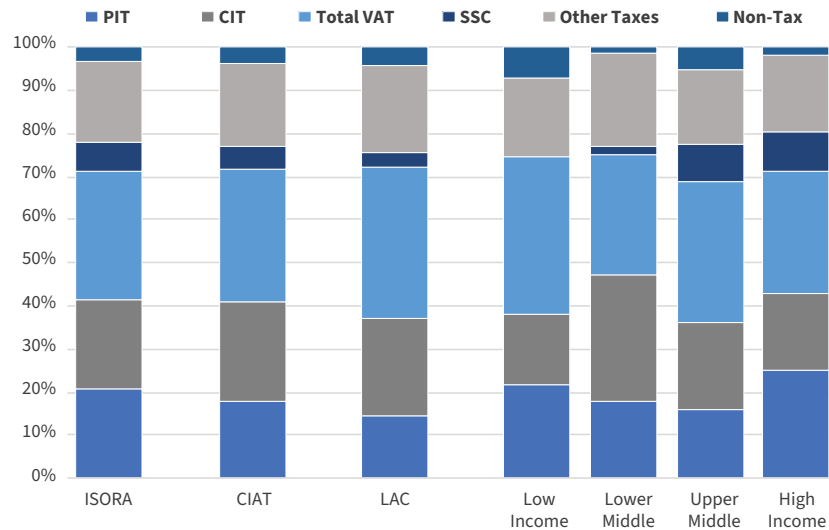


In CIAT member countries, VAT plays a leading role, particularly in several LAC countries, such as Paraguay (54%), Belize (51.9%), Chile (51.6%), El Salvador (49.6%), Ecuador (49%) and Guatemala (48%), and, outside this region, also in Morocco (44.4%) (Table 8). In the more developed countries, the main collection tool is PIT, as in Canada (52.7%), the United States (43.1%), Spain (42.3%) and Italy (39.8%), among others, although the case of Kenya (30%) should also be highlighted. CIT also occupies an important place in a wide range of countries, especially in LAC countries (due to the well-known weakness of PIT and, in some cases, VAT), as well as others in Africa, such as Nigeria (61%) and Angola (52%). On the contrary, their contribution is much lower in countries with higher income levels, such as France, Portugal, or the Netherlands (Figure 5). The relative magnitude of social contributions is only relevant in the few countries with integrated TA (e.g., Argentina, Brazil, the United States, or the Netherlands). Finally, non-tax revenues acquire a significant importance in specific cases, such as Cuba (55.3%), Suriname (18.4%), Mexico (17.7%) or France (12,6%).

**Table 8:** Relative structure of revenues administered by the TA (in percentages of TNR). CIAT member countries. Year 2021

| CIAT Countries | PIT | CIT | Total VAT | SSC | Other Taxes | Non-Tax | CIAT Countries | PIT | CIT | Total VAT | SSC | Other Taxes | Non-Tax |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Angola | 20.4 | 52 | 13.0 | 0.0 | 9.9 | 4.2 | Honduras | 13.8 | 20 | 42.1 | 0.0 | 23.7 | 0.5 |
| Argentina | 8.7 | 14 | 31.0 | 22.7 | 17.0 | 6.9 | India | 24.9 | 24 | 29.1 | 0.0 | 21.7 | 0.0 |
| Aruba | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | Italy | 39.8 | 6 | 29.9 | 0.0 | 24.0 | 0.0 |
| Barbados | 14.4 | 33 | 36.8 | 0.0 | 15.4 | 0.6 | Jamaica | 15.1 | 14 | 34.7 | 14.8 | 21.3 | 0.4 |
| Belize | 18.8 | 29 | 51.9 | 0.0 | 0.1 | 0.0 | Kenya | 30.0 | 15 | 33.1 | 0.0 | 21.5 | 0.1 |
| Bermudas | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | Mexico | 23.0 | 21 | 25.9 | 0.0 | 12.6 | 17.7 |
| Bolivia | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | Morocco | 21.7 | 22 | 44.4 | 0.0 | 12.2 | 0.0 |
| Brazil | 10.8 | 19 | 19.2 | 28.5 | 19.9 | 2.7 | Netherlands | 24.1 | 10 | 21.6 | 31.7 | 9.1 | 3.0 |
| Canada | 52.7 | 16 | 9.8 | 16.1 | 4.5 | 0.8 | Nicaragua | 12.6 | 48 | 16.0 | 0.0 | 20.4 | 3.3 |
| Chile | 9.2 | 33 | 51.6 | 0.0 | 5.8 | 0.0 | Nigeria | 1.0 | 61 | 32.4 | 0.0 | 5.8 | 0.0 |
| Colombia | 10 | 37 | 44 | 0 | 9 | 0 | Panama | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Costa Rica | 13.2 | 26 | 42.2 | 0.0 | 19.1 | 0.0 | Paraguay | 1.5 | 31 | 54.0 | 0.0 | 13.8 | 0.0 |
| Cuba | 3.0 | 19 | 0.0 | 9.9 | 13.1 | 55.3 | Peru | 10.6 | 23 | 38.5 | 10.3 | 15.5 | 2.4 |
| Dominican Rep. | 9.4 | 21 | 35.7 | 0.0 | 34.3 | 0.0 | Portugal | 29.3 | 10 | 36.2 | 0.0 | 23.6 | 0.5 |
| Ecuador | 8.9 | 21 | 49.0 | 0.0 | 20.3 | 0.6 | Spain | 42.3 | 12 | 32.5 | 0.0 | 11.5 | 1.9 |
| El Salvador | 2.7 | 37 | 49.6 | 0.0 | 5.1 | 5.5 | Surinam | 29.2 | 19 | 0.0 | 4.9 | 28.1 | 18.4 |
| France | 11.7 | 7 | 27.7 | 0.0 | 41.1 | 12.6 | Trinidad and Tobago | 22.5 | 35 | 31.5 | 0.0 | 9.5 | 1.1 |
| Guatemala | 6 | 24 | 48 | 0 | 22 | 0 | United States | 43.1 | 12 | 0.0 | 42.0 | 2.8 | 0.0 |
| Guyana | 18.4 | 30 | 19.0 | 0.0 | 32.7 | 0.0 | Uruguay | 18.7 | 13 | 48.1 | 0.0 | 19.9 | 0.0 |

**Figure 5:** Relative structure of revenues administered by the TA (in percentages of TNR). CIAT member countries. Year 2021
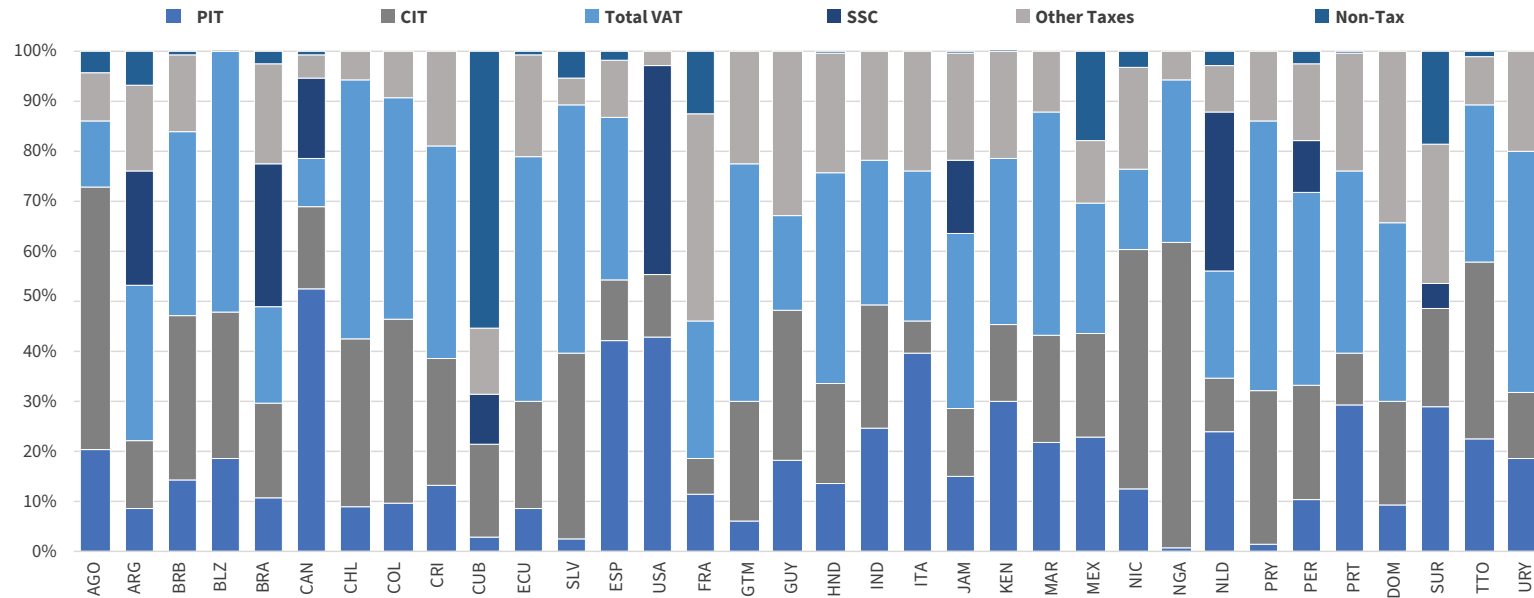


## 2.4 Available financial budget and cost of collection

The budget available to the TAs participating in ISORA averages 0.214% of GDP, distributed between an operating or current component (0.193% of GDP and 90.4% of the total) and a capital component (0.021% of GDP and 9.6% of the total). The CIAT countries, on average, have a smaller budget (0.153% of GDP), both with respect to ISORA as a whole and to LAC (0.2% of GDP), which, in turn, is slightly lower than the global average. By income level, the total budget is higher the higher the income level of the countries (0.14% for low-income countries versus 0.229% for high-income countries), although it is the upper middle-income countries that show the highest figures for capital expenditure (0.029%) (Table 9).

In terms of the internal composition of the budget, spending on salaries is the main component of the operational part, with an overall average of 67.8%, which is somewhat higher for the CIAT group of countries (68.6%) and lower in LAC (65.5%). There is no clear trend by income level, although these percentages are somewhat higher at the extremes (high-income and low-income countries). On the other hand, expenditures on information and communication technologies (ICT) account for a small percentage of total current expenditures (8.9% for ISORA; 9.4% for CIAT; 7.3% for LAC), with a clear upward trend as higher income levels are reached (4.7% for low and lower middle income, 7.8% for upper middle income and 11.5% for high-income countries).

The ratio of revenue collected to budget can be interpreted as the "recurrent collection cost" of the tax administration. Although like any synthetic indicator it has limitations and should not be directly identified as a measure of TA efficiency, it provides an approximate orientation of the effective performance of available financial resources (Díaz de Sarralde Miguez, 2018). For the set of ISORA countries, that ratio is 1.23; that is, collecting one hundred monetary units has an average cost of 1.23. This cost is lower for CIAT countries (1.04) and somewhat higher for LAC (1.41), being, moreover, clearly decreasing with income level, except in low-income ones: 1.11% for these, 1.44% in lower middle-income ones, 1.24% in upper middle-income ones and 1.02% in high-income ones (Figure 6).

**Table 9:** Expenditure structure and operating budget indicators (as a percentage of GDP and as a percentage of total). Simple averages for selected groups of countries. Year 2021

| Country Groups | Operating Expenditure (in % of GDP | Capital Expenditure (in % of GDP) | Recurrent Cost of Collection (in %) | Salary Expenditure / Operating Expenditure (in %) | ICT operating cost as percent of operating expenditure (in %) |
|---|---|---|---|---|---|
| **ISORA** | **0.193** | **0.021** | **1.23** | **67.8** | **8.9** |
| CIAT Members | 0.147 | 0.006 | 1.04 | 68.6 | 9.4 |
| Latin America and the Caribbean | 0.188 | 0.012 | 1.41 | 65.5 | 7.3 |
| Low Income | 0.128 | 0.012 | 1.11 | 74.3 | 4.7 |
| Lower Middle Income | 0.191 | 0.019 | 1.44 | 66.4 | 4.7 |
| Upper Middle Income | 0.193 | 0.029 | 1.24 | 64.3 | 7.8 |
| High Income | 0.212 | 0.016 | 1.02 | 70.2 | 11.5 |

**Figure 6:** TA budget structure by main types of expenditures (left panel, in percent of GDP) and cost of collection (right panel, in percent). Simple averages for selected groups of countries. Year 2021
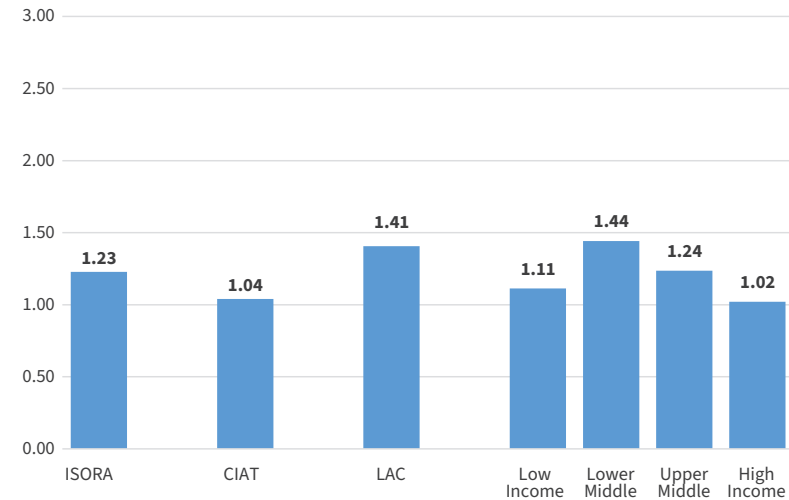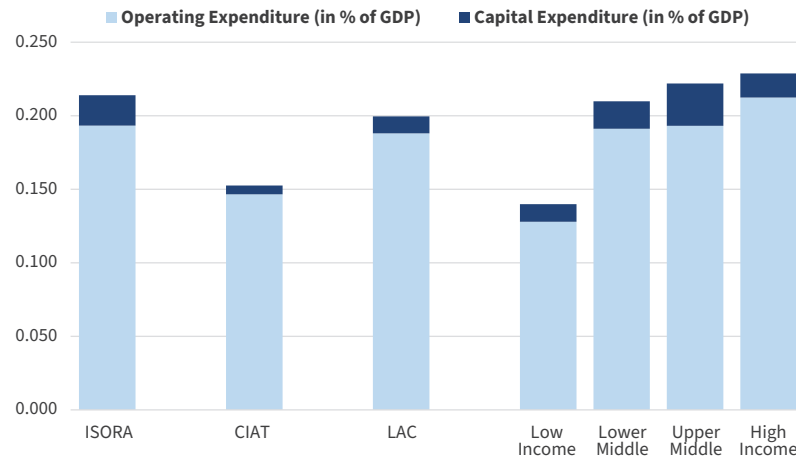


In the case of the CIAT countries, in terms of budget size, some Caribbean countries stand out (Barbados and Jamaica, with 0.387% and 0.565% of GDP, respectively), compared to others where it is around one tenth (Bermuda, the United States and India), in addition to Morocco, Paraguay, Brazil, Ecuador and Costa Rica, with values below 0.1% of GDP (Table 10). The wide dispersion is repeated with respect to the share of salaries in operating/ current expenditures (from 37.7% in Bolivia to 93.3% in Honduras), as well as that of ICT expenditures (from less than 1% in the Dominican Republic and Cuba to more than 24% in the Netherlands and the United States). Finally, in terms of the cost of collection, Barbados, Belize, Jamaica, and Nigeria are the four countries in which this indicator exceeds 2 points, well above the global and regional averages; at the other extreme, Cuba, Brazil, Morocco, and the United States do not reach half a point (Figure 7).

**Table 10:**     Expenditure structure and operating budget indicators (as a percentage of GDP and as a percentage of the total). CIAT member countries. Year 2021

| CIAT Countries | Operating Expenditure (in % of GDP) | Capital Expenditure (in % of GDP) | Recurrent Cost of Collection (in %) | Salary Expenditure / Operating Expenditure (in %) | ICT operating cost as percent of operating expenditure (in % |
|---|---|---|---|---|---|
| Angola | n.a. | n.a. | n.a. | n.a. | n.a. |
| Argentina | n.a. | n.a. | n.a. | n.a. | n.a. |
| Aruba | n.a. | n.a. | n.a. | n.a. | n.a. |
| Barbados | 0.377 | 0.010 | 2.217 | 61.472 | 9.763 |
| Belize | 0.235 | 0.011 | 2.577 | 76.871 | 1.331 |
| Bermudas | 0.049 | 0.004 | 0.642 | 66.772 | 3.605 |
| Bolivia | 0.192 | 0.001 | n.a. | 37.666 | 7.189 |
| Brazil | 0.080 | 0.000 | 0.413 | 67.230 | 20.690 |
| Canada | 0.234 | 0.004 | 1.224 | 76.602 | 17.633 |
| Chile | 0.100 | 0.005 | 0.568 | 83.820 | 13.551 |
| Colombia | n.a. | n.a. | n.a. | n.a. | n.a. |
| Costa Rica | 0.095 | 0.001 | 0.797 | 55.662 | 5.794 |
| Cuba | 0.068 | 0.001 | 0.154 | 70.121 | 0.545 |
| Dominican Rep. | 0.126 | 0.002 | 0.943 | 40.162 | 0.411 |
| Ecuador | 0.091 | 0.001 | 0.764 | 78.702 | 11.475 |
| El Salvador | n.a. | n.a. | n.a. | n.a. | n.a. |
| France | 0.139 | n.a. | n.a. | 87.737 | 5.840 |
| Guatemala | n.a. | n.a. | n.a. | n.a. | n.a. |
| Guyana | n.a. | n.a. | n.a. | n.a. | n.a. |
| Honduras | 0.097 | 0.010 | 0.699 | 93.264 | 10.624 |
| India | 0.063 | 0.004 | 0.831 | 66.685 | 8.290 |
| Italy | 0.152 | 0.006 | 0.644 | 56.375 | 11.609 |
| Jamaica | 0.552 | 0.013 | 2.585 | 59.108 | 4.919 |
| Kenya | n.a. | n.a. | n.a. | n.a. | n.a. |
| Mexico | n.a. | n.a. | n.a. | n.a. | n.a. |
| Morocco | 0.068 | 0.005 | 0.434 | 82.252 | 10.167 |
| Netherlands | 0.255 | 0.005 | 0.767 | 72.127 | 24.837 |
| Nicaragua | 0.107 | 0.004 | 0.833 | 79.614 | 10.412 |
| Nigeria | 0.096 | 0.006 | 2.787 | 61.367 | 3.389 |
| Panama | 0.022 | n.a. | n.a. | n.a. | n.a. |
| Paraguay | 0.056 | 0.019 | 0.875 | 55.558 | n.a. |
| Peru | n.a. | n.a. | n.a. | n.a. | n.a. |
| Portugal | 0.252 | 0.020 | 1.144 | 78.481 | 6.800 |
| Spain | n.a. | n.a. | n.a. | n.a. | n.a. |
| Surinam | n.a. | n.a. | n.a. | n.a. | n.a. |
| Trinidad and Tobago | 0.103 | n.a. | 0.663 | 54.452 | n.a. |
| United States | 0.055 | 0.004 | 0.456 | 72.974 | 24.677 |
| Uruguay | 0.149 | 0.002 | 0.905 | 79.341 | 3.015 |

**Figure 7:**     Cost of collection of TA (in percentages). CIAT member countries. Year 2021
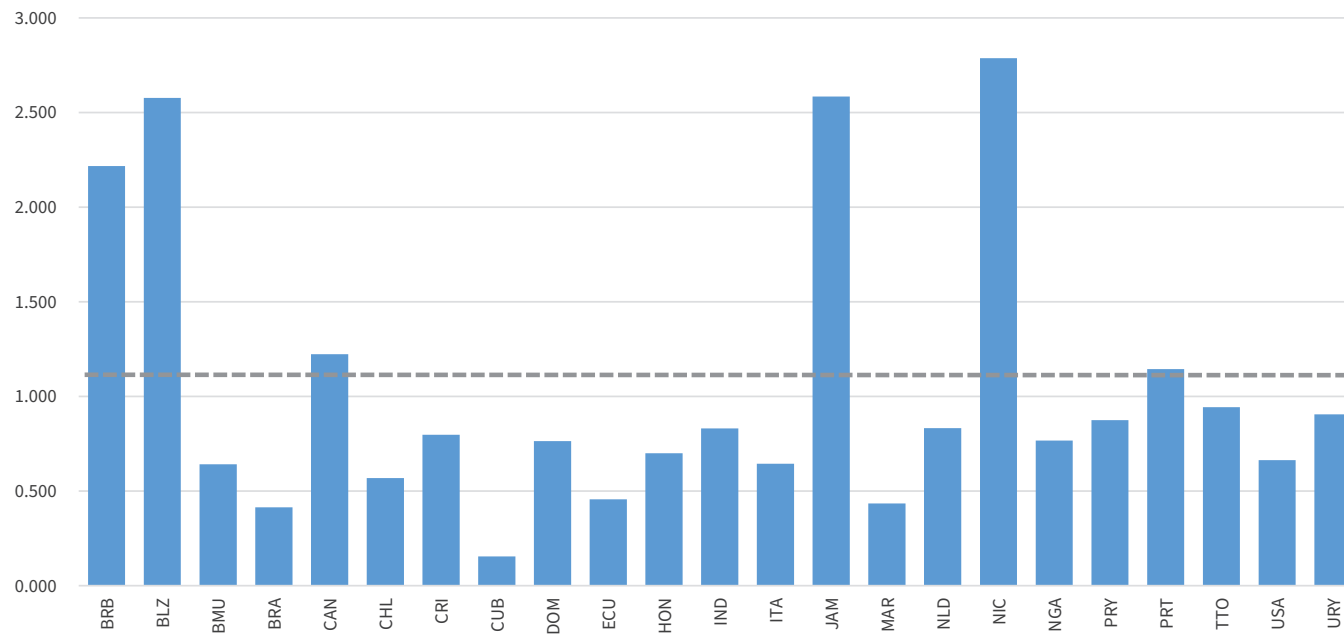


**Note:** For countries with available data.

# 3. Main characteristics of the employed staff

In addition to financial and technological resources, TAs have human resources at their disposal to carry out their tasks. ISORA provides valuable information on various aspects in this area, which, once again, makes it possible to compare among countries and to observe some stylized facts.

## 3.1 Staff size

By the end of fiscal year 2021, the total number of jurisdictions participating in ISORA accumulated a workforce close to 2 million workers (in full-time equivalence -FTE[10]). Of these, 457 thousand belong to CIAT member countries (23.1% of the total) and just over 97 thousand to LAC countries (4.9% of the total) (Table 11). The bulk of these workers are concentrated in upper middle-income (46.5%) and high-income (36.9%) countries, which together account for 83.4% of the total.

In terms of population, the average for the ISORA countries is close to 5,000 inhabitants per FTE worker (about 1,000 less than in the previous edition of ISORA), similar to CIAT countries (4,920) and higher than LAC (3,583). By

income level, the number of people per worker is very high, on average, in low-income countries (15,466 inhabitants), decreasing rapidly as the income level rises, reaching an average of 1,582 inhabitants per FTE worker for the high-income group, i.e., one tenth of that in low-income countries. A similar result is observed with respect to the ratio of labor force per FTE worker: an overall average of 2,149 inhabitants of the labor force (about 400 less than in the previous edition of ISORA), a similar average for CIAT countries (2,182) and averages decreasing with income level, from 5,704 in low-income countries to 851 in high-income countries.

The size of personnel in relation to the number of taxpayers shows a different picture, beyond the general averages. With logically larger figures for PIT than for CIT or VAT, the averages for CIAT countries are notably higher than the overall average for ISORA in all cases and to the previous edition of the survey, as well: 1,003 in CIAT and 653 taxpayers in ISORA in the PIT; 100 and 86, respectively, in the CIT; and 195 and 91 in VAT, respectively. By income level, the average number of taxpayers per FTE worker clearly increases as the income level increases, going from 127 to 924 in the PIT, from 34 to 115 in the CIT, and from 13 to 124 in the VAT (Figure 8).

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10  In all cases and for comparability, it refers to Full Time Equivalents (FTE). An FTE of 1.0 means that the resources are equivalent to one full-time staff member working for a full year.

As noted in other editions of this Overview, among the multiple causes behind these differences are demographic circumstances (higher population growth in lower-income countries) and economic circumstances (lower per capita income in the latter, greater informality, weakness of direct taxes and dependence on a small number of large taxpayers) (Díaz de Sarralde, 2019).

**Table 11:** Number of personnel employed (FTE) and weights by reference variables (population/taxpayers). Subtotals and simple averages for selected groups of countries. Year 2021

| Country Groups | Tax Administration's Staff (in FTEs) | Population per FTE | Labor Force per FTE | PIT Active Taxpayers per FTE | CIT Active Taxpayers per FTE | VAT Active Taxpayers per FTE |
|---|---|---|---|---|---|---|
| **ISORA** | **1,976,409** | **5,062** | **2,149** | **653** | **86** | **91** |
| CIAT Members | 457,057 | 4,920 | 2,182 | 1,003 | 100 | 195 |
| Latin America and the Caribbean | 97,497 | 3,583 | 1,945 | 733 | 89 | 157 |
| Low Income | 31,615 | 15,466 | 5,704 | 127 | 34 | 13 |
| Lower Middle Income | 297,507 | 7,313 | 2,821 | 537 | 61 | 56 |
| Upper Middle Income | 918,236 | 3,314 | 1,529 | 691 | 97 | 108 |
| High Income | 728,988 | 1,582 | 851 | 924 | 115 | 124 |

**Note:** The sum by income level does not match the total because some countries are not rated.

**Figure 8:** Economically active population (labor force) per employee (FTE) (left panel, number of persons) and Number of PIT taxpayers per employee (right panel). Simple averages for selected groups of countries. Year 2021
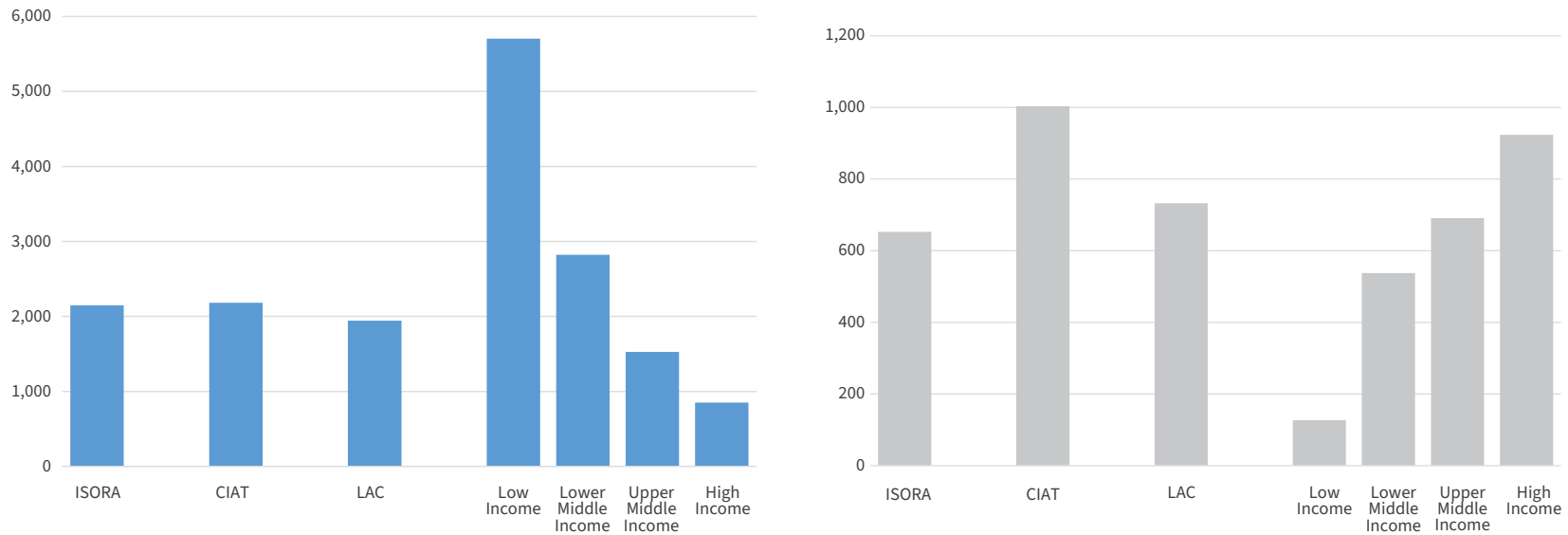


With respect to CIAT countries, there is also great heterogeneity in this area of personnel employed. Not only in absolute staff size, but also in relative terms, with countries ranking well above global or regional averages. Even

considering the number of contributors per FTE employee, the figures are very high in CIAT member countries as diverse as Mexico, Brazil, Kenya, Uruguay, Italy, and Chile.

**Table 12:** Number of personnel employed (FTE) and weights by reference variables (population/taxpayers). CIAT member countries. Year 2021

| CIAT Countries | Tax Administration's Staff (in FTEs) | Population per FTE | Labor Force per FTE | PIT Active Taxpayers per FTE | CIT Active Taxpayers per FTE | VAT Active Taxpayers per FTE | CIAT Countries | Tax Administration's Staff (in FTEs) | Population per FTE | Labor Force per FTE | PIT Active Taxpayers per FTE | CIT Active Taxpayers per FTE | VAT Active Taxpayers per FTE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Angola | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | Honduras | 1,182 | 8,696 | 3,746 | 242 | 77 | 183 |
| Argentina | 14,600 | 3,138 | 1,452 | 243 | 33 | 126 | India | 92,745 | 15,177 | 5,474 | 1,102 | 17 | 138 |
| Aruba | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | Italy | 30,735 | 1,923 | 816 | 2,542 | 75 | 292 |
| Barbados | 329 | 855 | 430 | 512 | 38 | 25 | Jamaica | 2,252 | 1,256 | 673 | 87 | 10 | 5 |
| Belize | 231 | 1,732 | 799 | 926 | 134 | 25 | Kenya | 4,652 | 11,394 | 5,184 | 2,982 | 165 | 51 |
| Bermudas | 32 | 1,996 | n.a. | n.a. | n.a. | n.a. | Mexico | 23,584 | 5,373 | 2,417 | 3,776 | 124 | 359 |
| Bolivia | 1,768 | 6,832 | 3,204 | 25 | 28 | 34 | Morocco | 4,837 | 7,665 | 2,540 | n.a. | n.a. | n.a. |
| Brazil | 13,473 | 15,908 | 7,826 | 2,644 | n.a. | n.a. | Netherlands | 20,365 | 861 | 474 | 637 | 52 | 171 |
| Canada | 43,324 | 883 | 484 | 785 | 65 | 94 | Nicaragua | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Chile | 4,956 | 3,933 | 1,832 | 2,238 | 474 | 373 | Nigeria | 10,601 | 20,130 | 6,662 | 12 | 41 | 50 |
| Colombia | 6,838 | 7,534 | 3,800 | 654 | 204 | 230 | Panama | 1,957 | 2,223 | 1,055 | n.a. | n.a. | n.a. |
| Costa Rica | 905 | 5,695 | 2,794 | 451 | 421 | 582 | Paraguay | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Cuba | 5,074 | 2,218 | 994 | 64 | 1 | n.a. | Peru | 7,374 | 4,572 | 2,423 | 1,224 | 228 | 230 |
| Dominican Rep. | 3,309 | 3,360 | 1,542 | 85 | 82 | 125 | Portugal | 9,428 | 1,095 | 549 | 1,097 | 57 | 185 |
| Ecuador | 3,090 | 5,760 | 2,800 | 305 | 65 | 507 | Spain | 20,636 | 2,298 | 1,133 | 1,230 | 104 | 356 |
| El Salvador | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | Surinam | 298 | 2,057 | 824 | 219 | 28 | n.a. |
| France | 44,346 | 1,528 | 705 | 1,166 | 66 | 196 | Trinidad and Tobago | 793 | 1,924 | 843 | 123 | 7 | 3 |
| Guatemala | 2,912 | 5,876 | 2,281 | 453 | 52 | 516 | United States | 78,661 | 4,219 | 2,112 | n.a. | n.a. | n.a. |
| Guyana | 569 | 1,414 | 504 | 688 | 12 | 8 | Uruguay | 1,201 | 2,853 | 1,447 | 2,581 | 127 | 199 |

## 3.2 Staff dynamics

Regarding the recent dynamics of FTE personnel in the TAs, the annual balance for fiscal year 2021 was negative (-2,074 FTE workers) in all ISORA countries, as well as in CIAT and LAC countries (-3,110 and -1,277, respectively). However, when observed by income level, this negative balance for ISORA as a whole is due only to the sharp drop in upper middle-income countries (-10,508), since in the rest of the countries the balance is positive. In the low-income group 910 employees joined, in the lower middle-income group 2,380 and in the upper middle-income group 5128. In fact, 64 ISORA participants (12 of which are CIAT members) recorded a positive balance during 2021 (36.8% of the total[11]), this proportion being relatively lower as the income level increases. Likewise, this proportion is also lower for CIAT and LAC countries (Table 13).

The average FTE entry rate for ISORA (8.0%) was higher than the FTE exit rate (2.7%). Among CIAT and LAC countries, entry rates are lower than the overall average, while exit rates are similar. By income level, no clear pattern can be observed (Figure 9).

**Table 13:** Indicators of employee dynamics (FTE). Subtotals and simple averages for selected groups of countries. Year 2021

| Country Groups | Annual Balance in FTE Employment (Amount) | FTE Hiring Rate | FTE Attrition Rate | TAs with positive FTE Employment Balance (number) | TAs with positive FTE Employment Balance (in %) |
|---|---|---|---|---|---|
| **ISORA** | **-2,074** | **8.0** | **2.7** | **64** | **36.8** |
| CIAT Members | -3,110 | 4.0 | 2.7 | 12 | 31.6 |
| Latin America and the Caribbean | -1,277 | 3.7 | 2.8 | 9 | 27.3 |
| Low Income | 910 | 9.8 | 2.1 | 9 | 42.9 |
| Lower Middle Income | 2,380 | 5.8 | 2.0 | 17 | 38.6 |
| Upper Middle Income | -10,508 | 8.4 | 3.3 | 18 | 35.3 |
| High Income | 5,128 | 9.5 | 2.9 | 17 | 31.5 |

FTE Hiring Rate = FTE Hires during FY2021 / ((FTE at start of FY2021 + FTE at end of FY2021) / 2) FTE attrition Rate = FTE Leaves during FY2021 / ((FTE at start of FY2021 + FTE at end of FY2021) / 2) Note: amounts do not match the total by income level because there are unrated countries.

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11  This does not mean that the balance was negative for the rest since there are TAs with unavailable data. In fact, if only TAs with available data are accounted, these percentages of positive balances are: 40.2% for the total ISORA, 52.9% for low-income countries, 44.7% for lower middle-income countries, 37.5% for upper middle-income countries, 32.1% for high-income countries, 29% for LAC and 33.3% for CIAT.

**Figure 9:** Hiring and attrition rates of employed staff (FTE). Simple averages for selected groups of countries. Year 2021
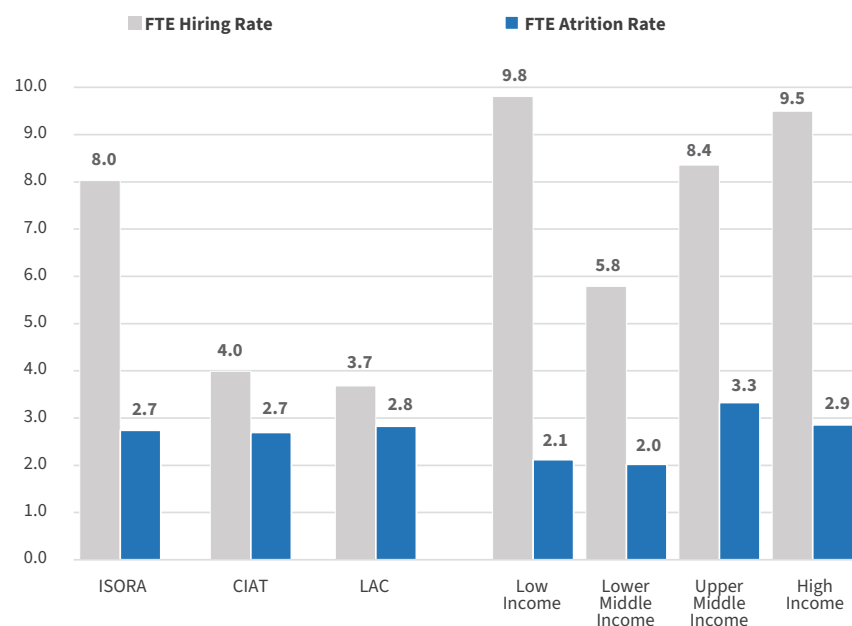


By CIAT country, the dynamics of personnel employed show large fluctuations during 2021, with the largest positive balances (above 1,000 net FTEs) in Canada and the Netherlands. In the opposite direction, France, India, and Italy recorded the most notable negative balances, with net staff reductions of more than 1,500 workers. The variability is very high in terms of annual inflow and outflow rates of FTEs, reflecting the characteristics of the countries, the different moments in the institutional evolution of their respective TAs and the specific macroeconomic context (Table 14).

**Table 14:** Indicators of employee dynamics (FTE). CIAT member countries. Year 2021

| CIAT Countries | Annual Balance in FTE Employment (Amount) | FTE Hiring Rate | FTE Attrition Rate |
|---|---|---|---|
| Angola | 293 | 7.0% | |
| Argentina | -522 | | 2.5% |
| Aruba | n.d. | n.d. | n.d. |
| Barbados | -1 | | 0.3% |
| Belize | -6 | | 2.6% |
| Bermudas | 0 | | |
| Bolivia | 253 | 15.4% | |
| Brazil | -651 | | 3.7% |
| Canada | 1,810 | 3.7% | |
| Chile | 0 | | |
| Colombia | -113 | | 1.0% |
| Costa Rica | -8 | | 0.9% |
| Cuba | -33 | | 0.6% |
| Dominican Rep. | -137 | | 4.1% |
| Ecuador | 3 | 0.1% | |
| El Salvador | n.d. | n.d. | n.d. |
| France | -2,323 | | 2.4% |
| Guatemala | 318 | 5.3% | |
| Guyana | 32 | 2.7% | |
| Honduras | -2 | | 0.2% |
| India | -1,846 | | 2.0% |
| Italy | -1,719 | | 5.6% |
| Jamaica | 4 | 0.2% | |
| Kenya | 495 | 6.0% | |
| Mexico | -356 | | 1.1% |
| Morocco | -6 | | 0.1% |
| Netherlands | 1,245 | 4.3% | |
| Nicaragua | -58 | | 4.1% |
| Nigeria | 48 | 0.5% | |
| Panama | -56 | | 5.7% |
| Paraguay | -33 | | 3.3% |
| Peru | 242 | 2.2% | |
| Portugal | -239 | | 2.2% |
| Spain | -48 | | 0.2% |
| Surinam | -35 | | 6.1% |
| Trinidad and Tobago | -31 | | 3.8% |
| United States | 455 | 0.6% | |
| Uruguay | -85 | | 6.8% |

## 3.3 Staff distribution by TA function

In terms of the distribution of staff employed among the main functions of TAs, the RRP function (Registration, Returns and Payments) alone accounts for the largest percentage of FTE staff for the total average number of countries in ISORA (31.3% of employees), followed by the AIV function (Audit, Investigation and Verification), with 24.5%. At a distance, the EDC function (Enforced Debt collections) occupies 11.9% of the staff, while the remaining third of the staff is distributed among "other miscellaneous functions" (Table 15). These proportions in the total number of ISORA countries are quite similar for the CIAT average and, in general, also for other relevant country groupings, with some exceptions: in LAC the RRP function has a lower relative weight in terms of staff assigned (27.2%) and the AIV function has a higher relevance as the income level of the countries increases (15.5% for the Low Income average and 27.1.0% for High and upper middle income).

TAs may have different degrees of operational geographic decentralization, depending on a series of factors specific to each country (its size, population density or territorial economic structure, among others), and determines the concentration of personnel employed between the head office of operations and the various branches and regional agencies. In this regard, the proportion of FTE personnel assigned to headquarters is 23% on average in ISORA, slightly lower than in CIAT countries and higher than in LAC, with a

markedly decreasing pattern as the income level of the countries increases: 35.7% in the low-income group versus almost 21% in the upper-middle and high-income groups (Figure 10).

**Table 15:** Distribution of personnel employed (FTE) by functions or main areas of TA (in percentages). Simple averages for selected groups of countries. Year 2021

| Country Groups | Functions of the Tas | | | | Percentage staff in headquarters |
|---|---|---|---|---|---|
| | Registration, returns and payment processing | Audit, investigation and other verification | Enforced debt collections and related functions | Other miscellaneous functions | |
| **ISORA** | **31.3** | **24.5** | **11.9** | **32.3** | **23.0** |
| CIAT Members | 30.8 | 23.5 | 12.6 | 33.1 | 24.5 |
| Latin America and the Caribbean | 27.2 | 23.4 | 13.8 | 35.6 | 20.3 |
| Low Income | 34.5 | 15.5 | 8.5 | 41.5 | 35.7 |
| Lower Middle Income | 35.2 | 20.3 | 12.9 | 31.6 | 25.6 |
| Upper Middle Income | 25.0 | 27.1 | 13.1 | 34.8 | 20.0 |
| High Income | 32.5 | 27.1 | 10.4 | 30.0 | 20.9 |

**Figure 10:** Distribution of staff employed (FTE) by main functions or areas of the TAs (left panel) and proportion of staff assigned to the head office of operations (right panel) (both in percentages). Simple averages for selected groups of countries. Year 2021
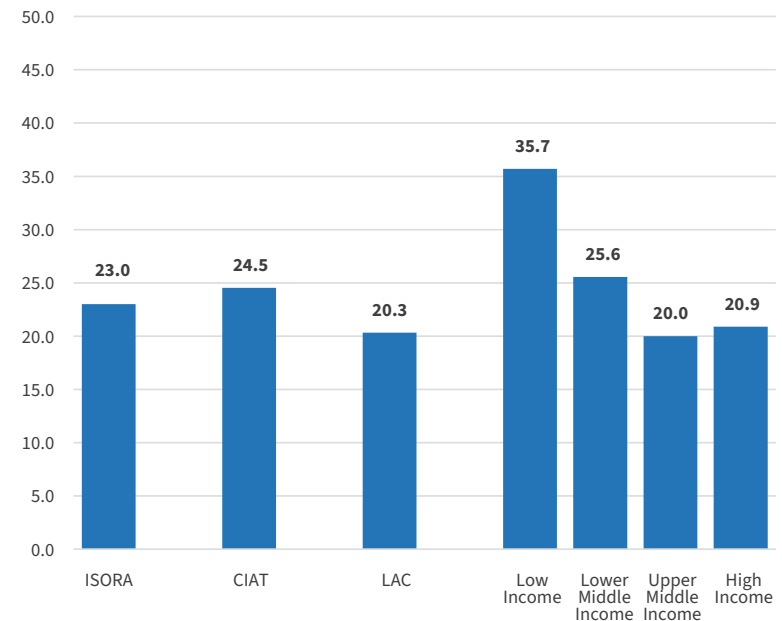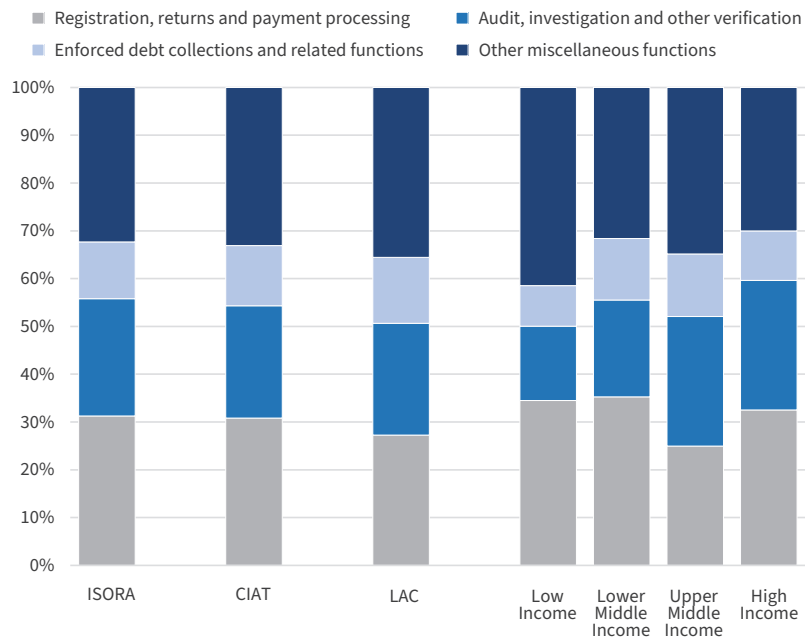


In the CIAT countries, the differences in the distribution of personnel employed by function are very large (Table 16). In some cases, the general regularities are maintained, with the registration function (RRP) as the main destination of FTE personnel, although in some countries, such as Chile, Spain, Mexico, Ecuador or Costa Rica, the audit function (AIV) occupies most of the staff. The function related to tax debt (EDC) is important in Suriname (51.7%), Brazil (24.5%), Canada (24.0%), Mexico (22.6%) and Spain (20.3%). Finally, the allocation of personnel to headquarters shows percentages ranging from 2.5% in the Netherlands and 4.0% in France to 100% in Bermuda and 78% in Uruguay.

**Table 16:**  Distribution of staff employed (FTE) by functions or main areas of TA (in percentages). CIAT member countries. Year 2021

| CIAT Countries | Functions of the Tas | | | | Percentage staff in headquarters |
| --- | --- | --- | --- | --- | --- |
| | Registration, returnsand payment processing | Audit, investigation and other verification | Enforced debt collections and related functions | Other miscellaneous functions | |
| Angola | n.a. | n.a. | n.a. | n.a. | 27.0 |
| Argentina | 11.6 | 36.7 | 14.6 | 37.1 | 18.0 |
| Aruba | n.a. | n.a. | n.a. | n.a. | n.a. |
| Barbados | 44.4 | 15.5 | 7.0 | 33.1 | 45.0 |
| Belize | 39.8 | 22.5 | 9.1 | 28.6 | 0.0 |
| Bermudas | 43.8 | 12.5 | 15.6 | 28.1 | 100.0 |
| Bolivia | 29.0 | 27.6 | 19.1 | 24.4 | 25.0 |
| Brazil | 29.7 | 14.9 | 24.5 | 30.9 | 6.2 |
| Canada | 28.9 | 24.2 | 24.0 | 22.9 | 30.2 |
| Chile | 17.0 | 46.8 | n.a. | 36.3 | 24.0 |
| Colombia | 11.0 | 26.0 | 17.5 | 45.5 | 24.6 |
| Costa Rica | 15.4 | 34.6 | 18.2 | 31.8 | 27.8 |
| Cuba | 32.1 | 27.0 | 9.9 | 31.0 | 5.0 |
| Dominican Rep. | 35.1 | 18.4 | 1.7 | 44.8 | 21.4 |
| Ecuador | 22.6 | 38.5 | 5.3 | 33.6 | 32.8 |
| El Salvador | n.a. | n.a. | n.a. | n.a. | n.a. |
| France | 29.3 | 23.3 | 18.4 | 29.0 | 4.0 |
| Guatemala | 54.2 | 27.5 | 8.8 | 9.4 | 57.5 |
| Guyana | 57.8 | 33.0 | 9.0 | 0.2 | 25.2 |

| CIAT Countries | Functions of the Tas | | | | Percentage staff in headquarters |
| --- | --- | --- | --- | --- | --- |
| | Registration, returnsand payment processing | Audit, investigation and other verification | Enforced debt collections and related functions | Other miscellaneous functions | |
| Honduras | 32.7 | 14.6 | 7.4 | 45.4 | 35.0 |
| India | n.a. | n.a. | n.a. | n.a. | n.a. |
| Italy | 32.8 | 33.4 | 2.8 | 31.1 | 6.3 |
| Jamaica | 20.9 | 15.9 | 14.4 | 48.7 | 31.0 |
| Kenya | 33.3 | 8.5 | 12.4 | 45.9 | n.a. |
| Mexico | 15.6 | 39.7 | 22.6 | 22.1 | 29.6 |
| Morocco | 51.4 | 12.5 | 13.8 | 22.4 | 11.0 |
| Netherlands | 17.7 | 33.6 | 5.9 | 42.8 | 2.5 |
| Nicaragua | n.a. | n.a. | n.a. | n.a. | n.a. |
| Nigeria | 52.1 | 8.7 | 1.8 | 37.5 | 20.3 |
| Panama | 9.4 | 9.4 | 2.0 | 79.2 | n.a. |
| Paraguay | 0.0 | 0.0 | 0.0 | 100.0 | n.a. |
| Peru | 17.8 | 35.4 | 15.6 | 31.2 | 14.1 |
| Portugal | 54.4 | 18.1 | 12.6 | 15.0 | 19.2 |
| Spain | 16.4 | 44.3 | 20.3 | 19.0 | 12.9 |
| Surinam | 36.2 | 12.1 | 51.7 | n.a. | 9.0 |
| Trinidad and Tobago | 48.7 | 10.1 | 2.0 | 39.2 | 11.0 |
| United States | 39.8 | 25.8 | 11.2 | 23.3 | 6.9 |
| Uruguay | 36.8 | 24.5 | 4.2 | 34.6 | 78.0 |

## 3.4  Staff composition according to age ranges

The composition of personnel employed by age range shows that, on average for the ISORA countries, the bulk of full-time workers (79.1%) are concentrated in the three ranges between 25 and 54 years (Table 17). This same age group accounts for 75% of the workforce in CIAT countries and 80.7% in LAC. According to income levels, the same stratum comprises 85.0% of FTE personnel in low-income countries, while only 70.8% in high-income countries. In the latter group of countries, the majority age group is between 45 and 54 years (28.1%), while for the other groups it is between 35 and 44 years. In the high-income group, the segment between 55 and 64 years (23.9% of the total) is also higher than in the other groups (Figure 11).

All of this reflects a certain greater aging of the workforces in high-income countries. Thus, taking the weights collected in each interval of Table 17, the central values and the limit values at the two extremes, the average age for low-income countries is 43.3 years, 40.4 for lower middle-income countries, 42.7 for upper middle-income countries and 45.9 for high-income countries. In the case of LAC, the average is 42.2 years, lower than the global ISORA average (43.3 years) and that of CIAT countries (44.4).

**Table 17:**  Composition of staff employed (FTE) by age ranges (in percentages). Simple averages for selected groups of countries. Year 2021

| Country Groups | Younger than 25 | 25 to 34 | 35 to 44 | 45 to 54 | 55 to 64 | Over 64 |
|---|---|---|---|---|---|---|
| **ISORA** | **3.4** | **23.3** | **30.0** | **25.8** | **16.2** | **1.3** |
| CIAT Members | 2.6 | 23.2 | 27.8 | 24.0 | 19.9 | 2.7 |
| Latin America and the Caribbean | 4.2 | 25.7 | 32.6 | 22.4 | 13.4 | 1.7 |
| Low Income | 2.0 | 18.9 | 39.0 | 27.1 | 12.3 | 0.9 |
| Lower Middle Income | 4.5 | 30.4 | 33.0 | 23.1 | 8.7 | 0.2 |
| Upper Middle Income | 3.0 | 25.5 | 30.7 | 25.0 | 14.8 | 1.1 |
| High Income | 3.0 | 17.9 | 24.8 | 28.1 | 23.9 | 2.3 |

**Figure 11:**  Composition of staff employed (FTE) by age ranges (in  percentages). Simple averages for selected groups of countries. Year 2021
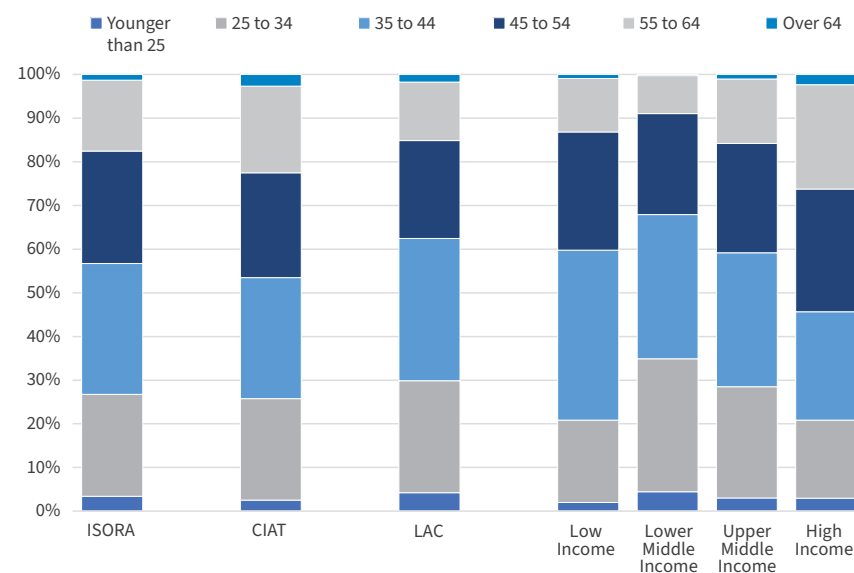
Among CIAT countries, there are some with relatively older employee populations, such as Portugal, Spain, Bermuda, Italy or the Netherlands, whose ages are concentrated between 45 and 64 years. Others, on the other hand, can be considered comparatively younger, as they are concentrated in the 25 to 44 age brackets, as in Honduras, Angola, Kenya, Bolivia, Belize, Trinidad and Tobago or the Dominican Republic (Table 18).

**Table 18:** Composition of employed personnel (FTE) by age ranges (in percentages). CIAT member countries. Year 2021

| CIAT Countries | Younger than 25 | 25 to 34 | 35 to 44 | 45 to 54 | 55 to 64 | Over 64 |
|---|---|---|---|---|---|---|
| Angola | 10.5 | 45.6 | 31.8 | 11.3 | 0.8 | 0.0 |
| Argentina | 1.3 | 10.5 | 20.9 | 34.6 | 29.0 | 3.6 |
| Aruba | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Barbados | 4.0 | 26.4 | 30.1 | 20.7 | 17.9 | 0.9 |
| Belize | 3.9 | 37.2 | 34.6 | 23.8 | 0.4 | 0.0 |
| Bermudas | 0.0 | 6.3 | 12.5 | 28.1 | 43.8 | 9.4 |
| Bolivia | 0.9 | 42.4 | 35.2 | 14.2 | 5.7 | 1.7 |
| Brazil | 0.0 | 3.3 | 22.8 | 32.9 | 32.3 | 8.6 |
| Canada | 5.1 | 21.3 | 25.7 | 26.3 | 18.9 | 2.6 |
| Chile | 0.2 | 13.4 | 27.7 | 34.8 | 17.8 | 6.2 |
| Colombia | 1.2 | 17.4 | 27.0 | 22.2 | 28.1 | 4.0 |
| Costa Rica | 0.6 | 20.8 | 28.3 | 24.8 | 24.6 | 1.0 |
| Cuba | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Dominican Rep. | 5.4 | 33.3 | 30.5 | 18.6 | 10.6 | 1.6 |
| Ecuador | 0.0 | 19.8 | 60.4 | 17.1 | 2.5 | 0.1 |
| El Salvador | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| France | 1.1 | 11.2 | 20.8 | 33.7 | 32.1 | 1.1 |
| Guatemala | 2.9 | 32.3 | 34.9 | 20.4 | 8.0 | 1.4 |
| Guyana | 15.1 | 31.6 | 29.4 | 16.1 | 6.9 | 0.9 |

| CIAT Countries | Younger than 25 | 25 to 34 | 35 to 44 | 45 to 54 | 55 to 64 | Over 64 |
|---|---|---|---|---|---|---|
| Honduras | 15,1 | 49.9 | 31.6 | 11.3 | 4.1 | 0.0 |
| India | 3,1 | n.a. | n.a. | n.a. | n.a. | n.a. |
| Italy | n.d. | 2.8 | 18.8 | 34.0 | 40.8 | 3.6 |
| Jamaica | 0,0 | 27.5 | 35.1 | 25.5 | 9.9 | 0.0 |
| Kenya | 2,0 | 45.3 | 32.1 | 14.8 | 6.9 | 0.0 |
| Mexico | 0,9 | 33.2 | 27.7 | 24.0 | 10.3 | 1.5 |
| Morocco | 0,5 | 27.6 | 28.3 | 25.7 | 17.8 | 0.1 |
| Netherlands | 3,3 | 16.1 | 17.0 | 21.8 | 40.7 | 2.9 |
| Nicaragua | 2,8 | 26.7 | 22.1 | 25.3 | 21.6 | 1.5 |
| Nigeria | 0,3 | 21.8 | 41.9 | 27.8 | 8.2 | 0.0 |
| Panama | 1,6 | 17.8 | 26.6 | 23.7 | 23.9 | 5.7 |
| Paraguay | 2,2 | 26.8 | 29.4 | 22.5 | 18.5 | 1.8 |
| Peru | 0,9 | 25.1 | 29.8 | 22.7 | 17.5 | 4.2 |
| Portugal | 0,7 | 0.5 | 7.9 | 38.2 | 47.3 | 5.9 |
| Spain | 0,0 | 9.2 | 14.7 | 25.4 | 47.0 | 3.7 |
| Surinam | 5,4 | 26.8 | 24.4 | 31.8 | 16.5 | 0.0 |
| Trinidad and Tobago | 0,5 | 34.3 | 34.2 | 12.6 | 6.3 | 0.0 |
| United States | 12,6 | 12.7 | 22.4 | 25.7 | 28.9 | 7.4 |
| Uruguay | 0,1 | 13.4 | 27.6 | 24.2 | 30.1 | 4.6 |

## 3.5 Staff composition by seniority (years of service)

Considering the seniority of TA workers, in general the years of service increase with the level of income. Thus, taking the weights, central values of each intermediate interval and limit values at the two extremes shown in Table 19, the approximate average length of service of employees is 11.5 years in low-income countries, 11.6 in lower middle-income countries, 12.7 in upper middle-income countries and 13.4 in high-income countries. Furthermore, in high-income countries the percentage of FTE employees with 20 or more years of experience reaches an average of 36.9%, while this figure drops to 18.3% in low-income countries (Figure 12). In all ISORA countries, the average length of service of the workforce is 12.5 years, 12.3 years for CIAT and 11.9 years for LAC.

**Table 19:** Composition of personnel employed (FTE) by seniority ranges -years of service- (in percentages). Simple averages for selected groups of countries. Year 2021

| Country Groups | Less than 5 years | 5 to 9 years | 10 to 19 years | Over 19 years |
|---|---|---|---|---|
| **ISORA** | **24.6** | **19.1** | **28.5** | **27.8** |
| CIAT Members | 29.5 | 16.5 | 24.3 | 29.7 |
| Latin America and the Caribbean | 28.0 | 19.9 | 28.3 | 23.8 |
| Low Income | 21.1 | 30.9 | 29.6 | 18.3 |
| Lower Middle Income | 28.8 | 20.1 | 30.2 | 20.8 |
| Upper Middle Income | 22.4 | 18.5 | 32.5 | 26.6 |
| High Income | 23.1 | 15.4 | 24.7 | 36.9 |

**Figure 12:** Composition of personnel employed (FTE) by seniority ranges -years of service- (in percentages). Simple averages for selected groups of countries. Year 2021
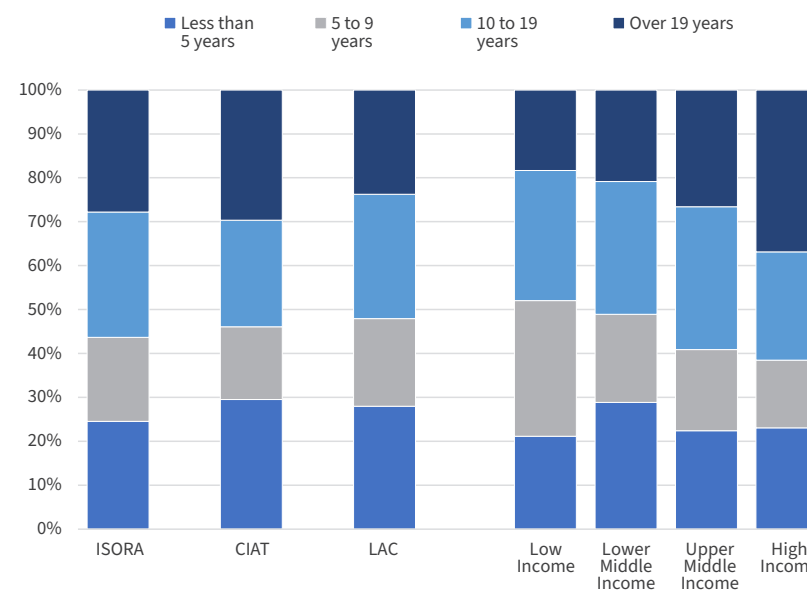


At the CIAT country level, the majority of workforce is older than 19 years in Portugal, Spain, Brazil, France, Italy, the Netherlands, Argentina, Paraguay, Morocco, Costa Rica, and Chile, among others. In stark contrast, other countries, such as Bolivia, Ecuador, Cuba, Angola, Panama, Kenya, Guatemala and, naturally, Honduras (with 100% of new employees, given the recent and complete renewal of its staff), show a composition of their staff with less accumulated experience (Table 20).

**Table 20:**     Composition of personnel employed (FTE) by seniority ranks -years of service- (in percentages). CIAT member countries.  Year 2021

| CIAT Countries | Less than 5 years | 5 to 9 years | 10 to 19 years | Over 19 years |
|---|---|---|---|---|
| Angola | 38.6 | 23.2 | 28.7 | 9.5 |
| Argentina | 10.0 | 9.5 | 32.3 | 48.2 |
| Aruba | n.a. | n.a. | n.a. | n.a. |
| Barbados | 24.9 | 12.8 | 32.2 | 30.1 |
| Belize | 18.2 | 31.6 | 26.4 | 23.8 |
| Bermudas | 50.0 | 6.3 | 21.9 | 21.9 |
| Bolivia | 78.8 | 14.3 | 5.0 | 1.8 |
| Brazil | 0.2 | 11.2 | 32.3 | 56.2 |
| Canada | 40.4 | 13.2 | 26.5 | 19.9 |
| Chile | 11.0 | 22.4 | 31.5 | 35.0 |
| Colombia | 43.8 | 19.1 | 6.0 | 31.1 |
| Costa Rica | 22.7 | 10.7 | 29.0 | 37.7 |
| Cuba | 53.1 | 19.9 | 18.6 | 8.3 |
| Dominican Rep. | 43.9 | 12.4 | 30.6 | 13.0 |
| Ecuador | 19.9 | 30.3 | 45.9 | 3.9 |
| El Salvador | n.a. | n.a. | n.a. | n.a. |
| France | 16.2 | 10.3 | 18.1 | 55.4 |
| Guatemala | 38.4 | 23.3 | 25.7 | 12.5 |
| Guyana | 25.8 | 23.9 | 33.9 | 16.5 |

| CIAT Countries | Less than 5 years | 5 to 9 years | 10 to 19 years | Over 19 years |
|---|---|---|---|---|
| Honduras | 100.0 | 0.0 | 0.0 | 0.0 |
| India | n.a. | n.a. | n.a. | n.a. |
| Italy | 7.5 | 8.2 | 29.0 | 55.3 |
| Jamaica | 18.0 | 22.9 | 30.3 | 28.8 |
| Kenya | 56.2 | 10.1 | 21.7 | 12.0 |
| Mexico | 31.3 | 26.5 | 22.2 | 20.0 |
| Morocco | 6.4 | 22.8 | 29.0 | 41.8 |
| Netherlands | 26.9 | 10.5 | 12.2 | 50.5 |
| Nicaragua | 17.2 | 18.6 | 43.5 | 20.7 |
| Nigeria | 41.8 | 13.7 | 15.1 | 29.3 |
| Panama | 44.0 | 28.7 | 17.1 | 10.2 |
| Paraguay | 28.4 | 11.9 | 16.2 | 43.6 |
| Peru | 30.7 | 20.0 | 15.9 | 33.3 |
| Portugal | 0.8 | 0.8 | 9.6 | 88.8 |
| Spain | 15.6 | 5.3 | 16.6 | 62.6 |
| Surinam | 15.1 | 18.1 | 32.9 | 33.9 |
| Trinidad and Tobago | 12.7 | 34.7 | 32.8 | 19.8 |
| United States | 29.9 | 9.3 | 31.0 | 29.8 |
| Uruguay | 14.7 | 22.7 | 29.5 | 33.1 |

### 3.6 Staff composition by gender and educational background

The ISORA data also allow us to classify staff employed (FTE) according to other relevant characteristics, such as the gender and educational background of the workers (Table 21). In the first case, as a global average for all countries included in ISORA, women represent 51.7% of the workforce, while they occupy 39.4% of executive positions. The averages for CIAT are 54.5% and 44.0%, respectively, while in LAC they account for 58.8% and 50.3%, respectively.

The results indicate that, in general, the participation of women increases with the income level of the countries, both in the overall workforce (from 35.1% in low-income countries to 62.6% in high-income countries) and in executive positions (from 21.9% to 47.5%) (Figure 13). However, it should be noted that the gap between these two indicators - overall participation and participation in executive positions - is smaller in low-income countries (13.2 points) than in high-income countries (15.1 points).

On the other hand, the overall average for ISORA for the proportion of personnel with a bachelor's degree (bachelor's or equivalent) is 41.7%, while 21.2% of the staff has a postgraduate degree (master's or equivalent). The percentages for CIAT and LAC are higher in the case of basic university training (49.1% and 49.9%, respectively) but lower in postgraduate training (16% and 10.5%). By income level, there is no clear pattern with respect to employees with undergraduate or graduate degrees (Figure 14). A striking result is that the proportion of employees with some type of university education is higher for low, lower-middle, and upper-middle income countries (around 65%) than for high-income countries.

**Table 21:** Relative share of female in employed staff (FTE) and proportion of staff with different degrees of educational attainment (bachelor/master) (in percentages). Simple averages for selected groups of countries. Year 2021

| Country Groups | Percent staff who are female | Percent executives who are female | Percent staff with bachelor's degree | Percent staff with master's degree (or higher) |
|---|---|---|---|---|
| **ISORA** | **51.7** | **39.4** | **41.7** | **21.2** |
| CIAT Members | 54.5 | 44.2 | 49.1 | 16.0 |
| Latin America and the Caribbean | 58.8 | 50.3 | 49.9 | 10.5 |
| Low Income | 35.1 | 21.9 | 40.9 | 23.5 |
| Lower Middle Income | 41.9 | 31.9 | 41.6 | 23.1 |
| Upper Middle Income | 52.9 | 42.9 | 47.8 | 16.7 |
| High Income | 62.6 | 47.5 | 37.1 | 23.5 |

**Figure 13:** Relative share of female in employed staff (FTE) and executive staff (in percentages). Simple averages for selected groups of countries. Year 2021
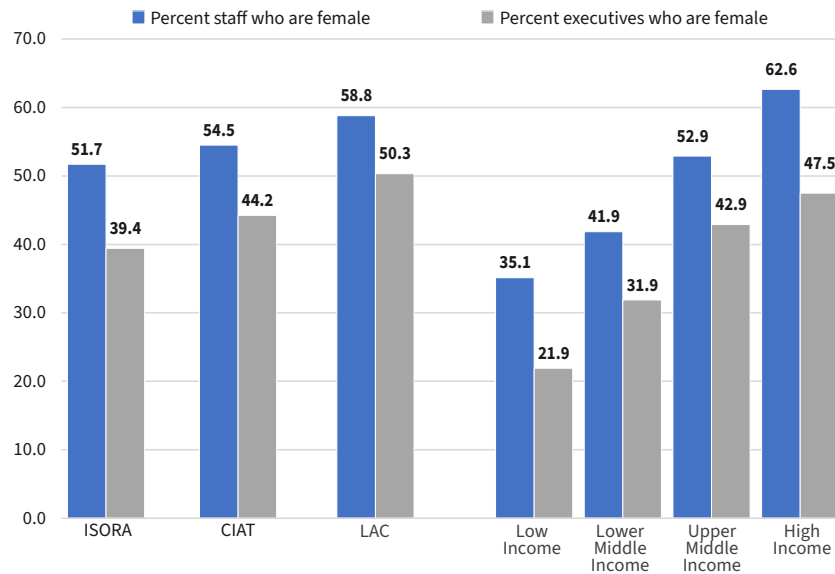


**Figure 14:** Proportion of staff with different degrees of academic training (bachelor/master) (in percentages). Simple averages for selected groups of countries. Year 2021
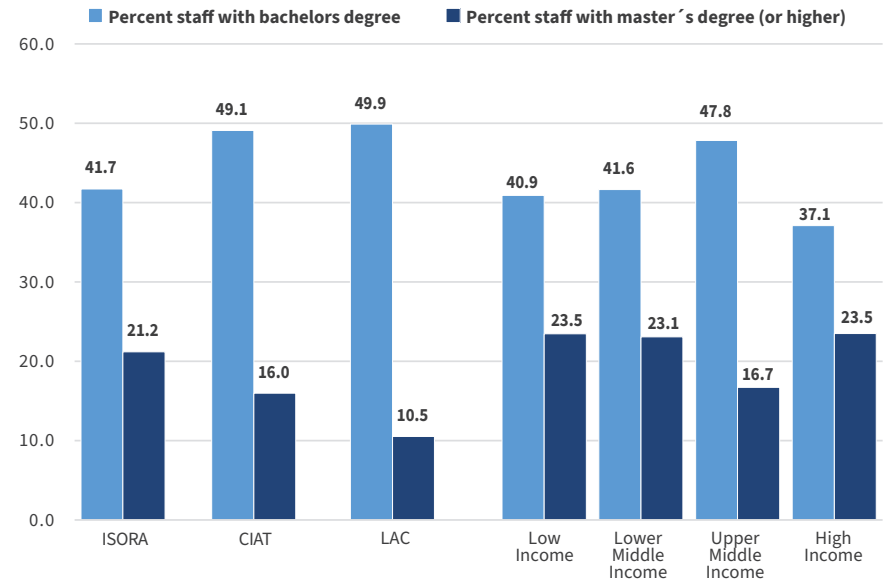


With respect to the CIAT countries, the variability is very large. The participation of women in the total workforce ranges from 15.7% in India to 87.5% in Bermuda, and in executive positions it ranges from 11.1% in Paraguay to 75% in Belize. With regard to the academic background of the staff, there are countries where the percentage of those with a master's degree or equivalent exceeds 30% (Ecuador, Italy, Morocco and Angola) while in several of them it does not reach 5% of the total (Spain, Brazil, Paraguay, Belize, Suriname, Cuba, Argentina, Portugal), as well as cases where the proportion of university graduates exceeds 70%, as seen in Brazil, Costa Rica and Nigeria (Table 22).

**Table 22:** Relative participation of female in employed personnel (FTE) and proportion of personnel with different degrees of academic training (in percentages). CIAT member countries. Year 2021

| CIAT Countries | Percent staff who are female | Percent executives who are female | Percent staff with bachelor's degree | Percent staff with master's degree (or higher) | CIAT Countries | Percent staff who are female | Percent executives who are female | Percent staff with bachelor's degree | Percent staff with master's degree (or higher) |
|---|---|---|---|---|---|---|---|---|---|
| Angola | 45.0 | 23.8 | 9.1 | 62.0 | Honduras | 59.1 | 64.3 | 56.9 | 14.8 |
| Argentina | 45.7 | 32.3 | 55.2 | 4.7 | India | 15.7 | n.a. | 56.0 | 13.5 |
| Aruba | n.a. | n.a. | n.a. | n.a. | Italy | 49.4 | 34.7 | 4.0 | 54.9 |
| Barbados | 66.3 | 60.0 | 45.6 | 18.2 | Jamaica | 75.8 | 40.0 | 43.6 | 12.3 |
| Belize | 71.0 | 75.0 | 27.3 | 3.0 | Kenya | 45.6 | 33.9 | 64.0 | 8.8 |
| Bermudas | 87.5 | 50.0 | 18.8 | 12.5 | Mexico | 54.7 | 32.3 | 67.5 | 5.3 |
| Bolivia | 58.4 | 45.2 | 68.2 | 8.6 | Morocco | 48.9 | 25.0 | 8.6 | 59.4 |
| Brazil | 35.4 | 19.0 | 83.9 | 1.6 | Netherlands | 45.0 | 39.5 | 43.7 | 25.3 |
| Canada | 58.8 | 49.0 | n.a. | n.a. | Nicaragua | 50.5 | 58.0 | 52.3 | 22.4 |
| Chile | 52.2 | 43.4 | 67.5 | 16.2 | Nigeria | 41.6 | 25.0 | 79.2 | 20.8 |
| Colombia | 56.3 | 46.1 | 63.5 | 9.4 | Panama | 64.6 | 63.6 | 41.6 | 15.0 |
| Costa Rica | 57.5 | 55.6 | 72.0 | 8.2 | Paraguay | 49.9 | 11.1 | 61.8 | 1.9 |
| Cuba | 73.9 | 70.8 | 54.5 | 4.4 | Peru | 44.3 | 40.1 | 62.2 | 12.1 |
| Dominican Rep. | 41.3 | 56.2 | 65.4 | 19.1 | Portugal | 60.4 | 43.0 | 48.3 | 4.8 |
| Ecuador | 39.2 | 47.9 | 55.0 | 39.1 | Spain | 53.1 | 35.3 | 56.5 | 0.4 |
| El Salvador | n.a. | n.a. | n.a. | n.a. | Surinam | 46.9 | n.a. | 24.8 | 4.1 |
| France | 58.2 | 28.4 | n.a. | n.a. | Trinidad and Tobago | 80.5 | 60.0 | n.a. | n.a. |
| Guatemala | 42.4 | 36.4 | 38.2 | 11.2 | United States | 64.7 | 59.9 | 22.1 | 9.2 |
| Guyana | 56.8 | 58.1 | n.a. | n.a. | Uruguay | 65.0 | 40.9 | 54.4 | 7.6 |

# 4.    Organization and operational performance

As noted above, the third block into which, for the purposes of this analysis, we have divided the results of ISORA contemplates various dimensions of organization and operational functioning. These cover the different taxpayer segmentation strategies, registration and contact channels for taxpayer services, mechanisms for filing and processing tax returns, means of effective payment of the various taxes, management of tax debts and late payments, and auditing practices for tax auditing and tax control. Following the logic of presentation and analysis developed in the previous sections, the main general results are presented below, with emphasis on the specific cases of CIAT member countries.

## 4.1  Taxpayer segmentation

Given their importance in terms of revenue collection, the main and most widespread segmentation[12] technique is constituted by special offices or programs for large taxpayers (LTOs)[13], which by the end of 2021 were present in 81% of the countries participating in ISORA, 89.5% of CIAT

countries and 81.8% of LAC countries. Moreover, the presence of LTOs is comparatively higher in low- and upper middle-income countries than in the other two groups. In terms of revenues, LTOs contribute, on average, more than half of the TA total net revenues (55%). This share is similar for the average of CIAT countries (54.3%) and higher in LAC (61.5%), and decreases with the income level of the countries, from 66.9% in low-income countries to 43.1% in high-income countries (Figure 15).

In contrast to their great importance in tax collection, LTOs account for a relatively small percentage of total staff: 7.3% for ISORA, 6.7% for CIAT, 10.5% for LAC and without an evident pattern depending on the income level of the countries. This absence of a clear pattern also occurs with respect to the weight of the number of CIT taxpayers administered through LTOs in the total number of active taxpayers of the tax: the average for low-income countries is 16.9%, 6.8% for lower middle-income, 11.2% for upper middle-income and 3.6% for high-income. This proportion is 8.5% for ISORA, almost half (4.4%) for CIAT countries and 12.9% in LAC (Table 23).

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12  Contributor segmentation strategies have been previously analyzed for previous editions of ISORA (Díaz de Sarralde Miguez, 2018a and b and 2019; Morán and Díaz de Sarralde Miguez, 2021).

13  Countries tend to define large taxpayers based on variables such as the amount of annual sales/billing, the amount of annual income, the value of assets, the level of imports and/or exports, the amount of taxes paid, and the type of economic activity (e.g., financial services or mining sector).

As for schemes of high net worth individuals (HNWI), they were implemented in 24.1% of the ISORA countries, contributing on average 3.2% of the TNR. In CIAT countries, these percentages rise to 39.5% of the countries and 4.3% of the TNR, while for LAC these figures stand at 21.2% and 1.5%, respectively. It should also be noted that the existence of these schemes, as well as their contribution to tax collection, are greater as the income level of the countries increases (Table 23).

**Table 23:**     Indicators of the main contributor segmentation programs (in percentages). Proportion of countries and simple averages for selected groups of countries. Year 2021

| Country Groups | Large Taxpayers Office (LTO) | | | | High Net Worth Individuals (HNWI) | |
|---|---|---|---|---|---|---|
| | Existing program / office | Net Revenue by LTO (in % of total) | Assigned FTEs (in % of total) | CIT Taxpayers (in % of total) | Existing program | HNWI Net Revenue (in % of total) |
| **ISORA** | **81.0** | **55.0** | **7.3** | **8.5** | **24.1** | **3.2** |
| CIAT Members | 89.5 | 54.3 | 6.7 | 4.4 | 39.5 | 4.3 |
| Latin America and the Caribbean | 81.8 | 61.5 | 10.5 | 12.9 | 21.2 | 1.5 |
| Low Income | 85.7 | 66.9 | 8.6 | 16.9 | 14.3 | n.d. |
| Lower Middle Income | 77.3 | 61.4 | 6.8 | 6.8 | 18.2 | 0.8 |
| Upper Middle Income | 88.2 | 56.1 | 8.8 | 11.2 | 21.6 | 2.0 |
| High Income | 77.8 | 43.1 | 5.4 | 3.6 | 35.2 | 6.6 |

**Figure 15:**     Existence and contribution to revenue collection of large taxpayer programs (in percentages). Proportion of countries and simple averages for selected groups of countries. Year 2021
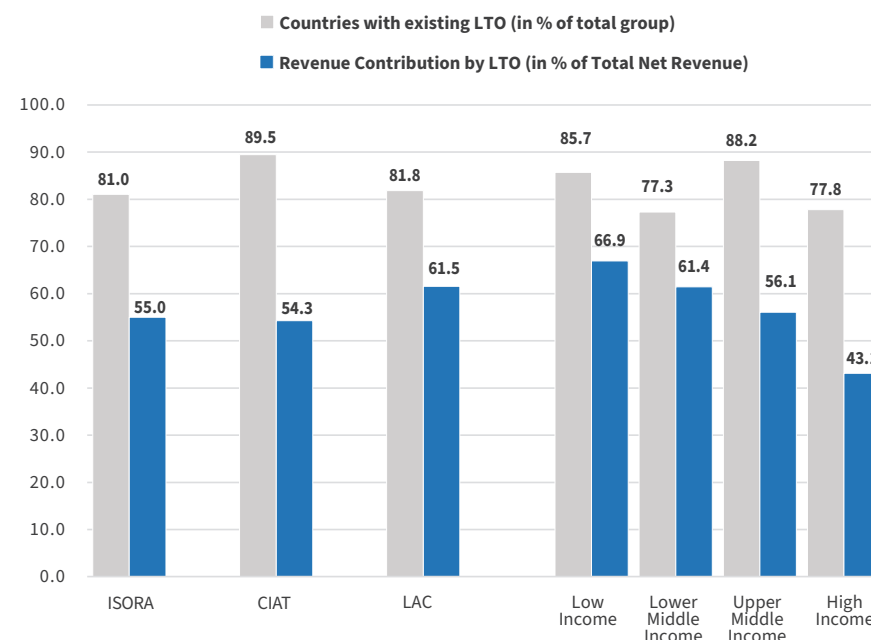


LTOs were present at the end of 2021 in all CIAT countries, except for Bermuda, Cuba, and Panama (although the latter country implemented it recently), and their contribution to collection is very significant in several of them, exceeding 70% of TNR: Guyana, Nicaragua, Peru, Jamaica, Bolivia, Kenya, and Nigeria (Table 24). By the end of 2021, HNWI schemes were present in 15 of the 38 CIAT member countries participating in ISORA, with Brazil, the United States and Spain being relatively significant in terms of the revenue involved.

**Table 24:** Indicators of the main taxpayer segmentation programs (in percentages). CIAT member countries. Year 2021

| CIAT Countries | Large Taxpayers Office (LTO) | | | | High Net Worth Individuals (HNWI) | |
|---|---|---|---|---|---|---|
| | Existing program / office | Net Revenue by LTO (in % of total) | Assigned FTEs (in % of total) | CIT Taxpayers (in % of total) | Existing program | HNWI Net Revenue (in % of total) |
| Angola | Yes | 63.0 | n.a. | 0.2 | No | n.a. |
| Argentina | Yes | 51.3 | 3.1 | 0.2 | No | n.a. |
| Aruba | n.a. | | n.a. | n.a. | n.a. | n.a. |
| Barbados | Yes | 56.6 | 6.4 | 2.4 | No | n.a. |
| Belize | Yes | n.a. | 6.1 | 0.8 | No | n.a. |
| Bermudas | No | | n.a. | n.a. | No | n.a. |
| Bolivia | Yes | 79.0 | 13.9 | n.a. | Yes | 1.0 |
| Brazil | Yes | 59.0 | 2.3 | 0.1 | Yes | 4.0 |
| Canada | Yes | 32.9 | 3.0 | 0.5 | Yes | n.a. |
| Chile | Yes | 49.6 | 4.1 | 0.0 | Yes | 0.9 |
| Colombia | Yes | 65.0 | 4.7 | 0.2 | Yes | 1.5 |
| Costa Rica | Yes | 69.0 | 11.2 | 0.3 | Yes | n.a. |
| Cuba | No | | n.a. | n.a. | No | n.a. |
| Dominican Rep. | Yes | 68.9 | 5.1 | 0.2 | No | n.a. |
| Ecuador | Yes | 52.0 | 9.9 | 0.2 | Yes | 0.2 |
| El Salvador | Yes | 62.8 | n.a. | 2.2 | No | n.a. |
| France | Yes | n.a. | 2.4 | 1.7 | Yes | n.a. |
| Guatemala | Yes | 43.0 | 9.6 | 0.4 | No | n.a. |
| Guyana | Yes | 70.0 | 8.6 | 2.4 | No | n.a. |
| Honduras | Yes | 57.4 | 14.0 | 0.5 | No | n.a. |
| India | Yes | 0.2 | n.a. | 0.6 | No | n.a. |
| Italy | Yes | 28.1 | 2.1 | 0.1 | Yes | n.a. |
| Jamaica | Yes | 77.0 | 7.5 | 7.1 | Yes | n.a. |
| Kenya | Yes | 79.0 | 6.4 | 0.3 | Yes | 3.4 |
| Mexico | Yes | 58.0 | 4.5 | 0.3 | No | n.a. |
| Morocco | Yes | 68.0 | 3.2 | n.a. | No | n.a. |
| Netherlands | Yes | 67.0 | 11.7 | 1.3 | Yes | n.a. |
| Nicaragua | Yes | 74.1 | n.a. | 1.7 | No | n.a. |
| Nigeria | Yes | 81.0 | 12.7 | 0.7 | No | n.a. |
| Panama | No | | n.a. | n.a. | No | n.a. |
| Paraguay | Yes | 61.0 | n.a. | 0.1 | No | n.a. |
| Peru | Yes | 74.8 | 12.0 | 1.1 | No | n.a. |
| Portugal | Yes | 39.6 | 2.2 | 0.5 | Yes | n.a. |
| Spain | Yes | 32.1 | 3.9 | 0.1 | Yes | 12.8 |
| Surinam | Yes | n.a. | 10.7 | 97.9 | No | n.a. |
| Trinidad and Tobago | Yes | 7.8 | 3.5 | 11.8 | No | n.a. |
| United States | Yes | 11.7 | 3.8 | n.a. | Yes | 10.3 |
| Uruguay | Yes | 43.9 | 5.7 | 0.2 | No | n.a. |

## 4.2 Taxpayer registration

ISORA also provides detailed information about the different registration channels available to taxpayers. The results for 2021 show that in-person registration is still the main channel (87.9%) among the countries participating in the survey (Table 25). However, the availability of digital channels (online or through applications) has grown significantly compared to paper registration by postal mail; 65.5% of the countries offer the computerized alternative, compared to 43.1% for paper[14].

CIAT countries exceed the average adoption of online computerized registration (73.7%), while LAC countries are slightly below (63.6%). By income level, there are large differences in the adoption of these new online technologies, which are present in 88.9% of high-income countries, but only 38.1% of low-income countries. The higher percentages in all channels, except in-person, shown by high-income countries reflect the existing gaps with respect to lower-income countries (Figure 16).

**Table 25:** Availability of alternative channels for taxpayer registration (in percentages). Simple averages for selected groups of countries. Year 2021

| Country Groups | Online | Telephone | E-mail | Mail / Post | In-person | Other |
|---|---|---|---|---|---|---|
| **ISORA** | **65.5** | **37.4** | **48.9** | **43.1** | **87.9** | **30.5** |
| CIAT Members | 73.7 | 42.1 | 55.3 | 26.3 | 94.7 | 39.5 |
| Latin America and the Caribbean | 63.6 | 36.4 | 54.5 | 24.2 | 93.9 | 39.4 |
| Low Income | 38.1 | 19.0 | 23.8 | 28.6 | 81.0 | 33.3 |
| Lower Middle Income | 50.0 | 34.1 | 54.5 | 34.1 | 90.9 | 29.5 |
| Upper Middle Income | 70.6 | 37.3 | 51.0 | 37.3 | 94.1 | 31.4 |
| High Income | 88.9 | 50.0 | 55.6 | 64.8 | 88.9 | 31.5 |

14  Different registration channels may not be available for all taxes or taxpayer segments.

**Figure 16:** Availability of main taxpayer registration channels (online and in-person) (in percentages). Simple averages for selected groups of countries. Year 2021
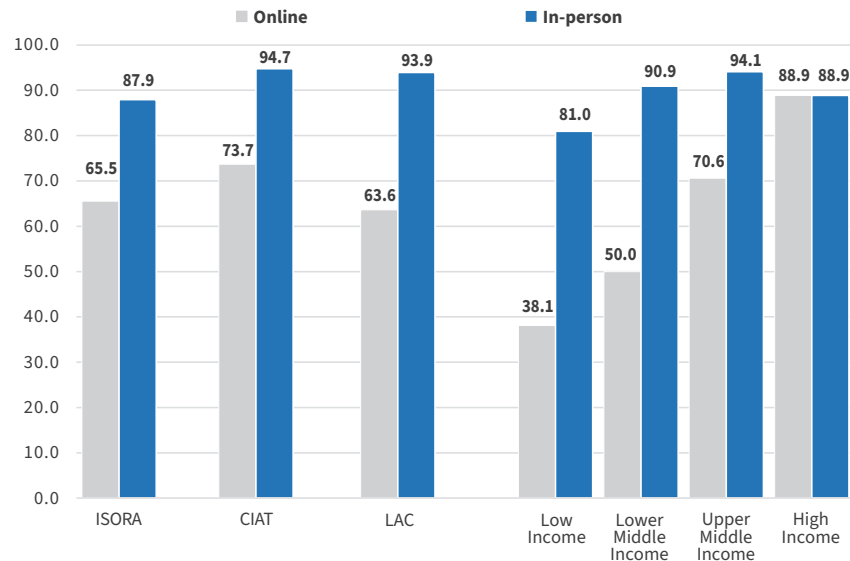


The data disaggregated by CIAT member country indicate that the in-person channel is available in all cases, except in Suriname. The online channel is next in importance, with presence in 28 of the 38 CIAT members participating in the survey, followed by the telephone channel, available in 16 countries (Table 26).

**Table 26:** Availability of alternative channels for taxpayer registration. CIAT member countries. Year 2021

| CIAT Countries | Online | Telephone | E-mail | Mail / Post | In-person | Other |
|---|---|---|---|---|---|---|
| Angola | Yes | Yes | Yes | No | Yes | No |
| Argentina | Yes | Yes | No | No | Yes | No |
| Aruba | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Barbados | Yes | No | No | No | Yes | No |
| Belize | No | No | No | No | Yes | No |
| Bermudas | No | No | Yes | Yes | Yes | No |
| Bolivia | No | No | No | No | Yes | Yes |
| Brazil | Yes | No | Yes | No | Yes | No |
| Canada | Yes | Yes | No | Yes | Yes | Yes |
| Chile | Yes | No | No | No | Yes | No |
| Colombia | Yes | No | Yes | No | Yes | Yes |
| Costa Rica | Yes | No | No | No | Yes | Yes |
| Cuba | No | Yes | Yes | Yes | Yes | No |
| Dominican Rep. | Yes | Yes | Yes | No | Yes | No |
| Ecuador | Yes | No | No | No | Yes | Yes |
| El Salvador | Yes | Yes | Yes | No | Yes | Yes |
| France | Yes | No | Yes | Yes | Yes | No |
| Guatemala | Yes | No | No | No | Yes | No |
| Guyana | Yes | Yes | Yes | Yes | Yes | Yes |
| Honduras | No | No | Yes | No | Yes | No |
| India | Yes | Yes | Yes | Yes | Yes | Yes |
| Italy | Yes | Yes | Yes | No | Yes | Yes |
| Jamaica | Yes | No | No | No | Yes | No |
| Kenya | Yes | No | Yes | No | Yes | No |
| Mexico | Yes | Yes | Yes | No | Yes | Yes |
| Morocco | No | No | Yes | No | Yes | No |
| Netherlands | Yes | No | No | Yes | Yes | No |
| Nicaragua | No | No | No | No | Yes | No |
| Nigeria | Yes | No | Yes | Yes | Yes | Yes |
| Panama | Yes | Yes | Yes | Yes | Yes | Yes |
| Paraguay | No | Yes | Yes | No | Yes | No |
| Peru | Yes | Yes | No | No | Yes | Yes |
| Portugal | Yes | Yes | Yes | No | Yes | No |
| Spain | Yes | Yes | No | No | Yes | Yes |
| Surinam | No | No | Yes | No | No | No |
| Trinidad and Tobago | Yes | No | No | No | Yes | No |
| United States | Yes | Yes | No | Yes | Yes | No |
| Uruguay | Yes | No | Yes | No | Yes | Yes |

## 4.3 Contact channels for taxpayer services

In addition to registration, there has been a growing emphasis in recent years on the importance of facilitating and improving communication contacts between taxpayers and TAs. According to the results of the ISORA survey, 71.3% of TAs monitor incoming contacts with a view to improving existing channels and exploring the introduction of new ones. This percentage was even higher (86.8%) in CIAT and LAC countries (78.8%) (Table 27). By income, this monitoring is more frequent in high-income (83.3%) and upper middle-income (72.5%) countries than in low-income (66.7%) and lower middle-income (59.%) countries.

In terms of the availability of different communication channels, in recent years digital channels (online, e-mail and digital assistance) have increased their presence in many countries, complementing or even replacing traditional channels such as telephone, in-person or paper (postal mail). This was already the case before the COVID-19 pandemic, which has accelerated this trend towards digital media.

On average for the countries participating in ISORA, the telephone channel accounted for the highest percentage of incoming contacts (35.2% of the total), followed by online (26.5%), which has already overtaken in-person procedure(18.1%), contrary to the previous edition of ISORA. On the other hand, the relative participation of digital attendance, e-mail, and postal mail (paper) is low. In both CIAT and LAC, on average, the three main channels coincide, although "online" communication is the first (35.4% in CIAT and 32.6% in LAC). On the other hand, clear patterns are only observed according to income level in face-to-face communications

(decreasing with income level) and telephone (increasing) (Table 27).

If digital channels (online, digital assistance and e-mail) are considered together, these being more innovative and efficient in terms of resources required, on average in ISORA they had already surpassed the "telephone/paper" set as the main channel for taxpayer service communication. This is even clearer in CIAT and LAC (Figure 17).

**Table 27:** Use of different contact channels for taxpayer services (in percentages). Proportion of countries and simple averages for selected groups of countries. Year2021

| Country Groups | AT monitors incoming contacts (in %) | Online via taxpayer account | Digital assistance (e.g. chat) | Telephone call | E-mail | Mail / post | In-person |
|---|---|---|---|---|---|---|---|
| **ISORA** | **71.3** | **26.5** | **7.1** | **35.2** | **8.3** | **4.7** | **18.1** |
| CIAT Members | 86.8 | 35.4 | 6.1 | 28.5 | 9.9 | 1.7 | 18.4 |
| Latin America and the Caribbean | 78.8 | 32.6 | 7.0 | 24.5 | 12.5 | 1.0 | 22.4 |
| Low Income | 66.7 | 20.7 | 5.1 | 23.9 | 8.0 | 0.0 | 42.3 |
| Lower Middle Income | 59.1 | 14.2 | 9.9 | 27.1 | 11.2 | 13.2 | 24.4 |
| Upper Middle Income | 72.5 | 28.1 | 6.8 | 34.9 | 7.9 | 2.5 | 19.8 |
| High Income | 83.3 | 33.3 | 6.3 | 40.7 | 7.0 | 3.1 | 9.5 |

**Figure 17:** Use of different contact channels for taxpayer services (in percentages). Proportion of countries and simple averages for selected groups of countries. Year 2021
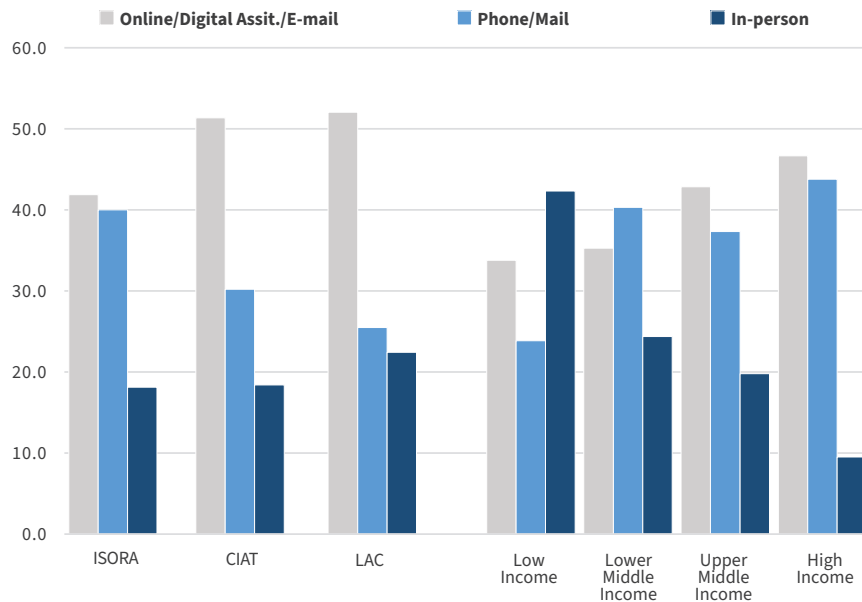


By CIAT member countries, the monitoring of incoming contacts by service is a widespread practice in 33 of the 38 countries participating in ISORA (Table 28). As for the most used contact channels, although there is a wide variety of situations, the existence of some countries with a clear orientation towards online digital communication (Brazil, Ecuador, the United States, Spain, Panama, and the Dominican Republic account for more than 90% of all incoming contacts) contrasts sharply with others where in-person communication still predominates (more than 90% of the total in Jamaica and Nicaragua).

**Table 28:**  Use of different contact channels for taxpayer services (in percentages). CIAT member countries. Year2021

| CIAT Countries | AT monitors incoming contacts (in %) | Online via taxpayer account | Digital assistance (e.g. chat) | Telephone call | E-mail | Mail / post | In-person |
|---|---|---|---|---|---|---|---|
| Angola | Yes | 0.0 | 0.0 | 71.0 | 29.0 | 0.0 | 0.0 |
| Argentina | Yes | 54.9 | 0.1 | 11.3 | 20.3 | 0.0 | 13.4 |
| Aruba | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Barbados | Yes | 3.0 | 0.0 | 37.0 | 10.0 | 0.0 | 50.0 |
| Belize | No | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Bermudas | No | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Bolivia | Yes | 0.0 | 9.6 | 23.2 | 0.3 | 0.0 | 67.0 |
| Brazil | Yes | 96.8 | 1.2 | 0.0 | 1.0 | 0.0 | 0.9 |
| Canada | Yes | 41.5 | 2.3 | 56.1 | 0.0 | 0.1 | 0.0 |
| Chile | Yes | 50.1 | 1.1 | 35.6 | 0.0 | 0.0 | 13.2 |
| Colombia | Yes | 0.0 | 29.0 | 36.8 | 7.5 | 0.0 | 26.6 |
| Costa Rica | Yes | 19.6 | 24.7 | 22.7 | 10.4 | 11.8 | 10.8 |
| Cuba | Yes | 0.0 | 0.0 | 11.0 | 64.8 | 0.0 | 24.3 |
| Dominican Rep. | Yes | 97.9 | 0.0 | 1.1 | 0.0 | 0.2 | 0.7 |
| Ecuador | Yes | 97.4 | 0.0 | 0.7 | 0.0 | 0.0 | 1.9 |
| El Salvador | Yes | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| France | Yes | 27.0 | 3.6 | 34.3 | 23.9 | 0.0 | 11.2 |
| Guatemala | Yes | 0.0 | 16.0 | 66.2 | 17.8 | 0.0 | 0.0 |
| Guyana | Yes | 18.8 | 0.0 | 66.8 | 3.7 | 0.0 | 10.7 |

| CIAT Countries | AT monitors incoming contacts (in %) | Online via taxpayer account | Digital assistance (e.g. chat) | Telephone call | E-mail | Mail / post | In-person |
|---|---|---|---|---|---|---|---|
| Honduras | Yes | 12.4 | 10.0 | 21.3 | 3.1 | 0.0 | 53.2 |
| India | Yes | 0.3 | 1.4 | 92.2 | 5.3 | 0.9 | 0.0 |
| Italy | Yes | 53.5 | 1.0 | 23.9 | 0.8 | 0.0 | 20.8 |
| Jamaica | Yes | 0.9 | 0.0 | 5.5 | 0.8 | 0.0 | 92.8 |
| Kenya | Yes | 7.1 | 8.9 | 8.6 | 9.6 | 0.0 | 65.8 |
| Mexico | Yes | 0.0 | 71.1 | 28.3 | 0.1 | 0.0 | 0.5 |
| Morocco | Yes | 0.0 | 3.7 | 60.3 | 35.9 | 0.0 | 0.0 |
| Netherlands | Yes | 0.0 | 0.0 | 58.9 | 0.0 | 41.1 | 0.0 |
| Nicaragua | Yes | 5.6 | 0.0 | 3.5 | 0.0 | 0.0 | 90.9 |
| Nigeria | Yes | 0.0 | 0.0 | 35.4 | 61.7 | 0.0 | 3.0 |
| Panama | Yes | 96.4 | 1.1 | 1.2 | 0.4 | 0.3 | 0.7 |
| Paraguay | No | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Peru | Yes | 81.5 | 3.1 | 8.8 | 0.0 | 0.0 | 6.6 |
| Portugal | Yes | 33.3 | 5.9 | 39.3 | 0.0 | 0.0 | 21.5 |
| Spain | Yes | 96.0 | 0.4 | 2.4 | 0.0 | 0.0 | 1.3 |
| Surinam | No | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Trinidad and Tobago | Yes | 55.2 | 0.0 | 38.4 | 6.4 | 0.0 | 0.0 |
| United States | Yes | 92.2 | 0.2 | 6.7 | 0.0 | 0.9 | 0.1 |
| Uruguay | Yes | 90.9 | 1.1 | 3.2 | 3.6 | 0.0 | 1.3 |

## 4.4 Filing of tax returns

In relation to the procedures for filing returns, ISORA collects information on compliance with filing within the stipulated time limits and returns filed through electronic channels (Table 29). It should be clarified that, according to information from previous editions of the survey, electronic filing is legally mandatory in several countries (for all or some taxpayers) and is much more frequent in high-income countries and in most CIAT countries (Díaz de Sarralde Miguez, 2019).

In all the ISORA countries, the percentages of timely returns, understood as those made within the deadlines stipulated by law[15], are 62.9% for CIT, 67.8% for PIT and 75% for VAT. The same proportions are for CIAT countries: 64.6% for CIT, 71.9% for PIT and 68.9% for VAT. For the LAC average, the figures are much lower than the global averages. By income level, there is a clear positive relationship with income level, both in the CIT, as well as in the PIT and the VAT (Figure 18).

Regarding tax returns filed through electronic channels - by their different possible1[16] modalities - the overall ISORA averages are 72.8% for CIT, 79.2% for PIT and 68.5% for VAT (Figure 19). These percentages increase for the three taxes mentioned in the CIAT countries (87.4%,

91.6% and 87.7%, respectively), while for LAC they are lower, except for VAT. Again, the differences by income level are very evident: electronic filing reaches proportions of 36% for CIT, 48.4% for PIT and 32.3% for VAT in low-income countries, in contrast to 87.2% (CIT), 90.9% (PIT) and 80.3% (VAT) in high-income countries. It should be noted, however, that since the previous edition of ISORA, low-income countries have made very significant progress.

**Table 29:** Indicators of (on-time/electronic) filing of tax returns (in percentages). Simple averages for selected groups of countries. Year 2021

| Country Groups | On-time filling rate (in %) | | | Electronic filling rate (in %) | | |
|---|---|---|---|---|---|---|
| | CIT | PIT | VAT | CIT | PIT | VAT |
| **ISORA** | **62.9** | **67.8** | **75.0** | **72.8** | **79.2** | **68.5** |
| CIAT Members | 64.6 | 71.9 | 68.9 | 87.4 | 91.6 | 87.7 |
| Latin America and the Caribbean | 54.6 | 60.7 | 63.3 | 70.1 | 75.2 | 69.1 |
| Low Income | 51.1 | 38.8 | 65.5 | 36.0 | 8.4 | 32.3 |
| Lower Middle Income | 58.7 | 63.5 | 68.6 | 64.9 | 64.8 | 53.2 |
| Upper Middle Income | 62.4 | 68.4 | 75.2 | 72.2 | 80.2 | 75.3 |
| High Income | 73.4 | 83.1 | 82.7 | 87.2 | 90.9 | 80.3 |

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15 In order to measure the proportion of timely filings, "expected tax returns" are defined as the estimated number of returns that the tax administration expects to receive from registered taxpayers who are required by law to make such filings in a given tax year.

16 In contrast to tax returns filed on paper (e.g., completed at the tax office, sent by post, scanned and sent by e-mail, etc.), electronic tax returns can be (i) pre-filled by the TA in full, with presumption of acceptance, (ii) pre-filled in full, requiring confirmation by the taxpayer, (iii) pre-filled in part with information on income and/or expenses, or (iv) not pre-filled.

**Figure 18:** Proportion of on-time filed tax returns (in percentages). Simple averages for selected groups of countries. Year 2021
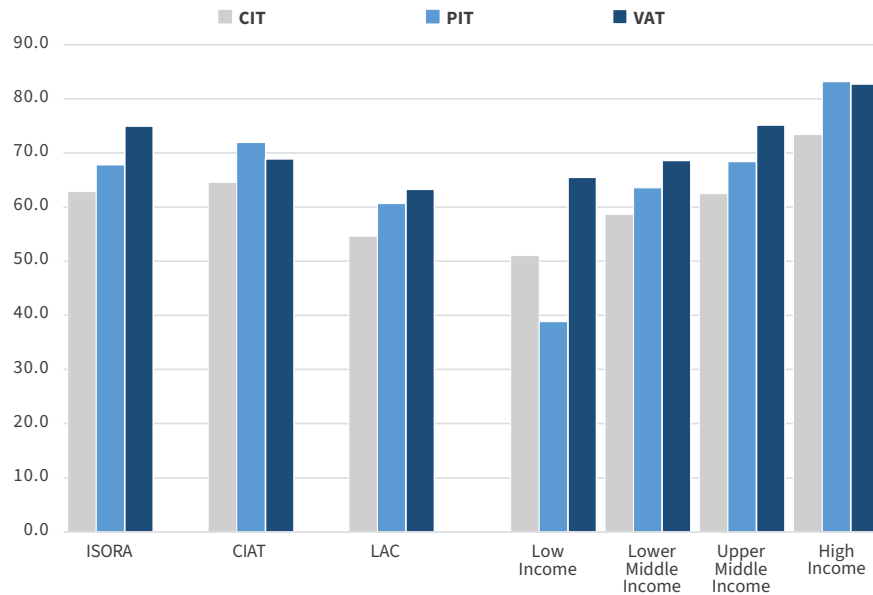


**Figure 19:** Proportion of tax returns filed through electronic channels (in percentages). Simple averages for selected groups of countries. Year 2021
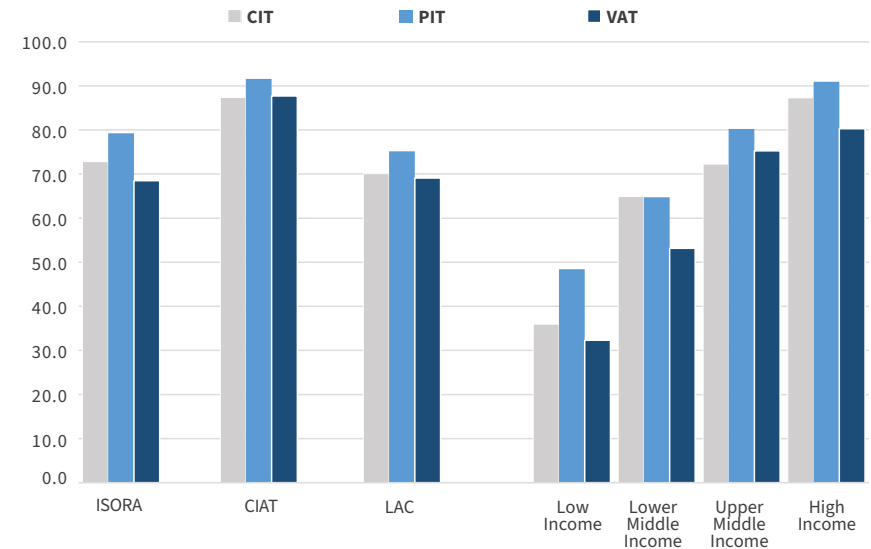


At the individual CIAT country level, the percentages of on-time filings are very different among them and among the three main taxes (Table 30). There are some cases with figures above 90% (France, India, Cuba, El Salvador, the Netherlands or Portugal). On the other hand, the implementation of electronic filing in CIAT countries is very high; in fact, in a significant number of them it reaches 100% (Argentina, Barbados, Brazil, Colombia, Costa Rica, Ecuador, Spain, among others).

**Table 30:** Tax return filing indicators (on-time/electronic) (in percentages). CIAT member countries. Year 2021

| CIAT Countries | On-time filling rate (in %) | | | Electronic filling rate (in %) | | |
|---|---|---|---|---|---|---|
| | CIT | PIT | VAT | CIT | PIT | VAT |
| Angola | 12.7 | n.a. | 75.3 | n.a. | n.a. | n.a. |
| Argentina | 31.6 | 47.0 | 78.4 | 100.0 | 100.0 | 100.0 |
| Aruba | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Barbados | 53.5 | 37.7 | 42.6 | 100.0 | 100.0 | 100.0 |
| Belize | 67.1 | 60.8 | 65.3 | 0.0 | 0.0 | 0.0 |
| Bermudas | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Bolivia | 84.7 | 85.3 | 94.2 | 100.0 | 99.8 | 99.8 |
| Brazil | n.a. | 106.5 | n.a. | 100.0 | 100.0 | 100.0 |
| Canada | 80.7 | 85.8 | 56.2 | 94.2 | 90.2 | 94.7 |
| Chile | 78.6 | n.a. | 78.1 | 99.9 | 100.0 | 100.0 |
| Colombia | 93.7 | 98.8 | n.a. | 100.0 | 93.8 | 100.0 |
| Costa Rica | 38.6 | 64.5 | 56.8 | 100.0 | 100.0 | 100.0 |
| Cuba | 96.2 | 95.0 | n.a. | 0.0 | 0.0 | n.a. |
| Dominican Rep. | 70.9 | 64.1 | 46.7 | 99.0 | 94.4 | 99.3 |
| Ecuador | 40.3 | 59.3 | 56.0 | 100.0 | 100.0 | 100.0 |
| El Salvador | 97.7 | 97.4 | 86.1 | 100.0 | 100.0 | 100.0 |
| France | 92.8 | 99.1 | 89.6 | 93.6 | 87.4 | n.a. |
| Guatemala | 68.8 | 97.8 | 66.1 | n.a. | n.a. | n.a. |
| Guyana | 19.8 | 28.7 | 41.7 | 5.4 | 4.3 | 16.6 |

| CIAT Countries | On-time filling rate (in %) | | | Electronic filling rate (in %) | | |
|---|---|---|---|---|---|---|
| | CIT | PIT | VAT | CIT | PIT | VAT |
| Honduras | 78.4 | 59.8 | 71.4 | 88.7 | 87.1 | 95.2 |
| India | 92.7 | 88.6 | 51.4 | 100.0 | n.a. | 100.0 |
| Italy | n.a. | n.a. | n.a. | 100.0 | 100.0 | 100.0 |
| Jamaica | 44.4 | 25.8 | 77.9 | 100.0 | 100.0 | 100.0 |
| Kenya | 35.8 | 27.2 | 49.3 | 100.0 | 100.0 | 100.0 |
| Mexico | 39.6 | 36.9 | n.a. | 100.0 | 100.0 | n.a. |
| Morocco | n.a. | n.a. | n.a. | 99.9 | 96.7 | 100.0 |
| Netherlands | 96.2 | 98.5 | 95.1 | 100.0 | 98.4 | 100.0 |
| Nicaragua | 55.4 | 55.8 | 58.6 | 100.0 | 100.0 | 100.0 |
| Nigeria | 97.0 | 92.5 | 96.7 | n.a. | n.a. | n.a. |
| Panama | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Paraguay | 35.9 | 70.0 | 59.6 | 100.0 | 99.8 | 100.0 |
| Peru | 91.6 | 78.2 | 90.7 | 100.0 | 100.0 | 100.0 |
| Portugal | 98.3 | 96.8 | 94.9 | 100.0 | 100.0 | 100.0 |
| Spain | n.a. | 100.3 | n.a. | 100.0 | 100.0 | 100.0 |
| Surinam | 75.7 | 72.3 | n.a. | n.a. | n.a. | n.a. |
| Trinidad and Tobago | 47.6 | 27.5 | 34.4 | 99.9 | 100.0 | 99.6 |
| United States | 29.4 | 102.2 | n.a. | 71.0 | 90.0 | n.a. |
| Uruguay | 56.0 | 69.7 | 78.2 | 56.3 | 89.2 | 67.9 |

## 4.5 Effective payment of taxes

Regarding the payment of taxes, ISORA includes data on timely payment, i.e. effective compliance in due time and form of the tax obligation, and digital tools to facilitate such payment. Regarding the former, for the average in ISORA, payment on time reaches 81.5% in CIT, 73.8% in PIT and 83.1% in VAT. For CIAT countries the averages are 83.5% (CIT), 67% (PIT) and 83.9% (VAT) and for LAC 77.3%, 58.6% and 82.1%, respectively

(Table 31). No clear pattern can be observed by income level, although low-income countries do show notably lower figures for PIT and VAT than the other groups (Table 31).

Regarding the incorporation of digital tools to facilitate tax payments, the relative proportions of payment through electronic channels (e.g., through electronic wallets) reaches a global average in ISORA of 68.8%, for payments, and 75.5%, for their value within the total collection,

which is a significant increase over the previous edition of ISORA[17]. CIAT member countries show a high implementation of digital channels for tax payments: 71.5% of the amount of payments received and 82% of the value, which also implies a significant increase over the previous survey (Figure 21). The LAC region, on the other hand, exhibits much lower average values (43.1% and 61.9%, respectively), although also increasing. By income level, although there is a clear gap, it has narrowed sharply with respect to the previous edition of ISORA, as the lower income countries have strongly increased their electronic payment percentages. In the previous edition of ISORA, the difference between these countries and high-income countries was 44 points in quantity and 36.6 in value. In this edition those differences have dropped to 27.8 and 10.1 points, respectively.

An additional indicator that emerges from ISORA is the use of withholding tax mechanisms for the payment of the PIT, which is an advantage in terms of administrative costs and reduction of tax evasion (Table 31). For the ISORA countries, the global average of the proportion of this tax withheld at source is 67.8%; for CIAT countries it is even higher (76.5%); and for LAC countries it is somewhat lower (64.9%). There is also a positive relationship between this indicator and the income level of the different countries: 55.7% in low-income countries, 60.7% in lower middle-income countries, 66.9% in upper middle-income countries and 79.1% in high-income countries. It should also be noted that both the overall average and the CIAT and LAC averages have increased with respect to the previous edition of ISORA and that, as was the case with electronic payment, there has been a significant convergence of the lower-income countries towards the levels of the high-income countries.

**Table 31:**    Indicators of actual tax payments (in percentages). Simple averages for selected groups of countries. Year 2021

| Country Groups | On-time payment rate (in %) | | | Electronic payment proportion (in %) | | Estimated percentage of PIT withheld by third parties |
|---|---|---|---|---|---|---|
| | CIT | PIT | VAT | Amount | Value | |
| **ISORA** | **81.5** | **73.8** | **83.1** | **68.8** | **75.5** | **67.8** |
| CIAT Members | 83.5 | 67.0 | 83.9 | 71.5 | 82.0 | 76.5 |
| Latin America and the Caribbean | 77.3 | 58.6 | 82.1 | 53.1 | 61.9 | 64.9 |
| Low Income | 79.8 | 59.0 | 68.6 | 51.3 | 69.3 | 55.7 |
| Lower Middle Income | 82.7 | 82.8 | 84.4 | 67.0 | 76.4 | 60.7 |
| Upper Middle Income | 79.9 | 70.3 | 85.9 | 63.1 | 72.8 | 66.9 |
| High Income | 84.8 | 76.0 | 85.0 | 79.1 | 79.4 | 79.1 |

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17  Electronic payment channels may not be available for all taxes or taxpayer segments.

**Figure 20:** Proportion of tax payments made on time or within expected time periods (in percentages). Simple averages for selected groups of countries. Year 2021
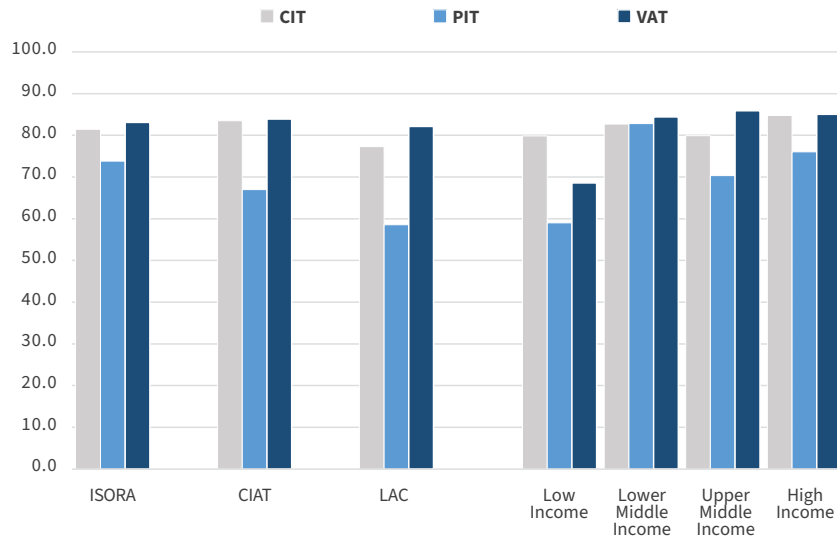


**Figure 21:** Share of tax payments (amount/value) made through electronic means (in percentages). Simple averages for selected groups of countries. Year 2021
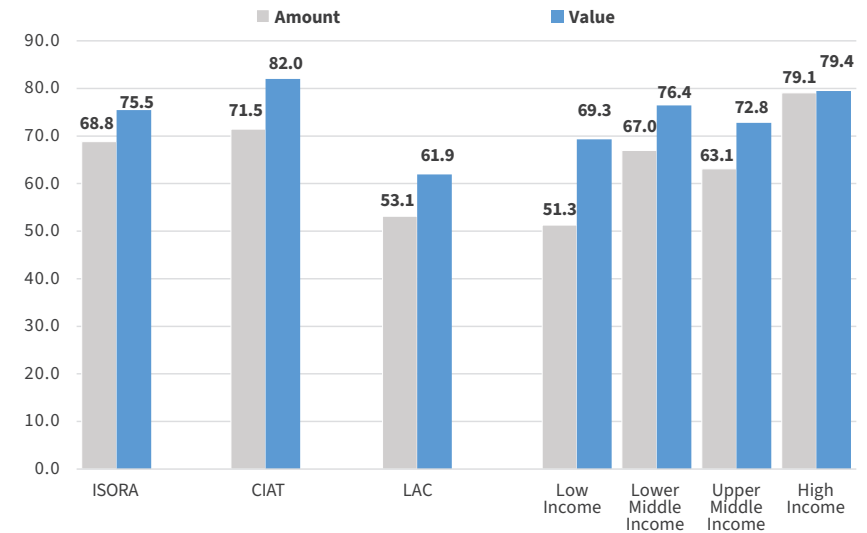


In the individualized data by CIAT countries, the percentage of payment on time varies notably among them, with quite a few cases standing out with figures that hover around or exceed 90% in the three taxes: Honduras, El Salvador, Spain, Guatemala, Uruguay, Jamaica, Nigeria and the Netherlands. As for payment through electronic channels, there are also cases with a very high degree of adoption, especially in Guatemala, Bolivia, Kenya, Spain, Nigeria, the Netherlands, and Angola, where 100% of payments are made online. As regards the percentage of PIT collected through withholding taxes, despite the diversity of situations, in some CIAT countries they are very widespread, as in Uruguay, Brazil, the Dominican Republic, the Netherlands, Angola, Guatemala, Jamaica, Kenya and Nigeria (Table 32).

**Table 32:** Indicators of effective tax payment (in percentages). CIAT member countries. Year 2021

| CIAT Countries | On-time payment rate (in %) | | | Electronic payment proportion (in %) | | Estimated percentage of PIT withheld by third parties |
|---|---|---|---|---|---|---|
| | CIT | PIT | VAT | Amount | Value | |
| Angola | n.a. | n.a. | 40.1 | 100.0 | 100.0 | 98.0 |
| Argentina | 81.9 | 54.9 | 78.6 | 81.8 | 98.6 | 84.5 |
| Aruba | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Barbados | 98.5 | 51.8 | 80.3 | 74.2 | 43.8 | 88.7 |
| Belize | 62.3 | 2.0 | 78.5 | n.a. | n.a. | n.a. |
| Bermudas | n.a. | n.a. | n.a. | 69.2 | 95.1 | n.a. |
| Bolivia | 61.0 | 59.3 | 75.7 | 100.0 | 100.0 | 1.0 |
| Brazil | 76.7 | 72.1 | 70.2 | 81.8 | 92.0 | 92.7 |
| Canada | 83.2 | 98.0 | n.a. | 87.8 | 90.6 | n.a. |
| Chile | n.a. | n.a. | n.a. | n.a. | n.a. | 83.1 |
| Colombia | n.a. | n.a. | n.a. | 61.3 | 54.0 | 80.6 |
| Costa Rica | 29.2 | 25.0 | 44.7 | 99.0 | 99.0 | 88.3 |
| Cuba | n.a. | n.a. | n.a. | 43.0 | 48.0 | 31.0 |
| Dominican Rep. | 66.2 | 38.6 | 94.8 | n.a. | n.a. | 93.0 |
| Ecuador | 84.5 | 52.2 | 89.8 | 71.6 | 96.8 | 86.0 |
| El Salvador | 100.0 | 100.0 | 100.0 | n.a. | n.a. | 89.2 |
| France | n.a. | 91.5 | 98.5 | n.a. | 99.0 | 78.2 |
| Guatemala | 97.9 | 94.2 | 98.5 | 100.0 | 100.0 | 98.8 |
| Guyana | 91.0 | 88.7 | 74.6 | 4.0 | 12.0 | 18.0 |
| Honduras | 92.4 | 83.0 | 97.2 | 62.0 | 71.0 | 89.0 |
| India | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Italy | n.a. | n.a. | n.a. | 72.9 | 97.5 | 85.0 |
| Jamaica | 94.3 | 43.1 | 98.3 | 20.0 | 81.0 | 100.0 |
| Kenya | 78.7 | 63.0 | 89.6 | 100.0 | 100.0 | 100.0 |
| Mexico | 79.4 | 80.6 | n.a. | 47.0 | 99.0 | 46.9 |
| Morocco | n.a. | n.a. | n.a. | 83.0 | 91.0 | 78.0 |
| Netherlands | 98.4 | 97.2 | 99.4 | 100.0 | 100.0 | 97.6 |
| Nicaragua | 84.9 | 56.2 | 100.0 | 69.0 | n.a. | 12.0 |
| Nigeria | 96.8 | 100.0 | 97.3 | 100.0 | 100.0 | 100.0 |
| Panama | n.a. | n.a. | n.a. | 81.0 | 63.0 | n.a. |
| Paraguay | 81.3 | 90.3 | 66.0 | 99.7 | 94.2 | n.a. |
| Peru | 89.4 | 46.0 | 95.2 | 64.1 | 85.0 | 86.0 |
| Portugal | n.a. | n.a. | 95.5 | 97.0 | 97.0 | 81.8 |
| Spain | 93.7 | 93.5 | 94.7 | 100.0 | 100.0 | 74.8 |
| Surinam | n.a. | n.a. | n.a. | 41.0 | 69.0 | n.a. |
| Trinidad and Tobago | 88.7 | 5.8 | 41.7 | 2.6 | 29.8 | n.a. |
| United States | n.a. | n.a. | n.a. | n.a. | n.a. | 66.8 |
| Uruguay | 94.1 | 88.2 | 98.6 | 30.9 | 53.4 | 90.4 |

## 4.6 Tax debts and arrears

ISORA also contains information on the management and regularization of tax debts and arrears, in particular, three indicators stand out that contemplate the magnitude of tax[18] debts or arrears, the percentage "collectable"[19] and the variation of tax debt between 2020 and 2021 (Table 33). First, the averages for the levels of debts and arrears, as percentages of collection, differ among the three taxes considered, being somewhat higher in the CIT (35.6% of levy collection) than in the other taxes (16.6% in PIT; 26.9% in VAT) or than in the total TNR (31.5%). The values in both CIAT and LAC are higher in the three taxes and in the total. In fact, in LAC the total tax debt is almost double that of the ISORA average. By income group, the only clear pattern is that in the PIT the debt decreases very rapidly as the country's income level increases (Figure 23).

The proportion of "collectable debt" is close to 60% for ISORA countries, with somewhat lower percentages for CIAT and LAC countries, with no clear pattern by income level either. Finally, and on average for the countries included in ISORA, outstanding debt receivable experienced a 4.1% drop in 2021 compared to 2020, which may be influenced by the circumstances of the COVID -19 crisis. This drop is somewhat smaller for CIAT (-3.2%) and LAC (-1.1%) countries. By income level, while debt increased in low-income countries, the opposite was true for the rest of the groups (Figure 22).

It should be noted, however, that the above figures should be taken with caution, given the relatively low response rate in the survey in this section and the different methods of recording and valuation -especially of tax debts- existing in the different countries, which sometimes makes them difficult to compare.

**Table 33:** Tax arrears (as percentages of TNR by item), collectable debt (as percentages of total), and change in debt-to-TNR ratio 2019/2018 (as percentages). Simple averages for selected groups of countries. Year 2021

| Country Groups | Arrears in relation to collection (in %) | | | | Collectable TNR Arrears (in % of total arrears) | Change in TNR Arrears 2019/2018 (in %) |
| --- | --- | --- | --- | --- | --- | --- |
| | CIT | PIT | VAT | Total (TNR) | | |
| **ISORA** | **35.6** | **16.6** | **26.9** | **31.5** | **59.0** | **-4.1** |
| CIAT Members | 39.4 | 26.3 | 32.3 | 47.3 | 53.4 | -3.2 |
| Latin America and the Caribbean | 36.9 | 25.7 | 46.0 | 57.2 | 54.8 | -1.1 |
| Low Income | 79.5 | 5.6 | 13.2 | 30.0 | 55.2 | 0.7 |
| Lower Middle Income | 32.9 | 14.5 | 19.9 | 29.9 | 64.5 | -9.8 |
| Upper Middle Income | 44.4 | 21.0 | 32.6 | 36.3 | 55.2 | -4.1 |
| High Income | 21.2 | 13.6 | 27.9 | 26.9 | 58.8 | -2.8 |

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18 According to the criteria defined in ISORA, this comprises the total amount of tax debt (including interest and penalties) and debt for other revenues collected by the TA that have not been paid when due. The total should include amounts of tax debts in dispute, subject to payment agreements or extensions of the payment deadline.

19 According to ISORA's methodological criteria, uncollectible arrears may include a) amounts formally objected to by the taxpayer and for which collection action is suspended pending resolution of the dispute, b) amounts that are not recoverable by law (e.g., bankruptcy of the taxpayer), and c) arrears that are irrecoverable (e.g., the debtor lacks funds or other assets).

**Figure 22:** Tax arrears (left panel, as percentages of TNR) and annual change in debt-to-TNR ratio (left panel, as percentages). Simple averages for selected groups of countries. Year 2021
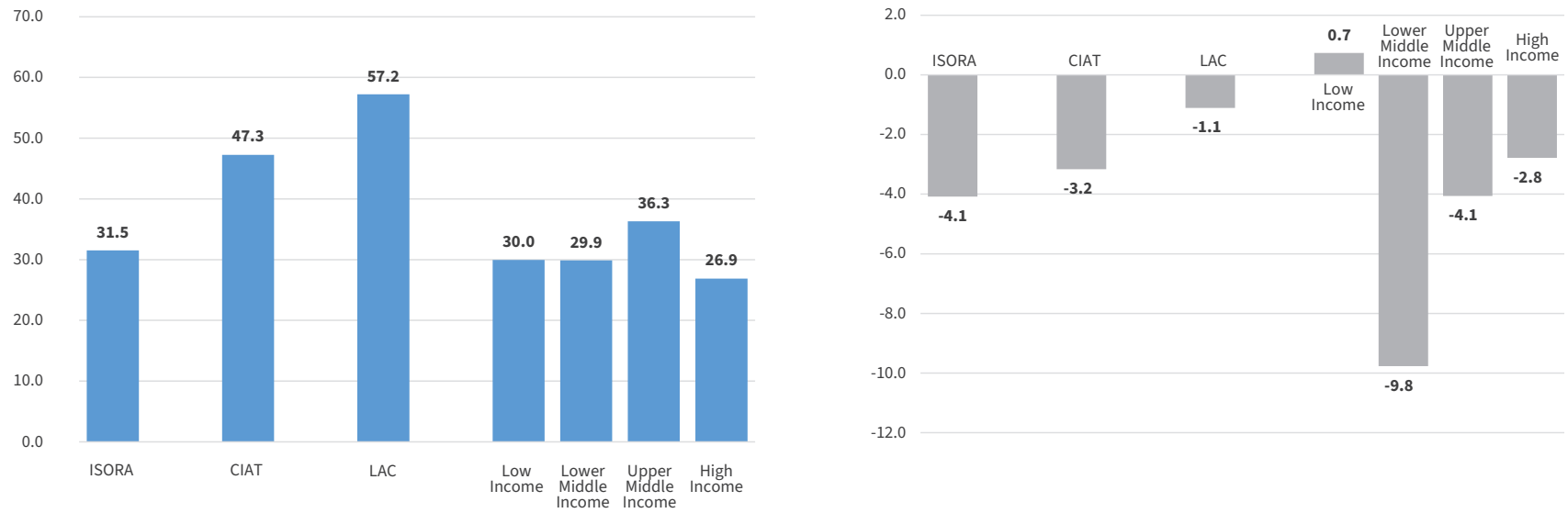
## 4.7 Tax audits

Regardless of the number of audits[20] carried out by each TA, which responds to different tax audit and control strategies and depends, among other factors, on the human and financial resources to carry them out, there are two results indicators that are useful for their comparative evaluation: the degree of effectiveness of the audits and their collection performance. Regarding effectiveness, measured by the number of audits in relation to the total in which a tax adjustment was carried out, the average for ISORA is 65.9%, compared to 67.7% in CIAT countries and 68.3% in LAC. In terms of income levels, a negative relationship is observed, with audits being more effective in low-income countries (74.1%) than in high-income countries (58.7%).

In terms of audit yield -additional revenue as a percentage of total revenue- the average for ISORA is 10% in CIT, 3.4% in PIT and 4.1% in VAT, with an overall yield of 4.2% of TNR. In both CIAT and LAC countries the yield is lower in CIT and VAT, as well as in total (Figure 23). By income level, the additional revenue generated by audits is higher, in relative terms, in low-income countries (7.9% in the case of the TNR) and decreases as income levels increase (2.5% for high-income countries).

**Table 34:** Effectiveness and collection performance of audits (in percentages). Simple averages for selected groups of countries. Year 2021

| Country Groups | Audit Hit rate (in %) | Audit performance (additional assessments raised through audits as % of collection) | | | |
|---|---|---|---|---|---|
| | | CIT | PIT | VAT | Total (TNR) |
| **ISORA** | **65.9** | **10.0** | **3.4** | **4.1** | **4.2** |
| CIAT Members | 67.7 | 7.7 | 4.4 | 2.1 | 2.7 |
| Latin America and the Caribbean | 68.3 | 7.6 | 2.9 | 2.0 | 2.9 |
| Low Income | 74.1 | 13.4 | 7.7 | 11.2 | 7.9 |
| Lower Middle Income | 70.0 | 14.2 | 5.4 | 3.7 | 6.2 |
| Upper Middle Income | 68.2 | 8.9 | 2.3 | 4.1 | 3.5 |
| High Income | 58.7 | 7.4 | 2.2 | 2.8 | 2.5 |

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20 Defined as an examination of the taxpayer's financial records and operations to verify the amounts reported in the tax returns. Audit types vary in nature, scope, and intensity. They include comprehensive audits (of multiple taxes or multiple tax years), targeted audits, inspections of books and records, examination of VAT refund claims, and in-depth investigations for suspected tax fraud.

**Figure 23:** Audit effectiveness (left panel, in percentages of total) and audit collection performance (right panel, in percentages of collection). Simple averages for selected groups of countries. Year 2021
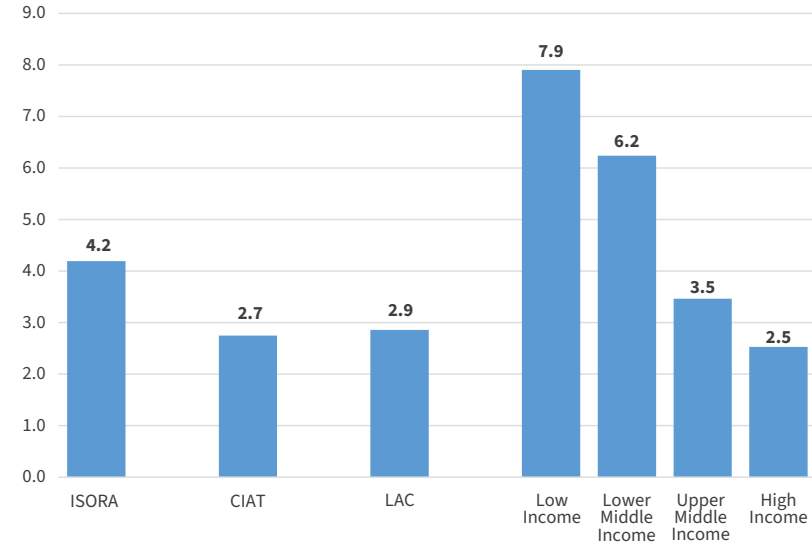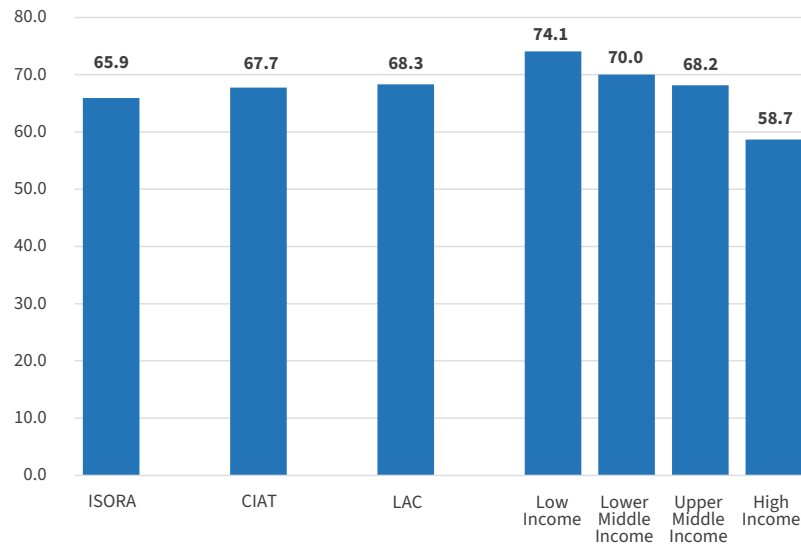


For CIAT countries, it should again be noted that the data should be treated with caution when making comparisons, given the different methods of recording, and evaluating the concrete results of audits in each of the TAs. With this caveat in mind, several countries show high percentages of audit effectiveness, with positive results in terms of additional revenue generated (Table 35).

**Table 35:** Effectiveness and collection performance of audits (in percentages). CIAT member countries. Year 2021

| CIAT Countries | Audit Hit rate (in %) | Audit performance (additional assessments raised through audits as % of collection) | | | |
|---|---|---|---|---|---|
| | | CIT | PIT | VAT | Total (TNR) |
| Angola | 83.7 | n.a. | n.a. | n.a. | 0.0 |
| Argentina | 74.0 | 1.7 | 0.9 | 0.7 | 0.8 |
| Aruba | n.a. | n.a. | n.a. | n.a. | n.a. |
| Barbados | 38.4 | 1.3 | 1.0 | 0.3 | 0.7 |
| Belize | 75.8 | 0.5 | 0.0 | 1.1 | 0.7 |
| Bermudas | 0.0 | n.a. | n.a. | n.a. | 3.2 |
| Bolivia | 89.6 | 1.5 | 0.9 | n.a. | n.a. |
| Brazil | 99.8 | 33.5 | 3.1 | 11.0 | 11.5 |
| Canada | 53.4 | 9.3 | 0.7 | 6.7 | 2.6 |
| Chile | 22.6 | 3.0 | 0.5 | 0.7 | 1.6 |
| Colombia | 71.1 | 7.1 | 8.2 | 0.5 | 4.1 |
| Costa Rica | 39.3 | 4.1 | 1.1 | 0.2 | 1.3 |
| Cuba | 3.4 | 0.0 | 0.0 | n.a. | 0.0 |
| Dominican Rep. | 65.3 | 1.8 | 1.0 | 1.1 | 0.9 |
| Ecuador | 100.0 | 12.8 | 3.4 | 0.1 | 3.2 |
| El Salvador | 32.9 | 5.1 | 17.7 | 1.5 | 3.2 |
| France | n.a. | 6.6 | 2.3 | 2.0 | 2.3 |
| Guatemala | 12.5 | 0.9 | 0.7 | 0.1 | 0.4 |
| Guyana | 99.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| Honduras | n.a. | 0.0 | 0.0 | 0.0 | 0.0 |
| India | n.a. | 11.3 | 8.4 | 0.5 | 3.1 |
| Italy | 93.9 | 16.3 | 1.4 | 6.3 | 3.5 |
| Jamaica | 93.9 | 8.5 | 6.4 | 1.7 | 2.7 |
| Kenya | 71.3 | 30.3 | 2.1 | 7.1 | 8.2 |
| Mexico | 91.3 | 19.9 | 0.4 | 1.1 | 4.8 |
| Morocco | 99.6 | 3.1 | 0.4 | 0.9 | 1.3 |
| Netherlands | 25.2 | 7.6 | 1.5 | 1.2 | 1.4 |
| Nicaragua | 100.0 | 1.0 | 0.1 | 0.6 | 0.9 |
| Nigeria | 99.7 | 6.9 | 75.5 | 3.3 | 6.0 |
| Panama | 81.8 | 4.9 | 0.1 | 1.3 | n.a. |
| Paraguay | 95.4 | 2.1 | 0.0 | 0.3 | 2.3 |
| Peru | 47.9 | 23.2 | 2.1 | 4.2 | 7.1 |
| Portugal | 61.1 | 10.2 | 0.5 | 2.8 | 2.4 |
| Spain | n.a. | n.a. | n.a. | n.a. | 7.6 |
| Surinam | n.a. | n.a. | n.a. | n.a. | n.a. |
| Trinidad and Tobago | 100.0 | 8.7 | 0.4 | 2.9 | 4.1 |
| United States | n.a. | 4.2 | 0.6 | n.a. | 0.9 |
| Uruguay | 77.5 | n.a. | n.a. | n.a. | 0.7 |

# 5. Digital transformation and technological innovation

Over the last few years, and even more so since the COVID-19 pandemic, the need for accelerating the digital transformation processes of TAs has become evident in order to use more efficiently the available resources, which are often scarce. In addition to the digital tools already mentioned above, this section provides information on the incorporation of innovative technological solutions to comprehensively improve tax management. Again, it is worth noting that the pandemic has probably contributed to accelerate the digital transformation.

## 5.1 Advanced techniques and strategies to improve compliance

The ISORA survey provides information on the degree of TAs progress in the implementation and development of multiple modern techniques and strategies to improve taxpayers' tax compliance. Firstly, in recent years progress has been made in the development of systems of pre-filled tax returns by the TA based on information collected from third parties, such as employers and financial institutions, which facilitate

the task of taxpayers and encourage transparency[21]. A total of 49.4% of ISORA countries reported having these procedures in place for some of the main taxes (CIT/PIT/VAT), with an even higher percentage among CIAT countries (65.8%) and somewhat lower in LAC countries (48.5%). The use of this technique to improve and facilitate voluntary compliance shows a clear increasing pattern with the income level of the countries (Figure 24).

Secondly, the implementation of electronic invoicing is one of the most important innovations in the fight against tax fraud. Of all the countries in ISORA, 36.8% have a mandatory electronic invoicing system for some or all taxpayers. CIAT countries lead in the degree of adoption of this tool, with 50% of the total[22], while in LAC this percentage reaches 39.5% (Figure 24). Unlike most technological innovations for tax management, high-income countries do not lead in the implementation of electronic invoicing, as 25.9% of them have it, but it is in middle-income countries where it is more widespread: 40.9% in lower middle-income countries and 47.1% in upper middle-income countries (Figure 24).

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21  Regarding pre-filled tax returns a recent CIAT-GIZ (2019) working paper on the subject can be consulted.
22  For further details, please refer to the CIAT-IDB (2018) book on electronic invoicing.

Another technique aimed at improving voluntary compliance levels is the obligation for taxpayers selling goods and services to record their transactions through electronic fiscal devices or duly certified cash registers. In both ISORA and CIAT countries this practice occurs in almost half of them, with relatively similar values for other groups of countries according to income level, except for the lower middle income, where its use is less widespread (Table 36).

In addition to technology applied to tax control, several countries have adopted cooperative compliance mechanisms with certain segments of taxpayers[23]. The most widespread among ISORA, CIAT and LAC countries are those applied to large taxpayers (58%, 65.8% and 57.6% of cases, respectively), which, moreover, show a notable increase since the previous edition of ISORA. Such mechanisms also exist for "other taxpayers" (in 34.5% of ISORA countries) and, more recently and more narrowly, for High Net Worth Individuals (in 17.2% of all countries). In relative terms, the relative number of jurisdictions with these programs decreases as the income level increases. There is also a tendency to incorporate cognitive-behavioral methodologies for the control of tax noncompliance and the design of strategies to pursue this objective: 43.7% of the countries in ISORA, with 47.4% in CIAT and 33.3% in LAC, have such programs in place.

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23  Cooperative compliance mechanisms are characterized by being conditional on the taxpayer demonstrating: a) good governance with respect to tax matters, and b) willingness to operate in an open and transparent manner, and full disclosure of its tax risks as they occur. In return, the TA commits to provide improved service to the taxpayer through: a) dedicated points of contact; b) faster resolution of technical and administrative issues; c) assignment of a reduced risk rating to the taxpayer for audit purposes; and d) reduced penalties.

**Table 36:** Strategies implemented to improve tax compliance (as a percentage of total countries in each group). Simple averages for selected groups of countries. Year 2021

| Country Groups | TA pre-fills tax returns or assessments | Behavioral insight techniques | Mandatory use of electronic invoices (partial or total) | Mandatory use of electronic fiscal devices (partial or total) | Cooperative compliance approach | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| | | | | | Large Taxpayers | HNWI Taxpayers | Other Taxpayers |
| **ISORA** | **49.4** | **43.7** | **36.8** | **47.7** | **58.0** | **17.2** | **34.5** |
| CIAT Members | 65.8 | 47.4 | 50.0 | 47.4 | 65.8 | 26.3 | 42.1 |
| Latin America and the Caribbean | 48.5 | 33.3 | 39.4 | 39.4 | 57.6 | 18.2 | 36.4 |
| Low Income | 19.0 | 23.8 | 38.1 | 52.4 | 66.7 | 23.8 | 52.4 |
| Lower Middle Income | 29.5 | 40.9 | 40.9 | 43.2 | 63.6 | 22.7 | 40.9 |
| Upper Middle Income | 56.9 | 33.3 | 47.1 | 51.0 | 56.9 | 15.7 | 33.3 |
| High Income | 72.2 | 66.7 | 25.9 | 48.1 | 55.6 | 13.0 | 25.9 |

**Figure 24:** Proportion of countries using pre-filled tax returns (left panel) and requiring mandatory e-invoicing for some or all of their taxpayers (right panel) (in percentages). Simple averages for selected groups of countries. Year 2021
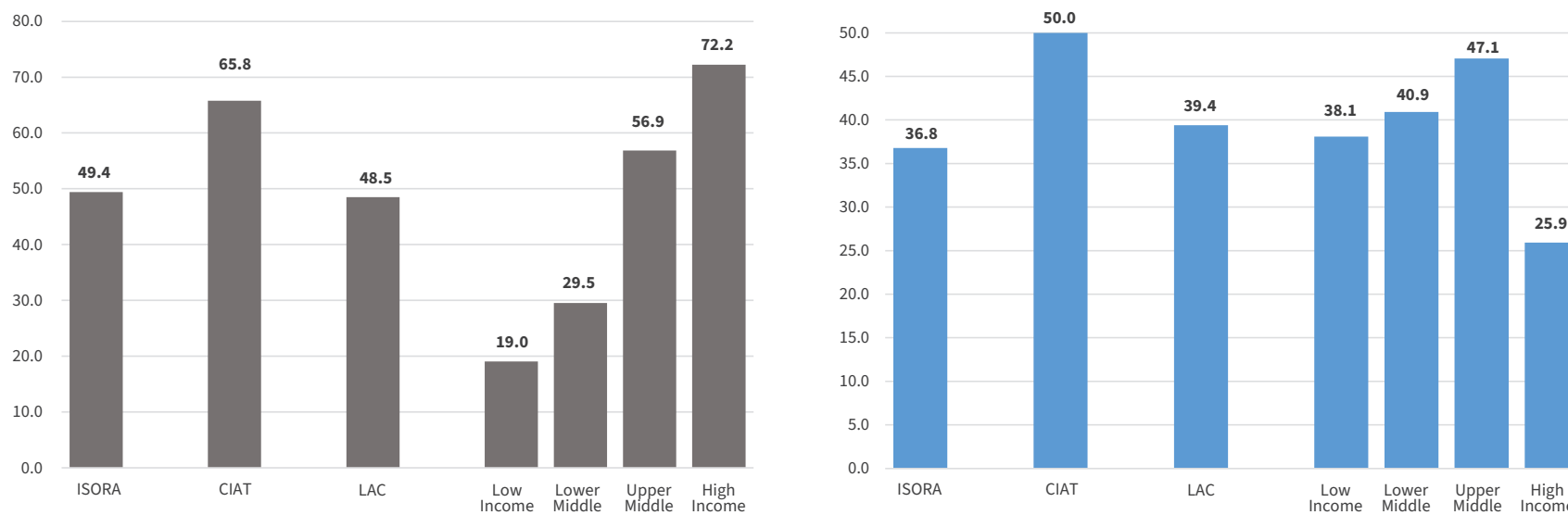
Most CIAT countries have already adopted some or all the techniques described above, confirming a trend that had already been observed and favoring even greater expansion in the future (Table 37).

**Table 37:**     Strategies implemented to improve tax compliance. CIAT member countries. Year 2021

| CIAT Countries | TA pre-fills tax returns or assessments | Behavioral insight techniques | Mandatory use of electronic invoices (partial or total) | Mandatory use of electronic fiscal devices (partial or total) | Cooperative compliance approach | | |
|---|---|---|---|---|---|---|---|
| | | | | | Large Taxpayers | HNWI Taxpayers | Other Taxpayers |
| Angola | Yes | No | Yes | Yes | Yes | No | No |
| Argentina | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Aruba | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| Barbados | Yes | Yes | No | No | No | No | No |
| Belize | No | No | No | Yes | Yes | No | No |
| Bermudas | No | No | No | No | No | No | No |
| Bolivia | No | Yes | Yes | Yes | Yes | Yes | Yes |
| Brazil | Yes | Yes | Yes | Yes | Yes | No | No |
| Canada | Yes | Yes | No | No | No | No | No |
| Chile | Yes | Yes | Yes | No | Yes | Yes | Yes |
| Colombia | Yes | No | Yes | Yes | Yes | No | Yes |
| Costa Rica | Yes | No | Yes | No | No | No | No |
| Cuba | No | No | No | No | Yes | No | No |
| Dominican Rep. | Yes | No | No | No | No | No | Yes |
| Ecuador | Yes | Yes | Yes | Yes | Yes | Yes | No |
| El Salvador | Yes | No | No | Yes | No | No | No |
| France | Yes | Yes | No | Yes | Yes | No | Yes |
| Guatemala | No | Yes | Yes | Yes | Yes | No | Yes |
| Guyana | Yes | No | No | No | No | No | No |

| CIAT Countries | TA pre-fills tax returns or assessments | Behavioral insight techniques | Mandatory use of electronic invoices (partial or total) | Mandatory use of electronic fiscal devices (partial or total) | Cooperative compliance approach | | |
|---|---|---|---|---|---|---|---|
| | | | | | Large Taxpayers | HNWI Taxpayers | Other Taxpayers |
| Honduras | No | Yes | No | Yes | Yes | No | No |
| India | Yes | Yes | No | No | Yes | Yes | Yes |
| Italy | Yes | Yes | Yes | Yes | Yes | No | No |
| Jamaica | No | Yes | No | No | Yes | Yes | Yes |
| Kenya | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Mexico | Yes | No | Yes | Yes | Yes | Yes | Yes |
| Morocco | No | No | No | No | Yes | No | Yes |
| Netherlands | Yes | Yes | No | No | Yes | Yes | Yes |
| Nicaragua | Yes | No | No | No | No | No | No |
| Nigeria | No | No | Yes | Yes | Yes | No | Yes |
| Panama | No | No | Yes | Yes | Yes | No | No |
| Paraguay | Yes | No | Yes | No | No | No | No |
| Peru | Yes | Yes | Yes | No | Yes | No | No |
| Portugal | Yes | No | Yes | Yes | No | No | No |
| Spain | Yes | Yes | Yes | No | Yes | Yes | Yes |
| Surinam | Yes | No | No | No | No | No | No |
| Trinidad and Tobago | No | No | No | No | Yes | No | No |
| United States | No | Yes | No | No | Yes | No | No |
| Uruguay | Yes | No | Yes | Yes | No | No | Yes |

## 5.2 Innovative technologies and tools for tax management

Innovations in data processing and statistical information, together with other ICT solutions, open up broad possibilities for strengthening the management of the main taxes applied in each country. Four innovative technological solutions have been considered for analysis, based on the relative number of countries that already use them or are in the implementation phase (Table 38)[24]. The most widespread of these is "Data science / analytical tools", implemented or in progress in 64.9% of ISORA countries, 89.5% of CIAT members and 72.7% of LAC, with their presence in TA increasing with the income level of the countries (up to 87% in high-income countries). It is followed in order of importance by artificial[25] intelligence (including machine learning), which is installed or close to it in 39.7% of ISORA countries, 52.6%

of CIAT and 27.3% of LAC, with a minimum value of 9.5% in low-income countries and a maximum of 64.8% in high-income countries. Close behind is "Cloud[26] Computing", with percentages of use/implementation of 39.1% in ISORA, 47.4% in CIAT and 36.4% in LAC, also with higher levels of diffusion as the income level of the countries increases. Finally, with the lowest levels of implementation, appears "Distributed ledger technology or blockchain[27]", which is only present in 13.2% of the countries in ISORA, 21.1% of those in CIAT and 15.2% of those in LAC, with no clear pattern by income level (Figure 25). In addition, it is worth noting that in both CIAT and LAC countries there has been a clear increase in all these techniques since the previous edition of ISORA.

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24  Note: Three possibilities are allowed where "In Use" refers to the technology in question being implemented and in use at the time of answering the survey; "Implem." Means that the technology in question is in the implementation phase for future use; "NO" refers to situations where the technology analyzed is not in use, including cases where implementation has not yet begun.

25  The ability of machines and systems to acquire and apply knowledge, including performing a wide variety of cognitive tasks, e.g., sensing, linguistic processing, pattern recognition, learning and decision making, and prediction.

26  Cloud computing is a service model that offers customers flexible, on-demand access to a spectrum of computing resources. Customers access such resources (e.g., software applications, storage capacity, networking, and computing power) online.

27  Distributed Ledger Technology (DLT) allows transactions to be stored and updated on many computers at the same time. The combination of encryption and DLT ensures that a block, once added to the chain, cannot be altered, and enables application authentication and secure transactions for a variety of assets.

**Table 38:** Innovative technological solutions (I). Proportion of countries using or in the implementation phase (in percentages). Year 2021

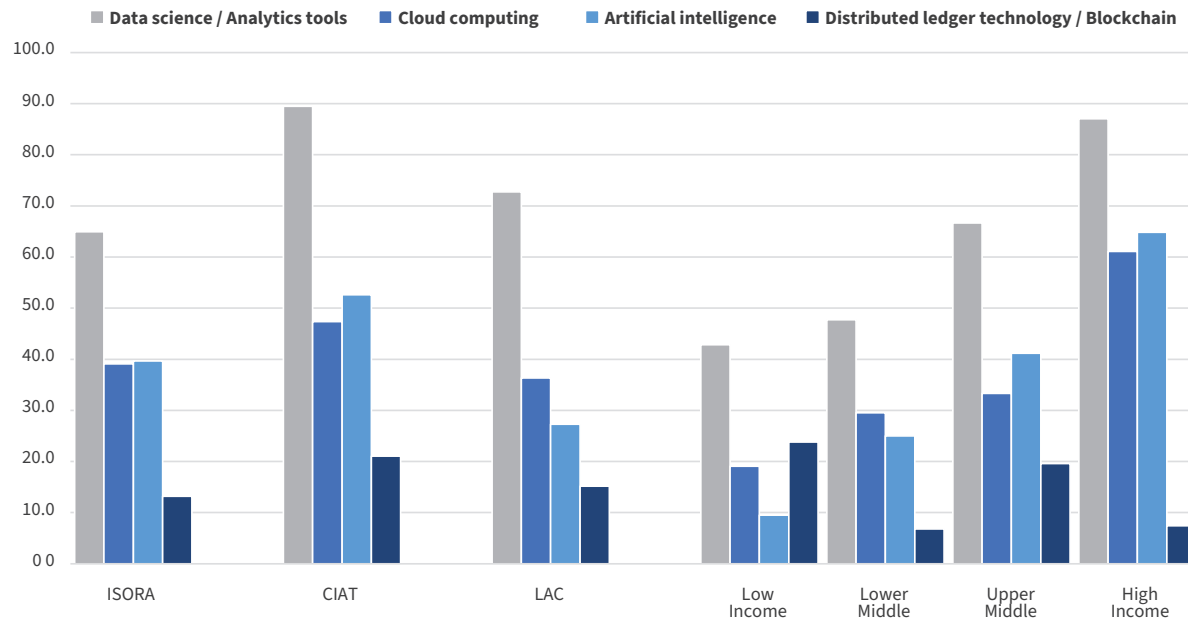| Country Groups | Artificial intelligence | Cloud computing | Data science/ Analytics tools | Distributed ledger technology/ Blockchain |
|---|---|---|---|---|
| **ISORA** | **39.7** | **39.1** | **64.9** | **13.2** |
| CIAT Members | 52.6 | 47.4 | 89.5 | 21.1 |
| Latin America and the Caribbean | 27.3 | 36.4 | 72.7 | 15.2 |
| Low Income | 9.5 | 19.0 | 42.9 | 23.8 |
| Lower Middle Income | 25.0 | 29.5 | 47.7 | 6.8 |
| Upper Middle Income | 41.2 | 33.3 | 66.7 | 19.6 |
| High Income | 64.8 | 61.1 | 87.0 | 7.4 |

**Figure 25:** Innovative technological solutions (I). Proportion of countries using or in the implementation phase (in percentages). Year 2021

Table 39 shows the status of each of these innovative technologies in each of the 38 CIAT member countries participating in ISORA.

**Table 39:**   Innovative technological solutions (I). Particular status. CIAT countries. Year  2021

| CIAT Countries | Artificial intelligence | Cloud computing | Data science/ Analytics tools | Distributed ledger technology/ Blockchain | CIAT Countries | Artificial intelligence | Cloud computing | Data science/ Analytics tools | Distributed ledger technology/ Blockchain |
|---|---|---|---|---|---|---|---|---|---|
| Angola | In Use | No | Implem. | No | Honduras | No | In Use | In Use | No |
| Argentina | In Use | In Use | In Use | In Use | India | Implem. | In Use | Implem. | No |
| Aruba | n.a. | n.a. | n.a. | n.a. | Italy | Implem. | In Use | In Use | No |
| Barbados | No | In Use | In Use | No | Jamaica | No | No | In Use | No |
| Belize | No | No | In Use | No | Kenya | Implem. | In Use | In Use | In Use |
| Bermudas | No | No | No | No | Mexico | In Use | In Use | In Use | No |
| Bolivia | No | No | In Use | No | Morocco | In Use | No | In Use | No |
| Brazil | In Use | Implem. | In Use | In Use | Netherlands | In Use | No | In Use | No |
| Canada | In Use | In Use | In Use | No | Nicaragua | No | No | In Use | No |
| Chile | Implem. | In Use | In Use | No | Nigeria | No | No | Implem. | In Use |
| Colombia | In Use | In Use | In Use | No | Panama | Implem. | No | Implem. | No |
| Costa Rica | No | In Use | In Use | No | Paraguay | No | No | In Use | No |
| Cuba | Implem. | No | Implem. | Implem. | Peru | Implem. | In Use | In Use | Implem. |
| Dominican Rep. | No | In Use | Implem. | No | Portugal | Implem. | No | In Use | No |
| Ecuador | No | No | In Use | No | Spain | In Use | No | In Use | Implem. |
| El Salvador | No | No | In Use | No | Surinam | No | No | Implem. | No |
| France | In Use | In Use | In Use | No | Trinidad and Tobago | In Use | In Use | No | No |
| Guatemala | No | In Use | In Use | In Use | United States | In Use | In Use | In Use | No |
| Guyana | No | No | No | No | Uruguay | No | No | In Use | No |

**Note:** "In Use" refers to the technology in question being implemented and in use at the time of answering the survey; "Implem." Means that the technology in question is in the implementation phase for future use; "NO" refers to situations where the technology analyzed is not in use, including cases where implementation has not yet begun.

Continuing with a second set of five innovative technological solutions, the introduction of "Application Programming Interfaces (API)"[28], which allow secure digital interaction between revenue systems and external applications in banks, accounting software providers and other government agencies, and can be used to send and receive information, validate activities, and facilitate operations, stands out for its importance and diffusion. A total of 72.4% of ISORA countries have this technology (in use or in the implementation phase), almost six points more than in the previous edition of the survey, while in CIAT this percentage reaches 84.2% (4.2 points more) and in LAC 63.6% (almost 9 points more). With regard to the differences between groups according to income levels, no clear pattern can be observed, with the lowest levels in upper middle-income countries. Digital identification technologies (biometrics; voice identification) have also had an acceptable diffusion among the different countries, reaching an outstanding relevance within advanced technological solutions, 29.3% in the ISORA total, below the proportion observed for CIAT (34.2%), but higher than that of LAC (27.3%). In this element there is a clear pattern by income level, with use increasing as income levels rise (Table 40).

The set of innovative technologies explored in the different TAs through ISORA is completed by three other elements with great potential (Figure 26). On the one hand, "virtual assistants"[29], which are already in use or are in the implementation phase in 43.7% of the total number of TAs. which are already being used or are in the implementation phase in 43.7% of the total number of countries included in the survey, in 65.8% of CIAT members (almost 23 points more than in the previous edition) and in 42.4% of LAC countries (more than 26 points higher than in the previous edition). On the other hand, "Whole-of-government identification systems," which make it possible to integrate information systems from different public agencies and institutions, are present in 52.3% of the countries in ISORA, in 52.6% of the CIAT countries (almost 10 points more than in the previous edition) and in 42.4% in LAC (13.4 points more). Lastly, "Robotic Process[30] Automation", with less diffusion among the ISORA (27.6%), CIAT (34.2%) and LAC (18.2%) countries, although it is also expanding rapidly. These three elements of innovation, in general, have greater penetration as the income level of the countries rises.

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28  An API is a set of software functions and procedures that allow applications to access the features and/or data of another software solution; applications can send requests to this interface and receive responses. A significant advantage of this, compared to traditional software interfaces, is that complexity and sensitive information within the software solution can be protected, since communication with other applications is done exclusively through the API.

29  Software packages that simulate human interactions by answering questions or requests that would otherwise be handled by humans. They are sometimes called chatbots because they can be used to answer online chats. Virtual assistants can use a predetermined set of questions and answers and can also be equipped with machine learning capabilities.

30  A software 'robot' learns a set of operations and then performs them as if it were a human interacting with computers. This is often used to automate repetitive tasks that would otherwise have to be performed by tax administration staff, for example, copying information from one system to another.

**Table 40:** Innovative technological solutions (II). Proportion of countries using or in the implementation phase (in percentages). Year 2021

| CIAT Countries | Robotics Process Automation | Application programming interfaces (APIs) | Whole-of-government identification systems | Digital identification technology | Virtual assistants (e.g. chatbots) |
|---|---|---|---|---|---|
| **ISORA** | **27.6** | **72.4** | **52.3** | **29.3** | **43.7** |
| CIAT Members | 34.2 | 84.2 | 52.6 | 34.2 | 65.8 |
| Latin America and the Caribbean | 18.2 | 63.6 | 42.4 | 27.3 | 42.4 |
| Low Income | 4.8 | 71.4 | 42.9 | 19.0 | 28.6 |
| Lower Middle Income | 22.7 | 72.7 | 34.1 | 25.0 | 36.4 |
| Upper Middle Income | 17.6 | 58.8 | 56.9 | 31.4 | 41.2 |
| High Income | 51.9 | 87.0 | 68.5 | 37.0 | 61.1 |

**Figure 26:** Innovative technological solutions (II). Proportion of countries using or in the implementation phase (in percentages). Year 2021
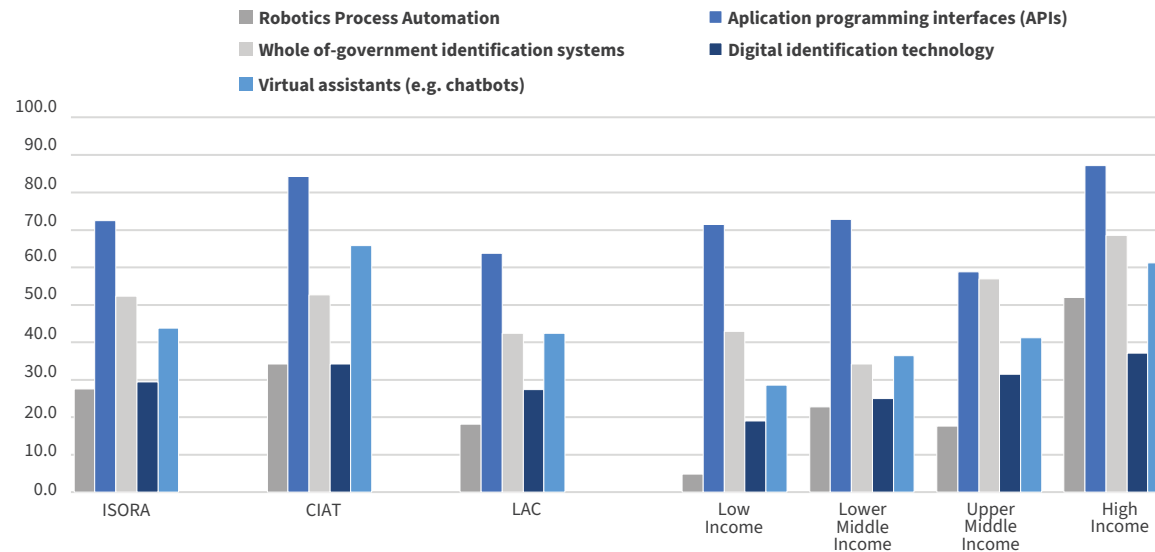


The analysis by CIAT member country shows the great diversity of cases in terms of the five innovative instruments mentioned above (Table 41).

**Table 41:** Innovative technological solutions (II). Particular status. CIAT countries. Year 2021

| CIAT Countries | Robotics Process Automation | Application programming interfaces (APIs) | Whole-of-government identification systems | Digital identification technology | Virtual assistants (e.g. chatbots) | CIAT Countries | Robotics Process Automation | Application programming interfaces (APIs) | Whole-of-government identification systems | Digital identification technology | Virtual assistants (e.g. chatbots) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Angola | No | In Use | No | In Use | In Use | Honduras | No | In Use | Implem. | In Use | No |
| Argentina | No | In Use | In Use | In Use | No | India | In Use | In Use | No | No | In Use |
| Aruba | n.a. | n.a. | n.a. | n.a. | n.a. | Italy | No | In Use | In Use | No | In Use |
| Barbados | No | In Use | No | No | No | Jamaica | No | In Use | In Use | No | No |
| Belize | No | No | No | In Use | No | Kenya | No | In Use | In Use | In Use | In Use |
| Bermudas | No | No | No | No | No | Mexico | In Use | In Use | No | In Use | In Use |
| Bolivia | No | In Use | In Use | No | In Use | Morocco | In Use | In Use | No | No | In Use |
| Brazil | In Use | In Use | In Use | In Use | In Use | Netherlands | In Use | In Use | In Use | In Use | No |
| Canada | In Use | In Use | No | No | Implem. | Nicaragua | No | In Use | No | No | No |
| Chile | In Use | In Use | In Use | No | In Use | Nigeria | No | In Use | No | Implem. | Implem. |
| Colombia | No | In Use | Implem. | Implem. | In Use | Panama | No | In Use | No | No | In Use |
| Costa Rica | No | In Use | In Use | No | In Use | Paraguay | No | No | No | No | No |
| Cuba | No | In Use | In Use | No | No | Peru | Implem. | Implem. | Implem. | In Use | In Use |
| Dominican Rep. | No | In Use | In Use | No | Implem. | Portugal | No | In Use | In Use | No | In Use |
| Ecuador | No | In Use | In Use | No | Implem. | Spain | In Use | In Use | In Use | No | In Use |
| El Salvador | In Use | No | No | No | In Use | Surinam | No | Implem. | No | No | In Use |
| France | In Use | In Use | In Use | No | In Use | Trinidad and Tobago | No | In Use | In Use | No | No |
| Guatemala | No | In Use | No | No | In Use | United States | In Use | In Use | No | Implem. | In Use |
| Guyana | No | No | No | No | No | Uruguay | In Use | In Use | In Use | In Use | In Use |

**Note:** "In Use" refers to the technology in question being implemented and in use at the time of answering the survey; "Implem." Means that the technology in question is in the implementation phase for future use; "NO" refers to situations where the technology analyzed is not in use, including cases where implementation has not yet begun.

# 6. Final comments

Throughout the previous pages, the main results derived from ISORA in its 2022 edition have been examined. For this purpose, the information related to multiple aspects of the tax administrations have been grouped into four large blocks: 1) instruments administered, collection and budget; 2) available human resources; 3) organization and operational functioning (segmentation and registration of taxpayers, taxpayer service and assistance, filing of returns and payment of obligations, coercive collection of debts and auditing and tax control); and 4) innovative techniques and information and communication technologies (ICT) applied to tax management and the improvement of tax compliance.

As could be seen, the casuistry is very large in practically all areas, between groups of countries and within them. However, it has also been observed that there are some trends that had already been detected in previous editions of this Overview and that have been confirmed in the new ISORA. In particular, the digital transformation has been reinforced through the incorporation of innovative technological solutions aimed at improving the quality of the services provided to taxpayers, managing large amounts of information, facilitating, and ensuring tax compliance and, in short, achieving greater tax collection in the most efficient way possible. Although there is still a significant gap in this area depending on the income level of the countries, this gap is closing; the lower-income countries show remarkable progress, with results higher than those of the previous edition of this Overview.

CIAT member countries have, in general, lower budgets than the ISORA average. However, their average collection cost is lower. In addition, their staffing presents valuable characteristics, such as the participation of women, higher than the ISORA average both in the overall staff and in executive positions, or training (half of the staff has a university education). Finally, it should be stated that digital transformation is progressing rapidly among CIAT countries.

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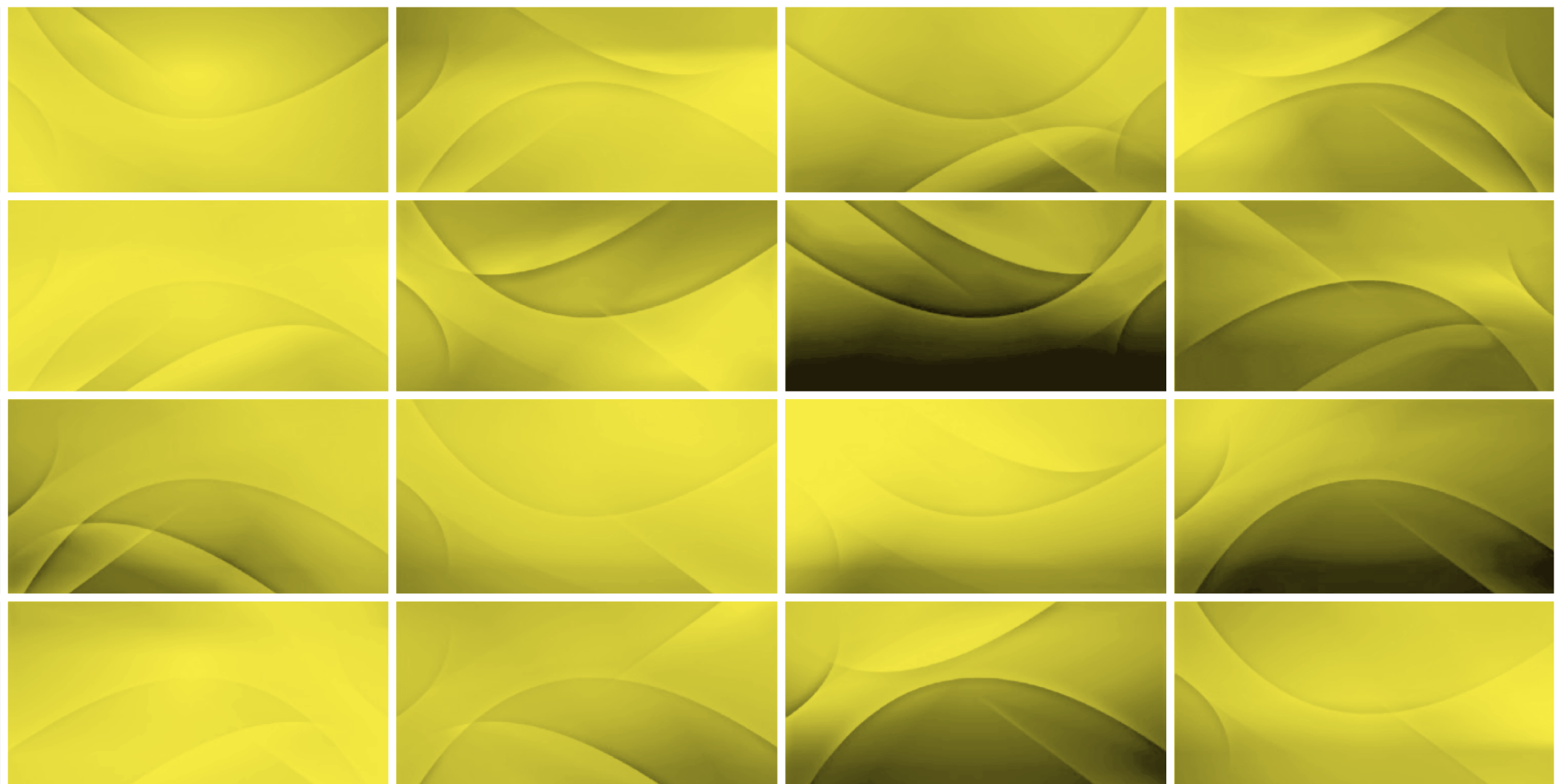CIAT-BID (2018). Factura electrónica en América Latina. Ed. CIAT. https://biblioteca.ciat.org/opac/book/5564

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