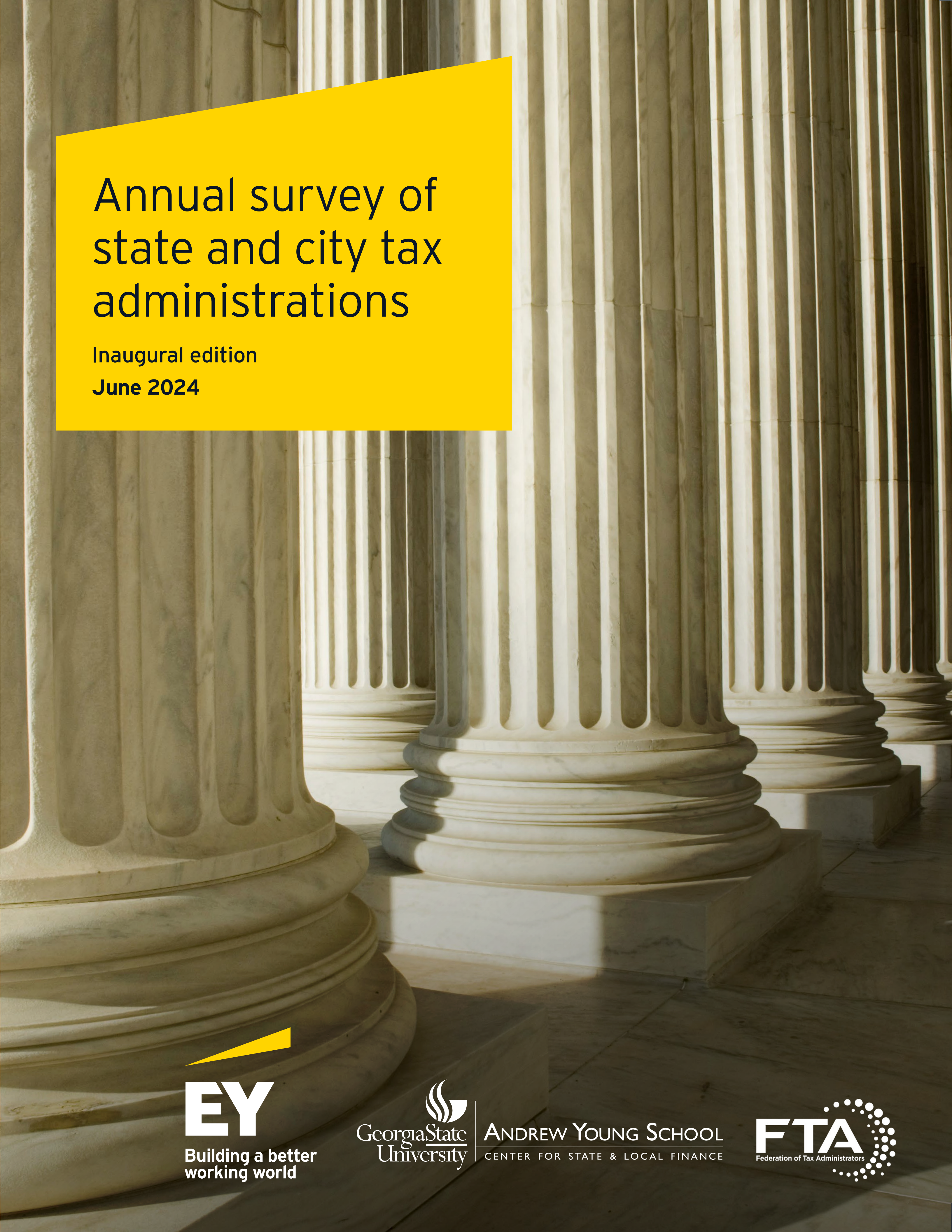

Annual survey of state and city tax administrations

Inaugural edition

June 2024

EY
Building a better working world

Georgia State University
Andrew Young School
Center for State & Local Finance

FTA
Federation of Tax Administrators

Contents

Survey methodology and limitations

The survey results presented in this study are based on information collected from April to November 2023. The Federation of Tax Administrators (FTA) engaged Ernst & Young LLP (EY US) to develop a survey questionnaire for distribution to 58 state and city tax administrations. Georgia State University provided comments and suggestions on the survey instrument.

The questionnaire consisted of 54 questions and covered five topics related to tax administration, including operations, talent, taxpayer experience, technology and forward-looking strategies. Tax administrations were invited to participate in the survey through the Qualtrics survey platform.

Of the 58 administrations receiving invitations, 39 administrations provided information that are included as part of the results. The respondents included 37 state-level administrations representing every US Census and FTA region and two city-level tax administrations from two of the largest municipalities in the US.

Among the tax administrations responding to the survey, annual net revenue collected ranged from $1.9 billion to $125 billion, with an average of $26.6 billion. Administration full-time equivalent employees (FTEs) ranged from 77 to 6,198 FTEs, with an average of 1,107.

Response rates varied across questions and administrations. Summary statistics, including averages and tabulations, presented in this report represent weighted averages across non-missing responses received. Given varying sample sizes, the distribution of responses may change if the same question is asked in the future and a different subset of tax administrations provide responses.

Tax administration is an evolving and ever-changing environment. Changes in tax law due to a wide array of external factors (economy, political climate, taxpayer behavior, technology etc.) may also impact the responses if the same questions are asked in the future.

1 Executive summary

$134
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$24m
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average expenditure for technology and other assets to improve operational efficiency and taxpayer experience

This report presents the results of the inaugural Survey of State and City Tax Administrators. This survey was conducted with 58 state and city administrations responding to 54 questions on five topics.

With a response rate of nearly 70%, we have strong representation across a range of state and city tax administrations to observe comparative data, strategies and technological insights. The objective of this survey report is to provide information for the tax administration and policy communities to better understand the dimensions of operations, systems and processes that impact tax administration performance, and, ultimately, taxpayer experience.

This inaugural survey is focused on the foundational aspects of tax administrations. Given the pace of changes and digitalization, regular updates and subsequent editions of the survey will be produced to help tax administrations stay current on trends and practices. The report includes aggregated survey results from all responders. It is divided into four sections, which are described below.

A. Profile of tax administrations

The first section of the report provides an overview of tax administration profiles including key financial metrics.

- **The average tax administration surveyed collected $26.6 billion of tax and other revenue.** This was accomplished with an average operating budget of $199.0 million in 2022, meaning that for every dollar of tax administration operating budget, the administration collects nearly $134 in revenue.[1]
  This activity is accomplished by approximately 1,100 workers at the typical administration, equating to an average of more than $24 million revenue per employee. Tax administrations responding to the survey are also investing heavily to modernize for the future with the average administration spending nearly $11 million in technology and other assets to improve operational efficiency and the taxpayer experience.

- **Agencies handled an average of 8.1 million returns filed annually in 2022.** This activity resulted in nearly 7.3 million payments received, which includes a mix of annual and periodic payments. Of these 8.1 million returns filed annually, nearly 32,000 (0.04%) were subjects of an audit.

B. Top priorities and challenges

This section of the report details top challenges faced by tax administrations along with top priorities to achieving administration goals and objectives.

- **Tax administrations rank data security as a top priority.** The majority of tax administrations ranked taxpayer data security among the top three priorities for their administration, with more than one-third of administrations ranking it the number one priority to ensure they are protecting data and the integrity of the tax system. A related concern, technology modernization, is ranked number one by 16% of tax administrations. Taken together, 50% of tax administrations rank data security or technology modernization as their top priority.
- **Taxpayers place the greatest value on turnaround and response time, according to tax administrations.** The priorities of tax administrations may not always completely align with the perceived priorities of taxpayers. Tax administrations perceive that taxpayers prioritize rapid turnaround and response times above all other objectives, with two-thirds of tax administrations judging this as the most important taxpayer priority by administrations. Additionally, in the eyes of tax administrations, clarity in communications, data protection, and accuracy rank among the top priorities for both taxpayers and tax authorities.
- **The top challenge faced by tax administrations is overwhelmingly hiring and retention.** Forty-four percent of tax administrations responding to the survey ranked hiring and retention as the top barrier to delivering the administration's purpose and vision. All agencies ranked it among the top three, with 81% of state and local tax administrations saying it was among their top three challenges.

C. Return processing and audit

This section of the report focuses on the processing of tax returns and the audit function along with the acknowledgement of the many other functions within a tax administration.

- **The average state and city tax administration has 4.9 million registered taxpayers.** Tax administrations are charged with accurately identifying and registering millions of taxpayers each year across a range of taxes and individual/business taxpayer types.
- **On average, 9% of state and city tax returns are filed on paper forms.** Given their complexity and the widespread use of income tax preparation software, individual and corporate income tax returns tend to be filed electronically through the taxpayer compliance software. Eighty-nine percent of individual income tax returns and 82% of corporate tax returns were filed electronically using compliance software with another 2% to 3% filed online.
- **Return processing is faster for electronic submissions.** On average, absent additional review, adjustment or error correction, administrations responding to the survey process electronically filed individual income tax returns in nine days compared to 18 days for paper returns. Processing times for sales and use tax returns are even shorter, with an average processing time of three days for an electronic return and seven days for a paper return. Corporate income tax returns require the longest processing time, regardless of submission method, with an average of 23 days for electronic returns and 30 days for paper returns.
- **Tax administrations provided 87% of individual income tax refunds within 30 days of filing.** Refund processing times vary across tax types, but tax administrations view turnaround time, including refund times, as one of the most important tax department performance metrics in the eyes of tax administrations. Across all tax types, 84% of refunds were processed within 45 days of their due date. Individual tax refunds have a national average of 88% processed in 45 days.

- **State and city tax administrations each initiated an average of nearly 35,000 audits last fiscal year.** Of those, 97% were related to individual income tax filings. For the purpose of this report, the audit process begins with audit selection and ends with the issuance of a tax assessment. The length of the audit process may vary based on the time allotted for the taxpayer to produce records and other documentation required to finalize audit findings. Survey participants reported the average audit lasts 100 days, although this duration varies widely by tax type. Complex business tax audits have the longest average audit duration, at 155 days, while individual income tax audits require, on average, 94 days, which in some cases may include time related to the appeal process.
- **Audit findings revenue, which includes document production and time related to the appeal process, equaled 0.8% of total administration revenue in 2022.** The average tax administration responding to the survey collected $252 million in audit findings revenue in 2022, with amounts that ranged from several million dollars to over $1 billion per state/city, equivalent to roughly 0.1% to approximately 3% at administrations with the highest collections.
- **Additional services.** Some tax administrations surveyed also provide services such as legislative drafting, fiscal analysis and forecasting, tax credit evaluations, and motor vehicle, alcohol and tobacco administration, among other services.

D. Talent

This section of the report focuses on the key aspects of the workforce required to successfully administer taxes.

- **Recruiting and retention is the number-one human-resources concern for tax administrations.** Tax administrations note that competing with the private sector for talent, requirements for hiring, and lack of qualified applicants present challenges for administrations. Training and succession planning rank among the top three human resource concerns, with roughly two-thirds of tax administrations placing these concerns among their top three.
- **One-third of tax administration employees are 55 year or older.** The typical "age pyramid" of workers is reversed for state and city tax administrations. While typical employers have the greatest number of workers younger than 35 years old and the fewest number above 55 years old, this pyramid shaped distribution is flipped for tax administrations, where 34% of workers are 55 years or older while only 15% are under 35 years old. By comparison, across all employers, 23.5% of workers are 55 years or older and 34.5% are under 35 years old;[2] and nearly 29% of Federal government employees are 55 years or older.[3]
- **Thirty-two percent of tax administration employees have 15 or more years of tenure.** By comparison, across all employers, 17.2% of workers have this level of tenure.[4] The long-tenured employees bring more experience and skill to their jobs, but also present greater potential for skills loss upon retirement, making succession planning, knowledge transfer and training an important topic.
- **State and city tax administrations surpass the national average for female employment while employing similar share of people of color.** Across all employers, 54.7% of workers are female and 40% are people of color.[5] By comparison, at state and city tax administrations, 61% of workers are female while 41% are people of color.
- **Twenty-three percent of tax administration employees are full-time, remote workers.** Prior to the COVID-19 pandemic, remote working was more of an afterthought. Post pandemic, the data shows that remote working is becoming more of a staple. Call center employees are the most likely to be remote, with 26% being classified as such, while taxpayer registration and services (23%) and return processing (22%) employees also have a larger share of remote workers than other functions. To be visible and set the tone for leadership, administration leadership employees have among the lowest remote shares at 6% of employees classified as full-time remote. Motor vehicle employees have the lowest share of remote workers, at 2%.[6]

E. Taxpayer experience and technology

- **Most tax administrations survey taxpayers about their experience.** While tax administrations use multiple methods, surveys are the most common form of taxpayer experience testing. Seventy-four percent of tax administrations surveyed conduct taxpayer experience surveys, while website-focused tools such as online feedback forms and website analytics are used by nearly half.

- **Hiring, training and human resource constraints are widespread and fundamental barriers to taxpayer experience.** At the center of the taxpayer experience are tax administration employees responsible for deploying new services, programming systems, designing and deploying communications, and handling taxpayer inquiries. Many tax administrations surveyed are faced with more demands on their limited staff than can be accommodated with existing resources or training. In some instances, lingering COVID-19 pandemic-era hiring constraints are still in place, further limiting available human resources. Many tax administrations continue to struggle with high turnover rates, challenges finding qualified workers, long onboarding periods, training challenges, and competition with private industry and the IRS.

- **Phone remains the dominant taxpayer communication channel.** While tax administrations surveyed have been actively implementing digital communication channels, 77% of all communications with taxpayers are phone calls. Email and website queries are the second most common form of taxpayer contact at 13%, while written communications on paper (mail or in-person delivery) account for 7% of all communications. Newer technology such as chatbots account for 3% of overall communications.[7]

- **Chatbots are available to taxpayers at 43% of tax administrations.** While the volume of customer interactions currently handled by chatbots remains low in comparison to call centers or other communication channels, chatbots are now available at one-third of the tax administrations responding to the survey.

- **Tax administrations are expanding communication options to include languages other than English.** Eighty-three percent of call centers operated by state and city tax administrations responding to the survey provide telephone services in other languages. Written communications and forms are also often available in other languages, including tax forms published by 42% of the tax departments. Chatbots are provided in languages other than English by 8% of responding tax administrations. Approximately 10% of tax administrations have current programs underway to expand non-English language services.

- **Tax administrations view advanced and emerging technology as having the potential to make the largest impact on taxpayer-facing services.** When asked where emerging technology will make the largest improvement and impact on the administration, the highest ranked response was taxpayer-facing services. Robotic process automation, machine learning, artificial intelligence (AI) and other technologies have the potential to increase efficiency, accuracy and speed in return processing time.

- **Intelligent document processing and robotic process automation are the most adopted advanced or emerging technologies.** Given their commercial availability and the potential to automate existing processes, intelligent document processing and robotic process automation are minimally used in an administrations' core functions in 33% of administrations reporting.

- **AI is being conducted by tax administrations through pilot programs.** Fifteen percent of administrations are conducting pilots or are already using AI in core functions. Additionally, none of the administrations responding to the survey have moved beyond the request-for-information stage in blockchain or other emerging technologies.

2 Introduction

State and city tax administrations play a pivotal role in collecting revenue to fund vital government services. This survey, conducted for the Federation of Tax Administrators by EY US and in conjunction with Georgia State University, provides an in-depth look at the operations and results, priorities and challenges, talent, and innovation of US state and local tax administrations.

The purpose of this survey report, and the underlying survey conducted in summer 2023, is to embark on a comprehensive exploration of state tax administrations and their structures, functions, challenges and the broader implications of their operations. State tax administrations are tasked with a dual mission: providing a positive taxpayer and citizen experience while ensuring a sustainable revenue base to fund public services such as education, health care, and infrastructure development. However, achieving this delicate balance requires operational efficiency and innovation to keep pace with taxpayer expectations.

The evolution of technology and changes in consumer behavior have added new layers of complexity to state taxation. E-commerce, remote work arrangements, and digital transactions have accelerated the evolution of tax administration for state and city tax administrations nationwide. This survey report explores how state tax administrations are adapting to these modern challenges, employing innovative strategies and leveraging new technology to provide taxpayer services in an increasingly digital environment.

At the same time, the COVID-19 pandemic revealed the value of using technology and process automation in the tax collection and compliance process as most US state tax administrations were abruptly transitioned to remote work. Automated processes and digital systems, where they existed, mitigated some of the disruption.

The pages that follow explore the details of state tax administrations, examining their priorities, challenges, initiatives, staffing, technology and operational profiles.

3 Profile of state and city tax administrations surveyed

The average tax administration surveyed collected $26.6 billion of tax and other revenue and had an operating budget of $199.0 million in 2022, meaning that for every dollar of tax administration operating budget, the administration collects nearly $134 in revenue.[8]

This activity is accomplished by more than 1,100 workers at the typical administration responding to the survey, equating to an average of more than $24 million revenue per employee. Tax administrations are also investing heavily to modernize for the future with the average administration investing nearly $11 million in technology and other assets to improve operational efficiency and the taxpayer experience.

Tax administrations responding to the survey reported handling an average of 8.1 million returns annually filed in 2022, with nearly 7.3 million payments received. Of these 8.1 million returns filed annually, nearly 32,000 (0.04%) were subjects of an audit.

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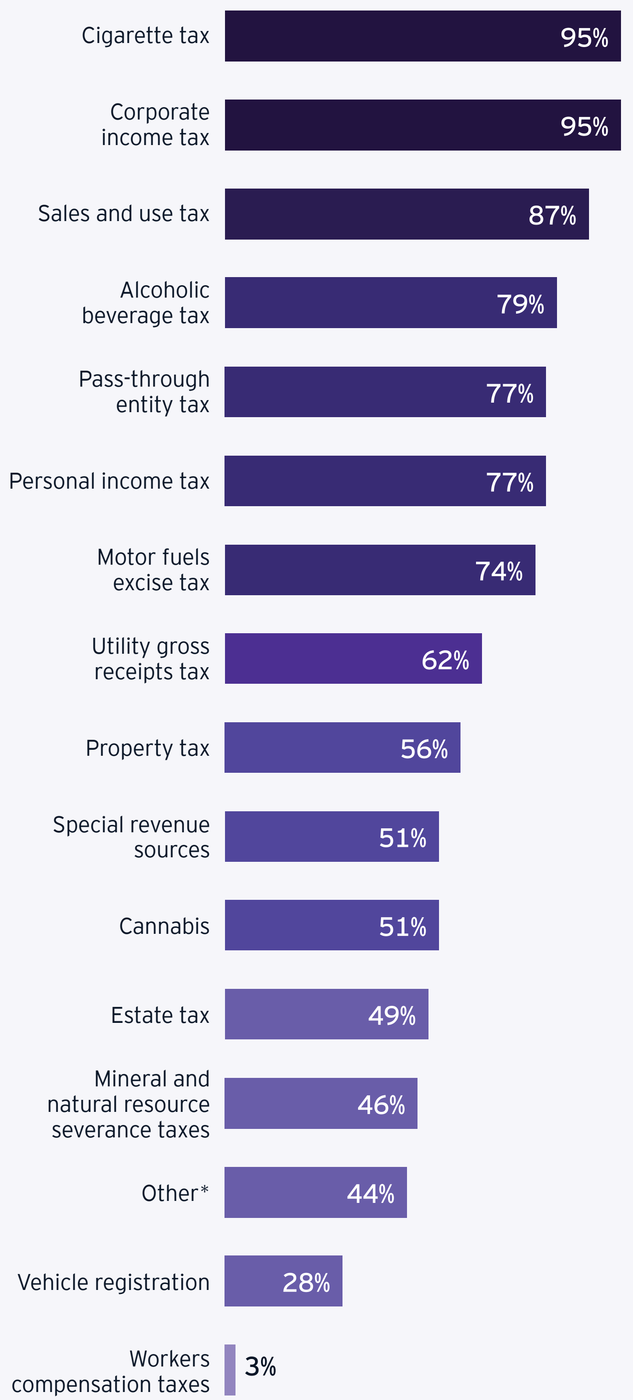
Table 1: Profile of US state and city tax administrations surveyed

Operating metric	Minimum	US average	Maximum
Net revenue collected	$1,900m	$26,600m	$125,000m
Annual operating budget	$16.3m	$199.0m	$1,200m
Annual capital expenditure budget	$0.9m	$15.9m	$75.0m
Administration full-time equivalent employees (FTEs)	77	1,107	6,198
Number of returns filed annually	37,836	8.1m	21.6m
Number of annual income tax returns filed	1,153	4.0m	21.8m
Number of taxpayer payments	17,467	7.3m	43.5m
Total number of audits initiated	67	34,799	233,233

Source: 2023 Survey of US State and City Tax Administrations. Thirty-nine tax administrations, including two city-level administrations.

Figure 1. State revenue types or categories for which the tax administration has responsibility

Q Indicate the state revenue types or categories for which the tax administration has responsibility.



* "Other" includes hotel/motel tax, insurance premium tax, environmental tax, etc.

Tax administrations have responsibility for a wide range of direct and indirect taxes. Tax administrations have collection responsibilities across a number of state and, in some cases, local taxes. As shown in Figure 1, nearly all administrations surveyed oversee corporate income (95%), sales and use (87%), and personal income (77%) taxes. In instances where tax administrations do not oversee personal income tax, it is due to the lack of a personal income tax in that state, multiple state tax administrations (e.g., California's Franchise Tax Board and Department of Tax and Fee Administration), or state oversight of a local personal income tax (e.g., New York City Department of Finance).

Half of administrations surveyed collect special revenue sources, property, and vehicle registration taxes and fees. In many instances, oversight and collection of these taxes and fees are the responsibility of other agencies including departments of motor vehicles. Among the other taxes collected are 911 fees, documentary stamps taxes, gambling taxes, health provider taxes, hotel/motel taxes and fees, inheritance taxes, insurance premium taxes, real estate transfer taxes, rental car taxes and surcharges, and utility and communication services taxes.

State tax administrations often have collection or oversight responsibility for at least one local tax. As shown in Figure 1, administrations reported having responsibility for at least one type of local tax, ranging from collecting local option sales taxes to central assessment equalization and reporting functions related to property tax.

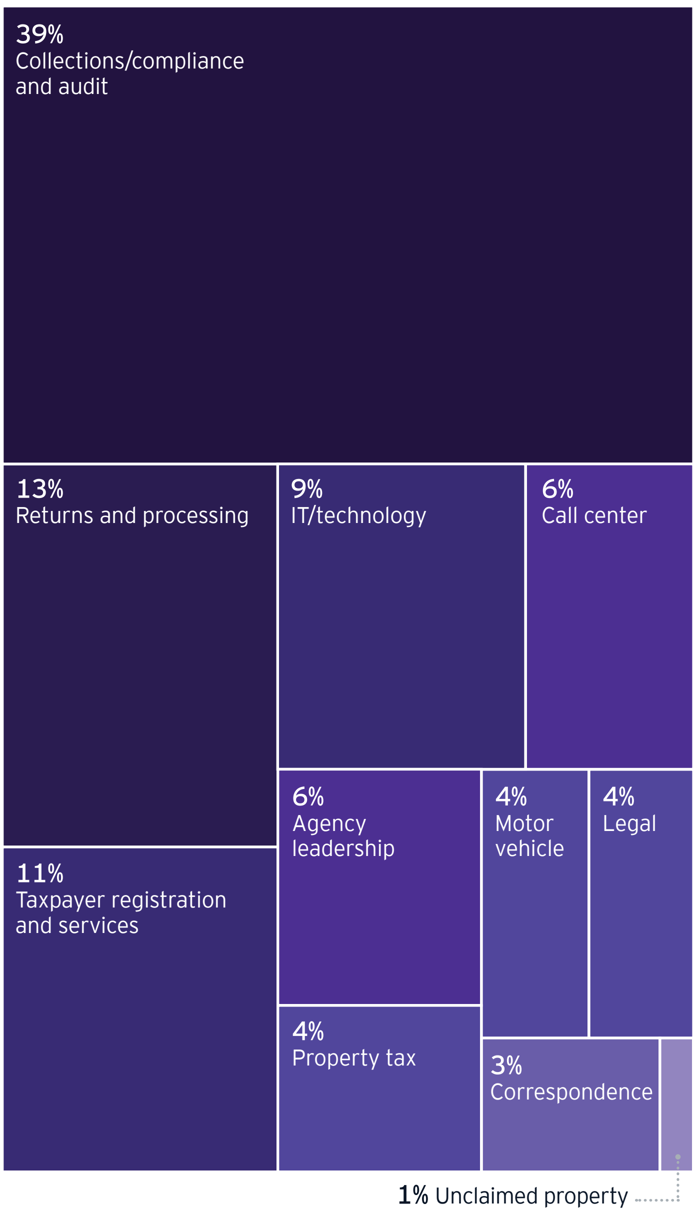
Tax administrations' FTE employees span across multiple functions, with the collections/compliance and audit functions, employing more tax authority staff than any other. The average tax authority responding to the survey has 1,100 FTEs employees on staff. These employees are spread over the administrations' key functions with nearly 40% of staff focused on collections/compliance and audit (Figure 2). Core tax collection functions including return processing and taxpayer registration services account for nearly one-quarter of FTEs. Indicating the importance of technology in the daily operations of tax administrations, nearly 10% of staff are focused on information technology and digital systems. Six percent of tax administration employees are focused on call center activity and 3% on taxpayer correspondence, excluding employees performing similar tasks in other departments already mentioned.

39%

of tax administration staff are focused on collections/compliance and audit activities

Figure 2. Tax administration full-time equivalent employees by function

Q Please report the total administration headcount and positions at prior fiscal year (FY) end.



4 Top priorities and issues

Like many government agencies, tax administrations are tasked with continually transforming to meet evolving needs and innovate their services.

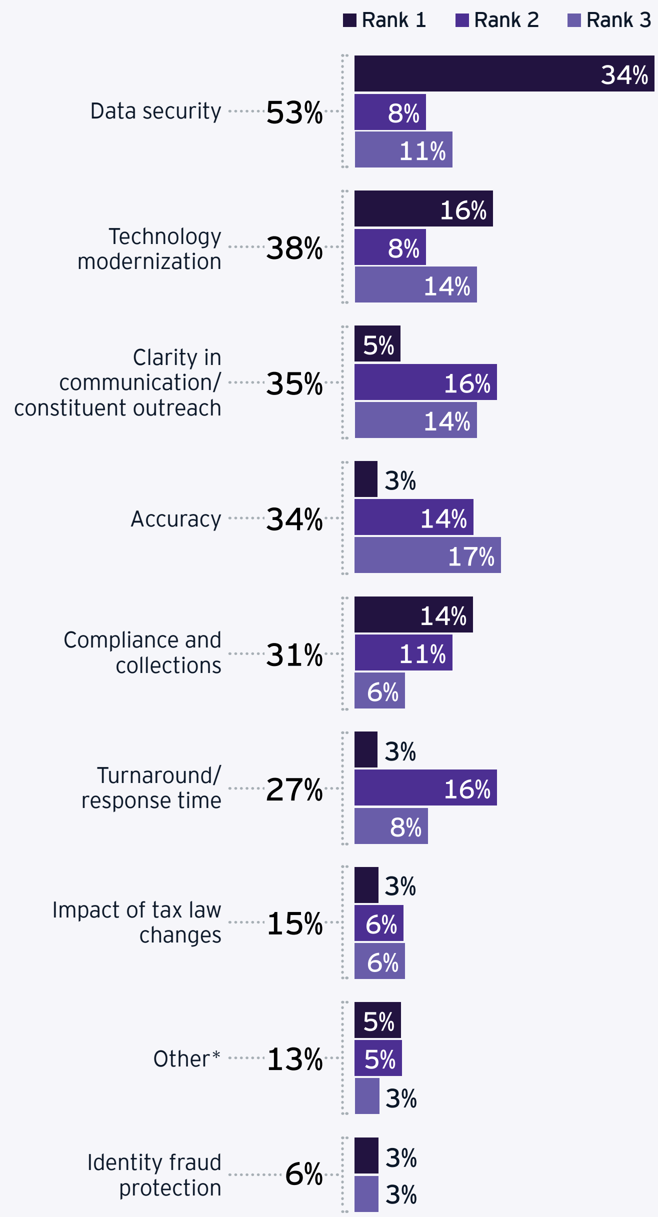
Tax administrations surveyed rank data security as a top priority.

The majority of tax authorities ranked taxpayer data security among the top three priorities for their administration, with more than one-third of authorities ranking it the number one priority. As shown in Figure 3, a related concern, technology modernization, is ranked number one by 16% of tax administrations surveyed. Taken together, 53% of tax administrations surveyed rank data security or technology modernization their top priority. Data security and technology modernizations demonstrate examples of things that continue to evolve and need ongoing time and resources. Despite these newer digital and data security priorities embraced by tax administrations, tax administrations' core objectives such as accuracy, compliance and collections, and timeliness continue to be important with one-quarter to one-third of authorities ranking these items as among their top three priorities. It is worthy to note that leveraging new technology can support administration priorities including enhanced data security, increased accuracy, improved collections and increased timeliness.

Some of the biggest challenges faced by tax administrations in delivering their mission to taxpayers and the public, similar to many public agencies and private sector businesses, includes hiring and retention, digital transformation, and budget. Tax administrations are also periodically charged with reworking forms and processes to comply with new tax laws and other legislative changes that may result in new collection responsibilities, new types of taxpayer registrations or changes to tax forms.

Figure 3. Tax administration priorities

Q How would you rank your department's priorities? (Rank the top three priorities with 1 being the highest.)



* "Other" includes tax equity and simplification.

The top challenge faced by tax authorities is overwhelmingly hiring and retention. As shown in Figure 4, 44% of tax authorities ranked hiring and retention as the top barrier to delivering the administration's purpose and vision, with 81% of state and local tax administrations saying it was among their top three challenges.

Other challenges vary across administrations. Keeping up with technology also ranks among the top challenges for state and local tax administrations with more than half of tax administrations ranking it among their top three challenges. Budgetary concerns rank as the top challenge for 13% of tax administrations, with 37% ranking it among their top three challenges.

Hiring freezes are the most frequently used strategy to address budget constraints. When faced with budget challenges, tax administrations have employed a variety of strategies. As shown in Figure 5, the most common strategy to address budget constraints is a hiring freeze, which has been used by 50% of surveyed tax administrations in the past three years. Labor cost reductions have also been achieved through other strategies including the greater use of automation or technology to replace labor (38% of surveyed tax administrations), furloughs (19%) or early retirement (8%). Over the past three years, 19% of tax administrations have hired additional auditors to increase revenues as a strategy to address budget constraints.

Figure 4. Tax administration challenges

Q What are the biggest challenges to delivering the administration's purpose and vision? (Rank these choices with 1 being the largest challenge.)

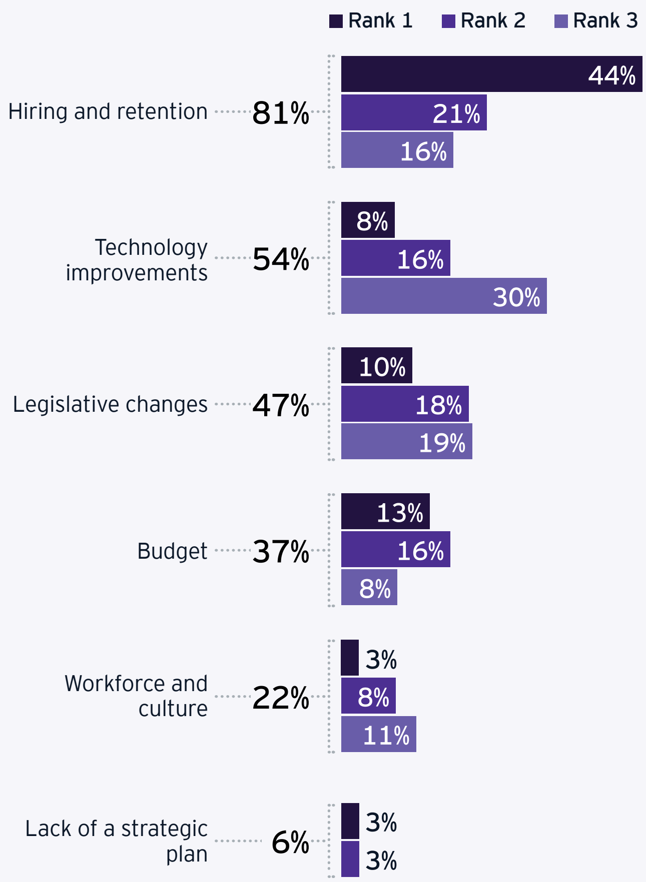
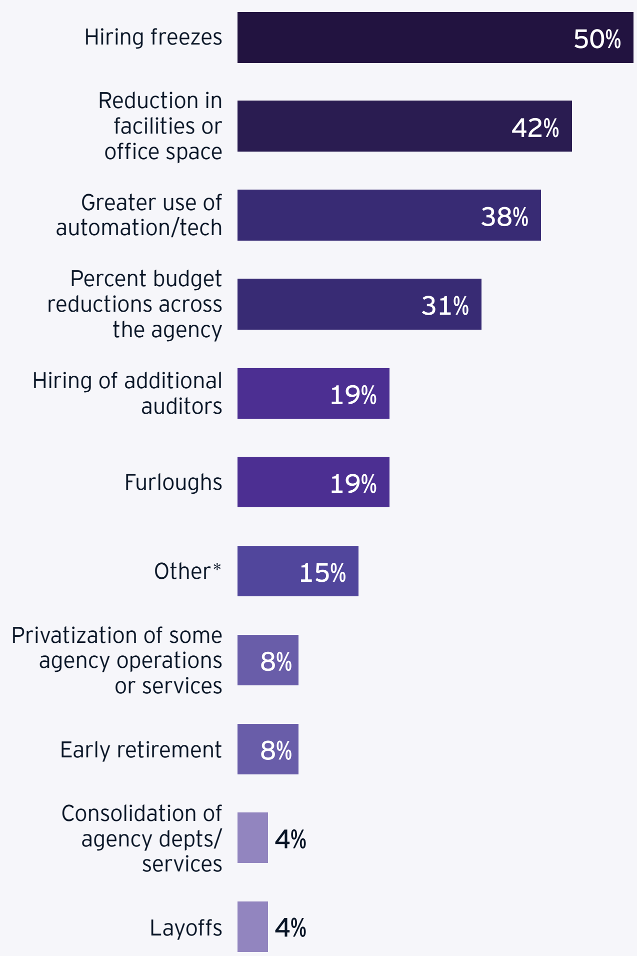


Figure 5. Strategies to address administration budget constraints

Q In the past three years, has the administration used any of the following strategies to address administration budget constraints?



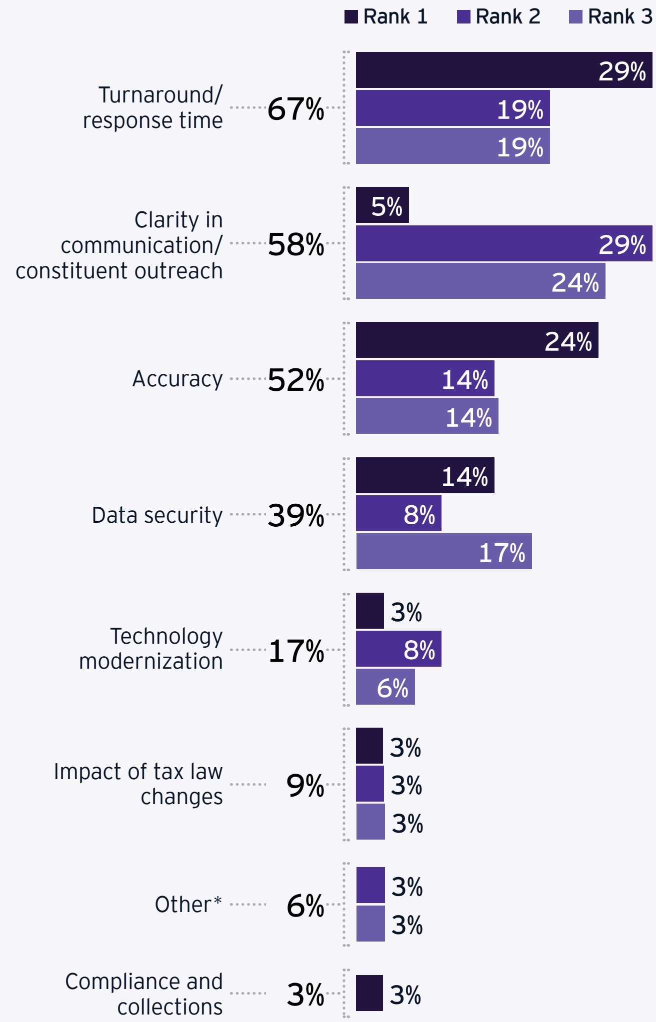
* "Other" includes holding vacancies, unfunding of vacant positions, and hiring freezes from March 2020 to July 2020.

Taxpayers place the greatest value on turnaround and response time, according to tax administrations. The priorities of tax administrations may not always completely align with the perceived priorities of taxpayers. As shown in Figure 6, tax administrations responding to the survey note that taxpayers prioritize rapid turnaround and response times above all other objectives, with two-thirds of tax administrations judging this as the most important taxpayer priority by administrations. Clarity in communications and accuracy rank among the top priorities for both taxpayers and tax administrations, according to the tax administrations surveyed.

> Our customer experience goal is 'Build relationships. Empower success.' We want all interactions with the department to be easy, seamless and positive—where our customers are confident in what they need to do and how to do it.
>
> West region tax administration

Figure 6. Taxpayer priorities (according to administration)

Q How would you rank your perception of your constituents' priorities? (Rank the top three priorities with 1 being the highest priority.)



* "Other" includes customer service and process complexity.

5 Tax administration operations

The core operations of a tax administration include tax return processing, reviews and audits, and enforcement and collections activity.

Some tax administrations also provide services such as legislative drafting, fiscal analysis and forecasting, tax credit evaluations, and motor vehicle, alcohol and tobacco administration, among other services. This section focuses on the operations of tax administrations with information for each major function.

5.1 Taxpayer return submission and processing

From the survey, the average city and state tax administration received nearly 8.1 million tax returns in 2022. A plurality of these returns were individual income tax filings, which account for 44% of all returns received, as shown in Table 2. Sales and use tax returns total over 1.5 million annually for the average state tax administration surveyed. Pass-through entity tax returns total almost 218,000 for the average administration surveyed, yet these taxes are present in 77% of states responding to the survey, suggesting the large scale of the pass-through sector relative to the corporate sector.

Table 2. Average number of returns filed by all methods annually

Tax return type	Returns	% of total
Personal income tax	3,588,978	44%
Sales and use tax	1,525,078	19%
Vehicle registration (incl. tax, title, highway use, IRP, etc.)	1,309,421	16%
Property tax	378,762	5%
Pass-through entity tax	217,943	3%
Corporate income (or other business entity) tax[9]	164,619	2%
Alcoholic beverage tax	17,963	0%
Motor fuels excise tax	18,516	0%
Estate tax	14,922	0%
Cigarette tax	4,502	0%
Mineral and natural resource severance taxes	2,396	0%
Utility gross receipts tax	2,264	0%
Special revenue sources (dedicated levies, fees, etc.)	319	0%
Other (hotel/motel tax, fireworks tax, insurance, waste taxes, etc.)	857,684	11%
Total returns	8.1m	100%

State and city tax returns filed on paper forms averaged 9% of total returns. Given their complexity and the widespread use of income tax preparation software, individual and corporate income tax returns tend to be filed electronically through the taxpayer compliance software. As shown in Table 3, 89% of individual income tax returns and 82% of corporate tax returns were filed electronically using compliance software with another 2% to 4% filed online via the website. This mirrors the trend at the federal level, where 91% of individual returns and 69% of business returns for the 2021 filing season had been filed online with the Internal Revenue Service.[10] Sales and use tax returns are most commonly filed on tax administrations' websites. There was a significant variation in the share of returns filed on paper with responses ranging from 3% to 48%, which may be attributed to multiple factors including but not limited to: state filing mandates and state size.

Return processing is faster for electronic submissions. To collect funds, acknowledge receipt and initiate other processes such as refunds or audits, tax administrations must first process returns received from taxpayers. Often, these returns are clustered around a common due date, creating peak load issues, which may be mitigated using technology. Despite the challenges associated with peak load processing, tax administrations perceive turnaround time to be the top priority of taxpayers and have invested in technology and human resources to accelerate the processing of returns. Indeed, tax administrations responding to the survey process electronically filed individual income tax returns in nine days, on average compared to 18 days for paper returns, as shown in Figure 7. Processing times for sales and use tax returns are shorter, with an average processing time of three days for an electronic return and seven days for a paper return. Corporate income tax returns require the longest processing time, regardless of submission method, with an average of 23 days for electronic returns and 30 days for paper returns. Averages may be impacted due to additional time associated for validation of complex returns.

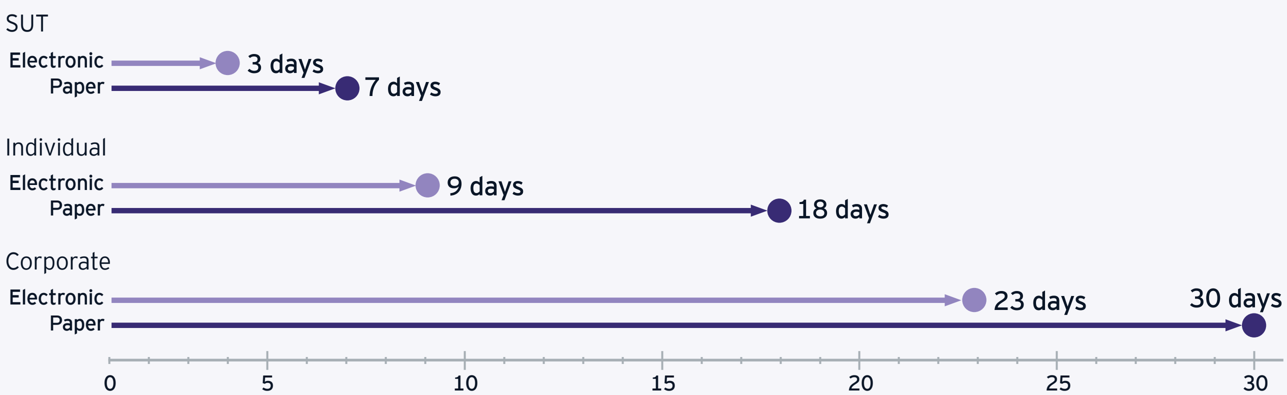
Table 3. Submission method by tax return type

Tax return type	Paper	Electronic via software	Website
Individual income tax returns	9%	89%	2%
Corporate income tax returns	15%	82%	3%
Sales and use tax returns	9%	27%	64%
Other tax returns	8%	44%	48%
% of all major types of tax returns	9%	63%	28%

Figure 7. Return processing time

Q Report the following processing and operating metrics for prior FY.

Average time to process: an electronic tax return with electronic tax payment, and a paper tax return with check tax payment, (estimated or final payment) for prior FY



Tax administrations responding to the survey provided 87% of individual income tax refunds within 30 days of filing. As shown in Figure 7 above, refund processing times vary across return types, but tax administrations view turnaround time, including refund times, as one of the most important tax department performance metrics in the eyes of taxpayers. Across all tax types, 84% of refunds were processed within 45 days of their due date, as shown in Figure 8. Corporate and other tax refund types have lower rates of processing and refunds issued within 30 or 45 days, with 74% of corporate refunds processed within 45 days.

5.2 Audit and review activity

State auditors employ a combination of analytical tools, interviews, and document reviews to assess adherence to tax laws. Through targeted investigations, audits aim to identify underreporting, errors or other noncompliance in tax filings.

State and city tax administrations each initiated an average of nearly 35,000 audits last fiscal year. As shown in Table 4, of those, 97% were related to individual income tax filings. The average audit lasts 100 days, although this duration varies widely by tax type. Complex business tax audits have the longest average duration at 155 days, while individual income tax audits require, on average, 94 days.

The findings rate is consistent across tax types. Nearly 45% of audits reported by administrations responding to the survey resulted in a finding, and the revenue associated with those findings averaged $87,000 per audit, in audits with findings or adjustments. The audit findings revenue was highest for corporate income taxpayers. Some findings also result in fines and penalty revenue, which averaged $158,000 per audit in instances where there were fines and penalties.

Audit finding revenue equaled 0.8% of total administration revenue in 2022. The average tax administration responding to the survey collected $252 million in audit findings revenue in 2022, with amounts that ranged from several million dollars to over $1 billion, equivalent to roughly 0.1% to approximately 3% at administrations with the highest shares.

> "The greatest improvement in taxpayer experience would come from a 'more user friendly electronic return filing and payment system.'
>
> Southeast region tax administration

Figure 8. Timely filed refunds processed within 30 and 45 days of due date

Q Please indicate the percentage of on-time refund processing as of prior FY end.

Timely filed refunds processed within 45 days of due date.
Refunds issued within 30 days of filing.

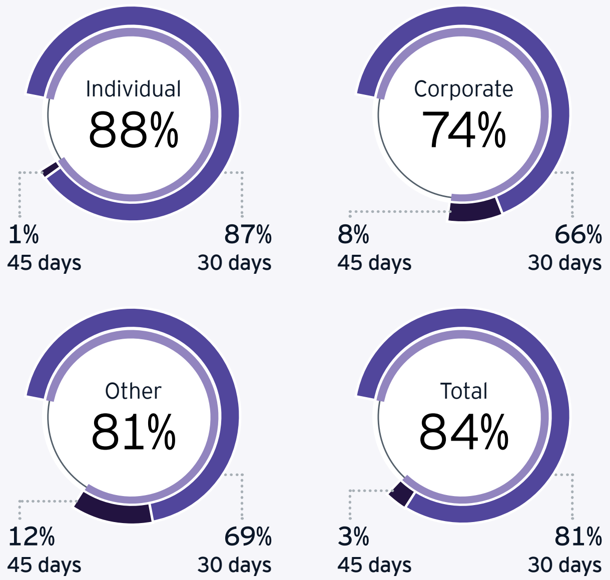


Table 4. Average of tax administration audit statistics

	Individual	Business	Sales/use	Other	Total (average)
Average number of audits initiated (in prior FY)	33,583	2,061	2,121	1,885	34,799
Average number of audits initiated per 1,000 returns*	9.4	12.5	1.4	1.1	4.3
Average duration of audit (days)	94	155	149	84	100
Percent of audits resulting in findings or infractions	44.1%	52.6%	48.7%	45.2%	45.9%
Average assessment per audit with findings ($000)	$64	$349	$128	$147	$87
Fine and penalty revenue per audit with fines or penalties ($000)	$158	$290	$153	$28	$158

*Percentage of returns audited reflects the number of audits nationally divided by the number of returns filed nationally, including both annual returns for individual and business taxes and monthly returns for sales and use taxes. The median percentage of returns audited is significantly higher than the weighted average shown in this row. The percentage of sales and use taxes reflects the number of audits divided by the number of total returns, including monthly returns, but a sales tax audit may encompass more than one monthly return.

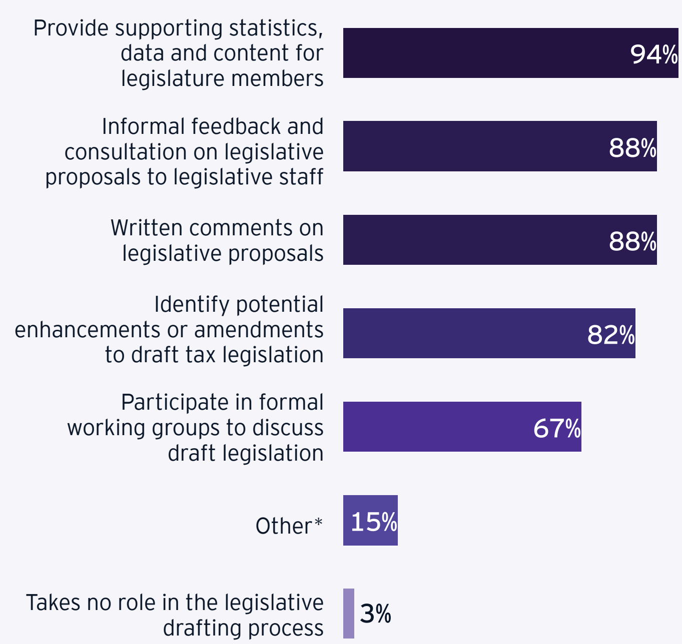
5.3 Other responsibilities

In addition to the core function of collecting tax revenue, tax administrations routinely provide services to the legislature and other agencies related to tax matters. Specific functions often handled by tax administrations include legislative support, tax credit utilization and effectiveness reporting.

Tax administrations often provide information and recommend changes related to tax proposals. While the role of tax administrations is to administer rather than design state and local tax systems, many administrations are asked to draw on their data and expertise to assist in the tax reform process, when it occurs. As shown in Figure 9, tax administrations responding to the survey provide statistics, data and content for legislatures during the tax reform process and nearly as many (88%) provide informal feedback and consultation on legislative proposals to legislative staff. More than 88% provide comments on draft legislation and identify potential enhancements. Formal participation in working groups related to legislation is more limited (67%). Other activities were noted by several administrations including identification of technical corrections to prior legislation and preparing revenue estimates and formal fiscal notes.

Figure 9. Role of administration in the legislative drafting process

Q What role does the administration perform in the legislative drafting process?



* "Other" includes provide testimony, generate revenue estimates on state tax legislation, draft tax legislation, etc.

6 Talent

State and city tax administrations employ an estimated 37,000 FTE staff nationwide and labor represents the largest cost for most administrations.[11] Like other government agencies and private-sector businesses, tax administrations are faced with significant challenges related to talent, including recruiting and retention, training, succession planning, diversity and inclusion, and hybrid work. Tax administrations rank human resources as one of the most important issues overall and even in more specific areas such as technology. Within the human resources area, more specific human resources issues rise to the top of concerns for administrations.

Figure 10. Rank human resources topics from highest priority to lowest

Q From your perspective, rank the following list of human resources topics from highest priority to lowest. (Rank these choices with 1 being highest priority.)

6.1 Recruiting and retention

Recruiting and retention is the number one human resources concern for tax administrations. Tax administrations note that competing with the private sector for talent, requirements to hire using competitive job postings and lack of qualified applicants present challenges for administrations. Training and succession planning rank among the top three human resource concerns, with roughly two-thirds of tax administrations placing these concerns among their top three.

Nearly eight out of 10 survey respondents indicate that recruiting and retention is their top priority talent issue, as shown in Figure 10. While attrition rates reported by tax administrations in the survey vary across administrations surveyed from only 1% to more than 65%, on average 14.1% of tax administration workers will cease their employment in any given year, necessitating the need to recruit new talent. Not surprisingly, the hiring rate is similar, ranging from 2% of positions being staffed with a new recruit in any given year, to more than 50%, with an average hiring rate of 12.0%.

14.1%

average attrition rate ranging from less than 1% to more than 65%

12.0%

average new hire rate ranging from less than 2% to more than 50%

6.2 Learning, development and talent management

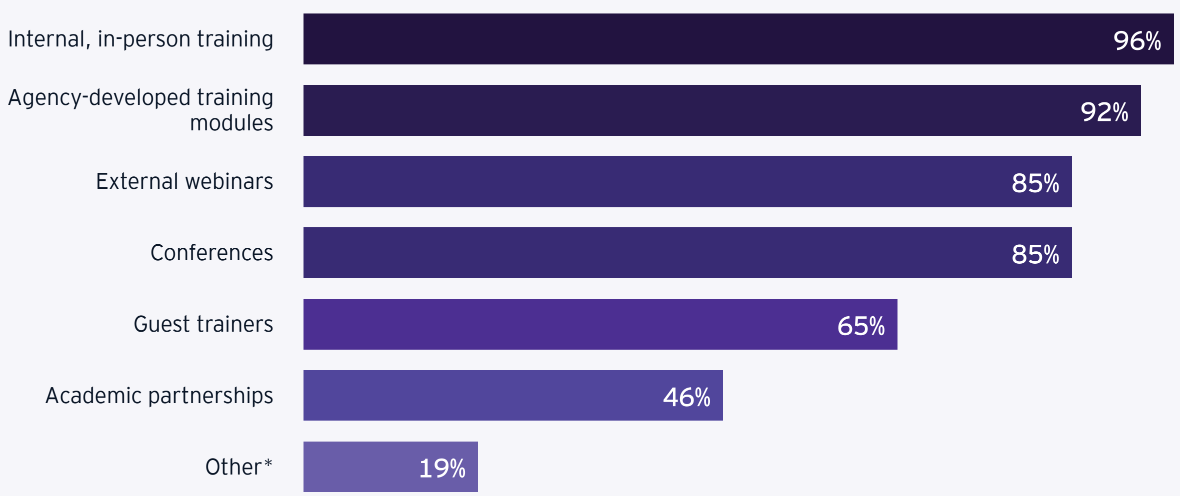
Internal, in-person training is the most commonly used training format. As shown in Figure 11, 96% of tax administrations surveyed use internal, in-person training including administration-led training on new rules, procedures and systems as well as topical seminars and basic training for new hires. Administration-led virtual training options are also common, with 92% of surveyed tax administrations developing their own training. While external training through webinars and conferences are nearly as common as internal training, the individualized use of external resources is less common, with 65% of surveyed administrations reporting the use of a guest trainer and 46% reporting teaming with an academic partner.

Learning management systems are widely used to track progress. Learning is tracked and monitored by 80% of tax administrations using a learning management system. On average, across all training types, tax administrations responding to the survey reported 17 hours of training per employee over the past year.

> "Our top challenges for recruitment and retention are 'budget constraints, resources such as available staff, attracting and hiring quality staff, more priorities than resources available to implement.'
>
> Southeast region tax administration

Figure 11. Types of training provided to administration employees

Q What types of training is provided to administration employees?



* "Other" includes LinkedIn learning, IBTOM, administration LMS, mentoring, etc.

Performance management practices of tax administrations mirror the private sector in many ways with the notable exception of performance-based compensation. Nearly all surveyed tax administrations monitor employee performance against predetermined goals and counsel employees not meeting expectations using performance improvement plans. These common practices, used by public- and private-sector enterprises alike, are meant to carefully monitor and correct performance when needed. Most of administrations use an annual cycle for performance management, but more than two-thirds of administrations report quarterly performance management conversations. One area where tax administrations vary considerably with private-sector counterparts is in the use of performance-based compensation, with only 20% of administrations reporting the use of customized or individualized compensation structures available to reward high performers, as shown in Table 5.

Table 5. What type of administration staff performance evaluation processes and KPIs are used and tracked?

	% reporting
Administration provides staff not meeting expectations with a performance improvement plan	97%
Staff have an annual performance expectation-setting meeting to establish individual goals	94%
Administration sets measures that are quantifiable and results-oriented	86%
Coaching and mentoring sessions provided for individual staff	86%
Staff are encouraged to set "stretch" goals	80%
Administration sets formal performance metrics for staff, with written definitions of each KPI	74%
Staff performance metrics analyzed to identify skills gaps and adjust hiring needs	69%
Administration has quarterly performance conversations with staff	66%
Employee performance can be structured to reward exceptional performers	20%

6.3 Succession planning and an aging workforce

One-third of tax administration employees are 55 years or older. The typical "age pyramid" of workers is reversed for state and city tax administrations surveyed. Typical employers have the greatest number of workers younger than 35 years old and the fewest number above 55 years old; this pyramid-shaped distribution is flipped for tax administrations surveyed, where 34% of workers are 55 years or older while only 15% are under 35 years old, as shown in Figure 12. By comparison, across the US total labor force, 23.0% of workers are 55 years or older and 35.6% are under 35 years old.[12]

As shown in Figure 13, 32% of tax administration employees have 15 or more years of tenure. By comparison, across all employers, 17.2% of workers have this level of tenure.[13] The long-tenured employees bring more experience and skill to their jobs, but also present greater potential for skills loss upon retirement, making succession planning, knowledge transfer and training an important topic.

Figure 12. Administration headcount by age cohort

Q Report the age distribution of administration employees at prior FY end.

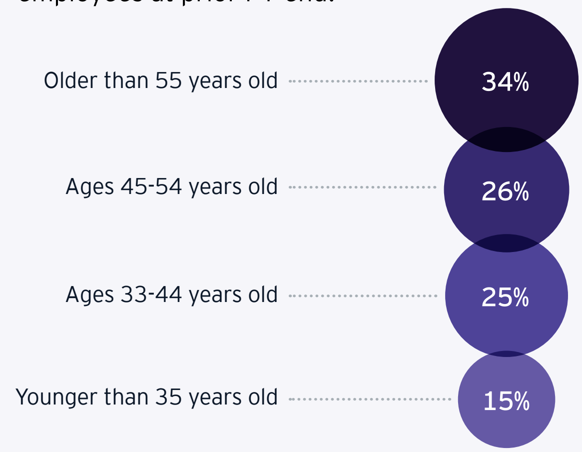
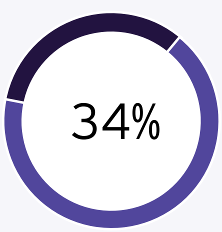
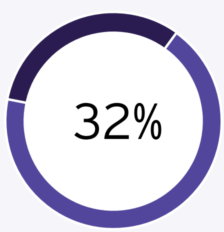


Figure 13. Age and tenure of workforce

Q Report the age distribution of administration employees at prior FY end. Report the tenure of administration employees at prior FY end.



of the administrations' workforce are 55 years or older



of the workforce have tenures with their administrations for 15 years or more

6.4 Diversity and inclusion

State and city tax administrations surveyed surpass the national average for female employment while employing similar share of people of color. Across all employers in the United States, 54.7% of workers are female and 40% are people of color.[14] By comparison, of state and city tax administrations responding to the survey, 61% of workers are female while 41% are people of color, as shown in Figure 15.

Figure 14. Percent of administration headcount by people of color

Q Report the racial and ethnic identification of administration employees at prior FY end.

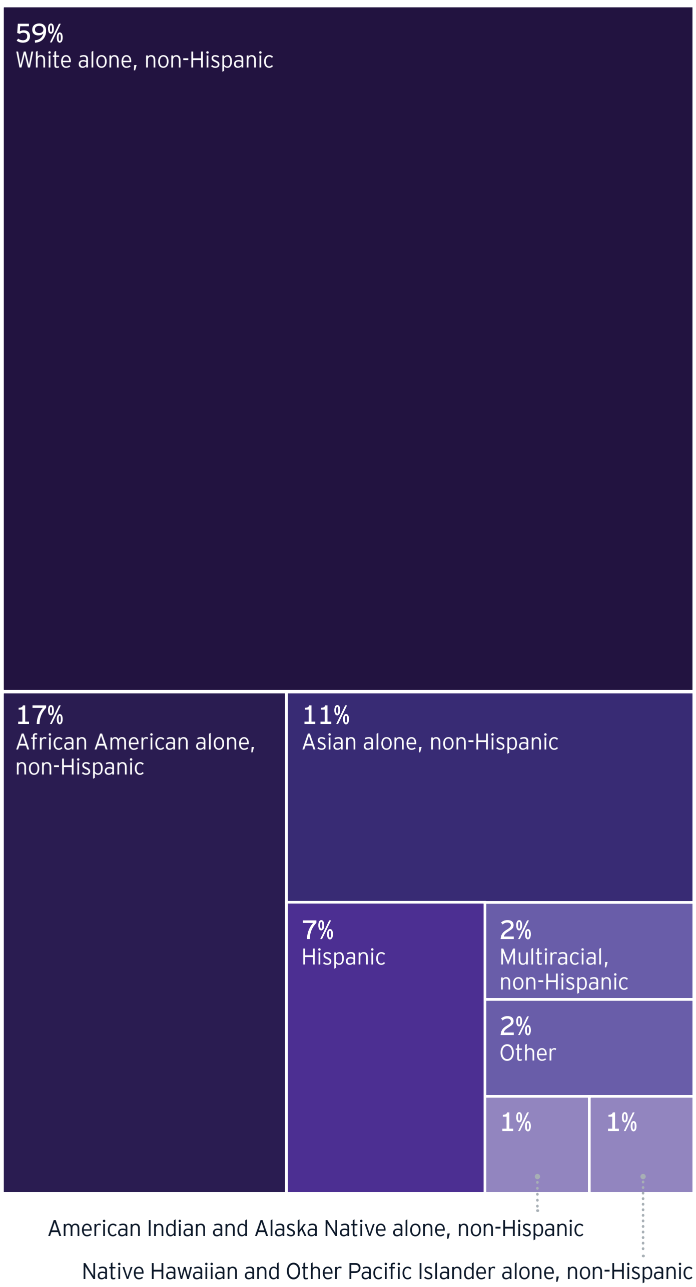
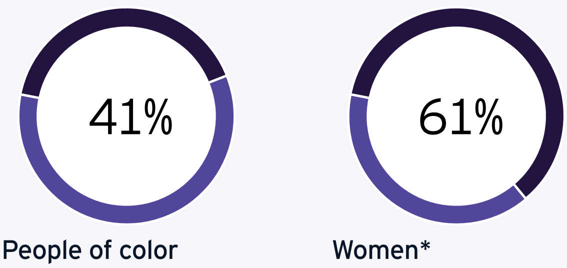


Figure 15. Percent of administration headcount by people of color and women.

Q Report the gender of administration employees at prior FY end. Report the racial and ethnic identification of administration employees at prior FY end.



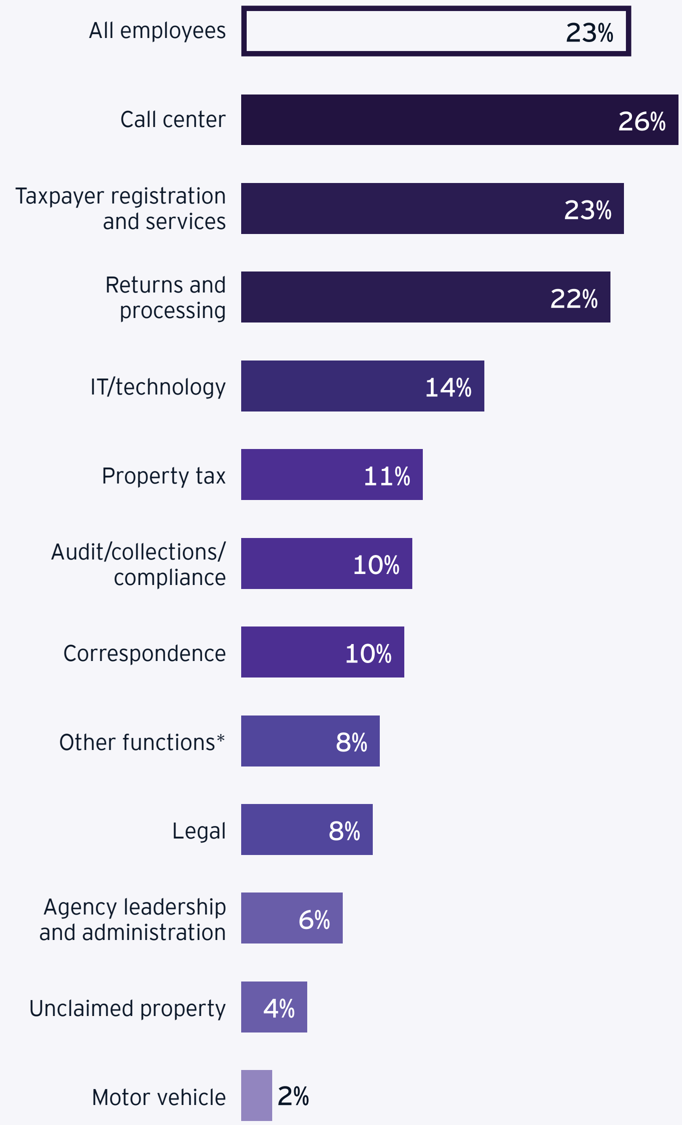
*Survey asked to report gender of agency employees (male, female, other and unknown/not available)

6.5 Remote work

As shown in Figure 16, 23% of tax administration employees are full-time, remote workers, compared with 11% of public administration employees nationwide.[15] The COVID-19 pandemic quickly transitioned many traditionally in-office employees of state tax administrations to full-time remote work, a trend that has been retained even after the end of the pandemic, with 23% of administration employees categorized as full-time remote workers. While nearly every tax administration function has at least some of its associated workers working remotely full time, the share of remote work varies significantly across functions. Call centers have the largest share of employees working full-time remote, at 26%. Taxpayer registration and services (23%) as well as return processing (22%) employees also have a larger share of remote workers than other functions. To be visible and set the tone for employees, administration leadership employees have among the lowest remote shares at 6% of employees classified as full-time remote. Motor vehicle employees have the lowest share of remote workers, at 2%.

Figure 16. Share of employees that are officially full-time remote workers.

Q What share of your employees in each category are officially full-time remote workers?



* "Other" includes accounting, admin, research, financial management, clerical, etc.

7 Taxpayer experience and technology

The taxpayer experience arises from the interactions a taxpayer has with an administration, including the website, communications, issue resolution, as well as payment, processing and refund times. Improving the taxpayer experience has been a focus of the digital transformation initiatives of many state and city tax administrations over the past decade as they embrace user experience and omnichannel communication lessons learned from the private sector including retailers and banks. The benefits of successful taxpayer experience transformations may include reduced call volume, greater taxpayer satisfaction and voluntary compliance. However, the investment in technology, operational improvements and human resources can be significant. This section explores the current state and forward-looking initiatives meant to improve the taxpayer experience.

7.1 Improving the taxpayer experience

The taxpayer experience is a focus of investment and improvement for many tax authorities, beginning with measurement of the current state, identifying challenges and deploying initiatives to improve the experience.

Most tax administrations survey taxpayers about their experience. While tax administrations use multiple methods, surveys are the most common form of taxpayer experience testing. As shown in Figure 17, 74% of tax administrations conduct taxpayer experience surveys, while website-focused tools such as online feedback forms and website analytics are used by nearly half. More intensive formats like focus groups and interviews are used by a smaller number of tax administrations. Only 19% of tax administrations responding to the survey reported reporting have no formal taxpayer experience measurement activities.

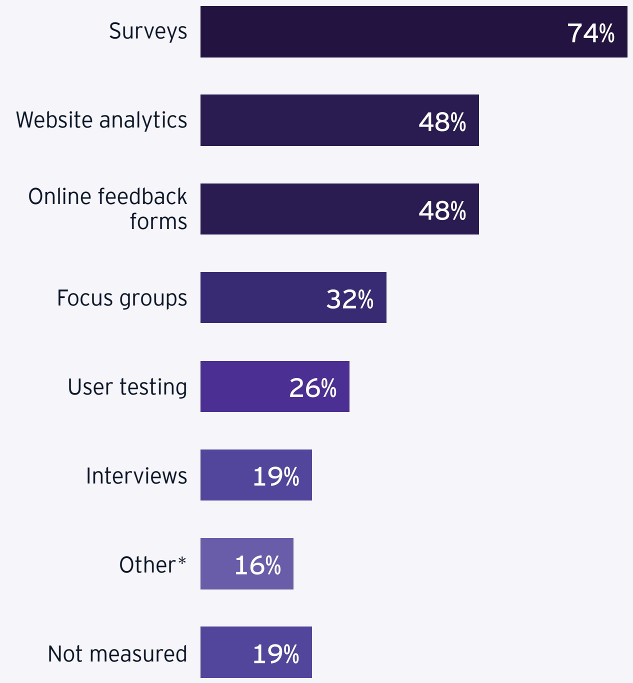
When asked about their biggest challenges to providing the desired taxpayer experience, tax administrations share many common challenges while also confronting issues unique to their states or recent events. In response, administrations are employing a range of initiatives to overcome these barriers to improving taxpayer experience.

Hiring, training and human resource constraints are widespread and fundamental barriers to taxpayer experience. At the center of the taxpayer experience are tax administration employees responsible for deploying new services, programming systems, designing and deploying communications, and handling taxpayer inquiries. Many tax administrations are faced with more demands on their limited staff than can be accommodated with existing resources or training. In some instances, lingering COVID-19 pandemic-era hiring constraints are still in place, further limiting available human resources. As mentioned earlier, many tax administrations continue to struggle with high turnover rates, challenges finding qualified workers, long onboarding periods and inadequate training challenges.

Figure 17. Taxpayer experience measurement tools used by tax administrations

Q Does the administration measure taxpayer experience through any of the following instruments?

[Please select all that apply.]



* "Other" includes customer service experience groups, community engagement workshops, listening sessions, feedback from industry groups, etc.

> “Customer service enhancements can lead to the need for additional resources, and large improvements or new methods of delivering customer experience [that] need to be deployed.
>
> West region tax administration

Communications is one of the most visible elements of taxpayer experience where challenges can greatly impact the taxpayer experience. On a basic level, tax administrations are challenged to deal with peak call volumes near filing deadlines using limited staff and ensuring those staff have been trained sufficiently to provide high-quality and efficient service. As discussed earlier, to support tax administration, recruitment and retention may help reduce call volumes, reduce wait times and provide training opportunities for tax administration staff.

Tax administrations are overcoming these challenges by moving customers away from phone communications to alternative communications channels such as web messaging, chatbots, secure email or self-service portals.

Tax administrations also note that email communication efficiency is limited due to email security protocols required to protect taxpayer personal identifying data. Investments in online reference materials may be rendered obsolete by legislative or regulatory changes that necessitate revisions to forms, press releases, taxpayer guides and instructions, and employee training. Tax administrations must also strike a balance between providing accessible, understandable communications to taxpayers, leveraging behavioral insights to improve communications and ensuring that information is accurate and precise enough to avoid creating accidental noncompliance with applicable tax rules.

“

Our primary challenge lies in ensuring that our communication and letters are easily understandable for taxpayers ... confusion results in a surge of incoming calls and emails, and subsequently, a decrease in overall compliance rates.

West region tax administration

“

The biggest challenge to providing our taxpayer experience is “making sure external communication is up to date, including public written statements, forms, website and social media.

Northeast region tax administration

“

The biggest challenge to providing our desired taxpayer experience is providing information to taxpayers that is easy to understand. That includes continuing to improve the language in our tax forms and letters, providing more information in foreign languages, and continuing to have excellent customer service when our taxpayers call with complex questions or issues.

Midwestern region tax administration

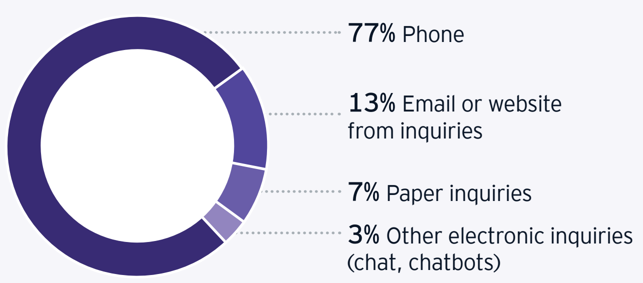
7.2 Communications with taxpayers

Effective and timely communication is critical to the taxpayer experience and efficient collection of revenue. Tax administrations responding to the survey field thousands of phone calls and other inquiries annually while adopting new technologies to reduce wait times and provide services in languages other than English. Seventy-four percent of tax administrations track the number of incoming correspondence and inquiries received from taxpayers.

Phone remains the dominant taxpayer communication channel. While tax administrations have been actively implementing digital communication channels, 77% of all communications with taxpayers are by phone, as shown in Figure 18. Email and website queries are the second most common form of taxpayer contact at 13%, while written communications on paper (mail or in-person delivery) account for 7% of all communications. Newer technology such as chatbots account for only 3% of overall communications although this technology is still new in many states.

Figure 18. Share of taxpayer communications using each channel

Q What was the number of incoming correspondence or inquiries to tax administration in the prior FY?



The volume of telephone calls equals nearly 20% of number of returns filed. Many taxpayers may call more than one time in a year to resolve on ongoing question or issue or may be calling back after an abandoned call attempt, yet this ratio reveals the significant scale of call center operations required by the typical tax administration. The average wait time of 7.5 minutes results in approximately 12% of incoming calls as shown in Table 6.

Table 6. Telephone call center quality metrics

Metric	
Telephone calls received (answered and abandoned)	792,622
Telephone calls received per tax return filed	0.18
Average wait/hold time before call answered	7.5 min.
Percentage of calls abandoned	12%

Chatbots are available to taxpayers at 43% of tax administrations surveyed, as shown in Figure 19. While the volume of customer interactions currently handled by chatbots remains low in comparison to call centers or other communication channels, chatbots are now available at one-third of the tax administrations responding to the survey. The level of chatbot sophistication varies across administrations, with 13% of administrations indicating at least some chatbots provide user authentication allowing more personalized responses and information to be provided to taxpayers. Chatbots that go beyond frequently asked questions and provide robust conversations, utilize AI or escalate to a live human agent are available in limited circumstances leaving opportunity for enhancement.

> "Our target is to have the chatbot integrated into entire Department of Revenue website.
>
> Northeast region tax administration

Tax administrations are expanding communication options to include languages other than English. Seventeen percent of US citizens 18 and older speak a language other than English as their primary language, making communications in languages other than English a useful tool to improve voluntary compliance.[16] Telephone calls are the most common taxpayer communication approach, and our survey finds that 83% of call centers operated by state and city tax administrations provide telephone services in other languages, as shown in Figure 20. Written communications and forms are also often available in other languages as may be required by some states, including tax forms published by 42% of the tax departments. Chatbots, the newest technology among the communication channels, are provided in languages other than English by 8% of responding tax administrations. Approximately 10% of tax administrations have current programs underway to expand non-English services.

Informational videos are a current focus area for expanding taxpayer communications. Many taxpayers are interested in helping themselves rather than interacting with a costly and resource-constrained call center agent. For many taxpayers, an instructional website video presented in a non-technical tone may be a more accessible means of obtaining basic information than locating and reading form instructions or a topic-specific guide. Many tax administrations report having initiatives underway to expand the use of informational videos and guides.

Figure 19. Are chatbots or other virtual assistants available to taxpayers?

Q Does the administration offer the ability for taxpayers to interact with chatbots or other virtual assistants (e.g., voicebots)?

Please select all that apply.

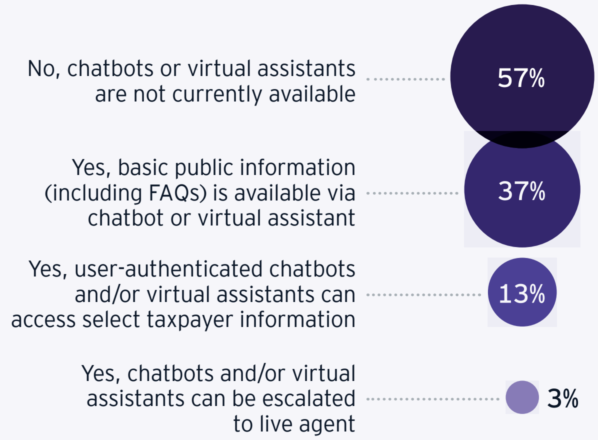
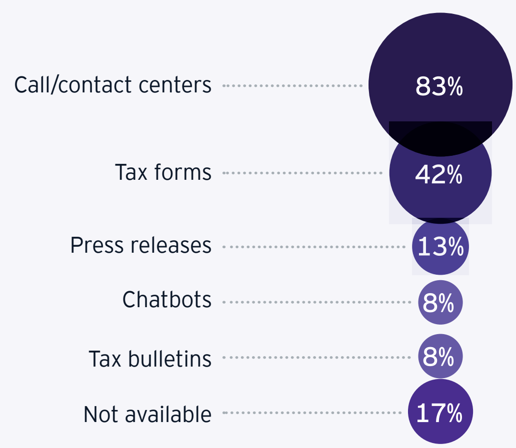


Figure 20. Communication channels available in languages other than English

Q Does the administration provide services to taxpayers in languages other than English?



Technology can provide solutions to staffing and communications challenges, but tax administrations often need to overcome a patchwork of vendors and legacy systems. Tax administrations often run core systems on decades-old mainframe hardware that is costly to maintain and modify. In many states, additional functionality is achieved through application programming interfaces (APIs) that provide modern customer-facing systems and software with access to core systems, but such solutions are not seamless. Because modifications are costly, many discretionary programming hours are spent executing changes related to tax law and regulation changes, rather than developing new functionality or improving the user experience. Taxpayers expect their experiences with tax administrations and other government enterprises to resemble their experiences with other customer-facing online activities from the private sector, such as banks and retailers, where all systems can be accessed on a mobile device, identity is unified across systems, documents can be scanned, payments can be scheduled, and integrated account activity can be monitored to include account history, payments and refunds. In addition, taxpayers are seeking proactive communications with tax administrations through a variety of channels that include but not limited to; 24-7 access to information via chatbots/virtual agents, robust websites and a human-centric interaction with call centers.

Data security and fraud protection constrain customer experience progress. Tax administrations must prioritize data security ahead of taxpayer experience improvements. Reducing the number of steps required to accomplish a website task is a major objective of user experience improvement, which is often thwarted by the need to maintain robust user authentication requirements. Even direct-to-taxpayer communications may be limited in the amount of taxpayer-specific information they can provide when sent electronically. Many tax administrations lack a secure electronic messaging platform or taxpayers have difficulty utilizing secure electronic messaging systems, meaning that taxpayers often need to respond to an electronic communication or paper notice with a phone call.

“

We are working on an aging technology platform (implemented between 1999-2005), and yet our taxpayers expect their experiences with us to mirror the ones they have with banks, utilities, retailers, etc. They want self-service, mobile-enabled transactions available at the time and on the platform of their choosing, while our understaffed Technology team is spending much of their time trying to keep our “vintage” system up and running.

Southeast region tax administration

“

There is a constant need to keep up with customers’ changing expectations and the state is unable to respond as quickly as private industry.

West region tax administration

“

Technology is a challenge to achieving our customer experience goal. We want our online customer system secure **and** easy to use.

West region tax administration

Legal and statutory complexity and tax law changes require extra resources. Many tax administrations responding to the survey point to the complexity of tax rules and, in some cases, the scale of recent tax law changes, as one of the impediments to delivering an elevated taxpayer experience. Certain tax law changes that require reworking tax forms, back-end processing procedures, validation processes or even connecting to new sources of information, consume significant discretionary programming resources that could have otherwise been spent on system improvements. In many states, inflexible legacy systems cannot easily be modified to accommodate tax law changes, compounding the issue.

Initiatives to expand alternative communications channels may relieve call center peak volumes. One of the keys to relieving overburdened call centers is to provide taxpayers with an alternative means of obtaining information or support. Roughly one-third of tax administrations surveyed have current initiatives to expand alternative communications, enhance taxpayer educational resources, or simplify notices and instructions via plain language initiative. Alternative communication channels may include videos, chatbot and SMS/text messaging.

Upgraded core systems provide additional functionality. For some tax administrations, transition away from decades-old mainframe systems to modern systems provides a leap forward in user functionality and taxpayer experience. In some cases, this leap forward includes providing mobile access, interconnection of previously separate systems, enhanced efficiency and greater access to information. New core systems are also likely to be more easily adapted to handle tax law changes or other modifications that are currently costly to implement on legacy mainframe systems.

“

[Our state] is challenged by significant tax law changes that require up to 90% of our discretionary system programming hours per year. These changes crowd out certain technological changes that we would otherwise prioritize. Providing information to our taxpayers in a manner that is discoverable and understandable is a big concern for the Department of Revenue, especially when tax law changes.

West region tax administration

“

We continue to look for ways to provide additional customer service and self-service options for customers. This may include providing additional online filing and payment options, chatbots, phone center call-back capabilities, increased translated materials, continued accessibility and usability testing, and more. Some of these initiatives are already in process and are expected to be released soon. Others are in the beginning stages and require more analysis before they can get underway.

Midwest region tax administration

“

We are currently in the process of implementing a major project to transition key tax and collections systems off a … mainframe environment to a modern platform, which will improve the experience of both internal users and taxpayers alike by improving processing, communication and availability of electronic services.

Midwest region tax administration

Feedback and analytics to improve taxpayer experience. In many administrations surveyed, taxpayer experience is being measured and analyzed to identify areas of improvement. These activities range from customer feedback forms, surveys, focus groups, and data analytics to identify specific taxpayer demographics where additional outreach or communications may increase voluntary compliance or uptake of available programs such as low-income tax credits.

“

We plan to improve our customer experience through ‘continued expansion of voice of the customer program so that we are actively using customer feedback to drive agency business decisions — customer impact analysis, listening sessions, usability testing, etc. Looking at our customer data and marrying it up to other demographic data sets to determine where we can do better geographically and demographically ... [tax credit] outreach, for example.

West region tax administration

7.3 Use of advanced and emerging technology

Ultimately, many of the taxpayer experience barriers noted in this section may be mitigated by advanced technology that relieves the load of tax administration employees and provides greater self-service access to taxpayers.

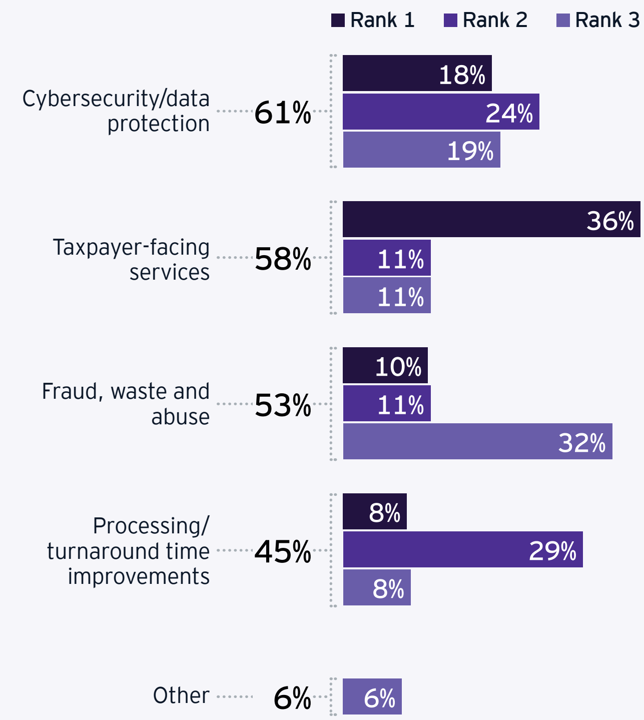
Tax administrations view advanced and emerging technology as having the potential to make the largest impact on taxpayer-facing services. When asked where emerging technology will make the largest improvement and impact on the administration, the highest ranked response was taxpayer-facing services. Robotic process automation, machine learning, AI and other technologies have the potential to speed return processing time.

Intelligent document processing and robotic process automation are the most adopted advanced technologies. Given their commercial availability and the potential to automate existing processes, Intelligent document processing and robotic process automation are used in at least an administrations core functions in 33% of administrations, as shown in Table 7. No administrations responding to the survey have moved beyond the request-for-information stage in blockchain or other advanced or emerging technologies.

AI is being conducted by tax administrations through pilot programs. Fifteen percent of administrations are conducting pilots or are already using emerging technologies such as AI in core functions. These initiatives allow agencies the ability to use this technology in a controlled manner. According to the 2023 State CIO Survey, when asked which emerging IT area will be the most impactful in the next three to five years, the top answer by 53% of State CIOs was generative AI.[17] While 38% of tax administrations responding to the survey indicated that they are conducting proofs of concepts (POCs) to assess the potential of the technology on tax administration operations without unnecessary risks. Additionally, none of the administrations responding to the survey have moved beyond the request-for-information stage in blockchain.

Figure 21. Largest impact of emerging technology in the administration

Q Where will emerging technology make the largest improvement and impact in the administration?



Note: "Other" includes analytics, machine learning, operational transparency, compliance, audit activities, etc.

Table 7. Technology adoption: percentage of administrations at each phase of adoption, by emerging technology

	No planned use	Proof of concept	RFI issued	RFP/RFQ issued	Pilots being conducted	Used in core functions	Deployment across administration
Artificial intelligence	47%	38%	0%	0%	9%	6%	0%
Robotic process automation	45%	27%	3%	0%	9%	12%	3%
Intelligent doc. processing	30%	27%	12%	0%	6%	21%	3%
Machine learning	55%	15%	3%	3%	12%	9%	0%
Blockchain	84%	13%	3%	0%	0%	0%	0%
Other	88%	9%	3%	0%	0%	0%	0%

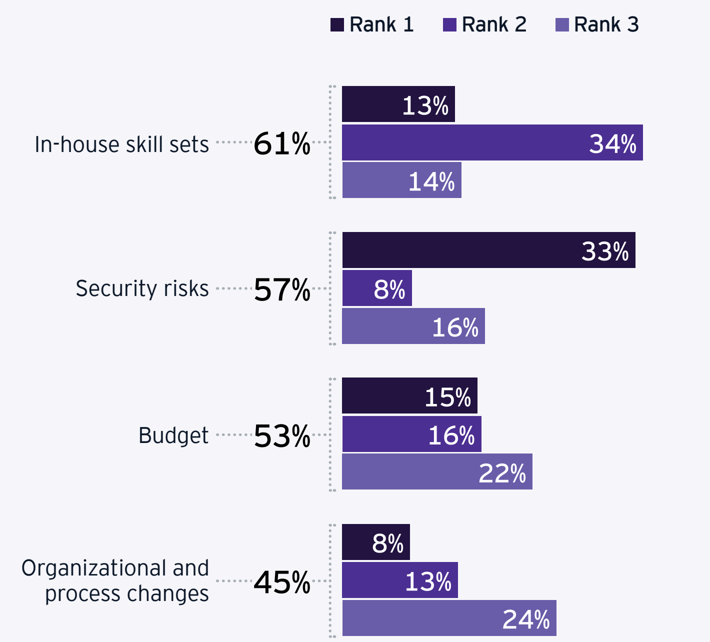
Notes: AI = artificial intelligence, RPA = robotic process automation, intelligent doc(umentation) processing, RFI = request for information, and RFP/RFQ = request for proposals/request for qualification.

Tax administrations' largest barriers to technology implementation often arise from a human element. Hiring and staffing challenges often present the greatest barrier to tax administrations' desire to evolve their technology, with tax administrations ranking in-house skillsets consistently in the top three concerns. In many cases, insufficient staffing levels and insufficient technical knowledge is coupled with tax administrations' limited ability to recruit and hire staff in a competitive environment. Many administrations responding to the survey noted stiff competition with private-sector opportunities and wage levels, in some cases compounded by state requirements to have a competitive hiring process for each position, which limits the ability to hire known qualified candidates.

Tax administrations rank security as the number one concern. Deploying technology requires trained and knowledgeable tax administration staff to oversee and maintain it, making the sufficiency of those staff a top concern for tax administrations considering any technology. However, given the nascency of these emerging technologies, their security profiles are the most common top-ranked concern of tax administrations.

Figure 22. Key concerns with the adoption of emerging technology

Q What are the administration's key concerns with the adoption of emerging technology?



Budget challenges range from absolute dollar amount to demonstrating return on investment to secure capital funding. Many administrations responding to the survey cited budget concerns among the challenges they encounter when trying to undertake technology, as shown in Figure 23. Budget is made even more scarce by the high cost of maintenance of legacy systems requiring frequent modifications due to legislative changes.

The majority of tax administrations responding to the survey provide some level of access to its systems through application programming interfaces (APIs), as shown in Figure 24. APIs can assist administrations in accessing and consuming information in real time thus leading to streamlining operations. APIs can also help eliminate manual processes, which save time and reduce errors, enhance compliance through tracking transactions in real time, and improve accuracy in automating complex calculations, which reduces human errors. All of these may ultimately lead to lower cost for the tax administrations.

> “
>
> Limited funding dictates that we focus on modernizing technology assets that are end of life or have the broadest ROI. It is also critical that we maximize the life of implemented systems, often delaying improvements and passing on the last technical advances to save money.
>
> Midwest region tax administration

Figure 23. Largest challenges in implementing technology improvements

Q What are the administration’s largest challenges in implementing technology improvements?

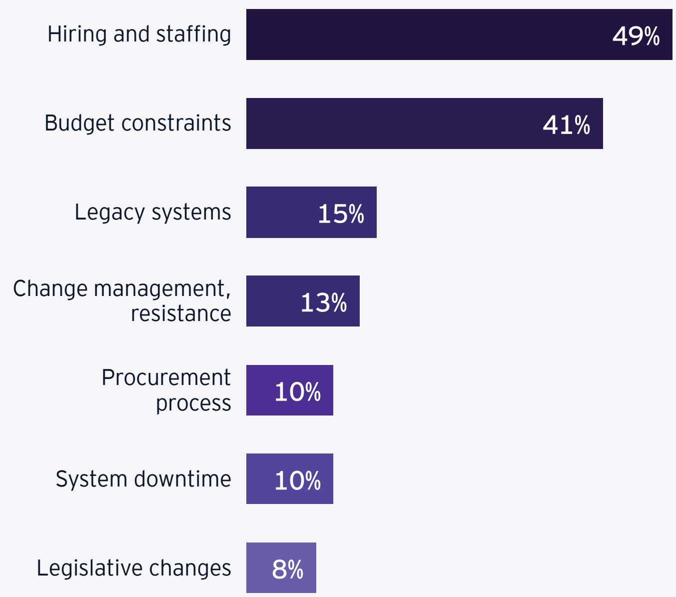
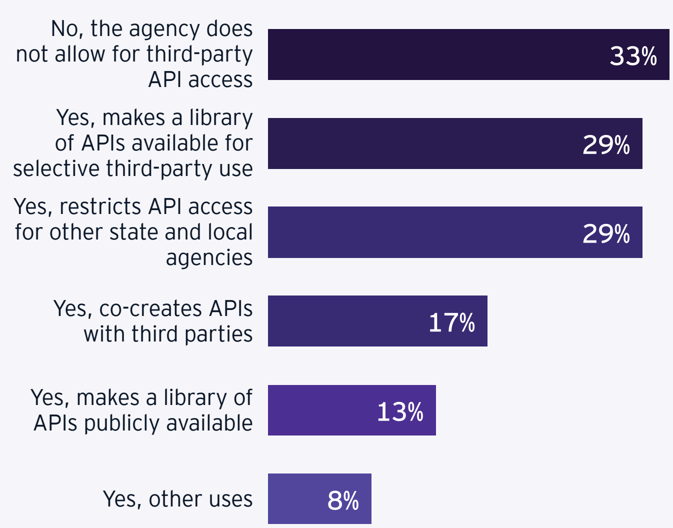


Figure 24. Application programming interfaces (APIs) and third-party integration

Q Does the administration publish application programming interfaces (APIs) for third-party integration?



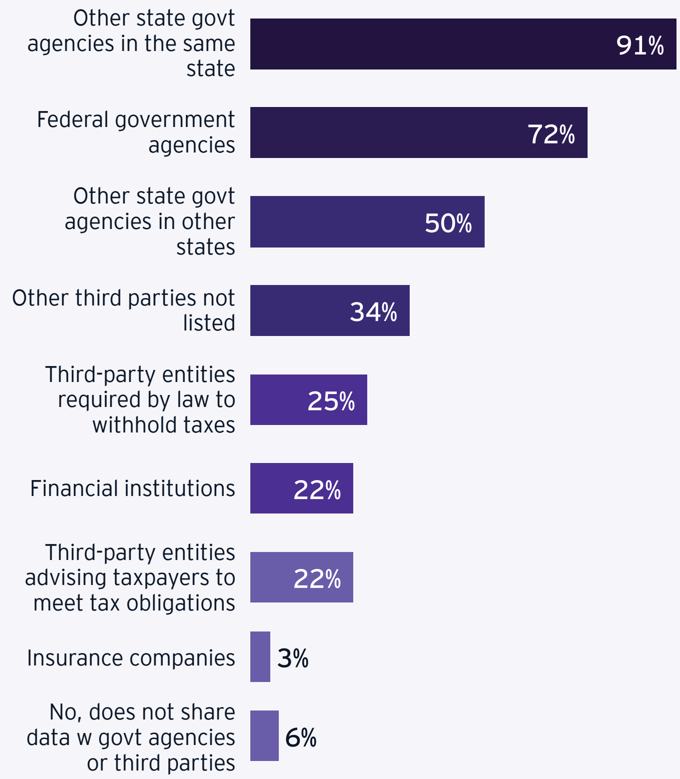
7.4 Data sharing and analytics

Technology improvements have enabled an expansion in data sharing and data analytics among tax administrations. These recent improvements have provided the ability to share data effectively and securely across agencies and geographical borders. APIs, for instance, have made it possible to integrate different databases and systems, facilitating smooth and timely exchange of data. The introduction of cloud storage solutions also provide a secure and accessible platform where shared data can be stored and accessed easily by authorized parties. In recent years, data analytics has been making a notable impact on the functioning of tax administrations. High-powered data analytics tools have become instrumental in identifying patterns, predicting taxpayer behavior and detecting fraud or non-compliance.

Tax administrations routinely share data with federal and state agencies in the same states, but sharing outside the state or with third parties is less common. Most tax administrations often share information with other state and federal agencies either during the course of normal tax administration duties via memorandum of understandings (MOUs) or due to legislative mandates. The most common practice is for tax administrations to share data with state agencies within the same state. Common examples include labor departments for eligibility for unemployment benefits, child support agencies to ensure that child support payments are properly deducted, court systems for potential debt payments, or with state student finance agencies for collection of student loan debt.

Figure 25. Data sharing

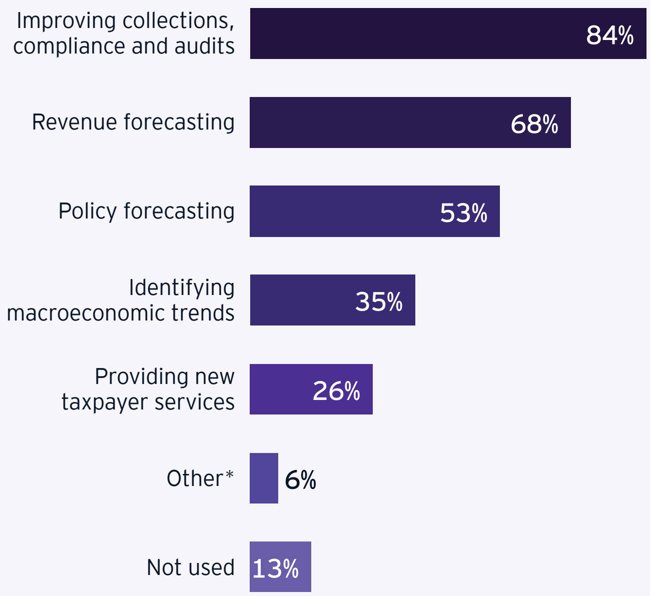
Q Does the administration share data at regular intervals with other government agencies and/or third parties?



Tax administrations most often use advanced data analytics to improve collections, compliance and audits. As shown in Figure 26, 84% of tax administrations responding to the survey report some form of advanced data analytics to improve collections, compliance or audits. By utilizing applications such as AI and machine learning, tax administrations are enhancing the impact of fraud detection. Similarly, advanced analytics applications assist in analyzing data to identify gaps in tax collections and devising strategies to address these gaps. Routine revenue forecasting and policy forecasting (related to proposed changes and revenue impacts) are the next most common uses of advanced data analytics, often involving statistical packages that can provide econometric forecasts or microsimulation models that can estimate changes in taxpayer behavior based on tax return information. Tax administrations surveyed also conduct advanced analysis to identify changes in macroeconomic trends, often in conjunction with revenue forecasting analyses. Less commonly, tax administrations use data analytics to provide new taxpayer services.

Figure 26. Advanced data analytics and statistical techniques to improve inferences

Q Does the administration use advanced data analytics, statistical techniques to improve inferences, for any of the following purposes?



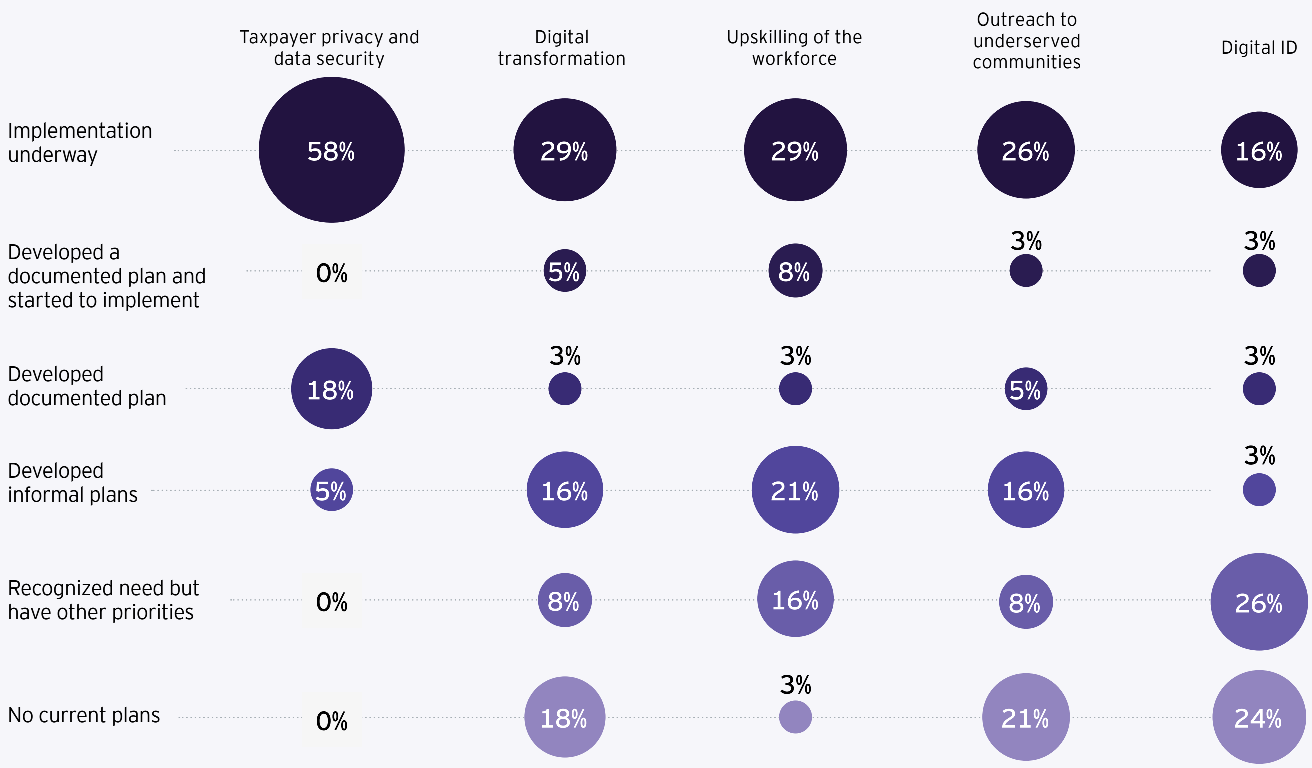
* "Other" includes fraud prevention and detection.

8 Forward-looking strategies

As tax administrations look to improve efficiency and execute their mission to collect vital revenues, they are executing strategies across a number of priority areas. These strategies include improvements to taxpayer privacy and data security, digital transformation, upskilling of the workforce, outreach to underserved communities and digital identification. As shown in Figure 27, 58% of tax administrations surveyed currently have privacy and data security initiatives underway, with another 19% having developed documented plans.

Figure 27. Forward-looking tax administration strategies

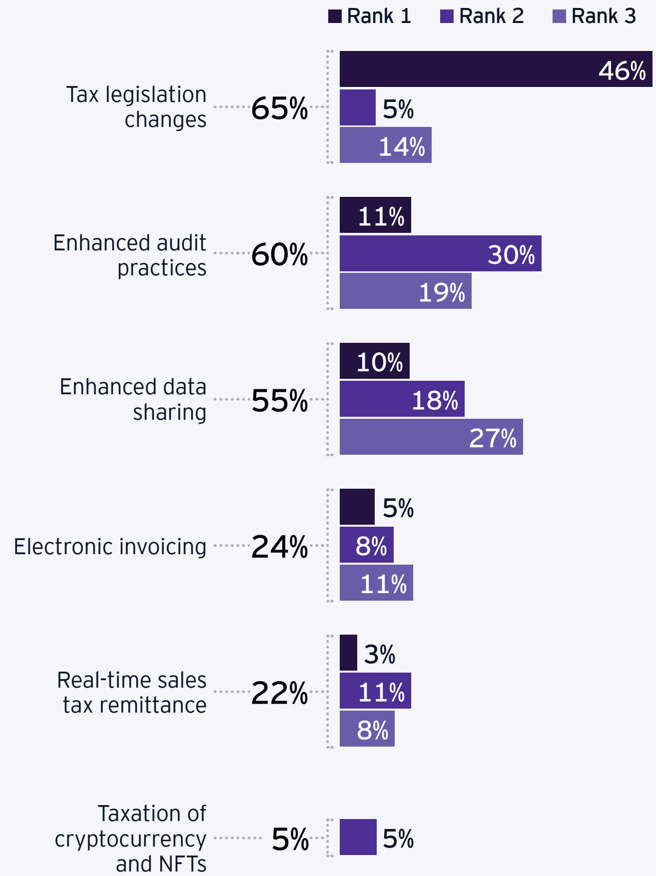
Q Does the administration currently have a strategy for any of the following:



Tax administrations responding to the survey view tax legislation as the primary way to enhance tax collections over the next three to five years, as shown in Figure 28. While enhanced audits, data sharing, electronic invoicing and real-time sales tax remittance are viewed by tax administrations as having some potential for enhancing tax collections, changing tax legislation is viewed as the number one approach for raising tax revenue. Tax administrations responding to the survey also noted that while cognizant of emerging trends in the digital economy, currently there is little focus on cryptocurrency and NFT taxation as a means of enhancing tax collections.

Figure 28. Enhanced tax collection topics

Q Rank the following list of enhanced tax collection topics in the next three to five years.



9 Conclusion

Tax administrations have a broad set of responsibilities ranging from collecting revenue and enforcing adherence to tax laws to assisting with reporting of revenues, legislative analysis and bill drafting. To deliver these services, tax administrations depend on talented employees and digital infrastructure, which both play critical roles in providing a positive taxpayer experience and an efficient tax collection process. While administrations are making strategic investments in information technology, the survey finds that the skilled and trained administration employees are the key to successful transformations of the taxpayer experience.

Endnotes

Executive summary

[1] The survey results are comparable to 2022 US Census State Tax Collections data with total median revenues of $16.3b with a range from $2.4b and $280.8b. Differences between the survey and US Census data can be attributed to a smaller sample size in the state and city tax administrators, the inclusion of city tax authorities with state authorities, and reporting of separate authorities within the same state.

[2] US Bureau of Labor Statistics, "3. Employment status of the civilian noninstitutional population by age, sex, and race," https://www.bls.gov/cps/cpsaat03.pdf.

[3] "Full-Time Permanent Age Distributions," U.S. Office of Personnel Management, September 2017, https://www.opm.gov/policy-data-oversight/data-analysis-documentation/federal-employment-reports/reports-publications/full-time-permanent-age-distributions/.

[4] US Bureau of Labor Statistics, "Table 3. Distribution of employed wage and salary workers by tenure with current employer, age, sex, race, and Hispanic or Latino ethnicity, January 2022," https://www.bls.gov/news.release/pdf/tenure.pdf.

[5] US Bureau of Labor Statistics, "3. Employment status of the civilian noninstitutional population by age, sex, and race." https://www.bls.gov/cps/cpsaat03.pdf.

[6] Of the tax administrations surveyed, 28% have responsibilities to collect motor vehicle registration fees.

[7] Chatbots are software applications that use natural language processing (NLP) that can assist tax administrations to respond to taxpayer or employee inquiries, provide relevant information, or schedule tasks or reminders.

Profile of state and city tax administrations

[8] The survey results are comparable to 2022 US Census State Tax Collections data with total revenues averaging $28.7b with a range from $2.4b and $280.8b. Differences between the survey and US Census data can be attributed to a smaller sample size in the state and city tax administrators, the inclusion of city tax authorities with state authorities, and reporting of separate authorities within the same state.

Tax administration operations

[9] Excluding pass-through entities

[10] See: Publication 2104 (Rev. 12-2022) (irs.gov)

See: Publication 3744, Page 139 (Rev. 4-2023) (irs.gov)

Talent

[11] For tax authorities not participating in the survey, the average number of FTEs by tercile were used to impute missing values by total state tax collections as reported by US Census State Tax Collections.

[12] US Bureau of Labor Statistics, "3. Employment status of the civilian noninstitutional population by age, sex, and race," https://www.bls.gov/cps/cpsaat03.pdf.

[13] US Bureau of Labor Statistics, "Table 3. Distribution of employed wage and salary workers by tenure with current employer, age, sex, race, and Hispanic or Latino ethnicity, January 2022" https://www.bls.gov/news.release/pdf/tenure.pdf

[14] US Bureau of Labor Statistics, "3. Employment status of the civilian noninstitutional population by age, sex, and race," https://www.bls.gov/cps/cpsaat03.pdf.

[15] US Bureau of Labor Statistics, "Labor force statistics from the Current Population Survey," March 2024.

Taxpayer experience and technology

[16] U.S. Census Bureau. "Language Spoken at Home." American Community Survey, ACS 1-Year Estimates Subject Tables, Table S1601, 2022, https://data.census.gov/table/ACSST1Y2022.S1601?q=language spoken at home.

[17] See NASCIO, The 2023 State CIO Survey: The Force of Automation and the Reality of Modernization," 2023, https://www.nascio.org/resource-center/2023-state-cio-survey/.

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