

# Implementation of tax reforms in Sub-Saharan Africa

Tax reforms can help governments to mobilize domestic resources, improve equity, and reduce the costs of compliance and collection required to deliver services. This brief highlights implementation considerations reported in studies of tax reform in Sub-Saharan Africa. It does not focus on the impact findings of these studies.

Although low- and middle-income countries have critical service delivery needs, they generally collect less tax revenue than high-income countries. For example, while high-income countries collect an average of 40 per cent of their GDP through taxes,<sup>1</sup> the figure for a subset of countries in Africa is 16.6 per cent.<sup>2</sup> The relatively low proportion of taxes collected cannot be explained only by differences in statutory tax rates or tax structures. Low capacity for tax collection and enforcement also present challenges for many low-income countries.<sup>3</sup> High levels of informality can also make taxation in Sub-Saharan Africa more difficult.<sup>4</sup> In addition, fragility or conflict in some countries in the region can also act as barriers to building revenue.<sup>3</sup>

This brief derives from the governance EGM. It describes how the EGM conceptualized and operationalized governance, situates this topical area within the overall governance evidence base, and highlights research findings and observations from 11 studies on interventions related to tax reforms in Sub-Saharan Africa. The intended audience is DRG practitioners, with a focus on practical information and considerations to inform the planning and implementation of DRG programming and research.

Study findings are briefly summarized only for interventions for which authors discussed such information. Findings related to other interventions evaluated in the studies (but without implementation or research considerations) are not reported. The brief does not synthesize or quantify intervention effect sizes (as in a systematic review [SR]), nor does it replace the need for rigorous evaluation of DRG programming.

### Key messages

#### For practitioners

- Relying on local leaders' knowledge, using reliable systems to record business revenue, and sending reminders to taxpayers, among other factors, could potentially contribute to improving tax compliance.
- Conversely, delays in the delivery of tax reminders, and other logistical and infrastructure challenges, can present barriers to implementing tax reforms.
- Factors such as local presence, delivery methods, and taxpayer incentives could influence the cost-effectiveness of reforms.

#### For learning specialists, researchers, and commissioners of research

Suggested areas for future research include gaining insight into governments' setting of suboptimal tax rates, tracking tax compliance over longer timeframes, and building the evidence base on tax administration in low-income countries.

## Conceptualizations

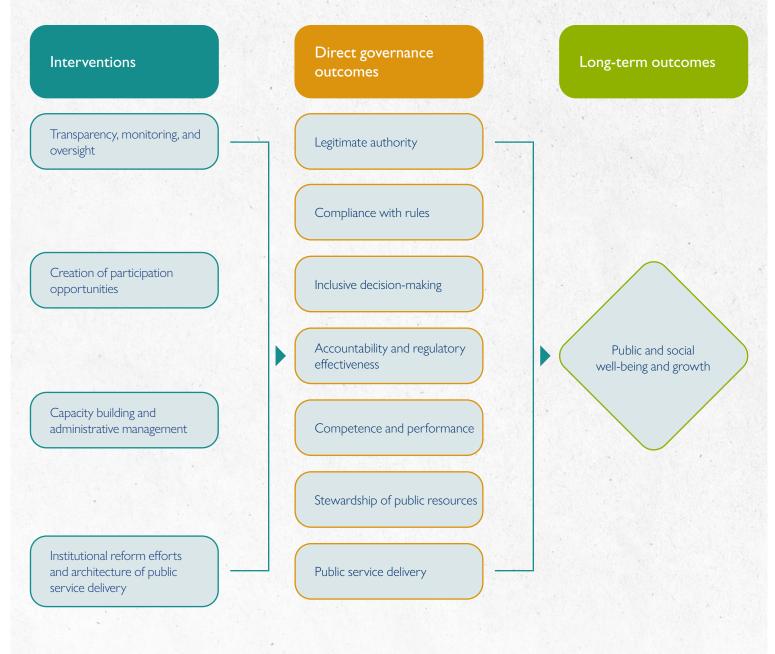
# Conceptualization of governance effectiveness and tax policy and administrative reforms



We considered tax reforms within a broader framework around governance. In the absence of an established set of criteria to define and measure "good" governance, we focused on aspects of governance effectiveness, including effectiveness of public administration, responsiveness, and accountability.<sup>56</sup>

We structured the conceptual framework around four main aspects of governance: (1) transparency, monitoring, and oversight to support accountability; (2) the creation of participation opportunities to include civil society in public decision-making and service delivery; (3) capacity building and administrative management to improve public functioning; and (4) institutional reform efforts and architecture of public service delivery to support the advancement and financing of a community's collective interests (Figure 1). This brief focuses on tax and management of non-tax revenue reforms as a governance strategy within the fourth group.

#### Figure I: Conceptual framework for governance interventions



# Availability of evidence

# Interventions and outcomes framework

We developed a list of intervention and outcome categories that are exhaustive and mutually exclusive and aim to represent the work of government agencies at different levels. The studies described in this brief relate to the intervention category of *tax policy and administrative reforms, and management of non-tax revenues.* Domestic resource mobilization reforms can be associated with modernizing or simplifying tax administration, engaging with the public, and making enforcement efforts that aim to increase tax compliance. The outcome category covered in this brief is *tax and non-tax compliance and contributions*. The interactive online map provides the full list and definitions of the interventions and outcomes included in the EGM.



## **Findings**

# Mapping the availability of tax reform evidence

An EGM is a **visual representation** of completed and ongoing studies that quantify **changes** attributable to a **program, which are structured around a framework** of interventions and outcomes. The EGM thus represents an important sample of the available body of evidence that can inform USAID decision-making about where and how to invest resources for development.

The governance EGM contains 504 unique studies, including 106 completed studies on tax policies, published since 2006. These studies most often reported outcomes related to tax compliance and contributions (n = 59) and economic growth and business performance (n = 42).

The set of studies focused on tax reforms were mainly conducted in East Asia and the Pacific (n = 47) and Latin America and the Caribbean (n = 34) regions. This geographical concentration was driven by studies in China (n = 44), a closed autocracy, and in Brazil and Argentina (n = 11 and 6, respectively), both electoral democracies following V-Dem's classification.<sup>7</sup>

We did not identify SRs on tax policy interventions. Hence, this brief is based on 11 primary studies, 10 quantitative evaluations, and one qualitative evaluation that studied tax reforms in Sub-Saharan Africa and reported outcomes related to tax compliance or revenue collection.<sup>8</sup>



# For practitioners

# Considerations for programming and implementation

#### Which factors could facilitate successful tax reforms?

By leveraging local knowledge to improve targeting, local leaders can potentially strengthen tax collection at the neighborhood level. One study in the Democratic Republic of the Congo (DRC) compared the effects of property tax collection on tax compliance when conducted by city chiefs versus state agents.<sup>3</sup> The authors found that, compared to state agents, city chiefs obtained higher tax compliance rates, which translated into a revenue increase. However, authors also identified that city chiefs collected more bribes.

Also, rather than persuading taxpayers to comply, city chiefs had informational advantages over state agents, which improved their targeting efforts. For example, state agents were more likely to rely on visible house characteristics for soliciting tax payments. City chiefs used other attributes to target households more likely to pay property taxes, such as their knowledge of households' income, employment, past tax payments, or views about the government.

Complementing optimal tax rates with improved tax enforcement can support compliance. Using the same data from the intervention described above, another study in the DRC estimated the effect of different property tax rates and enforcement approaches on tax compliance.9 The authors estimated that as government enforcement capacity improves, optimal tax rates can increase, especially if tax rates consider improved compliance behaviors due to enforcement. In a context where income tax compliance is low, the study also reported that lower tax rates increased compliance among property owners with lower incomes or

Technology-enabled efforts to monitor business transactions can help increase tax payments by reducing evasion. In Ethiopia, the government implemented a reform requiring firms to use electronic sales registry machines to record and automatically report their sales to the revenue agency. A study estimated the effect of introducing these machines on business tax payments,<sup>10</sup> and found that tax payments increased with their use. This was driven primarily by personally owned businesses, such as those run by family members, who are less likely to keep financial records and can more easily evade taxes in the absence of transaction reporting systems. The authors also reported that tax payments from institutionally owned firms (registered limited liability companies) increased, though the results were not statistically significant for all model specifications.

Signaling to taxpayers that they are visible to the government can assist in improving tax compliance. Another study in Ethiopia compared the effect of sending coercion letters with a threat of punishment to that of sending persuasion letters appealing to civic responsibility.<sup>11</sup> The authors reported that both letters raised business tax compliance, though this was higher for businesses that received the coercive letter. However, based on Ethiopian authorities' views, the authors theorized that the persuasion letter may have signaled to taxpayers that they were visible to the government, which could have motivated their compliance.



cash constraints.

#### What could be barriers to successful tax administration or collection?

Administration and capacity challenges can constrain efforts to improve tax compliance. For a

national study conducted in Eswatini, taxpayers were sent different letters to nudge them to comply with income tax requirements.<sup>12</sup> The authors reported positive effects for non-filers (taxpayers who had not filed or paid taxes previously), but not for active filers (those who had filed and paid taxes previously), nor for nil-filers (those who had filed before but did not report a tax liability). The authors reported that the messages increased filing from non-filers but did not encourage active filers to increase their tax liability or nil-filers to file positive tax.

Moreover, letters with deterrence or assistance-provision content performed best. At the same time, the study authors noted that delays in letter delivery or low receipt of letters can be a barrier to implementation. The messages were intended to be mailed six weeks before the tax filing deadline, but based on taxpayer response data, the researchers suspected delays in their delivery. The number of letters delivered was not available.

However, among those who had not filed taxes before, only 12 per cent had collected their letter, suggesting that the government tax system may hold inaccurate information for these citizens. Because taxpayers who were successfully reached were found to be responsive to the letters, the authors proposed using email, text messages, and phone calls to reach taxpayers in the future.

**Modes of communication with taxpayers should consider feasibility challenges.** A study in Rwanda experimented with different combinations of message delivery modes and content for business taxpayers in one of the country's provinces.<sup>13</sup> Among multiple messages, those that were more "friendly" – such as explanations of how tax revenue was used or deadline reminders – were reported to be more effective, though deterrence messages warning of fines or prosecution were found to be effective for small taxpayers.

Overall, emails resulted in the highest revenue gain, followed by letters and text messages. However, the authors identified logistical challenges that effected the delivery of letters and, to some extent, emails. Emails, letters, and texts were intended to be sent several months before the tax filing deadline but were delayed by about one month. While the authors estimated a 97 per cent delivery rate for text messages, the delivery rate of letters was estimated at 53 per cent. They also faced government server issues and were uncertain of the extent to which taxpayers received the emails as planned.

**Complex efforts to raise tax compliance should be balanced with state capacity.** A study tested "bottomup" (motivating vendors to pay taxes) and "top-down" (strengthening local tax enforcement and collection) approaches in selected districts of Malawi.<sup>14</sup> The authors reported that the bottom-up approach raised tax compliance, though they could not determine whether the government received the extra revenue due to data availability issues. They identified no effect on compliance for the top-down approach, and similar data limitations for reporting on revenue; areas that received both interventions did not increase compliance or revenue.

The authors observed implementation challenges and suggested that the interventions' multiple components may have overwhelmed state capacity to deliver as planned. For example, markets that met revenue targets were to receive incentives but their delivery was sometimes delayed. Moreover, some markets meeting the targets did not receive incentives, while others that had not met the targets received them. The authors hypothesized that these challenges may have reduced the potential effect of the interventions and suggested focusing on either, but not both, of the interventions, partly to match these with the state's capacity to deliver.

A lack of coordination among government entities can constrain tax reforms. A project in Mali aimed to implement a national mining action plan, which included support for collecting taxes in the mining sector.<sup>15</sup> The authors reported a lack of coordination between ministries meant to set up a committee to help address tax disputes. As a result, the committee was not established by the expected timeframe. The project implementers changed the approach to reducing tax disputes by providing training to tax auditors and developing guidelines to support tax disputes. Although the authors could not determine the extent to which tax disputes had decreased, they concluded that the project had likely contributed to reducing disputes by making the tax process for companies more predictable and consistently applied.

### For practitioners

#### What factors could contribute to the cost-effectiveness of tax reforms?

#### Local presence and reach can reduce administration costs while also yielding higher

**revenue collection.** The tax collection program in the DRC comparing city chiefs and state tax collectors estimated the cost-effectiveness of the program by reviewing data on marginal administration costs such as transportation and compensation.<sup>3</sup> While city chiefs were about two percentage points more likely to take bribes, the study found higher revenues and lower administrative costs for city chiefs. For example, state tax collectors received reimbursement for taxis from the provincial ministry to local neighborhoods, whereas city chiefs had lower transport costs as they lived nearer to the locations. The authors estimated that every US dollar spent on tax administration led to a 53 per cent higher return from city chief tax collection than from state tax collection.

Low-cost administration approaches, such as texts and emails to taxpayers, can contribute to costeffectiveness. The study in Rwanda comparing different business tax messages and delivery modes estimated the program's revenue gains based on additional taxes declared by taxpayers.<sup>13</sup> Focusing on statistically significant treatment effects, the authors' conservative estimate was that revenue increased by USD 6.8 million (in 2022 USD terms). Moreover, based on the cost of staff coordinating message delivery, they calculated a cost of USD 1.35 per letter, USD0.90 per text, and USD 0.30 per email. While letters and emails were found to lead to greater revenue compared to texts, there were administrative challenges in delivering letters to recipients.

**Tailored assistance to help businesses formalize could be relatively high cost, though more research is needed.** A study in Benin conducted a cost-effectiveness analysis of personalized assistance interventions to improve formalization rates among firms.<sup>16</sup> While formalization rates increased, the authors estimated that the program cost per additional formalization was high (between USD1,530–2,741 in 2022 USD terms), possibly driven by the cost of tracking and visiting businesses across the city. Additionally, the authors compared the results of this intervention with those of a program in Sri Lanka that offered payments to firms to formalize.<sup>17</sup> Due to the high registration rates of the Sri Lanka program, the authors of the Benin study suggested that direct payments to incentivize formalization could be a more cost-effective alternative to a personalized support program.



#### Possible areas for future research

Three studies included in this brief focused on property tax interventions in Kananga, DRC –evaluating two property tax campaigns in 2018 and one in 2016.<sup>39,18</sup> They suggest that future research could be of value to, for example, better understand **why governments with low resources or tax collection capacity make suboptimal decisions about rate-setting or collection efforts,** such as overly high rates.<sup>9</sup> The study of the 2016 tax campaign reported that the it increased compliance as well as citizen political participation. The author speculated as to whether autocratic governments in low-income countries may prefer to collect fewer taxes as a means of reducing citizen participation and, therefore, accountability.<sup>18</sup>

Studies have also encouraged **additional research on tax administration in low-income countries.** For example, a study in Uganda noted that low-income countries may benefit from incorporating technology into its tax administration; however, more research is needed to generalize findings across similar contexts.<sup>19</sup> Likewise, the study in Rwanda observed that rigorous evaluations of tax reforms and the use of administrative datasets in low-income countries was possible, and that continued research would help to build a more representative evidence base.<sup>13</sup>

The study in Ethiopia evaluating the introduction of electronic sales registry machines focused on firms that already had

taxpayer registration. Hence, the authors noted that future research could explore how to **use electronic tax collection in the informal sector**, as it comprises a large proportion of the country's economy.<sup>10</sup> Interventions to include the informal sector in tax reforms were attempted by the study in Benin, which could also serve to inform future research.<sup>16</sup>

Regarding the sustainability of tax reforms, the study in Malawi suggested that future research could assess **whether the results of tax reform persist over time.**<sup>14</sup> The authors hypothesized that positive effects from the tax program depended in part on positive perceptions of the government among market vendors. They argued that it would be useful to identify whether market vendors remain disposed to comply with tax requirements if, for example, future government infrastructure projects did not meet their expectations. Similarly, the study in Eswatini suggested that **future research could track tax compliance behavior over longer periods** to help understand the mechanisms that lead to changes in tax compliance.<sup>12</sup>

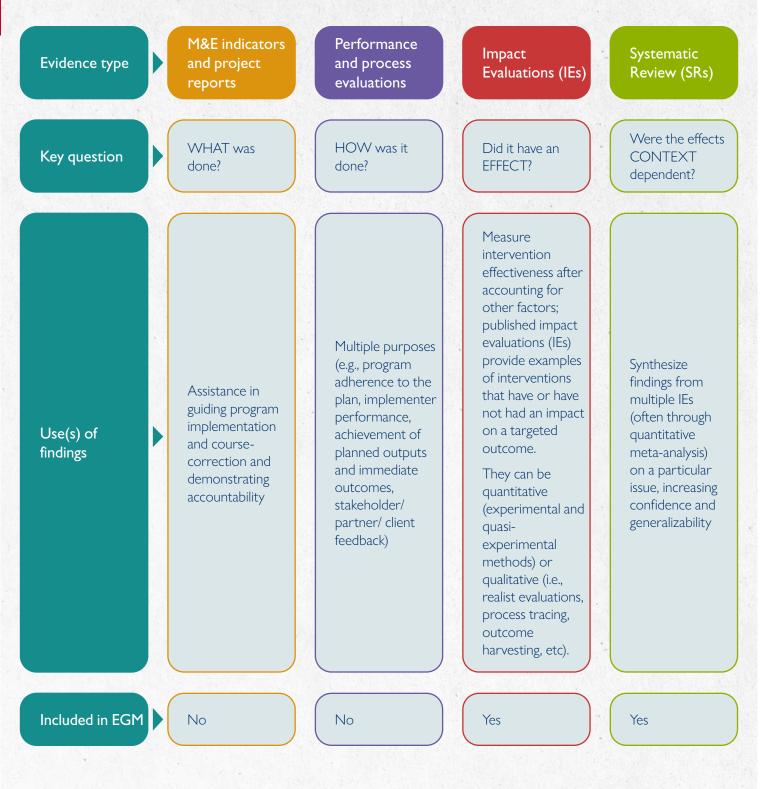
Finally, while evaluating the effect of tax policies and administration interventions was the most prevalent category in the governance EGM, we identified no SRs on the topic. **Future research could also focus on synthesizing primary studies to analyze the issue across settings.** 



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### About the evidence

#### Figure 2: What types of evidence are included in this brief?



In effectiveness evidence from IEs and SRs, **negative findings are just as important** as positive ones because they help to refine our understanding of what works (or not, and why or why not). In addition, the **absence of effectiveness evidence does not mean an**  intervention should be avoided, but rather highlights the potential benefit of an IE, particularly if the intervention:is innovative,

may be scaled up, or

■ is being considered as a potential model for replication elsewhere.

### Why evidence matters

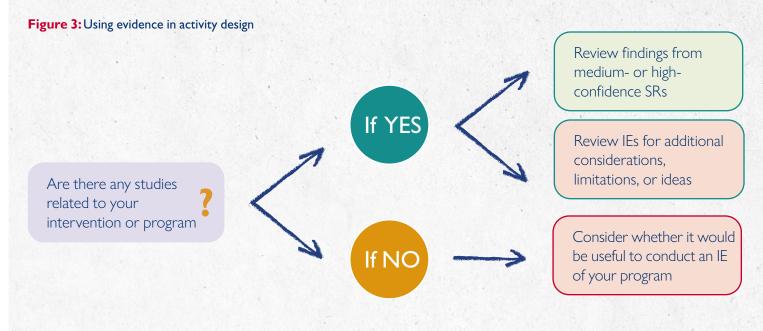
# Why is this important for practioners?

This brief (along with the associated EGM matrix and report) is designed to inform USAID practitioners' investments in interventions to support elections through voter education and information campaigns at multiple phases of the program cycle, including strategic planning, project design and implementation, activity design and implementation, monitoring, and evaluation.

- Results will feed into the technical evidence base in the learning phase of USAID's Collaborating, Learning, and Adapting (CLA) Framework.
- IE findings provide USAID practitioners with ideas about which interventions they may want to consider when developing a **program design**.

- Like IEs, SRs may include an explanation of relevant theories of change, which can be useful during the project and activity design stage.
- In SRs, the more consistent the findings are across contexts, the higher the likelihood that the approach may work in a new context.

We encourage practitioners to take a closer look at the Governance Evidence Gap Map to engage with the available evidence (Figure 3).



You can always reach out to political competition experts in USAID/ Washington at ddi.drg.elmaillist@usaid.gov if you have any questions, ideas, or suggestions related to evidence that may help inform the design of your project(s) and/or activity(ies).

# About the brief (i)

This brief draws on 11 IEs from one intervention category identified in the Governance Evidence Gap Map: tax policy and administrative reforms, and management of non-tax revenue. Reported findings and implementation considerations are illustrative and are not based on systematic synthesis.

The studies on which this brief is based were identified through the governance EGM.<sup>20</sup> The authors systematically searched for published and unpublished IEs and SRs through January 2022, and then identified, mapped, and described the evidence base of interventions that aim to strengthen good governance through governance effectiveness. The map

contains 19 SRs and 485 IEs. The characteristics of the evidence are described and mapped according to a framework of 21 interventions and 28 outcomes. The EGM can be viewed at: https://developmentevidence.3ieimpact.org/ egm/good-governance-through-government-effectivenessevidence-gap-map.

This brief was authored by Lina Khan and Constanza Gonzalez Parrao. They are solely responsible for all content, errors, and omissions. It was designed and produced by Akarsh Gupta, Mallika Rao and Tanvi Lal.





#### The 11 IEs discussed in this brief are shown with an \*.

<sup>1</sup> Besley, Timothy, and Torsten Persson. "Why Do Developing Countries Tax So Little?" Journal of Economic Perspectives 28, no. 4 (2014): 99–120. DOI: 10.1257/ jep.28.4.99.

<sup>2</sup> OECD, African Union Commission & African Tax Administration Forum. Revenue Statistics in Africa 2021. Paris: OECD Publishing, 2021. https://doi.org/10.1787/ c511aa1e-en-fr.

<sup>3</sup> \* Balán, Pablo, Augustin Bergeron, Gabriel Tourek, and Jonathan Weigel. Local Elites as State Capacity: How City Chiefs Use Local Information to Increase Tax Compliance in the D.R. Congo. Working Paper. Evidence in Governance and Politics (EGAP), 2021. https://egap.org/resource/local-elites-as-state-capacity-how-citychiefs-use-local-information-to-increase-tax-compliance-in-the-d-r-congo/. Accessed in September 2022.

<sup>4</sup> Graham, Errol and Moulaye I. Bamba. "Do Sub-Saharan African Countries Need a Home-Grown Tax System?" World Bank Blogs, March 4, 2020. https://blogs.. worldbank.org/africacan/do-sub-saharan-african-countries-need-home-grown-taxsystem. Accessed in September 2022

<sup>5</sup> United Nations. Governance and development. Thematic Think Piece. UNDESA, UNDP, UNESCO, 2012. https://www.un.org/millenniumgoals/pdf/Think%20 Pieces/7\_governance.pdf. Accessed in September 2022

<sup>6</sup> FCDO. Governance, Development and Democratic Politics. DFID's Work in Building More Effective States. Foreign, Commonwealth & Development Office, 2009. https://webarchive.nationalarchives.gov.uk/ukgwa/+mp\_/http://www.dfid.gov.uk/pubs/ files/governance.pdf. Accessed in September 2022

<sup>7</sup> Coppedge, Michael, John Gerring, Staffan I. Lindberg, Svend-Erik Skaaning, Jan Teorell, David Altman, Michael Bernhard, M. Steven Fish, Adam Glynn, Allen Hicken, Carl H. Knutsen, Kyle L. Marquardt, Kelly McMann, Farhad Miri, Pamela Paxton, Daniel Pemstein, Jeffrey K. Staton, Eitan Tzelgov, Yi-ting Wang, and Brigitte Seim. V-Dem Dataset v12. The V-Dem Institute, University of Gothenburg, 2022. https:// www.v-dem.net/vdemds.html. Accessed in September 2022

<sup>8</sup> The topic and geographical focus were selected based on the availability of evidence and the priorities of the DRG Center. Fourteen studies were originally identified, but we excluded three of them from this brief. One is an ongoing study as of the publication of the EGM; as such, information about implementation was not available (Muralidharan et al. 2019). Another study reported outcomes related to selfemployment rates (Ngwaba and Azizi 2019), which is outside the scope of this brief. A third study did not include considerations applicable to the focus of the brief (Sarr 2016).

<sup>9</sup> \* Bergeron, Augustin, Gabriel Tourek, and Jonathan L. Weigel. The State Capacity Ceiling on Tax Rates: Evidence from Randomized Tax Abatements in the DRC. EGAP Working Paper. Evidence in Governance and Politics (EGAP), 2020. https://egap.org/ resource/the-state-capacity-ceiling-on-tax-rates-evidence-from-randomized-taxabatements-in-the-drc/. Accessed in September 2022

<sup>10</sup> \* Ali, Merima, Abdulaziz B. Shifa, Abebe Shimeles, and Firew Woldeyes. Building Fiscal Capacity in Developing Countries: Evidence on the Role of Information Technology. CMI Working Paper WP 2015:12. Chr. Michelsen Institute, 2015. http:// publications/publication/?5675=building-fiscal-capacity-in-developing-countries. Accessed in September 2022 <sup>11</sup> \* Shimeles, Abebe, Daniel Z. Gurara, and Firew Woldeyes. "Taxman's Dilemma: Coercion or Persuasion? Evidence from a Randomized Field Experiment in Ethiopia." American Economic Review 107, no. 5 (2017): 420–424. https://doi.org/10.1257/aer. p20171141.

<sup>12</sup> \* Santoro, Fabrizio, Edward Groening, Winnie Mdluli, and Mbongeni Shongwe. How to Best Nudge Taxpayers? The Impact of a Tailored Letter Experiment in Eswatini. Working Paper 112. International Centre for Tax and Development, Institute of Development Studies (IDS), 2020. https://www.ictd.ac/publication/ nudge-taxpayers-eswatini-tailored-letter-experiment/. Accessed in September 2022

<sup>13</sup> \* Mascagni, Giulia, Christopher Nell, and Nara Monkam. One size does not fit all: a Field Experiment on the Drivers of Tax Compliance and Delivery Methods In Rwanda. ICTD Working Paper 58. International Centre for Tax and Development, 2017. https://doi.org/10.2139/ssrn.3120363.

<sup>14</sup> \* Martin, Lucy, Brigitte Seim, and Simon Hoellerbauer. Impact Evaluation of USAID/ Malawi local Government Accountability And Performance (LGAP) activity: final report. USAID, 2020. https://pdf.usaid.gov/pdf\_docs/PA00WFNP.pdf. Accessed in September 2022

<sup>15</sup> \* Hamkens, Torge and Tiemoko Traoré. Central Project Evaluation: Support to Good Resource Governance in Mali. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, 2021. https://mia.giz.de/qlink/ID=247800000. Accessed in September 2022

<sup>16</sup> \* Benhassine, Najy, David McKenzie, Victor Pouliquen, and Massimiliano. Can Enhancing the Benefits of formalization Induce Informal Firms to Become Formal? Experimental evidence from Benin. Policy Research Working Paper No. 7900. World Bank, 2017. https://openknowledge.worldbank.org/handle/10986/25704. Accessed in September 2022

<sup>17</sup> De Mel, Suresh, David McKenzie, and Christopher Woodruff. "The Demand for, and Consequences of, Formalization among Informal Firms in Sri Lanka." American Economic Journal: Applied Economics 5, no. 2 (2013): 122–150. DOI: 10.1257/ app.5.2.122.

18\* Weigel, Jonathan L. "The Participation Dividend of Taxation: How Citizens in Congo Engage More with the State When it tries to Tax Them." The Quarterly Journal of Economics 135, no. 4 (2020): 1849–1903. https://doi.org/10.1093/qje/ qjaa019.

<sup>19</sup> \* Jouste, Maria, Milly Isingoma Nalukwago, Ronald Waiswa, and UNU-WIDER. Do Tax Administrative Interventions Targeted at Small Businesses Improve Tax Compliance and Revenue Collection? Evidence from Ugandan Administrative Tax Data. WIDER Working Paper No. 2021/17. World Institute for Development Economics Research (UNU-WIDER), United Nations University, 2021. http://dx.doi. org/10.35188/UNU-WIDER/2021/951-8.

<sup>20</sup> Gonzalez Parrao, Constanza, Etienne Lwamba, Lina Khan, Ashiqun Nabi, Malte Lierl, Miriam Berretta, Jane Hammaker, Charlotte Lane, Katherine Quant, John Eyers, and Douglas Glandon. Strengthening good governance in low- and middle-income countries: an evidence gap map. New Delhi: International Initiative for Impact Evaluation (3ie), 2022.

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