

Working Paper

The hard road to higher revenues

Lessons from cross-country experience of domestic revenue mobilisation

Romal Sanjeeda (ORCID: 0009-0003-1282-2618) and Hazel Granger (ORCID 0009-0006-9005-2788)

September 2026

Abstract

Domestic revenue mobilisation (DRM) is central to development finance and the resilience of public finances. Pressures on DRM and ambitious estimates of revenue ‘potential’, however, risk creating unrealistic expectations of what countries can achieve in practice. To take stock of what countries have achieved so far, this paper gathers comprehensive historical performance trends on non-resource tax revenue (all taxes excluding those from natural resources) across 139 countries between 2010 and 2022, using the UNU-WIDER Government Revenue Dataset. Extending the analysis back to 1990, we also assess the historical frequency of revenue gains over five- and ten-year periods. Studies of Nepal, Uganda and Greece provide deeper analysis of the circumstances underpinning revenue performance in specific cases. We find that large increases in non-resource tax revenue are historically uncommon, but when achieved they are mostly sustained. Large increases have generally been observed under exceptional circumstances, including post-conflict recovery, crisis-driven fiscal adjustment, major tax policy reforms, rapid economic growth, formalisation or shifts in tax administration and compliance. The analysis also shows that similar changes in tax-to-GDP ratios can reflect very different underlying mechanisms, indicating their limitations as a measure of revenue performance. Economic structure, institutional capacity, tax composition, distributional implications, and the sustainability of revenue gains are all key factors in understanding the path of revenue performance. Country-specific conditions and historical experience are therefore important considerations in setting more realistic DRM targets.



Readers are encouraged to reproduce material for their own publications, as long as they are not being sold commercially. ODI Global requests due acknowledgement and a copy of the publication. For online use, we ask readers to link to the original resource on the ODI Global website. The views presented in this paper are those of the author(s) and do not necessarily represent the views of ODI Global or our partners.

© ODI Global 2026

ODI Global
4 Millbank
London SW1P 3JA
United Kingdom
www.odi.org

This work is licensed under CC BY-NC-ND 4.0.

How to cite: Sanjeeda, R. and Granger, H. (2026), *The hard road to higher revenues: lessons from cross-country experience of domestic revenue mobilisation*. ODI Global Working Paper. London: ODI Global (www.odi.org/en/publications/the-hard-road-to-higher-revenues/)

Acknowledgements

This report benefited from internal and external review. In particular, the authors would like to thank Frederique Dahan, Max Gallien and Pascal Oleng for their valuable comments on the draft. The authors would like to extend their special thanks to Miroslav Palansky for his insights and suggestions which helped us further improve the paper. The publication was edited by Jane Lanigan and production was coordinated by Maegan Rodricks. Opinions and any errors or omissions remain the responsibility of the authors.

About this publication

This report is based on research supported by the Centre for Tax Analysis in Developing Countries (TaxDev), a programme funded by the UK Government Centres of Expertise in Public Finance, part of UK International Development. The findings and conclusions contained within are those of the authors and do not necessarily reflect positions or policies of the UK Government. The work has been produced under ODI Global's Development and Public Finance (DPF) programme. The DPF programme of research and advisory work focuses on how governing bodies can best use their scarce resources to support prosperous and fairer societies.

About the authors

Romal Sanjeeda (ORCID 0009-0003-1282-2618) is a Research Fellow for ODI Global's Development and Public Finance Programme, managing research and policy advisory work on tax and development.

Hazel Granger (ORCID 0009-0006-9005-2788) is a Senior Research Fellow for ODI Global's Development and Public Finance Programme, leading ODI's research and policy advisory work on tax and development.

Contents

Executive Summary	8
1 Introduction.....	11
1.1 Study objectives and motivation	11
1.2 Methodology and data	13
1.3 Definition of non-resource tax revenue (NRTR).....	14
1.4 Analytical approach.....	14
1.5 Country groupings and comparisons	15
1.6 Treatment of Covid-19 period	15
1.7 Case study selection and method.....	16
1.8 Limitations.....	16
1.9 Tax-to-GDP ratios, tax effort and tax potential.....	16
2 Cross-Country Trends: Which improved, Which Didn't?.....	18
2.1 Global distribution of non-resource tax revenue	18
2.2 Historical frequency of revenue mobilisation	21
2.3 Persistence of large revenue gains.....	22
2.4 Countries with high increases in NRTR	23
2.4.1 Exploiting low-hanging fruit: revenue gains from major tax policy reforms.....	25
2.4.2 Tax administration modernisation and compliance improvements	26
2.4.3 Macroeconomic and sector-specific dynamics	27
2.5 Countries experiencing stagnation or decline	29
2.5.1 Indirect tax performance: the role of policy choices and structural change.....	30
2.5.2 Broad-based declines across tax categories and the influence of resource dependence	31
2.5.3 Sector-specific shocks and concentrated tax bases	32
2.5.4 Statistical and denominator effects	32
2.6 Regional and income group patterns	33
2.7 What the cross-country evidence tells us	34
2.8 Global average and the Covid-19 impact.....	35
3 Case Study: Nepal	36
3.1 Context.....	36
3.2 Revenue performance and trends	36
3.3 Composition of revenue: strengths and vulnerabilities	38
3.4 Institutional and strategic reforms	39
3.4.1 Tax policy measures	39
3.4.2 Tax administration and digitalisation.....	40

3.5 Lessons from Nepal	40
4 Case Study: Uganda	41
4.1 Context.....	41
4.2 Revenue performance and trends	42
4.3 Revenue composition: shifts and limitations	44
4.4 Administrative and institutional reform	45
4.4.1 Strategic planning and reform sequencing	45
4.4.2 Tax policy reforms.....	45
4.4.3 Revenue administration and compliance	46
4.5 Structural and political economy constraints.....	46
4.6 Lessons from Uganda.....	46
4.6.1 Uganda in comparative perspective.....	47
5 Case Study: Greece.....	48
5.1 Context.....	48
5.2 Revenue performance and trends	49
5.3 Composition of revenue: shifting burdens.....	51
5.4 Drivers of revenue change	52
5.4.1 Crisis-driven tax policy measures	52
5.4.2 Administrative and institutional reforms	52
5.5 Sustainability and political economy risks	53
5.6 Lessons from Greece.....	54
5.6.1 Greece in comparative perspective	55
6 Conclusions.....	56
6.1 Interpreting revenue performance in context	56
References.....	59
Appendix.....	65

Display items

Figures

Figure 1: Annual natural resource and non-resource revenue by country (2022)	12
Figure 2: Country distribution of non-resource revenue by income group (2022)	19
Figure 3: Distribution of changes in non-resource tax revenue ratios (2010–2022).....	19
Figure 4: Categories based on the total change in NRTR-to-GDP ratios ...	20
Figure 5: Historical frequency of NRTR increases over five- and ten-year periods (1990–2022).....	22
Figure 6: Top performers over the decade	24
Figure 7: Countries with decline in NRTR (2010–2022)	29
Figure 8: NRTR change by income group (2010–2022).....	33
Figure 9: NRTR change by region (2010–2022).....	34
Figure 10: Global average NRTR (2010–2022).....	35
Figure 11: Nepal NRTR performance trends (2010–2022).....	37
Figure 12: Uganda NRTR trends (2010–2023).....	43
Figure 13: Greece NRTR performance trend (2010–2023).....	51

Tables

Table 1: Summary of country sample	15
Table 3: Five-year persistence of NRTR gains, mobilisation windows (1990–1995 to 2012–2017)	23
Table 4: Summary drivers of improvement.....	24
Table 5: Summary drivers of decline	30
Table 6: Illustrative accounting decomposition of Greece's NRTR-to-GDP increase (2010–2022).....	50
Table A 1: Robustness of historical NRTR gains to overlapping and non-overlapping windows (1990–2022)	65

Acronyms and abbreviations

Covid-19	Coronavirus disease 2019
DRMS	Domestic Revenue Mobilisation Strategy (Uganda)
EU	European Union
FY	Fiscal Year
GDP	gross domestic product
GRD	Government Revenue Dataset
GST	goods and services tax
IAPR	Independent Authority for Public Revenue (Greece)
IMF	International Monetary Fund
IRD	Inland Revenue Department (Nepal)
IT	information technology
MoFPED	Ministry of Finance, Planning and Economic Development (Uganda)
NRTR	non-resource tax revenue, i.e. excluding revenue from natural resources – e.g. mining
OECD	Organisation for Economic Co-operation and Development
PAYE	pay-as-you-earn (tax)
pp	percentage point
TaxDev	Centre for Tax Analysis in Developing Countries
UNU-WIDER	United Nations University World Institute for Development Economics Research
VAT	value-added tax

Executive Summary

Domestic revenue mobilisation is central to development finance, particularly as aid flows decline, debt pressures rise and governments face growing demands for public services and investment and face repeated external shocks. Yet policy discussions and decisions often assume that countries can raise substantial additional tax revenue within relatively short timeframes. To take stock of recent domestic revenue mobilisation efforts, this paper asks a simple, more empirical question: what have countries actually achieved in practice?

Using the UNU-WIDER Government Revenue Dataset, the paper examines non-resource tax revenue trends across 139 countries between 2010 and 2022, complemented by a longer-run analysis of revenue gains from 1990 onwards and in-depth case-study research on Nepal, Uganda and Greece. This combined approach allows the paper to assess not only how often large revenue gains have occurred in the data, but also the country-specific conditions, reform episodes and institutional factors that help explain them. It finds that large increases in non-resource tax revenue are historically uncommon, but when achieved most of the gains are maintained. Over this period, the global average increased by only 1.4 percentage points of gross domestic product (GDP), from 16.0% to 17.4%. Fewer than 13% of countries – 18 out of 139 – increased non-resource tax revenue by more than 5 percentage points of GDP.

Where large gains occurred, they were typically associated with exceptional conditions rather than routine reform alone. These included post-conflict recovery, crisis-driven fiscal adjustment, major tax policy changes, rapid economic growth, formalisation, sector-specific booms or substantial improvements in tax administration and compliance. The findings do not imply that large revenue gains are impossible, but they show that such gains are rare and context dependent.

The analysis also shows that headline tax-to-GDP ratios can be misleading when interpreted in isolation. Changes in revenue-to-GDP ratios of similar orders of magnitude may reflect very different underlying processes. This conclusion emerges from the quantitative trends and is reinforced by the country case studies, which show that similar changes in revenue ratios can arise from very different economic, institutional and political processes. Case studies of Nepal, Uganda and Greece illustrate this point clearly. **Nepal** achieved rapid gains from a low base, supported by post-conflict

recovery, remittance-financed consumption and import-based taxation, but these gains proved vulnerable to external shocks.

Uganda's more gradual progress reflects sustained reform efforts constrained by informality, limited formal employment and a narrow tax base. **Greece** recorded one of the largest increases in the sample, but this reflected a combination of economic contraction, crisis-driven fiscal adjustment and genuine improvements in tax administration and compliance.

Revenue performance can be considered as a measure of not only how much tax is collected, but how it is raised and from whom. The composition of revenue gains matters: increases driven mainly by VAT (value-added tax), excises or import taxes may be easier to collect but can raise concerns about equity and vulnerability to shocks. The equity effects of consumption taxes depend on country-specific consumption patterns, informality and policy design. Sustainable revenue mobilisation depends on broadening tax bases, strengthening compliance, improving administrative capacity, reducing inefficient exemptions and building public trust in the tax system.

Key findings

- **Global progress on revenue mobilisation has been modest.** Across 139 countries, average non-resource tax revenue increased by only 1.4 percentage points of GDP between 2010 and 2022.
- **Large gains are rare but when achieved, most of the gains are sustained.** Only 18 countries increased non-resource tax revenue by more than 5 percentage points of GDP over the period. Looking into the historical data from 1990 onwards, in any 5-year period in which a country improved its NRTR-to-GDP ratio by at least 3 percentage points, 76% retained at least half of the gain five years later, while 46% retained the full gain or improved further. For increases of at least 5 percentage points, the corresponding proportions were 74% and 40%, respectively.
- **The key historical challenge has been achieving gains, rather than sustaining them.** Countries that achieved smaller gains were only marginally more likely to sustain them than countries with larger gains: for 2 percentage points and 1 percentage point gains, at least 75% of the gain was sustained in 66% and 67% of cases, respectively, while the full gain was maintained or exceeded in 51% and 55% of cases, respectively.
- **Exceptional circumstances matter.** Large increases were usually linked to post-conflict recovery, crisis-driven adjustment, major tax policy reforms, rapid growth,

formalisation, sector-specific recovery or significant administrative improvements.

- **Headline ratios can mislead.** Similar tax-to-GDP outcomes may reflect very different combinations of tax effort, economic structure, denominator effects, policy choices and administrative capacity.
- **Revenue composition matters.** Many gains came from indirect taxes, particularly VAT, excises and trade taxes. This finding is important for resilience, sustainability and equity, although recent studies suggest that distributional implications depend on country context, consumption patterns, informality and tax design.
- **Realistic target-setting requires context and credible measures.** Theoretical tax potential indicates possibilities, but setting targets still requires a grounding in country-specific historical context and quantified, credible reforms.

Policy implications

The evidence suggests that revenue mobilisation strategies should combine ambition with realism. Governments and development partners should avoid treating tax-to-GDP targets as simple benchmarks of reform success. Instead, they should assess revenue performance alongside indicators of compliance, tax morale, administrative capacity, equity, tax composition and sustainability.

For many countries, especially low-income economies with high informality and narrow tax bases, meaningful progress is likely to be gradual. Sustained improvements will depend less on one-off tax rate increases or new taxes. While there are examples of this in the data and case studies we reviewed, once the 'low hanging fruit' are achieved, further improvements will depend on long-term investments in tax administration, digital systems, taxpayer services, compliance management, institutional credibility and broader economic transformation.

The central lesson is that tax-to-GDP ratios are an important measure of revenue performance, but the key challenge is determining how realistic and sustainable increases can be achieved. Effective revenue mobilisation therefore requires attention not only to how much revenue is raised, but also to how increases in tax-to-GDP are achieved, including their distributional impact, durability and consistency with the country's economic and institutional realities.

1 Introduction

1.1 Study objectives and motivation

Domestic revenue mobilisation has become a central objective of development policy. Governments, international organisations and donors routinely set or advocate for ambitious tax-to-GDP (gross domestic product) targets, often informed by perceptions of significant unmet potential or low tax effort. Yet relatively little attention has been paid to a more basic question: what have countries actually achieved in practice?

While a large literature examines tax capacity, tax effort and tax potential, another strand of research has studied episodes in which countries achieved substantial increases in tax revenue. Less attention, however, has been paid to the historical experience of revenue mobilisation across a broad set of countries over an extended period. This paper contributes an examination of cross-country non-resource tax revenue (NRTR) mobilisation and explores the diverse mechanisms through which revenue gains (or losses) have occurred. Rather than focusing on theoretical revenue potential, the analysis highlights the historical pace, scale and drivers of revenue change, illustrating how similar tax-to-GDP outcomes can emerge from very different economic, institutional and political processes.

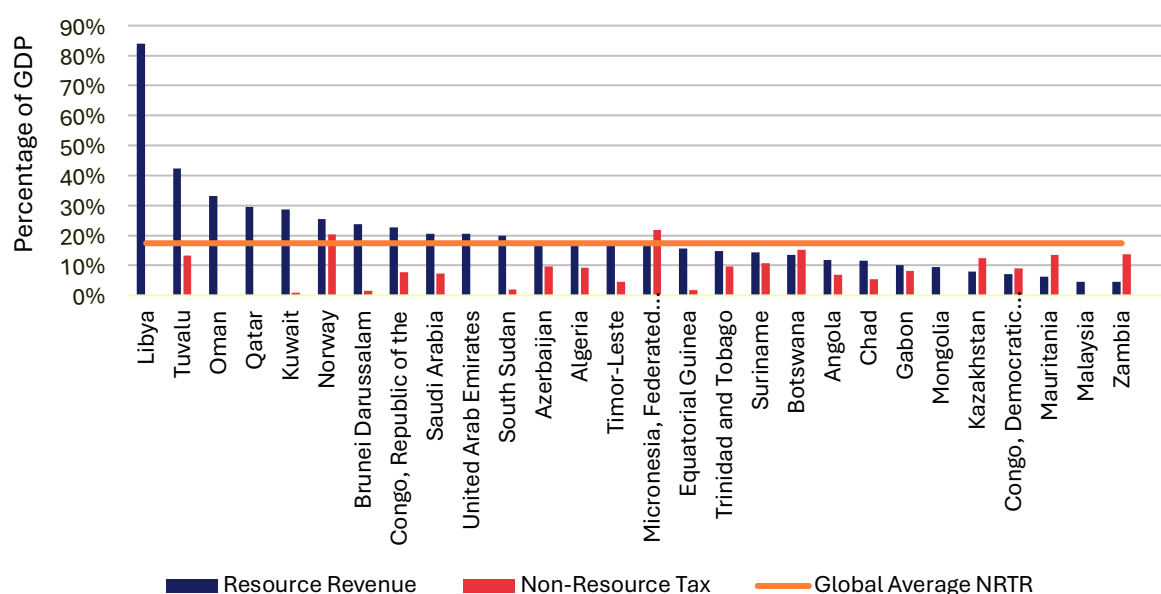
Tax revenues finance public services, infrastructure and social protection while reducing dependence on borrowing and external aid. Countries with stronger domestic revenue systems generally possess greater fiscal resilience and are better able to respond to economic shocks. As declining aid flows and increasing debt pressures place greater strain on public finances, strengthening domestic revenue mobilisation has become an increasingly important policy objective. Domestic revenue mobilisation is critical for developing countries to create fiscal space and support debt sustainability (Dordevic et al., 2025; Gupta, 2007).

Long-term trends show that, as domestic revenues expanded across Europe, spending patterns shifted from covering basic state functions (defence, security and administration) to a broader range of functions, including increasing levels of social spending (Piketty, 2020). Studies looking at a broader set of countries also find a positive correlation between tax revenues and social spending, particularly spending on health, education and social protection

(Reeves et al., 2015; Carter and Cobham, 2016; Long and Miller, 2017).

Unlike revenues from natural resources, which are often volatile and finite, NRTR, comprising income taxes, VAT (value-added tax), excises and property taxes, offers a more stable and predictable revenue base. Reliance on resource-based revenues has historically been a ‘double-edged sword’ for many countries, particularly those rich in natural resources. While these revenues can provide substantial fiscal income, they are inherently susceptible to commodity price fluctuations, resource depletion and geopolitical dynamics, often leading to economic instability and fiscal unpredictability. Many developing countries are also facing declining levels of official development assistance (ODA), increasing pressure to strengthen domestic sources of revenue. According to the International Monetary Fund (IMF), reductions in natural resource revenues and foreign aid have created a growing fiscal squeeze across developing countries, with increases in tax revenues only partially offsetting these losses (Mansour and Sawadogo, 2026).

Figure 1: Annual natural resource and non-resource revenue by country (2022)



Source: UNU-WIDER Government Revenue Dataset, 2025

Note: Non-resource revenue data for Libya, Malaysia, Mongolia, Oman, Qatar and the United Arab Emirates are unavailable for 2022.

In this context, NRTR has become increasingly important as a source of sustainable government financing, underpinned by the broader economic activities of a country rather than dependence on volatile external factors. Figure 1 highlights countries with natural resource revenues of more than 5% of GDP. Compared to average NRTR-to-GDP ratios globally, many of these countries have relatively low non-

resource revenue performance. While this may be a policy choice, considering the high levels of resource revenue collected, many have taken steps to diversify the tax base to build fiscal resilience.

Increasing NRTR is not a quick fix. It requires long-term sustained and context-specific reform. This paper therefore focuses on the trends and factors surrounding efforts to expand NRTR, rather than natural resource taxation.

1.2 Methodology and data

This paper draws primarily on the United Nations University World Institute for Development Economics Research (UNU-WIDER) Government Revenue Dataset, Version 2025, which provides internationally comparable data on government revenues disaggregated by tax type and revenue source.

The analysis covers 139 countries over the period 2010–2022, subject to data availability. Countries with insufficient time-series observations or major data breaks were excluded from trend analysis to preserve comparability across countries, regions and income groups. The final sample includes countries across all income levels and regions, enabling a broad assessment of global and regional patterns in non-resource tax revenue performance.

To provide a longer-run benchmark for the scale and pace of revenue mobilisation, the analysis also examines changes in NRTR over rolling five- and ten-year periods from 1990 onwards. The starting year reflects substantially broader country coverage in the Government Revenue Dataset (GRD) from this point, with 127 countries reporting NRTR in 1990, increasing to 161 in 1995 and 172 in 2000. For each country, changes are calculated where valid NRTR observations are available at both endpoints of the relevant window. The resulting panel is therefore unbalanced. The exercise is descriptive: overlapping windows are not treated as statistically independent observations but are used to characterise the historical distribution of realised revenue changes. As a robustness check, the analysis is also repeated using non-overlapping five- and ten-year periods.

Persistence is assessed for 5-year periods in which NRTR increased by at least 1, 2, 3 or 5 percentage points of GDP. For each episode, the NRTR level 5 years after the end of the mobilisation period is compared with the level at the beginning of that period. The retained share is calculated as the difference between the follow-up and starting NRTR levels divided by the original 5-year increase. The threshold groups are cumulative: an episode meeting the ≥ 5 percentage-point threshold is also included in the ≥ 3 , ≥ 2 and ≥ 1 percentage-point groups.

1.3 Definition of non-resource tax revenue (NRTR)

NRTR is defined as total tax revenue excluding revenues from natural resource extraction (such as oil, gas and mineral rents) and excluding social security contributions. NRTR includes taxes on:

- income, profits and capital gains (personal and corporate)
- goods and services (including value-added taxes and excises)
- international trade
- property and other non-resource taxes.

In this paper, the distinction between resource and non-resource revenues follows the classification used in the UNU-WIDER Government Revenue Dataset. The available data does not permit the systematic identification of all tax instruments associated with natural resource sectors across countries. Consequently, some taxes generated by economic activities linked to resource extraction (for example, corporate income taxes, withholding taxes, VAT or customs duties) may remain within NRTR where they are not separately identified as resource revenues in the underlying data.

The analysis therefore adopts the dataset's classification rather than attempting to construct an alternative definition of resource and non-resource revenues. Results for resource-rich countries should be interpreted with this limitation in mind.

The NRTR is used to isolate revenue sources that are more directly linked to domestic economic activity, tax administration capacity, and the fiscal relationship between the state and citizens. Resource-based revenues are excluded due to their volatility, exhaustibility and sensitivity to global commodity price fluctuations, which can obscure underlying trends in tax system performance.

1.4 Analytical approach

The analysis in this paper is largely descriptive and comparative in nature. It examines:

- levels and trends in NRTR-to-GDP ratios over time
- differences in performance across regions and income groups
- country-specific trajectories through selected case studies
- while non-country specific values are mean changes and unweighted.

The paper is intended as a descriptive assessment of historical experience rather than an evaluation of the causal impact of specific reforms. It focuses on identifying broad patterns, outliers and stylised facts that are relevant for policy discussions on revenue mobilisation.

This approach allows for a nuanced interpretation of revenue performance while avoiding strong assumptions about causal mechanisms that cannot be robustly identified with available data.

1.5 Country groupings and comparisons

Countries are grouped using standard World Bank income classifications¹ (low-income, lower middle-income, upper middle-income and high-income countries) and geographic regions. These groupings are used to assess differences in average NRTR levels, growth rates and revenue composition.

Table 1: Summary of country sample

Region/income group	No. of countries in the sample	Sample as a percentage of total
<i>Countries by region</i>		
East Asia & Pacific	22	71%
Europe & Central Asia	44	86%
Latin America & Caribbean	21	60%
Middle East & North Africa	9	43%
North America	2	100%
South Asia	6	75%
Sub-Saharan Africa	35	71%
<i>Country income groups</i>		
High income	50	76%
Low income	13	54%
Lower middle income	38	73%
Upper middle income	38	70%
Total countries in the sample	139	70%

Source: Authors' calculations

Comparisons across groups are based on unweighted averages, unless otherwise stated. This avoids disproportionate influence by large economies and allows the analysis to reflect the typical experience within each group. Year-to-year changes are reported in percentage points of GDP, rather than growth rates, to facilitate interpretation and policy relevance.

1.6 Treatment of Covid-19 period

The period under review includes the Covid-19 pandemic, which introduced a significant and temporary shock to economic activity and revenue collection in many countries. To account for this:

¹ World Bank income groups, 2025

- Trends are interpreted over the full 2010–2022 period, rather than focusing solely on short-term fluctuations.
- Pandemic-related declines in 2020–2021 are discussed separately where relevant.
- Cumulative changes are reported to distinguish structural trends from temporary shocks.

The analysis does not attempt to statistically isolate pandemic effects but highlights their implications for revenue volatility and resilience.

1.7 Case study selection and method

In addition to cross-country analysis, the paper includes country case studies to illustrate how similar revenue outcomes can emerge from very different institutional, political and economic contexts. Case studies were selected to reflect:

- different income levels
- varying degrees of institutional capacity
- contrasting political and economic conditions
- relative success in revenue collections.

The case studies draw on NRTR data from the GRD 2025, supplemented by IMF country reports and secondary literature. They are used to contextualise quantitative trends, examine reform experience and sequencing, and assess the sustainability and political economy of revenue gains.

1.8 Limitations

Several limitations should be noted. First, cross-country revenue data is subject to measurement error and classification differences, despite harmonisation efforts. Second, the analysis assesses the countries with relatively complete data, which may influence the comparability between regions and income groups. Third, the analysis cannot fully capture informality, compliance behaviour or tax morale, which are critical determinants of revenue performance but are difficult to measure consistently across countries. Fourth, the descriptive approach does not allow for causal inference regarding the impact of specific reforms or policies.

These limitations underscore the need to interpret NRTR trends alongside qualitative evidence and country context, rather than as definitive measures of reform success or failure.

1.9 Tax-to-GDP ratios, tax effort and tax potential

As stated earlier, tax-to-GDP ratios are widely used as indicators of revenue performance because they provide a simple measure of the proportion of economic activity captured through taxation. However,

differences in tax-to-GDP ratios do not necessarily reflect differences in government effort, administrative performance or the quality of tax systems.

A country's ability to raise revenue is shaped by a range of structural factors, including income levels, the size of the formal sector, economic composition, urbanisation, trade integration and the capacity of public institutions. These factors influence the size of the effective tax base and therefore the amount of revenue that can realistically be collected. As a result, countries with similar levels of tax effort may display very different tax-to-GDP ratios, while countries with similar tax-to-GDP ratios may differ substantially in their underlying revenue-raising capacity.

For this reason, the literature often distinguishes between tax-to-GDP ratios, tax effort and tax potential (McNabb et al., 2024; Le et al., 2012). 'Tax potential' refers to an estimate of the amount of revenue a country could theoretically raise under specified assumptions about tax policy, administration, institutions or economic structure. Such estimates are typically derived from econometric models and counterfactual analysis rather than observed outcomes. While tax potential estimates can provide useful insights into long-term revenue capacity, they do not necessarily indicate how much revenue can realistically be mobilised within a particular timeframe.

'Tax effort' refers to the extent to which a country collects revenue relative to what might be expected given its economic structure and institutional characteristics (tax potential). Countries with low tax-to-GDP ratios may nevertheless exhibit relatively high tax effort if tax collections are high relative to the structural constraints limiting the size of their potential tax base. Conversely, countries with comparatively high tax-to-GDP ratios may still collect less revenue than expected given their level of development and administrative capacity and other factors.

These distinctions are important for interpreting revenue performance and setting revenue targets. However, while tax effort and tax potential estimates are sometimes used to inform how much revenue a country can collect, such estimates are a weak basis for setting expectations of how much tax a country could raise (McNabb et al., 2024). Tax-to-GDP ratios of similar levels or paths may reflect very different levels of tax effort in practice, while estimates of tax potential may exceed what has historically been achieved in comparable countries and may hide important institutional and political bottlenecks. The analysis in this paper therefore focuses on observed revenue outcomes and interprets tax-to-GDP ratios alongside broader economic, institutional and political factors rather than as standalone indicators of reform success or failure.

2 Cross-Country Trends: Which improved, Which Didn't?

This chapter examines cross-country trends in non-resource tax revenue between 2010 and 2022, focusing on which countries achieved sustained improvements, which experienced stagnation or decline, and what these patterns reveal about the nature of revenue mobilisation.

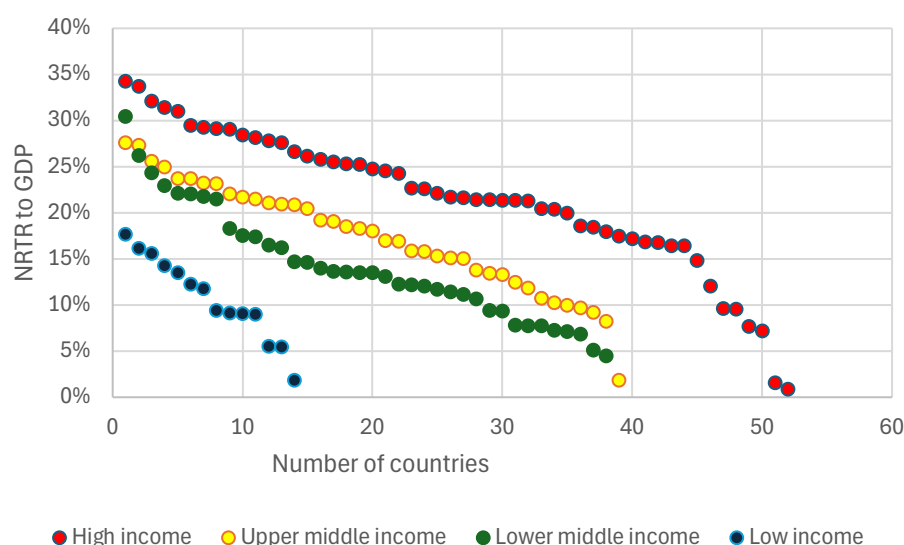
2.1 Global distribution of non-resource tax revenue

In 2022 (the latest comprehensive available data), NRTR-to-GDP ratios varied widely across countries, reflecting deep differences in economic structure, institutional capacity and political economy. NRTR ranged from over 30% of GDP in a small number of high-income economies to below 5% of GDP in several fragile and natural resource-dependent states.

High-income countries – particularly in Europe and North America – clustered at the upper end of the distribution, while low-income and fragile states were concentrated at the lower end. However, high levels of NRTR do not necessarily indicate recent reform success; in many cases, they reflect long-standing institutional arrangements rather than recent policy effort.

Conversely, low NRTR levels in fragile and low-income countries may reflect deep-rooted structural constraints and should not, in isolation, be interpreted as evidence of limited reform efforts. These constraints include significant political, economic and administrative barriers that limit the ability to close tax gaps. Reform initiatives are frequently hindered by vested interests that benefit from maintaining the status quo, while tax administrations face capacity constraints, including shortages of skilled personnel and inadequate infrastructure, such as weak information technology (IT) systems and incomplete property registers. Moreover, structural characteristics, such as large agricultural sectors, narrow tax bases and high levels of informality, further complicate revenue mobilisation, highlighting the need for sustained and effective tax reform (Mascagni et al., 2014).

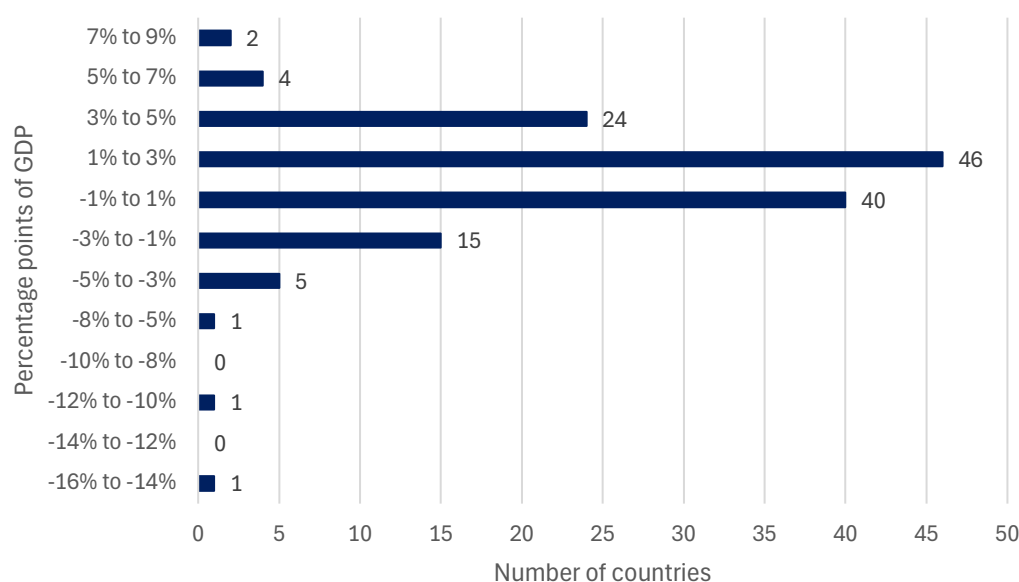
Figure 2: Country distribution of non-resource revenue by income group (2022)



Source: UNU-WIDER Government Revenue Dataset, 2025

We therefore explore trends in the change in tax-to-GDP ratios across countries and groups of countries. We find that only 18 of the 139 countries increased NRTR by more than 5 percentage points of GDP between 2010 and 2022. The distribution of changes in tax-to-GDP over the study period, shown in Figure 3, indicates that the median NRTR increase achieved was 0.5–2.9 percentage points.

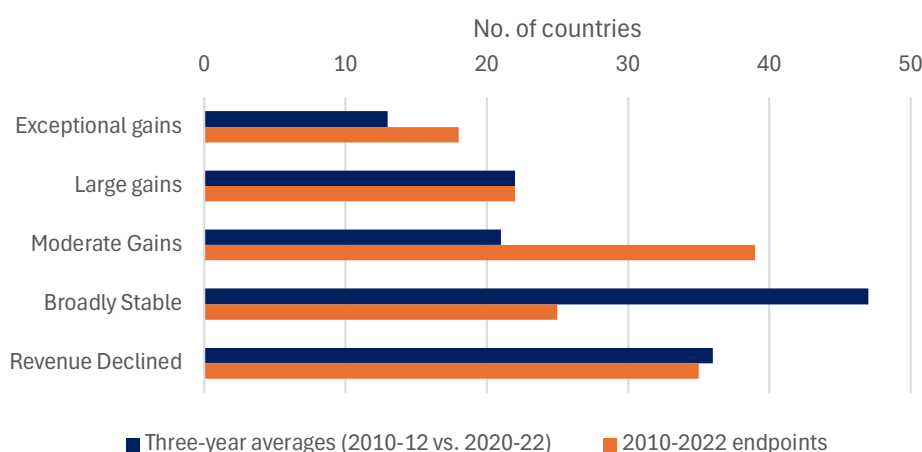
Figure 3: Distribution of changes in non-resource tax revenue ratios (2010–2022)



Source: Authors' calculations and UNU-WIDER Government Revenue Dataset, 2025

Within this group, between 2010 and 2022, only a small subset (18 countries) achieved the largest increases in NRTR, as shown in Figure 4, defined as ‘exceptional gains’, that is gains exceeding 5 percentage points of GDP. A further 22 countries also achieved large gains of 3–5 percentage points. At the other extreme, 35 countries’ NRTR-to-GDP ratio declined over this period, with the rest either stable or showing moderate, incremental improvement.

Figure 4: Categories based on the total change in NRTR-to-GDP ratios



Source: Authors' calculations based on the UNU-WIDER Government Revenue Dataset, 2025

To assess the sensitivity of the results to the choice of endpoint years, changes in NRTR were recalculated using three-year averages at the beginning and end of the study period (2010–2012 and 2020–2022), rather than individual observations for 2010 and 2022. The identification of the strongest performers is broadly robust to this alternative specification. Of the 18 countries initially classified as recording exceptional gains of more than 5 percentage points of GDP, 13 remain in the exceptional-gains category, while the remaining 5 move to the large-gains category. No additional countries enter the exceptional-gains category under the alternative measure, and none of the original 18 falls below the large-gains category. This suggests that while the precise magnitude of gains is sensitive to endpoint selection for some countries, the identification of countries experiencing substantial increases in NRTR is robust. An important caveat is that the 2020–2022 endpoint average coincides with the Covid-19 pandemic and the subsequent uneven economic recovery. The use of a three-year average therefore reduces the influence of any single observation, including the choice of 2022 as the endpoint, but does not eliminate pandemic-related effects. Countries experienced markedly different changes in economic activity, tax bases and revenue collection over this period, while sharp movements in GDP may also affect measured NRTR-to-

GDP ratios through the denominator. The three-year average should therefore be interpreted primarily as a means of smoothing short-term annual volatility rather than as a fully normalised post-pandemic endpoint.

The alternative specification has a larger effect on the middle of the distribution. The number of countries classified as recording moderate gains falls from 39 to 21, while the number classified as broadly stable rises from 25 to 47. By contrast, the number of countries experiencing declining NRTR is almost unchanged. This suggests that classifications of relatively modest changes are more sensitive to short-term variation in individual endpoint years than the identification of large gains or declines.

The shift towards the stable category may also partly reflect the averaging of the heterogeneous shocks and recoveries experienced during 2020–2022. Nevertheless, the relative stability of classifications at the upper and lower ends of the distribution provides some reassurance that the main findings on large increases and declines are not driven solely by the choice of individual endpoint years.

2.2 Historical frequency of revenue mobilisation

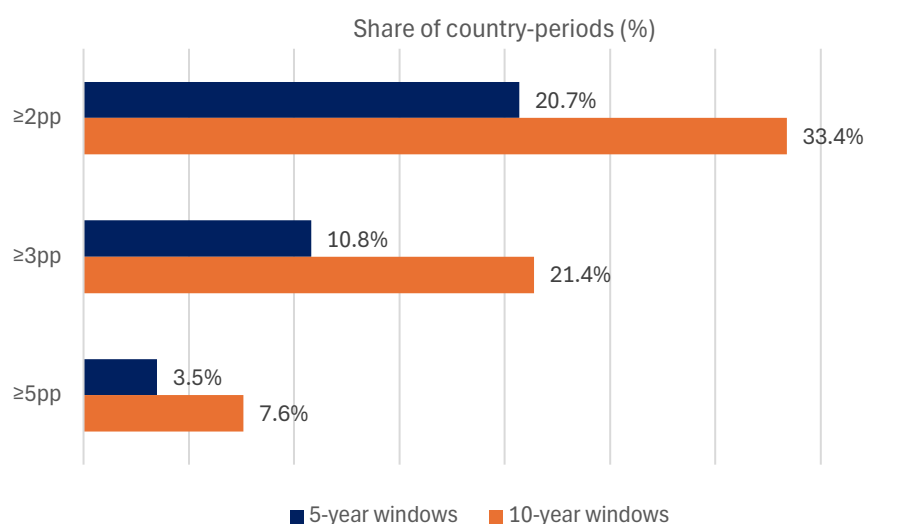
Extending the analysis beyond the 2010–2022 period provides a historical benchmark for assessing the magnitude and pace of revenue mobilisation. Across 4,392 valid rolling 5-year country-windows from 1990 onwards, 20.7% recorded increases in NRTR of at least 2 percentage points of GDP, 10.8% recorded increases of at least 3 percentage points, and only 3.5% recorded increases of at least 5 percentage points. Large increases were more common over longer horizons, but remained relatively unusual. Across 3,508 valid 10-year country-windows, 33.4% recorded gains of at least 2 percentage points, 21.4% gains of at least 3 percentage points, and 7.6% gains of at least 5 percentage points.

The distribution of changes provides a complementary perspective. The median increase in NRTR was approximately 0.4 percentage points of GDP over 5 years and 0.9 percentage points over 10 years. Over 5-year periods, the 75th and 90th percentiles were approximately 1.7 and 3.1 percentage points respectively; over 10-year periods, they were approximately 2.7 and 4.5 percentage points. Thus, an increase of around 3 percentage points over 5 years lies close to the upper decile of historical experience, while an increase of 5 percentage points over 10 years exceeds the 90th percentile.

These results underline the importance of considering both the magnitude and the time horizon of revenue targets. They do not imply that large increases are infeasible in particular countries: historical outcomes reflect widely varying starting conditions, economic circumstances and reform opportunities. Rather, they

provide an empirical benchmark against which the ambition of proposed revenue targets can be assessed. Targets substantially above the historical distribution may still be appropriate in particular circumstances but would require correspondingly strong country-specific justification.

Figure 5: Historical frequency of NRTR increases over five- and ten-year periods (1990–2022)



Source: Authors' calculations based on the UNU-WIDER Government Revenue Dataset, 2025

Note: Results use all valid country-periods with NRTR observations available at both endpoints. Five- and ten-year rolling windows overlap and should not be interpreted as statistically independent observations.

2.3 Persistence of large revenue gains

To examine persistence, we identify 5-year periods between 1990 and 2017 in which NRTR increased by at least 5 percentage points of GDP and measure the proportion of the initial gain remaining 5 years after the end of the mobilisation period. Of 135 qualifying episodes with sufficient potential follow-up time, 129 have valid NRTR observations 5 years later.

The results indicate that the gains were persistent. Five (5) years after the end of the initial mobilisation period, 73.6% of observable episodes retained at least half of the original gain and 62.8% retained at least three-quarters. In 39.5% of episodes, the full initial gain was retained or NRTR increased further. Only 7.0% had returned to or below the NRTR level observed at the beginning of the original 5-year period.

Table 2: Five-year persistence of NRTR gains, mobilisation windows (1990–1995 to 2012–2017)

	Five years after a ≥5pp gain		Five years after a ≥3pp gain		Five years after a ≥2pp gain		Five years after a ≥1pp gain	
Observable episodes	129	100%	399	100%	735	100%	1,329	100%
Retained ≥50%	95	74%	302	76%	555	76%	998	75%
Retained ≥75%	81	63%	257	64%	488	66%	892	67%
Retained ≥100%	51	40%	182	46%	375	51%	735	55%
Retained none of the gain / fell below starting level	9	7%	39	10%	77	10%	167	13%

Source: Authors' calculations based on the UNU-WIDER Government Revenue Dataset, 2025

Note: The analysis covers five-year mobilisation windows from 1990–1995 through 2012–2017 in which NRTR increased by at least 1, 2, 3 or 5 percentage points of GDP. Persistence is assessed 5 years after the end of each mobilisation window. Accordingly, follow-up observations range from 2000 for the 1990–1995 window to 2022 for the 2012–2017 window. Mobilisation windows ending after 2017 are excluded because 5-year follow-up observations are not available. Episodes without a valid follow-up observation are excluded from the persistence calculation. Results using non-overlapping mobilisation windows are also reported as a robustness check.

Taken together with the historical-frequency analysis, these results point to an important distinction between achieving and maintaining large revenue gains. An increase of at least 5 percentage points occurred in only 3.5% of observed 5-year country-periods, suggesting that gains of this magnitude are historically exceptional. Conditional on their occurrence, however, substantial reversal is not the typical outcome. The principal historical constraint therefore appears to be achieving gains of this magnitude rather than their inevitable subsequent erosion.

The result is not sensitive to the choice of threshold. Among 5-year periods with initial NRTR gains of at least 3 percentage points, 75.7% retained at least half of the gain 5 years later and 64.4% retained at least three-quarters, while 9.8% had returned to or below their initial NRTR level.

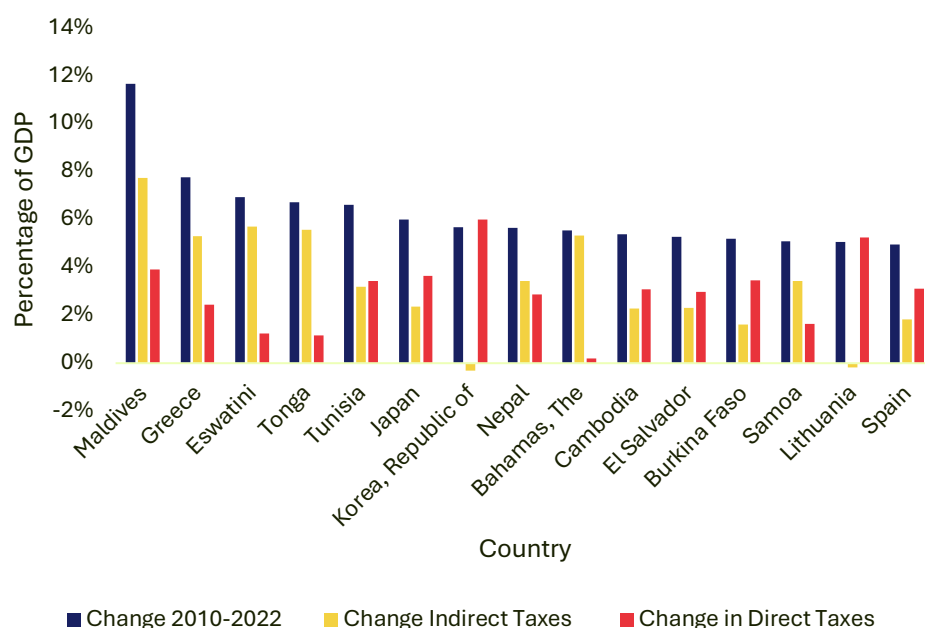
As shown in Table 2, persistency improves slightly as the level of gain is reduced to 2 percentage points or 1 percentage point. This supports the finding that the principal historical constraint therefore appears to be achieving gains in the first place, rather than preventing their subsequent erosion.

2.4 Countries with high increases in NRTR

Within the group of exceptional performers (see Figure 6), Maldives recorded the largest increase, with NRTR rising by 11.7 percentage

points, followed by Greece at 7.7 percentage points. Others included Tunisia, Nepal, Cambodia and Burkina Faso, among others.

Figure 6: Top performers over the decade



Source: UNU-WIDER Government Revenue Dataset, 2025

While the largest improvements in non-resource tax revenue performance occurred in a diverse group of countries, several common drivers emerge from the country-level evidence. To organise the discussion, these are grouped into three broad, non-mutually exclusive categories: (i) major tax policy reforms, (ii) tax administration and compliance improvement, and (iii) macroeconomic and sector-specific dynamics (summarised in Table 3).

These categories should not be interpreted as mutually exclusive causal explanations. Rather, they provide an organising framework for distinguishing the proximate mechanisms through which NRTR-to-GDP ratios can change. In practice, several mechanisms frequently operated simultaneously, and individual countries may therefore appear under more than one category. These mechanisms were also shaped by broader country contexts, including post-conflict reconstruction, political transitions, fiscal pressures and externally supported reform programmes, which are treated as contextual conditions rather than separate proximate drivers.

Table 3: Summary drivers of improvement

Driver of improvement	Example countries	Main mechanism
Tax policy reforms	Saudi Arabia, the Bahamas, Japan, Spain	Introduction of new taxes, rate increases

Driver of improvement	Example countries	Main mechanism
		and broadening of tax bases.
Tax administration and compliance improvements	Greece, Lithuania, Korea	Digitalisation, strengthened tax administration and compliance improvements.
Macroeconomic and sector-specific dynamics	Cambodia, Nepal, Burkina Faso, Maldives, Tonga	Strong growth in taxable economic activity, including post-conflict settings and sector development, e.g. tourism.

Note: Drivers are illustrative, representing a characterisation of the circumstances surrounding the observed country trends.

2.4.1 Exploiting low-hanging fruit: revenue gains from major tax policy reforms

The first group consists of countries in which significant tax policy reforms, particularly consumption tax (such as value-added tax) reforms, played a central role in improving revenue performance. Saudi Arabia provides one of the clearest examples. As part of its Vision 2030 fiscal diversification strategy, the country introduced VAT in 2018 and subsequently increased the rate from 5% to 15% in 2020; it also introduced an excise tax in 2017 on tobacco products at 100%, soft drinks at 50% and energy drinks at 100%. All these contributed significantly to growth in non-oil tax revenues (PwC, 2026).

Similarly, the Bahamas recorded substantial gains following the introduction of VAT in 2015 (Central Revenue Agency, 2014), while Japan's revenue gains were supported by a series of consumption tax reforms (Saito, 2026). Historically, Japan's consumption tax rate was low by Organisation for Economic Co-operation and Development (OECD) standards, beginning at 3% and remaining well below the rates commonly observed in other advanced economies. The rate was increased from 3% to 5% in 1997, to 8% in 2014, and to 10% in 2019. Despite these increases, Japan's standard consumption tax rate remains significantly below the OECD average VAT (or goods and services tax equivalent) standard rate of 19.3%, as of 31 December 2024 (OECD, 2024a). The 2019 reform also introduced a reduced 8% rate for selected essential goods, including most food and beverage purchases and newspaper subscriptions, to protect low-income earners during the tax rises. These reforms contributed to strengthening indirect tax revenues and improving overall revenue performance.

Spain's revenue gains were supported by indirect tax reforms introduced as part of broader fiscal consolidation efforts following the

European sovereign debt crisis. These measures included increasing the standard VAT rate from 18% to 21% and the reduced rate from 8% to 10%, while also reclassifying several goods and services into higher VAT brackets and increasing other indirect taxes (IMF, 2012).

Taken together, these cases suggest that major tax policy reforms can generate substantial revenue gains when countries are able to exploit relatively untapped tax bases or raise rates from unusually low levels. The introduction of VAT in Saudi Arabia and the Bahamas, as well as the gradual increases in Japan's consumption tax rate and Spain's VAT reforms, represent examples of such 'low-hanging fruit' in revenue mobilisation. The scope for further gains from this approach, however, is inherently limited. Once broad-based consumption taxes have been implemented and rates have converged towards regional or international norms, additional revenue increases through rate adjustments become increasingly difficult, both economically and politically. At that stage, sustained improvements in revenue performance are more likely to depend on more complex processes of strengthening tax administration, improving compliance, broadening existing tax bases, reducing exemptions and supporting economic growth rather than relying on major tax policy changes alone.

2.4.2 Tax administration modernisation and compliance improvements

A second group achieved improvements through tax administration modernisation and stronger compliance management. Greece is a notable example. According to IMF analysis, reforms included the establishment of an independent revenue authority, restructuring of local tax offices, expansion of electronic filing systems and increased use of digital compliance tools (Okello et al., 2026). These reforms contributed to significant improvements in VAT compliance and revenue collection with 96% of registered taxpayers filing their VAT returns on time by 2014, up from 65% in 2010. However, Greece differs from other cases in this category because part of the increase in its tax-to-GDP ratio also reflected the severe economic contraction associated with the sovereign debt crisis. Improvements in tax administration and compliance appear to have helped sustain revenue collection despite exceptionally adverse economic conditions. Greece's experience is discussed further in the case study.

Patterns of improved compliance measures can also be observed in Lithuania, which introduced its Intelligent Tax Administration System (i.MAS) in 2016. Its tax system relies relatively more on VAT and excise duties and, despite recent improvements, continues to collect a lower share of tax revenue relative to GDP than the European Union (EU) average (IMF, 2025). The reform digitalised taxpayer reporting and audit processes, allowing the tax authority to adopt a more data-driven approach to compliance management (OECD,

2024b). A key component of the system was the Smart Electronic Cash Register Subsystem (i.EKA), which enabled the remote registration of cash registers and real-time transmission of transaction data directly to the tax authority. By facilitating automated cross-checking of taxpayer declarations, and strengthening risk-based audits, the system supported improved VAT compliance. Lithuania's VAT gap fell by 2.9 percentage points between 2022 and 2023, although it remained relatively high at 15.1% in 2023 (Enache, 2026).

Similar patterns can be observed in the Republic of Korea, where investments in digital tax administration and compliance monitoring helped strengthen revenue performance (Kim, 2023). As part of a broader transition towards smart government, Korea's tax administration modernisation was enhanced through the introduction of the Neo Tax Integrated System (NTIS), which integrated multiple tax information systems into a single digital platform. Combined with the expansion of the HomeTax service, these reforms enabled taxpayers to file returns, access tax information, submit documents electronically and manage their tax affairs online. One notable innovation was the year-end tax settlement service, which significantly reduced taxpayer compliance costs, generating estimated annual savings of South Korean won (KRW) 210 billion (approximately \$186 million) by 2015 (Kim, 2023). Public uptake of the service increased substantially, from 4.74 million users in 2006 to nearly 20 million in 2021 and approximately 22 million in 2022. By reducing compliance costs, enhancing taxpayer services, improving administrative efficiency and strengthening compliance monitoring, these digital reforms contributed to a more effective and responsive tax administration system and supported revenue mobilisation.

2.4.3 Macroeconomic and sector-specific dynamics

A third group illustrates how macroeconomic and sector-specific dynamics can interact with tax policy and administration reforms to strengthen NRTR performance. In these countries, economic expansion, increasing formalisation, sectoral recovery or changes in the composition of economic activity expanded the effective tax base, while policy and administrative reforms influenced the extent to which this activity translated into higher revenues.

Cambodia illustrates the interaction between economic growth and administrative reform (World Bank, 2017). Under its Revenue Mobilisation Strategy, the government strengthened tax administration, improved compliance enforcement, enhanced taxpayer services and intensified anti-smuggling efforts. Together with rapid economic growth, these reforms broadened the tax base and contributed to higher revenue collection.

Nepal provides another example, where sustained economic growth (World Bank, 2026a) expanded middle-class consumption, imports and domestic retail activity, boosting indirect tax collections and

strengthening revenue performance. These economic dynamics operated alongside changes in tax policy and administration, illustrating the difficulty of attributing improvements in the NRTR-to-GDP ratio to a single mechanism. Similarly, Burkina Faso improved revenue mobilisation through a comprehensive reform agenda focused on digitalising tax and customs administration, strengthening compliance and broadening the tax base (IMF, 2026).

Sector-specific dynamics were particularly important in tourism-dependent economies.

In Maldives, significant changes to the tax system during the study period included establishing a dedicated Tax Policy Unit, introducing a personal income tax, removing tax incentives under the Foreign Investment Act and adopting international minimum standards for corporate income taxation (IMF, 2022a). Maldives recorded the largest increase in the sample, supported by the recovery of its tourism sector and successive goods and services tax (GST) reforms. The government increased both the tourism goods and services tax (TGST) and the standard GST rate, strengthening consumption-based taxation as international tourist arrivals rebounded following the Covid-19 pandemic (MIRA, n.d.). Given the importance of tourism-related indirect taxes to the Maldivian tax system, these reforms helped translate the recovery in tourism and broader economic activity into stronger revenue performance. The World Bank (2023c) similarly identifies the recovery of tourism and associated tax revenues as an important contributor to fiscal recovery.

Subsequent increases in the GST took effect in 2023, after the end of the period analysed in this paper. The rate increases generated tax revenue gains equivalent to around 3.2% of GDP (IMF, 2024a). Similar dynamics can be observed in Tonga and other tourism-dependent economies, where economic recovery has translated rapidly into higher tax collections (Ministry of Trade and Economic Development, 2024).

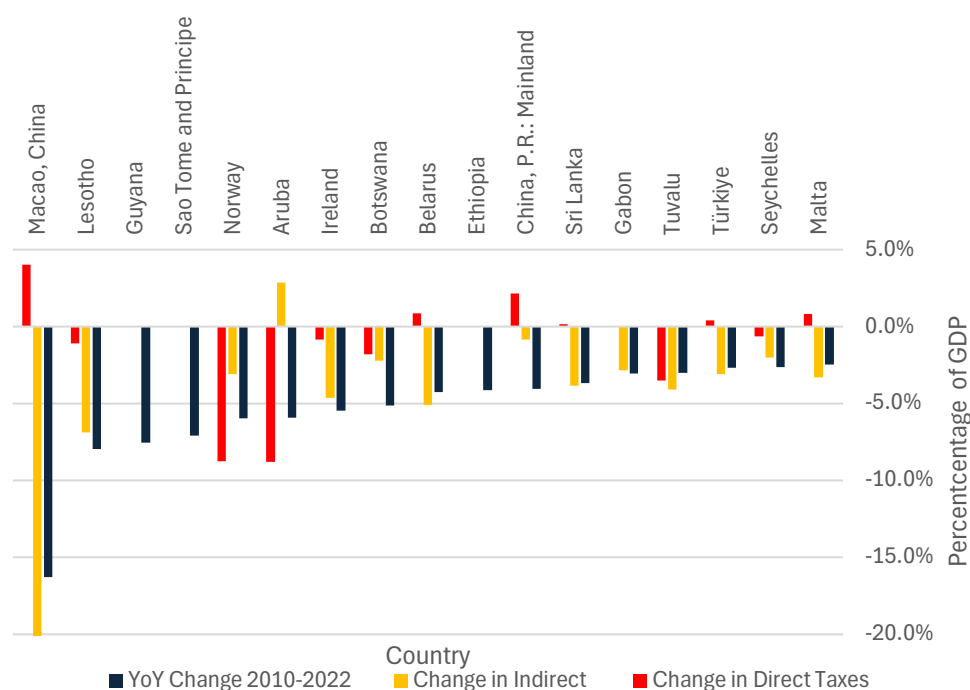
Taken together, these cases illustrate that macroeconomic and sector-specific conditions can materially influence measured revenue performance, but rarely operate independently of tax policy and administration. Economic expansion, formalisation and sectoral recovery can enlarge the effective tax base, while a well-designed tax system determines how effectively governments can leverage periods of strong economic growth and sectoral expansion to increase revenues. Conversely, increases associated with recovery from a temporary contraction should be distinguished from structural improvements in underlying revenue-raising capacity. This reinforces the importance of examining the mechanisms underlying changes in tax-to-GDP ratios rather than interpreting movements in the headline ratio alone.

2.5 Countries experiencing stagnation or decline

At the other end of the spectrum, several countries experienced stagnant or declining NRTR performance over the study period. These declines were observed across countries at different income levels and were often driven by macroeconomic shocks, structural changes, policy reversals and institutional weaknesses.

As shown in Figure 7, falling NRTR-to-GDP ratios were more frequently associated with declines in indirect taxes than direct taxes, highlighting the importance of strengthening broad-based tax systems. Evidence from TaxDev's Employment Income Taxes Dataset (EITD) further suggests that direct taxes remain underutilised in many developing economies (McNabb and Granger, 2022).

Figure 7: Countries with decline in NRTR (2010–2022)



Source: Authors' calculations and UNU-WIDER Government Revenue Dataset, 2025

Unlike the strongest performers, weaker-performing countries do not share a single common characteristic; rather, their experiences reflect a combination of indirect tax weaknesses, resource dependence, sector-specific shocks and statistical effects (summarised in Table 4). The following sections examine these factors in turn.

Table 4: Summary drivers of decline

Driver of decline	Example countries	Main mechanism
Weak indirect tax performance	Malta, Sri Lanka	VAT and consumption tax weakness.
Broad-based tax declines	Botswana, Gabon	Narrow tax bases and structural constraints.
Sector-specific shocks	Macau SAR, China	Tourism and gaming sector disruptions.
Statistical effects	Various	GDP rebasing and denominator effects.

Note: Drivers are illustrative, representing a characterisation of the circumstances surrounding the observed country trends.

2.5.1 Indirect tax performance: the role of policy choices and structural change

Government policy choices play a central role in shaping the performance of indirect taxes, although structural changes in the economy can also affect the relationship between economic growth and tax revenues. Decisions regarding tax rates, exemptions, thresholds, incentives and enforcement arrangements directly influence the size of the tax base and the efficiency of revenue collection. While such measures are often introduced to support economic activity, encourage investment or provide relief to specific sectors, they can also reduce tax revenues when there are significant behavioural responses, particularly when they significantly narrow the scope of taxable consumption.

Malta illustrates this pattern, with tax collections on goods and services falling from around 14% of GDP to 10% of GDP over the period. A key factor was the growing importance of export-oriented service sectors, such as online gaming, financial services and digital technologies, which contributed to GDP growth but generated relatively limited domestic consumption tax revenues. As a result, economic growth did not translate into a proportional increase in indirect tax collections, contributing to a decline in taxes on goods and services as a share of GDP (European Commission, 2023a), suggesting that tax policy failed to capture returns from emerging economic activity. At the same time, Malta's reliance on corporate taxation and the use of extensive tax refunds and exemptions may have further undermined revenue collections (Brennan Hernández, 2026). As a result, tax revenues grew more slowly than overall economic activity, contributing to a decline in the non-resource tax-to-GDP ratio.

Sri Lanka provides another example, in which significant and ad hoc tax policy changes reduced tax collections. In 2019, the government

lowered the standard VAT rate from 15% to 8%, removed the Nation Building Tax, expanded VAT exemptions for tourism-related services, and substantially increased the VAT registration threshold. These measures failed to stimulate sufficient additional spending to cover the loss of revenue, thereby narrowing the consumption tax base and reducing tax revenues at a time of growing fiscal pressures. The revenue decline was compounded by weak tax administration, frequent changes to tax rates and thresholds, extensive tax exemptions and incentives, and a large informal economy that constrained compliance and revenue collection. Limited administrative capacity, complex tax laws and fragmented institutional arrangements further weakened tax enforcement and accountability, undermining overall revenue performance (Perera, 2024).

Together, these cases illustrate how both structural economic changes and policy decisions can contribute to weaker non-resource tax revenue performance. The experiences of Sri Lanka, and to some extent Malta's use of tax refunds and exemptions, also highlight the importance of carefully managing tax incentives. While tax exemptions and incentives can play a useful role in supporting the development of emerging sectors, attracting investment or assisting firms during periods of economic adjustment, their effectiveness is often greatest when they are carefully targeted, appropriately designed and subject to regular review (IMF et al., 2015). Prolonged or open-ended exemptions can erode the tax base, reduce revenue mobilisation and create distortions in the allocation of resources across sectors (United Nations, 2018; IMF et al., 2015). Tax incentives should therefore be subject to clear time limits or sunset provisions and regular evaluation to assess whether they have achieved their intended objectives, including investment and employment targets and broader economic benefits (United Nations, 2018; IMF, 2024b). Periodic reviews can help determine whether continued support remains justified or whether incentives that no longer deliver sufficient benefits should be modified or withdrawn (United Nations, 2018; IMF et al., 2015). Such an approach can improve the balance between promoting economic development and safeguarding sustainable tax revenues.

2.5.2 Broad-based declines across tax categories and the influence of resource dependence

A second group experienced declines across both direct and indirect taxes. Resource-dependent economies such as Gabon illustrate how reliance on natural resources can indirectly affect non-resource tax revenue performance. Although resource revenues are excluded from this analysis, Gabon's experience demonstrates the broader economic spillovers associated with commodity dependence. Following the collapse in global oil prices beginning in 2014, economic activity slowed and fiscal pressures intensified. IMF analysis (IMF, 2019a) notes that the large oil shock, combined with

strong intersectoral linkages between the oil and non-oil economies, contributed to a significant decline in the non-oil revenue ratio. At the same time, Gabon relied heavily on tax exemptions and preferential tax regimes, including incentives granted through special economic zones (SEZs), to attract investment and support economic diversification. Rapidly growing economic activities and export expansion therefore generated limited domestic tax revenues, highlighting the trade-offs between investment promotion and domestic revenue mobilisation. The fiscal costs of these policies became increasingly evident over time, prompting the government in 2024 to suspend the granting of new tax exemptions after reporting substantial revenue losses associated with tax incentives. Together, these factors contributed to weaker performance across both direct and indirect taxes.

2.5.3 Sector-specific shocks and concentrated tax bases

A third group reflects the impact of sector-specific shocks on highly concentrated tax bases. Macau SAR [special administrative region], China, provides a clear example. The economy's heavy dependence on tourism and gaming-related activities made it particularly vulnerable to the disruptions caused by the Covid-19 pandemic (McCartney, 2021). As international travel collapsed, gaming revenues – responsible for the vast majority of government tax receipts – fell sharply, leading to a substantial decline in indirect tax collections. This experience highlights how economies that rely heavily on a narrow range of sectors may face significant volatility in non-resource tax revenues when those sectors are affected by external shocks.

2.5.4 Statistical and denominator effects

Finally, some apparent declines in NRTR performance may reflect denominator effects rather than deteriorating tax effort. GDP rebasing exercises can reduce tax-to-GDP ratios even when nominal tax collections continue to increase. Ghana provides a notable example: the 2017 GDP rebasing increased measured GDP by approximately 25%, causing the revenue-to-GDP ratio to decline from 16.6% to about 13% (Ghana Revenue Authority, 2019).

Similarly, Uganda's 2014 GDP rebasing increased the measured size of the economy by 17% through the adoption of improved methodologies and broader economic coverage. As a result, several macroeconomic indicators expressed relative to GDP were revised downward. The debt-to-GDP ratio fell by almost 4 percentage points, while the tax-to-GDP ratio declined by about 1 percentage point, reflecting the mechanical effect of a larger GDP denominator rather than changes in the underlying levels of debt or tax revenue (IMF, 2017d).

In Kenya, GDP rebasing in 2014 increased measured GDP by 25.3% (UNECA, 2014), leading to a decline in the tax revenue-to-GDP ratio

from approximately 23% to 19% (Mistiaen et al., 2014). Likewise, Nepal's 2021 rebasing of the national accounts, which changed the base year from 2000/01 to 2010/11, increased nominal GDP by more than 14%.

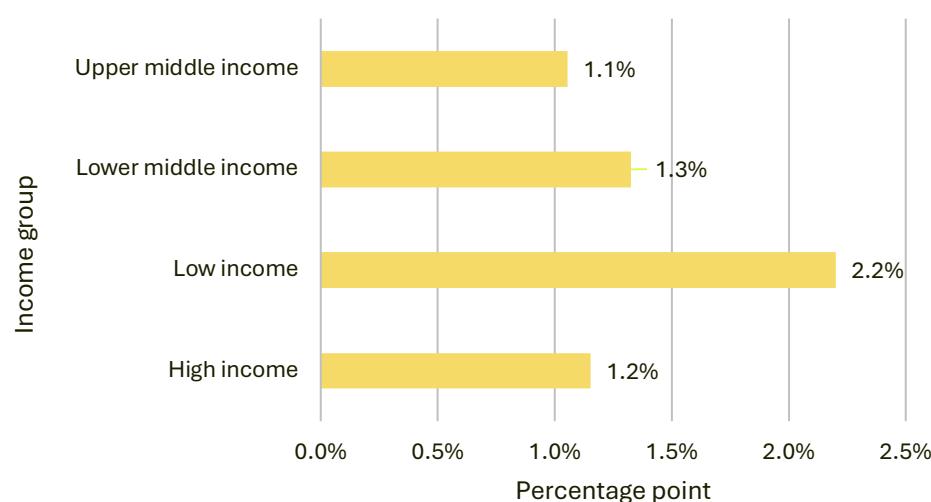
These examples demonstrate that movements in tax-to-GDP ratios do not always reflect changes in tax effort. Cross-country comparisons and trend analysis should therefore be interpreted with caution, particularly when significant statistical revisions have occurred.

2.6 Regional and income group patterns

When aggregated by region and income group, NRTR trends reveal persistent structural divides, as follows:

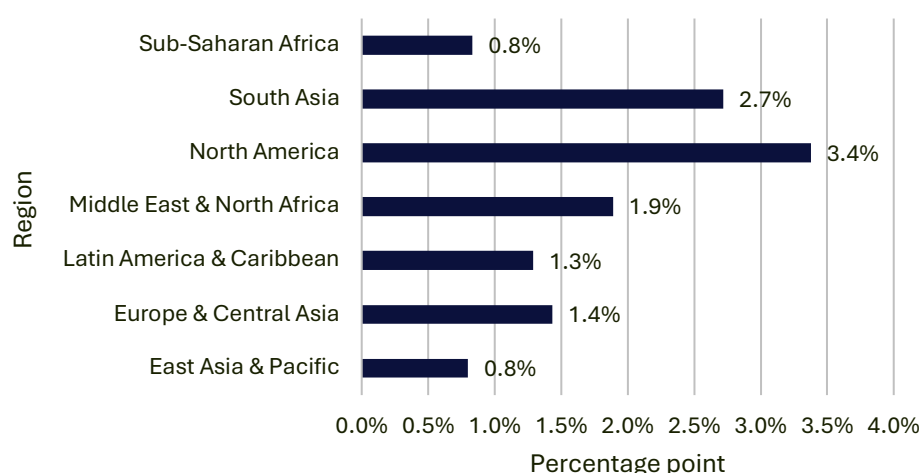
- Low-income economies recorded the highest average year-on-year NRTR change, starting from a lower base.
- This is followed by lower middle-income economies achieving relatively modest gains, but slightly higher than those of upper middle- and high-income countries.

Figure 8: NRTR change by income group (2010–2022)



Source: Authors' calculations and UNU-WIDER Government Revenue Dataset, 2025

Trends by region reveal that sub-Saharan Africa, East Asia and the Pacific, and Latin America and the Caribbean, remained the lowest-performing regions in terms of average NRTR change globally, even after a decade of reform efforts (Figure 9).

Figure 9: NRTR change by region (2010–2022)

Source: Authors' calculations and UNU-WIDER Government Revenue Dataset, 2025

The relatively strong average performance of low-income countries (Figure 8) alongside weaker average performance in sub-Saharan Africa is not necessarily contradictory, since income and regional classifications capture different country groupings. The low-income average may reflect relatively strong gains among a subset of low-income countries, while the sub-Saharan African regional average also includes lower middle- and upper middle-income economies with different revenue trajectories.

2.7 What the cross-country evidence tells us

Taken together, the cross-country evidence points to four stylised facts:

- 1 Improvements in NRTR are rare and usually gradual.
- 2 Large revenue gains are typically associated with an exceptional combination of economic, political and institutional factors rather than just routine reform. These conditions may include post-conflict recovery, major tax policy reforms, rapid economic expansion, crisis-driven adjustment or significant improvements in tax administration.
- 3 Revenue increases were most commonly driven by indirect taxes, particularly VAT and excises, raising important questions about equity and the distribution of the tax burden.
- 4 Similar, improvements in tax-to-GDP ratios can arise from very different combinations of factors, including economic recovery, tax policy changes, administrative reforms, compliance improvements and denominator effects (e.g. Nepal, Greece).

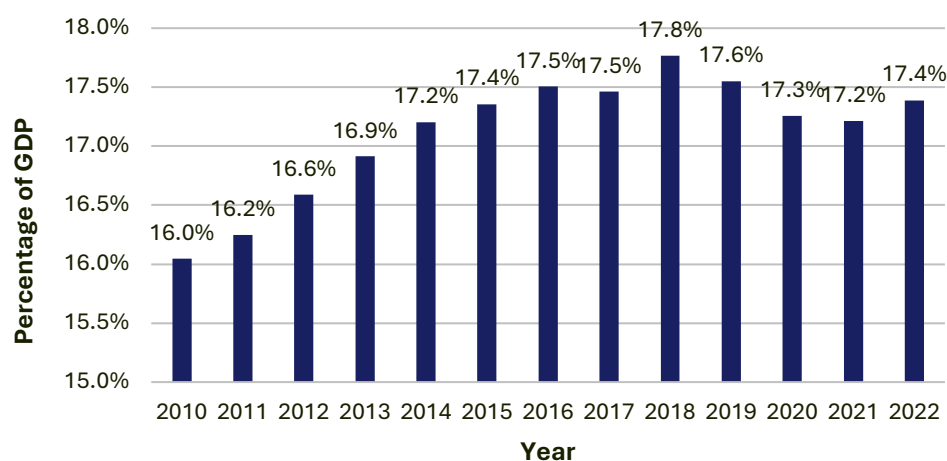
Taken together, these findings suggest that headline tax-to-GDP ratios as an important measure of revenue performance provide only a partial picture. Countries that achieve similar revenue outcomes may do so through fundamentally different pathways, including

economic growth, post-conflict recovery, tax policy reforms, administrative improvements, crisis-driven adjustment or sector-specific developments. Understanding these underlying mechanisms is critical for interpreting revenue performance, assessing reform progress and setting realistic revenue targets.

2.8 Global average and the Covid-19 impact

Overall, the global average non-resource tax-to-GDP ratio increased from 16% of GDP in 2010 to 17.4% of GDP in 2022. Figure 10 shows the path of global NRTR over this period, which peaked in 2018 at 17.8% and dropped in 2020 and 2021, to an average NRTR of 17.3% and 17.2% respectively. There was a modest recovery to 17.4% visible in 2022, the latest available year in the dataset.

Figure 10: Global average NRTR (2010–2022)



Source: Authors' calculations and UNU-WIDER Government Revenue Dataset, 2025

3 Case Study: Nepal

Summary: Nepal recorded a rapid increase in non-resource tax revenue from a low base, rising from around 11.7% of GDP in 2010 to 17.4% in 2022, supported by post-conflict recovery, remittance-financed consumption, strong import growth, and improvements in tax and customs administration. However, the gains were heavily reliant on VAT, excises and import-related taxes, making revenue performance vulnerable to shocks in trade, remittances and consumption. The sharp fall in revenue in 2022 illustrates that headline tax-to-GDP gains can overstate underlying progress when they depend on narrow or cyclical tax bases. Nepal therefore shows both how large revenue gains can be achieved under favourable conditions and why deeper domestic tax-base broadening is needed for resilience and sustainability.

3.1 Context

Nepal is a low-income, landlocked country that emerged from a decade-long civil conflict in 2006 and has since undergone major political and institutional transitions, including the adoption of a federal constitution in 2015 (World Bank, 2021a). The post-conflict period has been characterised by political and institutional transition and administrative challenges associated with the implementation of federalism (ibid.). At the same time, Nepal experienced economic growth supported by remittance-financed private consumption, which contributed to rising imports (IMF, 2017c). Given Nepal's heavy reliance on import and consumption taxes (World Bank, 2021b), these economic conditions also supported revenue mobilisation. Nepal represents a case of rapid non-resource tax revenue growth from a very low starting point, followed by some level of volatility. Its experience illustrates how large increases in tax-to-GDP ratios can be achieved under favourable structural and macroeconomic conditions, but also how such gains may prove fragile when driven by narrow bases and cyclical factors rather than deep, broad-based improvements in tax capacity.

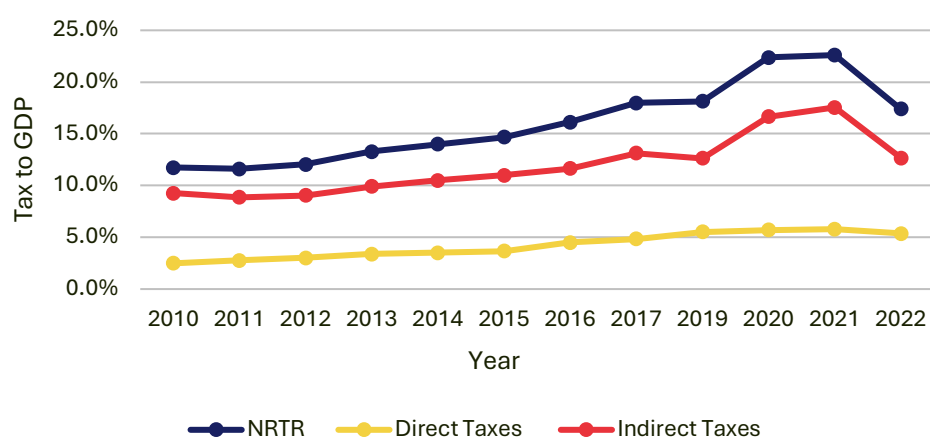
3.2 Revenue performance and trends

At the beginning of the period under review, Nepal's non-resource tax revenue was low by international standards, reflecting a narrow formal sector, high informality and limited administrative reach. From 2010 onward, however, NRTR increased sharply, rising from around 11.7% of GDP to 17.4% of GDP in 2022. This placed Nepal among the strongest apparent performers in the cross-country sample and

well above the median for low-income and lower middle-income countries.

Several mutually reinforcing factors contributed to this rapid increase. First, Nepal experienced a period of post-conflict political normalisation, which created an opening for improvements in revenue mobilisation, despite continuing political uncertainty (van den Boogaard et al., 2018). Second, the economy became increasingly import dependent, with rising consumption and imports supported by substantial growth in remittance inflows. This structure favoured revenue mobilisation through import-related taxation, particularly VAT, excise taxes and customs duties (Akitoby et al., 2020). Third, administrative reforms in customs and the Inland Revenue Department (IRD) strengthened enforcement and revenue collection. Improvements in VAT performance were also associated with enhanced tax administration capacity (ibid.).

Figure 11: Nepal NRTR performance trends (2010–2022)



Source: UNU-WIDER Government Revenue Dataset, 2025

Nepal's rate of expansion of NRTR significantly exceeded the South Asian regional average, in which NRTR increased by approximately 2.7 percentage points on average over the same period. Nepal's trajectory therefore represents a clear outlier, both regionally and globally.

Nepal's revenue performance benefited from sustained efforts to strengthen tax administration. The Inland Revenue Department's Second Strategic Plan (2018/19–2022/23) emphasised expanding digital tax services, improving compliance management, strengthening audit functions, and enhancing taxpayer services to broaden the tax base and improve voluntary compliance (IRD Nepal, 2018). Revenue growth was 'facilitated by rapid growth of the tax base – with rising remittances propelling consumption and imports – alongside sustained efforts to strengthen tax administration, including at customs' (IMF, 2017c). These reforms strengthened revenue mobilisation capacity and improved compliance, helping to broaden the tax base.

However, revenue gains have not been linear. Despite improvements in tax administration capacity, revenue performance remained vulnerable to large fluctuations in inward remittances and international trade, reflecting Nepal's dependence on import-based taxation. Following a slowdown in imports, which declined by 30.9% during the first six months of 2022 (IMF, 2023), the NRTR ratio fell from 22.6% of GDP in 2021 to 17.4% in 2022. This sharp decline highlights the continued vulnerability of Nepal's revenue base to external and macroeconomic shocks, even as tax administration reforms strengthened domestic revenue mobilisation capacity.

3.3 Composition of revenue: strengths and vulnerabilities

The composition of revenue growth underscores the narrowness of the underlying base. The bulk of additional revenue came from indirect taxes, with VAT and trade-related taxes accounting for most of the increase. By contrast, direct taxes – particularly personal income tax – remained a relatively small share of total revenue, constrained by informality, limited wage employment and weak taxpayer registration outside the largest firms. As a result, while aggregate revenue ratios rose rapidly, the structure of taxation changed little in ways that would support long-term sustainability or equity.

Indirect taxes accounted for approximately 72% of total tax revenue in 2022. Direct taxes – primarily personal and corporate income taxes and property-related taxes – made up the remaining 28%. Meanwhile:

- VAT almost doubled from 4% of GDP in 2010 to over 7% in 2021, reflecting improved compliance, base expansion and increased consumption. However, it declined to 5% of GDP in 2022, which highlights the vulnerability of Nepal's VAT to economic shocks.
- Taxes on international trade rose from 2.6% of GDP to 4.7%, benefiting from strong import growth, but declined to 3% in 2022.

While this composition supported rapid revenue growth, it also introduced structural vulnerabilities. Heavy reliance on VAT, excises and import-related taxes exposes revenue performance to fluctuations in trade, remittances and consumption. The distributional implications of this reliance on indirect taxation are less straightforward. Although consumption taxes are conventionally viewed as regressive, recent evidence from developing countries suggests that they may be progressive once differences in informal consumption are taken into account. Poorer households tend to purchase a larger share of goods through informal and effectively untaxed channels, while richer households consume more through formal markets and consequently face higher effective consumption

tax rates (Bachas et al., 2024). The distributional incidence of VAT in Nepal therefore depends partly on patterns of formality and consumption across income groups.

3.4 Institutional and strategic reforms

Nepal's experience highlights the sensitivity of revenue collection gains to macroeconomic and external shocks. The magnitude of the decline in 2022 suggests earlier revenue gains partly reflected cyclical factors and reliance on import-based taxation (which was then subject to a contraction) rather than broad, durable expansion of the domestic tax base. Revenue increases driven by import growth and remittance-financed consumption are particularly vulnerable to external shocks, exchange rate pressures and balance of payments constraints.

While further broadening of the tax base would be needed to build fiscal resilience in future to address the structural dependence on remittance-fuelled consumption and import-based taxation, key tax policy and administrative reforms, including digitalisation initiatives, helped lay a foundation for revenue improvement. These reforms are described in further detail below.

The establishment of the Inland Revenue Department (IRD) as a functionally organised agency in 2001 was foundational. This was followed by the development and implementation of multi-year strategic plans and revenue reform plans between 2012 and 2022. These plans provided continuity and direction to reform efforts, despite political instability.

Parallel reforms in customs administration focused on curbing evasion, strengthening valuation and improving risk management. The Nepal Government also developed a comprehensive reform strategy for the customs department and embarked on a range of measures to curb tax evasion, broaden the tax base and improve the audit function of the Large Taxpayers Office, as well as of the IRD in general, in 2010/11 (IMF, 2010).

3.4.1 Tax policy measures

Key policy reforms included the following:

- Gradual expansion and rate adjustment of VAT, which was introduced in 1997 and increased to 13% in 2005 (IRD Reform Plan 2015/16–2017/18).
- Introduction of a higher personal income tax band for high-income earners in 2010.
- Reduction of VAT exemptions and unification of VAT refund mechanisms.
- Introduction of health hazard taxes on tobacco and increased excise duties on vehicles and other goods.

- Base broadening of property taxes through lowered valuation thresholds.
- Introduction of tax expenditures as supplementary information in the annual budget by the High-Level Tax System Review Commission (HLTSRC) in 2014.

These measures increased revenue primarily by expanding existing tax bases rather than introducing entirely new taxes.

3.4.2 Tax administration and digitalisation

Administrative reforms were central to Nepal's revenue performance. Key measures included the following:

- Establishment of a Large Taxpayer Office and segmentation of taxpayers into large, medium and small categories.
- Introduction of electronic registration, filing and payment systems, achieving near-universal coverage by 2016/17 (IMF, 2017c).
- Rollout of a permanent account number (PAN) system, linking taxpayers across different taxes and financial records.
- Deployment of the Integrated Tax System (ITS) and cross-checking of tax filings with banking data (IMF, 2019c).
- Modernisation of customs through the implementation of ASYCUDA (Automated System for Customs Data) World and risk-based clearance.

These reforms supported improved compliance and reduced administrative costs.

3.5 Lessons from Nepal

Overall, Nepal's experience reinforces the paper's central argument that large observed increases in non-resource tax revenue should be interpreted carefully. Headline improvements in tax-to-GDP ratios may overstate underlying progress if they are driven by narrow, cyclical or externally dependent sources of revenue. For revenue target-setting, Nepal illustrates both the upper bound of what may be achievable under favourable conditions and the risks of assuming that such gains can be sustained or replicated without deeper structural transformation.

4 Case Study: Uganda

Summary: Uganda's experience illustrates the difficulty of raising non-resource tax revenue in a low-income economy with high informality, a narrow formal tax base and limited taxable income. Despite sustained policy and administrative reforms, including efforts to strengthen strategic planning, compliance management and revenue administration, gains were gradual rather than exceptional. Strong economic growth did not translate into commensurate tax gains because much activity remained outside the formal tax net, while GDP rebasing also mechanically lowered measured tax-to-GDP ratios. Uganda therefore shows that persistent reform efforts can improve revenue performance over time, but structural constraints and political economy challenges can limit the pace and scale of gains.

4.1 Context

Uganda provides an illustrative example of the challenges low-income countries face in achieving sustained increases in non-resource tax revenue despite prolonged policy and administrative reform. Starting from a relatively low base, Uganda's non-resource tax revenue increased gradually over the past decade. However, the scale and pace of improvement remained modest, reflecting structural constraints associated with widespread informality, narrow tax bases, low labour productivity and limited administrative capacity (Besley and Persson, 2014; Global Financial Integrity, 2024).

Uganda is a low-income country with a rapidly growing population, a predominantly agrarian economic structure and a large informal economy. Despite relatively strong economic growth, averaging approximately 5–6% annually over the past decade, the country's fiscal capacity remains constrained by low levels of formalisation and limited taxable income among much of the population (World Bank, 2025). These challenges are compounded by the size of the informal economy, which was estimated to account for around 50% of GDP (MoFPED, 2015).

Poverty also remains widespread, particularly in rural areas. Although the reported unemployment rate was approximately 2.9% in 2023, this masks extensive underemployment, subsistence activity and informal employment, reflecting the limited availability of formal wage employment in the economy (ILO, 2024; World Bank, 2023a). According to the Uganda National Labour Force Survey 2021/22, the labour force comprised approximately 23.5 million people, with

around 9 out of 10 employed persons working in the informal economy (UBOS, 2023).

Agriculture continues to play a central role in Uganda's economy, employing a large share of the workforce while contributing a considerably smaller share of GDP (World Bank, 2025; FAO, 2025). Much of this employment is concentrated in subsistence agriculture, with relatively few workers engaged in formal wage employment. These labour market characteristics substantially limit the reach of conventional personal income tax and PAYE (pay-as-you-earn) systems, while corporate income tax revenues remain concentrated among a relatively small number of larger formal enterprises. Consequently, the scope for expanding direct taxation has remained limited despite sustained policy and administrative reforms (Besley and Persson, 2014).

Informality also extends beyond agriculture. Economically significant sectors – including construction, transport, accommodation, restaurants and small-scale services – remain only partially integrated into the formal tax system, limiting the extent to which economic growth translates into higher tax revenues. Consequently, revenue mobilisation has lagged behind economic expansion despite sustained growth over the past decade (UBOS, 2023; World Bank, 2023b; Global Financial Integrity, 2024).

These structural characteristics are central to understanding Uganda's revenue performance. Administrative reforms can improve registration, reporting and compliance among taxpayers already within or close to the formal tax system. Their aggregate revenue effect is nevertheless likely to remain constrained where large shares of production, employment and income remain outside the effective tax base (Global Financial Integrity, 2024).

4.2 Revenue performance and trends

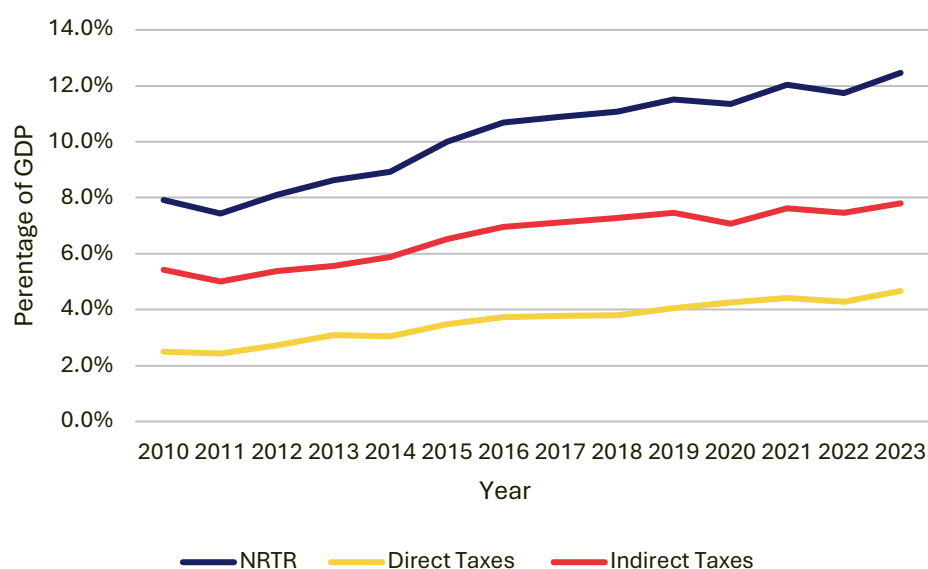
As discussed in Section 4.1, widespread informality and limited formal employment constrained the extent to which economic growth and administrative improvements could translate into higher aggregate revenue.

Between 2010 and 2022, Uganda's NRTR increased from 7.9% of GDP to 11.7% of GDP, representing a gain of 3.8 percentage points. While this improvement is notable in absolute terms, Uganda remained below the sub-Saharan African average (13.5%) but slightly above for low-income economies (11.4%) in 2022.

Consistent with the structural characteristics discussed in Section 4.1, revenue growth remained constrained despite sustained reform efforts. However, administrative reforms generated measurable improvements in taxpayer compliance. PAYE revenues increased from 1.76% of GDP in fiscal year (FY) 2014/15 to 2.45% in FY2023/24, while corporate income tax revenues rose from 0.70% of

GDP in FY2016/17 to 1.13% in FY2022/23, reflecting improvements in tax administration and compliance. These gains demonstrate that administrative reforms strengthened revenue collection within the existing tax base, although structural constraints limited the extent to which they increased aggregate revenue as a share of GDP.

Figure 12: Uganda NRTR trends (2010–2023)



Source: UNU-WIDER Government Revenue Dataset, 2025

The limits of administrative reform are also evident in Uganda's customs administration, where stronger enforcement has sometimes produced unintended behavioural responses. Efforts to curb tax evasion have revealed the adaptability of taxpayers in identifying and exploiting new loopholes. A notable example is the introduction of non-intrusive fixed cargo scanners at border entry points. While this reform has been effective in detecting undercounting of quantities and misclassification of goods, it has also generated unintended spillover effects (Davies et al., 2024). Evidence based on transaction-level customs data indicates that although the scanners successfully reduced certain forms of misreporting – specifically undercounting and misclassification – they also triggered behavioural responses, particularly among frequent importers who account for the bulk of trade. In response to tighter enforcement in these areas, taxpayers appear to have shifted towards under-pricing as an alternative method of evasion.

This case highlights a broader challenge, despite significant reform efforts taxpayers continue to adapt and exploit new avenues for non-compliance. The study estimates that these behavioural responses reduced customs tax revenue by approximately 9.8% relative to the gains expected from the reform. It also points to the need for sustained, long-term strategies that go beyond enforcement – such as strengthening tax policy and administration, improving taxpayer

education, and fostering trust between the state and taxpayers to enhance tax morale and compliance.

Overall, Uganda's revenue performance reflects the interaction between administrative improvements and structural constraints. While reforms strengthened compliance and improved tax collection among registered taxpayers, their aggregate impact remained limited by widespread informality, a narrow tax base and continued opportunities for tax evasion. Consequently, revenue mobilisation improved gradually rather than experiencing the substantial increases observed in countries with broader formal sectors.

4.3 Revenue composition: shifts and limitations

Uganda's revenue composition changed gradually between 2010 and 2022. Indirect taxes, including VAT, excise duties and trade-related taxes, increased by approximately 2.1 percentage points of GDP, while direct taxes grew by around 1.8 percentage points. Although both categories contributed to revenue growth, indirect taxes continued to account for the largest share of total tax revenue.

VAT revenues increased from 2.6% of GDP to 3.6% between 2010 and 2022, while excise revenues rose from 1.8% to 2.4% of GDP. These gains reflected a combination of policy measures, including rate adjustments and base expansion, together with administrative reforms such as improved taxpayer registration, risk-based audits, and the gradual expansion of electronic filing and payment systems.

Despite increasing over the period, direct taxes, particularly personal income tax, made a comparatively modest contribution to overall revenue growth. The relatively limited contribution of personal income tax reflects the structure of Uganda's labour market. As discussed in Section 4.1, formal wage employment represents only a small proportion of total employment, restricting the effective reach of PAYE and other individual income taxes. Corporate income tax revenues also remain concentrated among a comparatively small number of larger and more formal enterprises.

Uganda's tax system also continues to face important design and policy constraints that restrict revenue mobilisation. These include extensive customs-duty and VAT exemptions for basic goods and services (MoFPED, 2024), a narrow personal income tax base arising from limited formal employment, and relatively weak corporate income tax performance and exemptions for a significant portion of the tax base (World Bank, 2023b). By 2020, personal income tax revenue was approximately three times larger than corporate income tax revenue, raising concerns about the effective taxation of corporate profits and the equity of the tax system. Collectively, these policy and structural constraints limited the scope for sustained increases in domestic revenue despite continued reform efforts.

The composition of revenue therefore suggests that Uganda's revenue gains have been driven primarily by improvements in indirect taxation, while the limited contribution of direct taxes reflects deeper structural characteristics of the economy. The following section examines how specific tax policy and administrative reforms influenced these outcomes.

4.4 Administrative and institutional reform

Uganda undertook a range of tax policy and administrative reforms over the period, including the rationalisation of tax exemptions, strengthening the Uganda Revenue Authority (URA), adoption of electronic fiscal devices, and improvements in compliance management for large and medium taxpayers. These reforms were consolidated under the Domestic Revenue Mobilisation Strategy (DRMS), which sought to increase the tax-to-GDP ratio from 12.9% in FY2018/19 to between 16 and 18% by FY2023/24. The strategy introduced measures to improve corporate income tax productivity through changes to depreciation schedules and the repeal of initial allowances, strengthened the VAT and rental income tax regimes, and expanded the use of digital tax stamps and the Electronic Fiscal Receipting and Invoicing System (EFRIS) to improve VAT and excise duty compliance. Despite these reforms, the tax-to-GDP ratio increased to only 13.5%, indicating that while reforms strengthened revenue administration and prevented erosion of the tax base, their overall impact was incremental rather than transformative. This experience underscores the reality that institutional reforms often yield gradual improvements in compliance and administrative efficiency rather than immediate, large-scale revenue gains (World Bank, 2023b).

4.4.1 Strategic planning and reform sequencing

Uganda adopted successive domestic revenue mobilisation strategies (DRMSs) and Uganda Revenue Authority corporate plans to guide tax reforms over the medium term. The strategies aimed to increase tax revenue by approximately 0.5 percentage points of GDP annually through a combination of tax policy measures, administrative reforms and improved compliance management (IMF, 2021). More recently, the DRMS targeted an increase in the tax-to-GDP ratio from 12.9% in FY2018/19 to 16–18% by FY2023/24; however, the ratio reached 13.5%, highlighting the challenges of achieving ambitious revenue targets despite sustained reform efforts (World Bank, 2023b).

4.4.2 Tax policy reforms

Tax policy reforms focused on broadening the tax base while reducing revenue leakages. Key measures included the elimination of selected VAT and income tax exemptions (IMF, 2015), increases in excise duties on fuel, alcohol and tobacco (IMF, 2013), the introduction of sector-specific levies such as the mobile money tax,

and reforms to simplify the presumptive tax regime for small businesses. Since FY2019/20, the regular publication of tax expenditure reports has improved transparency by quantifying the fiscal cost of tax exemptions and incentives (IMF, 2022b; MoFPED, 2024).

Although these measures contributed to higher revenues, some reforms proved politically contentious. In particular, the introduction of the mobile money tax in 2018 generated widespread public opposition and protests, leading the government to reduce the tax rate from 1% to 0.5% and limit its application to withdrawals. Similarly, reforms affecting consumption taxes, including excise duties, have often faced resistance because of their direct impact on households and businesses (Lees et al, 2021; World Bank, 2023b).

4.4.3 Revenue administration and compliance

Administrative reforms complemented policy changes by strengthening tax administration and improving compliance. These included the re-establishment of the Large Taxpayers Office, expansion of risk-based audits, improvements in customs administration, wider use of digital systems for taxpayer registration, filing and payment, and strengthened internal control and anti-corruption measures (IMF, 2013; IMF, 2019b). The Uganda Revenue Authority also introduced technologies such as digital tax stamps and the Electronic Fiscal Receipting and Invoicing System (EFRIS) to improve VAT and excise duty compliance (World Bank, 2023b). While these reforms improved administrative efficiency, their aggregate revenue impact remained gradual because of the economy's narrow formal tax base and persistent structural constraints (ibid.).

4.5 Structural and political economy constraints

While structural characteristics constrained the tax base, political economy considerations also influenced the pace of reform. Governments needed to balance revenue mobilisation against investment competitiveness, taxpayer resistance and affordability concerns (World Bank, 2023b; IMF, 2024b). These considerations contributed to continued reliance on exemptions (MoFPED, 2024) and preferential treatments, limiting the scope for more rapid revenue growth.

During the Covid-19 pandemic, temporary relief measures and economic disruption reduced revenue collection, contributing to a short-term decline in non-resource tax revenue before a gradual recovery as economic activity resumed (World Bank, 2023b; IMF, 2021).

4.6 Lessons from Uganda

The Ugandan experience suggests several lessons for domestic revenue mobilisation, as follows:

- 1 Administrative reforms are necessary but not sufficient to overcome structural constraints such as informality, limited formal employment and narrow tax bases.
- 2 Revenue mobilisation in low-income countries is often gradual, with incremental gains more common than large and rapid increases.
- 3 Tax effort and tax-to-GDP ratios should not be conflated. Relatively modest changes in headline revenue ratios do not necessarily indicate weak reform performance where structural characteristics of the economy constrain revenue-raising capacity.

Uganda demonstrates that revenue performance must be assessed in relation to country context, structural conditions, reform effort and administrative capacity rather than against headline revenue benchmarks alone.

4.6.1 Uganda in comparative perspective

Compared with Nepal, Uganda's revenue gains were slower and more incremental, reflecting the absence of exceptional factors such as post-conflict recovery, rapid import growth or large increases in consumption taxation (World Bank, 2023b; IMF, 2021). Unlike Greece, Uganda did not experience a crisis-driven increase in revenue ratios associated with economic contraction and fiscal adjustment (OECD, 2024; IMF, 2023). Instead, Uganda represents a more typical low-income country experience, in which revenue mobilisation occurred gradually through sustained policy and administrative reforms operating within significant structural constraints (World Bank, 2023b). Its experience reinforces the central argument of this paper that similar reform agendas can produce very different outcomes depending on economic structure, tax bases, tax efforts and political economy conditions.

Uganda also illustrates the importance of distinguishing between tax effort and tax-to-GDP ratios. Despite sustained investments in tax administration, compliance management, digitalisation and enforcement, revenue gains remained gradual because high informality, limited formal employment and a narrow direct tax base constrained the size of the effective tax base (World Bank, 2023b; Global Financial Integrity, 2024). The case demonstrates that relatively modest changes in headline revenue ratios do not necessarily indicate weak reform performance. Rather, Uganda highlights both the potential and the limits of tax administration reforms when broader structural conditions remain largely unchanged.

5 Case Study: Greece

Summary: Greece recorded one of the largest increases in non-resource tax revenue in the sample, but its experience is unusual because the rise in the tax-to-GDP ratio reflected both policy and administrative changes and the severe economic contraction during the sovereign debt crisis. Crisis-driven fiscal adjustment raised revenues through VAT, income tax and other measures, while institutional reforms, including the creation of an independent revenue authority and expanded digital compliance systems, strengthened collection and helped reduce non-compliance. At the same time, the Greek case shows why large headline gains should be interpreted carefully: part of the increase reflected a shrinking GDP denominator and a shift in the tax burden during a period of austerity. Greece therefore demonstrates that sizeable revenue gains can be achieved under strong fiscal pressure, but sustainability depends on whether reforms improve compliance and broaden the base without relying on crisis conditions or politically costly measures.

5.1 Context

Between 2010 and 2022, Greece's NRTR increased by almost 8 percentage points of GDP, placing it among the strongest performers in the sample. Yet this increase occurred during an exceptionally severe economic contraction and a period of far-reaching fiscal adjustment. Determining whether these revenue gains reflected genuine improvements in tax capacity, crisis-driven tax policy measures or denominator effects is therefore central to interpreting Greece's experience.

Greece is a high-income economy and member of the European Union whose fiscal trajectory over the past two decades has been dominated by the sovereign debt crisis that began in 2009. Prior to the crisis, Greece was characterised by persistent fiscal imbalances, weak tax compliance and extensive informality. Tax compliance challenges were particularly pronounced among the self-employed, with around 75% of self-employed professionals reporting income below the taxable threshold (Petrakis, 2019). The shadow economy was estimated at approximately 27% of GDP (ibid.), while tax administration remained fragmented and was characterised by numerous exemptions and frequent changes to tax legislation (ibid.).

VAT compliance was also among the weakest in Europe, with more than one-third of potential VAT revenue estimated to be lost through

non-compliance and related weaknesses (European Parliament, 2015; Bunn et al., 2021; Okello et al., 2026). By 2009, Greece's government deficit had reached 15.4% of GDP, while public debt stood at 126.8% of GDP (Eurostat, 2010). Between 2010 and 2018, Greece entered three successive economic adjustment programmes supported by European institutions and the International Monetary Fund (IMF). These programmes provided substantial financial assistance and were conditional on far-reaching fiscal consolidation, tax policy measures and structural reforms (European Commission, 2023b).

The adjustment period coincided with an exceptionally severe economic contraction. Real GDP declined by more than 25% during the crisis (OECD, 2018), while unemployment peaked at above 27% and poverty increased substantially (OECD, 2016). These economic conditions are central to interpreting Greece's subsequent revenue performance, as changes in the tax-to-GDP ratio occurred against a backdrop of falling output, employment and household incomes. Against this backdrop, Greece implemented extensive tax policy and revenue administration reforms as part of successive economic adjustment programmes. The interaction between economic contraction, crisis-driven fiscal measures and institutional reform makes Greece a particularly important case for assessing the drivers and sustainability of large increases in tax-to-GDP ratios.

5.2 Revenue performance and trends

Greece's NRTR-to-GDP increased from 21.3% of GDP in 2010 to 29% in 2022, a rise of 7.7 percentage points. As shown in Figure 13, this represents one of the largest increases among the countries examined in this study. However, the scale of the increase requires careful interpretation given the exceptional contraction in the economic output during much of the period.

Part of the increase in Greece's NRTR-to-GDP ratio reflected a denominator effect associated with the contraction in economic output. As GDP declined sharply during the crisis, a given level of nominal tax revenue translated into a higher tax-to-GDP ratio. However, the resilience of revenue collection during such a severe downturn is itself analytically significant. Falling output, rising unemployment and declining household incomes would ordinarily be expected to weaken major tax bases. The increase in the revenue ratio therefore cannot be attributed to denominator effects alone.

To illustrate the importance of the denominator effect, a simple accounting counterfactual can be constructed using real GDP. Greece's real GDP declined from approximately \$239.6 billion in 2010 to \$214.5 billion in 2022 (constant 2015 prices), leaving real output around 10.5% below its 2010 level. Holding real NRTR constant at its 2010 level, this contraction alone would mechanically increase the NRTR-to-GDP ratio from 21.3% to approximately 23.8%. This represents an increase of around 2.5 percentage points,

compared with the observed increase of approximately 7.7 percentage points over the period.

This accounting exercise suggests that denominator dynamics were quantitatively important but cannot account for most of the observed increase in Greece's NRTR-to-GDP ratio. The remaining difference reflects higher real revenue relative to its 2010 level, although this exercise does not identify the respective contributions of discretionary tax measures, changes in compliance, shifts in the composition of economic activity or other factors.

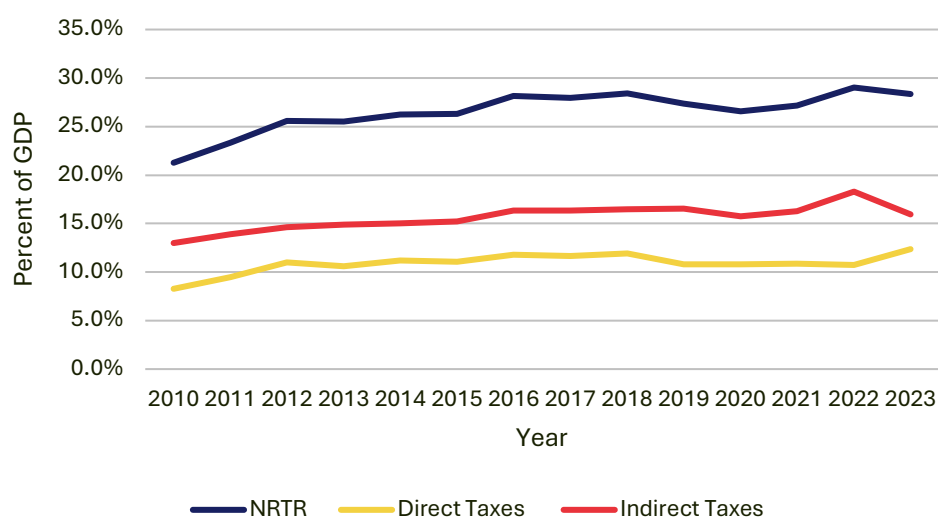
Table 5: Illustrative accounting decomposition of Greece's NRTR-to-GDP increase (2010–2022)

Year/ Scenario	NRTR (US\$bn)	RGDP (US\$bn)	NRTR/GDP (%)	Change / Effect (pp)
2010 Actual	51	239.6	A) 21.3%	
2022 Actual	62.2	214.5	B) 29.0%	
2022 (Counterfactual)	51	214.5	C) 23.8%	
Actual change in NRTR/GDP, 2010-2022 (B-A)				7.7pp
Denominator effect on NRTR/GDP, 2010-2022 (C–A)				2.5pp
Non-denominator (numerator) effect on NRTR/GDP, 2010-2022 (B-C)				5.2pp

Sources: Authors' calculations based on the UNU-WIDER Government Revenue Dataset, 2025 and World Bank World Development Indicators, GDP (constant 2015 \$).

Note: The counterfactual holds real NRTR at its 2010 level while allowing real GDP to change to its observed 2022 level. The decomposition is an accounting exercise and should not be interpreted as a causal decomposition of the change in Greece's NRTR-to-GDP ratio.

Two additional factors contributed to the increase in the revenue ratio. First, successive tax policy measures increased statutory tax burdens and broadened parts of the tax base during the adjustment period (IMF, 2017b). Second, reforms to revenue administration strengthened compliance management and contributed to improvements in tax collection, particularly in VAT (Okello et al., 2026). These policy and administrative channels are examined in greater detail in Section 5.4.

Figure 13: Greece NRTR performance trend (2010–2023)

Source: UNU-WIDER Government Revenue Dataset, 2025

5.3 Composition of revenue: shifting burdens

At 29% of GDP in 2022, Greece's NRTR ratio was above the high-income country average of 21.8% and the Europe and Central Asia regional average of 22.8%. However, Greece's position relative to these benchmarks should be interpreted in light of the exceptional economic and fiscal conditions discussed above.

The composition of Greece's revenue gains provides further insight into the sources of the increase in NRTR. Authors' calculations based on the UNU-WIDER Government Revenue Dataset (2025) show that, between 2010 and 2022:

- indirect tax revenue increased from 13.0% of GDP to 18.3%
- direct tax revenue increased from 8.3% to 10.7% of GDP.

Within direct taxation:

- personal income tax (PIT) increased from approximately 4.0% of GDP to more than 6.0%
- property tax revenue increased from 1.2% to 2.3% of GDP
- corporate income tax (CIT) revenues declined from 2.6% to 2.0% of GDP.

VAT compliance also improved substantially over the period. Greece entered the crisis with one of the largest VAT compliance gaps in the European Union, with around 30% of potential VAT revenue estimated to be lost through non-compliance (Bunn et al., 2021; Okello et al., 2026). Over the subsequent decade, the VAT compliance gap declined markedly, contributing to stronger VAT

revenue performance (European Commission, 2016; Okello et al., 2026). This improvement suggests that changes in revenue composition reflected not only increases in statutory tax burdens but also gains in tax compliance.

5.4 Drivers of revenue change

The increase in Greece's NRTR ratio reflected the interaction of crisis-driven tax policy measures and reforms to revenue administration. Tax policy changes supported revenue gains through higher statutory burdens and changes to the tax base, while administrative and institutional reforms sought to strengthen compliance and improve the effectiveness of revenue collection. The relative durability of these two channels is important for assessing the sustainability of Greece's revenue performance.

5.4.1 Crisis-driven tax policy measures

Greece's fiscal adjustment strategy during the sovereign debt crisis relied heavily on revenue-enhancing tax measures. Key reforms included increases in VAT rates and reductions in the scope of reduced-rate categories, higher personal income tax burdens and solidarity surcharges, the introduction and expansion of recurrent property taxation, and repeated increases in excise duties (IMF, 2017b). These measures were implemented as part of successive economic adjustment programmes and contributed to the increase in tax revenue as a share of GDP.

The personal income tax system was also reformed in 2016, with labour income, pensions and personal business income brought under a more unified tax schedule. This represented a shift towards greater harmonisation of the taxation of different income sources (OECD, 2017). The VAT base was also broadened through reductions in exemptions and preferential treatments. OECD estimates suggested that these measures could generate additional revenue equivalent to approximately 0.9% of GDP by 2018 (OECD, 2018). Similarly, reforms to the taxation of wage, business and farming income were projected to generate revenue gains of around 1% of GDP by 2018 (IMF, 2017b). These estimates illustrate the substantial role of discretionary tax policy measures in supporting revenue mobilisation during the adjustment period.

5.4.2 Administrative and institutional reforms

Governance reform

A central institutional reform was the establishment of the Independent Authority for Public Revenue (IAPR) in 2017. The reform increased the operational autonomy of the revenue administration and sought to reduce political interference in key administrative functions. Greater autonomy over organisational, staffing and compliance-management decisions was intended to strengthen the credibility and effectiveness of tax administration (Okello et al., 2026).

The establishment of the IAPR marked an important shift towards a more autonomous and professionally managed revenue administration. This institutional framework provided a foundation for subsequent reforms in compliance risk management, organisational restructuring and digitalisation.

Organisational reform

Revenue administration reforms also involved substantial organisational restructuring. The consolidation of local tax offices and centralisation of key functions were accompanied by a greater emphasis on specialised compliance management and the monitoring of large taxpayers and high-value tax risks (ibid.). These changes supported a more risk-based approach to tax administration, allowing administrative resources to be directed towards areas with greater revenue and compliance risks.

Digital transformation

Digitalisation became a central component of Greece's revenue administration reforms. Electronic filing and payment systems were expanded, while the growing use of electronic transactions increased the availability of information on taxable activity.

The introduction of the myDATA digital reporting platform was intended to strengthen the capacity of the tax administration to collect and cross-check taxpayer information. Combined with greater use of third-party data and analytical tools, the broader digital reform programme improved the administration's ability to identify under-reporting and target compliance risks (Okello et al., 2026).

These administrative and digital reforms were accompanied by substantial improvements in VAT compliance. Greece's VAT compliance gap declined markedly over the subsequent decade, suggesting that stronger information systems, compliance management and enforcement contributed to more effective revenue collection (ibid.).

5.5 Sustainability and political economy risks

Greece's experience also highlights the potential sustainability risks associated with crisis-driven revenue mobilisation. A substantial part of the initial fiscal adjustment relied on increases in statutory tax burdens and the introduction of new revenue measures. While these measures supported revenue mobilisation in the short term, repeated tax changes and relatively high statutory burdens may face economic and political limits over a longer period.

The structure of taxation is particularly relevant in this context. OECD assessments have highlighted scope for further reducing the tax burden on labour, particularly for low-wage workers, while strengthening the efficiency of the tax system through reforms to tax bases and tax expenditures (OECD, 2024b). A revenue strategy that relies heavily on higher rates may therefore be more difficult to

sustain than one based on broader tax bases and improvements in compliance.

By contrast, improvements in administrative capacity, digitalisation and compliance management may provide more durable revenue gains. The substantial reduction in Greece's VAT compliance gap suggests that improvements in the effectiveness of revenue administration can support revenue collection without relying exclusively on further increases in statutory tax rates (Okello et al., 2026). The sustainability of Greece's revenue performance therefore depends partly on whether future gains can be generated through stronger compliance and broader tax bases rather than additional increases in tax burdens.

5.6 Lessons from Greece

Greece's experience provides several broader lessons for the analysis of revenue mobilisation, as follows:

- 1 Headline changes in tax-to-GDP ratios do not necessarily provide a direct measure of improvements in tax capacity. Changes in the denominator, tax policy measures and improvements in compliance can produce similar movements in the revenue ratio through fundamentally different channels.
- 2 The drivers of revenue mobilisation matter for its sustainability. Revenue gains generated primarily through increases in statutory tax burdens may face greater economic and political constraints than gains arising from broader tax bases and improved compliance.
- 3 Revenue administration reform can generate more durable gains when it strengthens information, risk management and enforcement capacity. Greece's improvements in VAT compliance illustrate the potential importance of institutional autonomy, digitalisation and more targeted compliance management.
- 4 Crisis conditions can accelerate reforms but complicate the interpretation of their outcomes. In Greece, major tax policy and administrative reforms occurred alongside exceptional economic contraction and fiscal consolidation, making it difficult to attribute changes in revenue performance to a single factor.
- 5 Cross-country revenue benchmarks should be interpreted alongside the underlying economic and institutional context. Similar tax-to-GDP ratios, or similar increases in those ratios, may reflect very different levels of tax effort, administrative capability and long-term revenue sustainability.

5.6.1 Greece in comparative perspective

From a comparative perspective, Greece demonstrates the limitations of ranking countries solely according to changes in tax-to-GDP ratios. Its 7.7 percentage-point increase in NRTR places it among the strongest performers in the sample, yet the underlying drivers differ markedly from cases where revenue gains occurred alongside sustained economic expansion. Greece's performance emerged in the context of a severe economic contraction, extensive discretionary tax measures and far-reaching reforms to revenue administration.

The Greek case therefore reinforces the importance of examining the composition and drivers of revenue change when interpreting cross-country performance. Countries recording similar increases in NRTR may differ substantially in the extent to which these gains reflect economic conditions, changes in statutory tax policy, or improvements in administrative capacity and compliance. These differences have important implications for the sustainability and replicability of revenue gains.

Greece should therefore be viewed not simply as a high-performing revenue mobiliser, but as a case in which a large increase in the headline revenue ratio resulted from the interaction of exceptional economic conditions, crisis-driven policy measures and genuine improvements in revenue administration. Its experience illustrates why revenue outcomes should be assessed alongside economic performance and institutional change when drawing lessons across countries.

6 Conclusions

6.1 Interpreting revenue performance in context

This paper has shown that large increases in non-resource tax revenue are historically uncommon, even though domestic revenue mobilisation is central to development finance and the resilience of public finances. Across 139 countries between 2010 and 2022, average non-resource tax revenue increased only modestly, while gains above 5 percentage points of GDP were achieved by a small minority of countries. Extending the analysis back to 1990 to examine five- and ten-year gains reinforces the same message. Where such gains occurred, they were typically associated with exceptional circumstances, including post-conflict recovery, crisis-driven fiscal adjustment, major tax policy reforms, rapid economic growth, formalisation, sector-specific booms, or significant improvements in tax administration and compliance.

The central message is therefore not that substantial revenue gains are impossible, but that they are rare and context dependent; yet when achieved, most of the gains are often persistent. Historical experience suggests that revenue mobilisation is usually gradual, especially in countries where informality, narrow tax bases, low incomes and limited administrative capacity constrain the size of the effective tax base. This has important implications for how governments and development partners interpret revenue performance and set revenue targets.

The case studies of Nepal, Uganda and Greece illustrate why headline tax-to-GDP ratios should be interpreted with care. Nepal shows how rapid gains can occur from a low base when post-conflict recovery, remittance-financed consumption and import-based taxation expand administratively tractable revenue sources. Yet the subsequent reversal also shows the vulnerability of gains that rely heavily on imports, consumption and external flows. Uganda illustrates a more gradual and arguably more typical low-income country trajectory, where sustained reform efforts generated incremental improvements but were constrained by bottlenecks such as informality, limited formal employment, administrative capacity constraints and a narrow direct tax base. Greece demonstrates a third pathway, in which large increases in revenue ratios reflected a combination of economic contraction, crisis-driven fiscal adjustment, denominator effects, and genuine improvements in tax administration and compliance.

Taken together, these cases show that similar changes in tax-to-GDP ratios can reflect very different underlying mechanisms. A rising ratio may indicate improved compliance, successful policy reform or expanding taxable activity, but it may also reflect crisis-driven tax increases, GDP contraction, denominator effects or temporary sector-specific gains. Conversely, modest improvements in the headline ratio do not necessarily indicate weak reform effort where structural constraints limit the pace at which tax bases can expand.

This distinction matters for policy. Revenue targets should be ambitious, but they should also be grounded in country-specific starting points, economic structure, administrative capacity, political economy constraints and historical experience. Estimates of tax potential can be useful for identifying long-term possibilities, but they should not be treated as realistic short- or medium-term targets without careful consideration of implementation capacity, economic structure, and the conditions under which comparable gains have been achieved elsewhere. Unrealistic revenue targets can pressure governments to prioritise short-term measures over longer-term improvements in tax policy and administration.

This conclusion is supported by IMF guidance (IMF, 1995), for example, which notes that major tax reforms take time, while short-term revenue measures should be assessed for their revenue potential, administrative feasibility and consistency with longer-term reform. In practice, rapid gains may be possible from indirect taxes, excises, trade taxes, rate increases or removing exemptions (Akitoby et al., 2018), but these can be regressive, distortionary or politically unsustainable if pursued aggressively without considering the context. Revenue mobilisation should therefore be judged not only by how much is raised, but how it is raised, who bears the burden and whether gains are sustainable.

The findings point to several priorities for policy and reform design. First, revenue strategies that combine ambition with realism are likely to be those that recognise that meaningful gains often require sustained investment in tax administration, digital systems, taxpayer services, compliance management and institutional credibility. Second, the tax-to-GDP ratio is an important and well-used measure of revenue performance, but should ideally be considered alongside revenue composition, equity (progressivity), tax morale, compliance, base broadening and administrative capacity. Third, governments and development partners wishing to pay close attention to the sustainability of revenue gains could focus on mitigating the risks of dependency on indirect taxes, imports, natural-resource spillovers, tourism or temporary macroeconomic conditions.

The analysis also points to an agenda for further research. Disentangling the drivers of revenue change, separating the effects of tax policy reforms, administrative improvements, economic growth, formalisation, denominator effects and temporary shocks are natural

next steps. More detailed longitudinal country studies would help explain why some gains persist while others reverse, and whether large increases translate into deeper improvements in tax capacity over time. Further research is also needed on the composition and distributional implications of revenue gains (or losses). Many countries that increased non-resource tax revenue relied heavily on VAT, excises, trade taxes or other indirect taxes. These instruments may be administratively effective, but they raise important questions about equity, political acceptability and resilience. Understanding the trade-offs between revenue mobilisation, distributional outcomes and economic efficiency should be central to future analysis.

A further priority is to assess which tax administration reforms generate durable revenue gains, over what time horizon and under what institutional conditions. Digitalisation, third-party information, risk-based compliance, taxpayer segmentation and electronic filing systems are often promoted as routes to stronger revenue performance, but their effects depend on implementation quality, administrative capacity, taxpayer behaviour and political support. More comparative evidence is needed on how these reforms interact with broader structural conditions.

Finally, a significant weakness of evidence surrounding evaluation of tax reform episodes relates to the political economy conditions and their implications for the feasibility of revenue target setting. This includes understanding how governments, international organisations and development partners can set targets that are credible, context sensitive and supportive of long-term reform rather than short-term collection pressures. Better evidence on realistic reform trajectories would help avoid both excessive pessimism and unrealistic optimism in domestic revenue mobilisation debates.

The core implication of this paper is that tax-to-GDP ratios are useful starting points, but incomplete measures of revenue performance. Effective revenue mobilisation requires attention not only to how much revenue is collected, but also to the sources, sustainability, equity, distributional implications and institutional foundations of that revenue. Ambitious DRM reform remains essential, but it is most likely to succeed when targets are grounded in country realities, informed by historical experience, and supported by reforms that are sustained over time. Progress in domestic revenue mobilisation should therefore be, judged not only by whether tax-to-GDP ratios rise, but by whether gains are sustainable, equitable and supported by stronger tax institutions and administrative capacity.

References

- Akitoby, B., Baum, A., Hackney, C., et al.** (2018) Tax revenue mobilization episodes in emerging markets and low-income countries: lessons from a new dataset. IMF Working Paper 18/234. Washington, DC: IMF (www.elibrary.imf.org/view/journals/001/2018/234/article-A001-en.xml).
- Akitoby, B., Honda, J. and Primus, K.** (2020) Tax revenues in fragile and conflict-affected states – why are they low and how can we raise them? IMF Working Paper 20/143. Washington, DC: IMF (www.imf.org/-/media/files/publications/wp/2020/english/wp143-print.pdf).
- Bachas, P., Gadenne, L. and Jensen, A.** (2024) 'Informality, consumption taxes, and redistribution' *The Review of Economic Studies* 91(5): 2604–2634 (<https://academic.oup.com/restud/article/91/5/2604/7280167>).
- Benitez, J.C., Mansour, M., Pecho, M., et al.** (2023) Building tax capacity in developing countries. IMF Staff Discussion Note SDN/2023/006. Washington, DC: IMF (www.imf.org/-/media/files/publications/sdn/2023/english/sdnea2023006.pdf).
- Besley, T. and Persson, T.** (2014) 'Why do developing countries tax so little?' *Journal of Economic Perspectives* 28(4): 99–120 (<https://doi.org/10.1257/jep.28.4.99>).
- Brennan Hernández, N.** (2026) 'Malta: the EU's secret tax sieve'. Blog. Tax Justice Network, 24 February (<https://taxjustice.net/2026/02/24/malta-the-eus-secret-tax-sieve/>).
- Bunn, D., Enache, C. and Boesen, U.** (2021) 'Consumption tax policies in OECD countries'. Fiscal Fact 741. Washington, DC: Tax Foundation (<https://files.taxfoundation.org/20210125163558/Consumption-Tax-Policies-in-OECD-Countries.pdf>).
- Carter, P. and Cobham, A.** (2016) 'Taxing the rich: lessons from international evidence' *World Development* 86: 40–52.
- Central Revenue Agency** (2014) VAT and the consumer. Nassau: Central Revenue Agency, Government of The Bahamas (<https://cdn.bahamas.gov.bs/tenant/tenantgotb/documents/All%20Documents/VATConsumerBrochure-20240209181759.pdf>).
- Davies, R.B., McNabb, K. and Palanský, M.** (2024) You can't tax what you can't see: using fixed cargo scanners to combat tax evasion. Working Paper. London: International Growth Centre (www.theigc.org/publications/you-cant-tax-what-you-cant-see-using-fixed-cargo-scanners-combat-tax-evasion).
- Dordevic, L. and Maftei, A.** (2025) Domestic revenue mobilisation in WAEMU. IMF Selected Issues Paper. IMF Country Report No 25/111. Washington DC: IMF (<https://www.imf.org/-/media/files/publications/selected-issues-papers/2025/english/sipea2025070.pdf>).
- Enache, C.** (2026) 'The EU's questionable VAT policy'. Blog. Tax Foundation, 2 February (<https://taxfoundation.org/blog/eu-vat-revenue-compliance/>).
- European Commission** (2016) Study and reports on the VAT gap in the EU. Brussels: European Commission.
- European Commission** (2023a) 2023 country report: Malta. European Economy Institutional Paper 242. Brussels: European Commission (https://economy-finance.ec.europa.eu/system/files/2023-06/ip242_en.pdf).

- European Commission** (2023b) 'Financial assistance to Greece'. Webpage. European Commission (https://economy-finance.ec.europa.eu/eu-financial-assistance/euro-area-countries/financial-assistance-greece_en).
- European Parliament** (2015) Fact-finding mission of the Budgetary Control Committee (CONT) to Germany: Berlin, Mecklenburg-Western Pomerania, Hamburg. Brussels: European Parliament (www.europarl.europa.eu/cmsdata/100384/dossiergermany.pdf).
- Eurostat** (2010) 'Provision of deficit and debt data for 2009 – second notification'. News release 170/2010, 15 November (<https://ec.europa.eu/eurostat/documents/2995521/5051930/2-15112010-AP-EN.PDF/6704b50f-d771-4c98-889e-261a5f74396d>).
- FAO** – Food and Agriculture Organization of the United Nations (2025) 'Uganda: Scaling up Climate Ambition on Land Use and Agriculture through Nationally Determined Contributions and National Adaptation Plans (SCALA)'. Webpage. FAO (www.fao.org/in-action/scala/countries/uganda/en).
- Gallien, M., Lees, A. and Mascagni, G.** (2024) 'Getting targets right: how much revenue can lower-income countries raise?'. International Centre for Tax and Development (ICTD) Policy Brief 6. Brighton: Institute of Development Studies (<https://doi.org/10.19088/ICTD.2024.016>).
- Ghana Revenue Authority** (2019) 3rd strategic plan 2019–2021. Accra: Ghana Revenue Authority (<https://gra.gov.gh/wp-content/uploads/2020/09/GRA-13-FINAL.pdf>).
- Global Financial Integrity** (2024) Domestic revenue mobilization in Uganda. Washington DC: Global Financial Integrity (<https://gfintegrity.org/wp-content/uploads/2024/05/DOMESTIC-REVENUE-MOBILIZATION-IN-UGANDA-Final-Final-May-28.pdf>).
- Gupta, A.S.** (2007) Determinants of tax revenue efforts in developing countries. IMF Working Paper WP/07/184. Washington, DC: IMF. (www.imf.org/external/pubs/ft/wp/2007/wp07184.pdf).
- ILO – International Labour Organization** (2024) 'ILOSTAT country profile: Uganda'. Database. Geneva: ILO (<https://ilostat.ilo.org/data/country-profiles/uga/>).
- IMF – International Monetary Fund** (1995) Tax policy handbook. Pamphlet Series 49. Washington, DC: IMF (www.imf.org/external/pubs/ft/pam/pam49/pam49con.htm).
- IMF** (2010) Nepal: 2010 Article IV consultation and request for disbursement under the Rapid Credit Facility – staff report; staff supplements; public information notice on the Executive Board discussion; press release on the Executive Board discussion; and statement by the Alternate Executive Director and Advisor for Nepal. IMF Country Report 10/185. Washington, DC: IMF (www.imf.org/-/media/websites/imf/imported-full-text-pdf/external/pubs/ft/scr/2010/_cr10185.pdf).
- IMF** (2012) Spain: 2012 Article IV consultation. IMF Country Report 12/202. Washington, DC: IMF (www.imf.org/external/pubs/ft/scr/2012/cr12202.pdf).
- IMF** (2013) Uganda: 2013 Article IV consultation and sixth review under the Policy Support Instrument, request for a three-year Policy Support Instrument and cancellation of current Policy Support Instrument – staff report; public information notice and press release on the Executive Board discussion; and statement by the Executive Director for Uganda. IMF Country Report 13/215. Washington, DC: IMF (www.imf.org/en/Publications/CR/Issues/2016/12/31/Uganda-2013-Article-IV-Consultation-and-Sixth-Review-Under-the-Policy-Support-Instrument-40798).
- IMF** (2015) Uganda: staff report for the 2015 Article IV consultation and fourth review under the Policy Support Instrument. IMF Country Report 15/175. Washington, DC: IMF (www.imf.org/en/Publications/CR/Issues/2016/12/31/Uganda-Staff-Report-for-the-2015-Article-IV-Consultation-and-Fourth-Review-Under-the-Policy-43061).

- IMF** (2017a) Uganda: selected issues. Washington, DC: IMF, African Department (www.elibrary.imf.org/view/journals/002/2017/207/article-A001-en.xml).
- IMF** (2017b) Greece: 2016 Article IV consultation – press release; staff report; and statement by the Executive Director for Greece. IMF Country Report 17/40. Washington, DC: IMF (www.imf.org/-/media/Files/Publications/CR/2017/cr1740.ashx).
- IMF** (2017c) Nepal: staff report for the 2017 Article IV consultation – debt sustainability analysis. Washington, DC: IMF (www.imf.org/external/pubs/ft/dsa/pdf/2017/dsacr1774.pdf).
- IMF** (2019a) Gabon: selected issues. IMF Country Report 19/390. Washington DC: IMF, African Department (www.elibrary.imf.org/view/journals/002/2019/390/article-A002-en.xml).
- IMF** (2019b) Nepal: 2018 Article IV consultation – press release; staff report; and statement by the Executive Director for Nepal. IMF Country Report 19/60. Washington, DC: IMF. (www.imf.org/-/media/files/publications/cr/2019/1nplea2019001.pdf)
- IMF** (2019c) Uganda: 2019 Article IV consultation – press release; staff report; and statement by the Executive Director for Uganda. IMF Country Report 19/125. Washington, DC: IMF (www.imf.org/-/media/Files/Publications/CR/2019/1ugaea2019001.ashx).
- IMF** (2022a) *Maldives: technical assistance report – modernizing the goods and services tax*. IMF Country Report 22/187. Washington DC: IMF, Fiscal Affairs Department (www.elibrary.imf.org/view/journals/002/2022/187/article-A001-en.xml).
- IMF** (2022b) Uganda: 2021 Article IV consultation and first review under the Extended Credit Facility Arrangement and requests for modifications of performance criteria – press release; staff report; and statement by the Executive Director for Uganda. IMF Country Report 22/77. Washington, DC: IMF (www.imf.org/-/media/Files/Publications/CR/2022/English/1ugaea2022001.ashx).
- IMF** (2023) Nepal: staff report for the 2023 Article IV consultation, first and second reviews under the Extended Credit Facility Arrangement, requests for waivers of nonobservance of performance criteria, extension of the arrangement, and rephrasing of disbursements. IMF Country Report 23/158. Washington, DC: IMF (www.imf.org/-/media/files/publications/cr/2023/english/1nplea2023001.pdf).
- IMF** (2024a) Maldives: 2024 Article IV consultation – press release; *staff report; and statement by the Executive Director for Maldives*. IMF Country Report 24/106. Washington, DC: IMF (<https://www.imf.org/-/media/files/publications/cr/2024/english/1mdvea2024004.pdf>).
- IMF** (2024b) Managing tax incentives in developing countries. Technical Notes and Manuals 2024/07. Washington, DC: IMF (www.imf.org/-/media/files/publications/tnm/2024/english/tnmea2024007.pdf).
- IMF** (2025) Republic of Lithuania: selected issues. Washington DC: IMF (www.elibrary.imf.org/view/journals/002/2025/259/article-A001-en.xml).
- IMF** (2026) ‘Governor talks – Burkina Faso: enhancing domestic revenue mobilization in Burkina Faso’. Event at the IMF–World Bank Spring Meetings 2026, 16 April, Washington, DC (<https://meetings.imf.org/en/2026/spring/schedule/2026/04/16/governor-talks-burkina-faso-enhancing-domestic-revenue-mobilization-in-burkina-faso-208315>).
- IMF, OECD, United Nations, et al.** (2015) Options for low income countries’ effective and efficient use of tax incentives for investment. Report to the G20 Development Working Group. Washington, DC: IMF (www.imf.org/external/np/g20/pdf/101515.pdf).
- Inland Revenue Department** (2018) Inland Revenue management second strategic plan 2018/19–2022/23. Kathmandu: Inland Revenue Department, Ministry of Finance, Government of Nepal.
- Kim, D.** (2023) ‘Digital transformation of tax administration in the Republic of Korea: lessons from experience and ways forward’. The Governance Brief

52. Manila: Asian Development Bank
(www.adb.org/sites/default/files/publication/928976/governance-brief-052-digital-transformation-tax-administration-rok.pdf).
- Le, T.M., Moreno-Dodson, B. and Bayraktar, N.** (2012) Tax capacity and tax effort: extended cross-country analysis from 1994 to 2009. Policy Research Working Paper 6252. Washington, DC: World Bank.
(<https://openknowledge.worldbank.org/entities/publication/58e00a09-3386-5d6f-8fcd-0a56439c4ed7>)
- Lees, A. and Akol, D.** (2021) 'There and back again: the making of Uganda's mobile money tax'. ICTD Research in Brief 72. Brighton: Institute of Development Studies
(https://opendocs.ids.ac.uk/articles/report/There_and_Back_Again_The_Making_of_Uganda_s_Mobile_Money_Tax_Un_aller-retour_La_cr_ation_de_la_taxe_sur_les_transactions_financi_res_par_t_l_p_hone_mobile_en_Ouganda/26431987).
- Long, C. and Miller, M.** (2017) Taxation and the Sustainable Development Goals: do good things come to those who tax more? London: ODI
(<https://odi.org/en/publications/taxation-and-the-sustainable-development-goals-do-good-things-come-to-those-who-tax-more/>).
- Mansour, M. and Sawadogo, F.** (2026) 'Developing countries feel squeeze from lower natural resource revenue, falling foreign aid'. Blog. IMF, 4 May
(www.imf.org/en/blogs/articles/2026/05/04/developing-countries-feel-squeeze-from-lower-natural-resource-revenue-falling-foreign-aid)
- Mascagni, G., Moore, M. and McCluskey, R.** (2014) Tax revenue mobilisation in developing countries: issues and challenges. Brighton: Institute of Development Studies (<https://hdl.handle.net/20.500.12413/3948>).
- McCartney, G.** (2021) 'The impact of the coronavirus outbreak on Macao: from tourism lockdown to tourism recovery' *Current Issues in Tourism* 24(19): 2683–2692
(<https://www.tandfonline.com/doi/full/10.1080/13683500.2020.1762549>).
- McNabb, K. and Granger, H.** (2022) Employment income tax in Africa: findings from a new dataset. ODI Working Paper 619. London: ODI
(<https://odi.org/en/publications/employment-income-tax-in-africa-findings-from-a-new-dataset/>).
- McNabb, K., Danquah, M. and Tagem, A.M.** (2021) Tax effort revisited: new estimates from the Government Revenue Dataset. WIDER Working Paper 2021/170. Helsinki: UNU-WIDER (<https://doi.org/10.35188/UNU-WIDER/2021/110-5>).
- McNabb, K., Abramovsky, L. and Hart, T.** (2024) 'The problem with tax potential estimates: key considerations to develop sustainable tax systems'. ODI Insight. London: ODI, 3 June (<https://odi.org/en/insights/the-problem-with-tax-potential-estimates-key-considerations-to-develop-sustainable-tax-systems/>).
- Ministry of Trade and Economic Development, Kingdom of Tonga** (2024) 'Tourism infrastructure'. Webpage. Invest Tonga
(www.investtonga.gov.to/unlocking-opportunities-in-priority-sectors/tourism-infrastructure).
- MIRA – Maldives Inland Revenue Authority** (n.d.) 'Goods and services tax (GST): overview'. Webpage. Malé: MIRA
(www.mira.gov.mv/Pages/View/gst).
- Mistiaen, J.A., Randa, J. and Sanghi, A.** (2014) 'Kenya's re-based national accounts: myths, facts, and the consequences'. Data Blog. World Bank, 13 November (<https://blogs.worldbank.org/en/opendata/kenya-s-re-based-national-accounts-myths-facts-and-consequences>).
- MoFPED – Ministry of Finance, Planning and Economic Development** (2015) Budget speech: financial year 2015/2016. Kampala: Government of Uganda
(www.judicature.go.ug/files/downloads/268370038Budget-Speech-for-the-financial-year-2015-2016.pdf).

- MoFPED** (2023) Budget speech for financial year 2023/2024. Kampala: Government of Uganda (<https://library.health.go.ug/health-system-financing/audits-budget/budget-speech-financial-year-20232024>).
- MoFPED** (2024) Tax expenditure report 2024. Kampala: Government of Uganda (www.finance.go.ug/reports/tax-expenditures-report-fy-202324).
- OECD – Organisation for Economic Co-operation and Development** (2016) OECD economic surveys: Greece 2016. Paris: OECD Publishing (www.oecd.org/content/dam/oecd/en/publications/reports/2016/03/oecd-economic-surveys-greece-2016_g1g63c36/eco_surveys-grc-2016-en.pdf).
- OECD** (2017) Tax policy reforms 2017: OECD and selected partner economies. Paris: OECD Publishing (www.oecd.org/en/publications/tax-policy-reforms-2017_9789264279919-en.html).
- OECD** (2018) OECD economic surveys: Greece 2018. Paris: OECD Publishing (www.oecd.org/en/publications/oecd-economic-surveys-greece-2018_eco_surveys-grc-2018-en.html).
- OECD** (2024a) OECD consumption tax trends 2024: United Kingdom. Paris: OECD Publishing (www.oecd.org/tax/consumption-tax-trends/).
- OECD** (2024b) Tax administration 2024: comparative information on OECD and other advanced and emerging economies. Paris: OECD Publishing (<https://doi.org/10.1787/2d5fba9c-en>).
- Okello, A., Markov, S.E. and Wang, C.** (2026) 'How tax administration supported Greece's economic recovery'. IMF Country Focus. Washington, DC: IMF, 14 May (www.imf.org/en/news/articles/2026/05/14/cf-how-tax-administration-supported-greeces-economic-recovery).
- Perera, R.** (2024) 'Navigating fiscal challenges in Sri Lanka: key issues and policy recommendations' in Sri Lanka: from debt default to transformative growth. ODI Essays. London: ODI (<https://odi.org/en/publications/sri-lanka-from-debt-default-to-transformative-growth>).
- Petrakis, M.** (2019) 'Taxing times' *Finance & Development*, September. Washington, DC: IMF (www.imf.org/en/Publications/fandd/issues/2019/09/improving-tax-collection-in-greece-petrakis).
- Piketty, T.** (2020) Capital and ideology. Cambridge, MA: Harvard University Press.
- PwC – PricewaterhouseCoopers** (2026) 'Worldwide tax summaries: Saudi Arabia – corporate – other taxes'. PwC (<https://taxsummaries.pwc.com/saudi-arabia/corporate/other-taxes>).
- Reeves, A., Gourtsoyannis, Y., Basu, S., et al.** (2015) 'Financing universal health coverage – effects of alternative tax structures on public health systems: cross-national modelling in 89 low-income and middle-income countries' *The Lancet* 386(9990): 274–280 ([https://doi.org/10.1016/S0140-6736\(15\)60574-8](https://doi.org/10.1016/S0140-6736(15)60574-8)).
- Saito, J.** (2026) 'How consumption tax has evolved in Japan'. Japanese Economy Update. Japan Center for Economic Research (JCER), 17 February (www.jcer.or.jp/english/how-consumption-tax-has-evolved-in-japan).
- UBOS – Uganda Bureau of Statistics** (2014) *GDP estimates rebased to 2009/10*. Kampala: UBOS (www.ubos.org/onlinefiles/uploads/ubos/GDP/Rebased%20GDP%20Estimates%202009-2010.pdf).
- UBOS** (2023) National labour force survey 2021/22. Kampala: UBOS (www.ubos.org/wp-content/uploads/publications/11_2022NLFS_2021_main_report.pdf).
- UNECA – United Nations Economic Commission for Africa** (2014) 'The implications of the GDP rebasing exercise for Uganda and the EAC'. UNECA (<https://archive.uneca.org/stories/implications-gdp-rebasing-exercise-uganda-and-eac>).
- United Nations** (2018) Design and assessment of tax incentives in developing countries: selected issues and a country experience. New York: United Nations (<https://digitallibrary.un.org/record/3868829?v=pdf#files>).
- UNU-WIDER – United Nations University World Institute for Development Economics Research** (2025) 'Government Revenue Dataset (GRD) 2025'.

- Electronic dataset. Helsinki: UNU-WIDER
(<https://www.wider.unu.edu/project/grd-government-revenue-dataset>) .
- van den Boogaard, V., Prichard, W., Benson, M., et al.** (2018) 'Tax revenue mobilization in conflict-affected developing countries' *Journal of International Development* 30(2): 345–364 (<https://doi.org/10.1002/jid.3352>).
- World Bank** (2017) Cambodia: sustaining strong growth for the benefit of all – a systematic country diagnostic. Report 115189-KH. Washington DC: World Bank Group
(<https://documents1.worldbank.org/curated/en/620151496155751423/pdf/115189-replacement-PUBLIC-SCD-Cambodia-web.pdf>).
- World Bank** (2021a) Nepal public expenditure review. Washington DC: World Bank
(<https://documents1.worldbank.org/curated/en/099835012032119520/pdf/P17208601e4d9102009d990f176775b9f18.pdf>).
- World Bank** (2021b) Nepal first programmatic fiscal policy for growth, recovery and resilience development policy credit. Washington DC: World Bank
(<https://documents1.worldbank.org/curated/en/737901624154481010/pdf/Nepal-First-Programmatic-Fiscal-Policy-for-Growth-Recovery-and-Resilience-Development-Policy-Credit.pdf>).
- World Bank** (2023a) Uganda poverty assessment: strengthening resilience to accelerate poverty reduction. Washington, DC: World Bank
(<https://openknowledge.worldbank.org/entities/publication/1f4dfb7e-63e5-5773-9f17-690acba30bb8>).
- World Bank** (2023b) Uganda economic update: increasing Uganda's fiscal space through improved revenue mobilization and enhanced efficiency of spending and service delivery. Washington, DC: World Bank
(<https://documents1.worldbank.org/curated/en/099092625073531103/pdf/P507414-4440f26f-1f37-4dba-ac48-9f69909b1aa8.pdf>).
- World Bank** (2023c) Maldives development update: batten down the hatches. Washington, DC: World Bank
(<https://documents1.worldbank.org/curated/en/099615309292370160/pdf/IDU0d809936f0b994048ae0836708343d7d9cde6.pdf>).
- World Bank** (2025) 'Uganda data'. World Bank Open Data. Washington DC: World Bank (<https://data.worldbank.org/country/uganda>).
- World Bank** (2026a) 'GDP growth (annual %) – Nepal'. World Development Indicators. Washington, DC: World Bank
(<https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=NP>).
- World Bank** (2026b) 'GDP (constant 2015 \$) – Greece'. World Development Indicators, indicator NY.GDP.MKTP.KD. Washington DC: World Bank
(<https://data.worldbank.org/indicator/NY.GDP.MKTP.KD?locations=GR>).

Appendix

Table A 1: Robustness of historical NRTR gains to overlapping and non-overlapping windows (1990–2022)

Gain threshold	Rolling 5-year	Non-overlapping 5-year	Rolling 10-year	Non-overlapping 10-year
≥1pp	38%	37%	48%	46%
≥2pp	21%	19%	33%	31%
≥3pp	11%	10%	21%	20%
≥5pp	4%	3%	8%	8%

Source: Authors' calculations based on the UNU-WIDER Government Revenue Dataset, 2025.

Note: The results are very similar when the analysis is restricted to non-overlapping periods (Table A1), suggesting that the estimated historical frequencies are not driven by the use of overlapping windows.