POLICY BRIEFS SERIES

Tax System Digitalization to Enhance Revenue Mobilization in Bangladesh

Jay K. Rosengard
Bangladesh Public Administration Project

DECEMBER 2024

HARVARD Kennedy School
RAJAWALI FOUNDATION INSTITUTE FOR ASIA

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About the Author

Jay Rosengard, Adjunct Lecturer in Public Policy at the Harvard Kennedy School, has fifty years of international experience designing, implementing, and evaluating development policies in public finance and fiscal strategy, tax and budget reform, municipal finance and management, intergovernmental fiscal relations, banking and financial institutions development, financial inclusion, micro, small, and medium enterprise (MSME) finance, mobile banking, and public administration. Rosengard is Director of the Mossavar-Rahmani Center for Business and Government's Financial Sector Program, which focuses on the development of bank and nonbank financial institutions and alternative financing instruments. He also serves as Senior Technical Expert for the Better Than Cash Alliance. In addition, Rosengard is a Faculty Affiliate of both the Ash Center for Democratic Governance and Innovation and the Center for International Development. At the Ash Center, he is Academic Director of the Rajawali Foundation Institute for Asia and Faculty Chair of the HKS Indonesia Program. He is also Director of the Harvard University Thai Studies Program. At the Center for International Development, he teaches degree program courses in public finance. He is also a member of the Abu Dhabi Global Market Academy Research Centre Advisory Board. Rosengard has served as Faculty Chair of five executive programs: ComTax (Comparative Tax Policy and Administration), which addresses key strategic and tactical issues in tax design and implementation; FIPED (Financial Institutions for Private Enterprise Development), which focuses on sustainable and effective MSME finance; MigFin (Migrant Financial Services), devoted to improving the quality of, and access to, financial services for migrants; VELP (Vietnam Executive Leadership Program), a policy dialogue with very senior Vietnamese leaders; and Transformasi (Leadership Transformation in Indonesia), designed to assist Indonesia in its decentralization initiatives. Together with Noble laureate Joseph Stiglitz, he is co-author of *Economics of the Public Sector*, 4th ed

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The Rajawali Foundation Institute for Asia is housed at the Ash Center for Democratic Governance and Innovation, one of twelve research centers at Harvard Kennedy School. In 2008, under the leadership of Anthony Saich, the Asia Programs at HKS (now the Rajawali Foundation Institute for Asia) joined the Ash Institute for Democratic Governance and Innovation. Two years later, the permanently endowed Rajawali Foundation Institute for Asia was established as part of the Ash Center to bring together academics and practitioners from around the world to enhance research, teaching, and training on public policy and governance issues of critical importance in Asia.

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The Bangladesh Public Administration Project is a multiyear initiative housed at Harvard Kennedy School's Rajawali Foundation Institute for Asia. The purpose of the project is to strengthen the institutional capacity of the Bangladesh civil service and the individual capacity of its civil servants. The project mainly focuses on three interrelated activities: curriculum review at the nation's civil service training institutes, training on interactive pedagogy and core competencies essential for the civil service, and policy research on Bangladesh's most pressing issues.

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Summary of Findings and Recommendations

Bangladesh's tax-to-GDP ratio has remained stagnant at 6%–8% for many decades, a level that is very low compared to peer countries and would need to more than double to achieve ambitious national development goals. This poor performance is due to policy distortions and weak administration. Disaggregation of tax revenue indicates an unsustainable tax structure that is subject to acute political pressures and implementation capacity challenges.

The fastest way to significantly increase tax revenue is to reduce tax expenditures. However, since tax policy is largely determined by political considerations, this policy brief focuses on improving tax implementation, with the hope that the impact of administrative reforms will be accelerated and amplified if undertaken simultaneously with fundamental tax policy reform.

One promising administrative tool to generate additional tax revenue in a robust, equitable, and sustainable manner is digitalization of tax systems, which can encourage taxpayer compliance, broaden tax bases, increase tax administration cost-effectiveness, and facilitate transparent and accountable governance. However, there are also significant implementation challenges: financial and technological risks, difficulty in achieving behavioral change and adapting to new technologies, resistance by tax officials and taxpayers who benefit from the discretion and opaqueness of manual systems, and potential data security breaches, intrusion of taxpayer privacy, and violation of taxpayer rights.

Over the past 15 years, Bangladesh has undertaken more than 26 tax system digitalization projects. These projects cover core tax systems as well as the entire cycle of tax administration: taxpayer identification and registration; tax assessment, filing, and payment; and tax enforcement. They also cover direct taxes (personal and corporate income tax) and indirect taxes (value-added tax, excise taxes, and customs duties). Tax system digitalization is still a work in progress and has a long way to go. Results have been mixed, with some projects successfully completed and others on track, struggling to meet objectives, or abject failures.

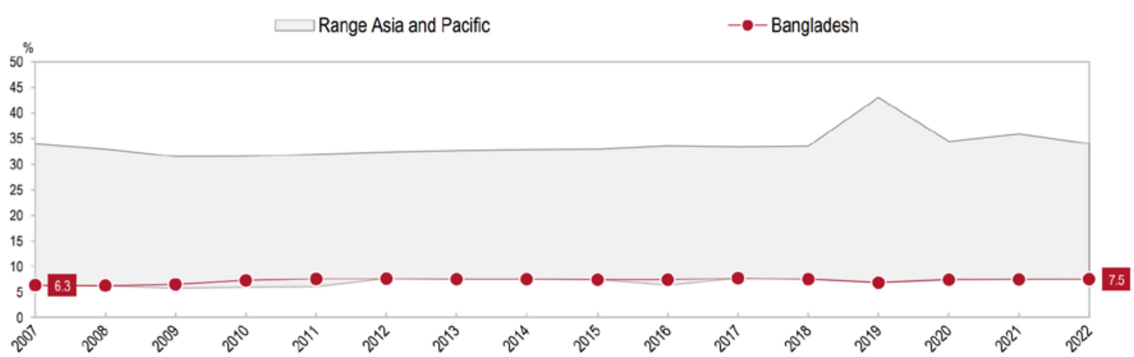
If Bangladesh is to reap the full benefits of tax system digitalization, it should build on its initiatives to date by learning from its failures, addressing obstacles that hinder ongoing projects, and turbo-charging its successes. Doing this requires conducting a comprehensive evaluation of tax system digitalization projects to date, consolidating and integrating current projects that merit continuation, National Board of Revenue (NBR) business transformation so tax system digitalization is not reduced to merely automating an inefficient manual system, and designing and implementing pilot projects to experiment with accelerated replication of the most successful initiatives to date and test design modifications of stalled high-priority projects. Bangladesh has a solid foundation on which to build a bigger and better digitalization program and a rare opportunity to reap the full revenue generation benefits of tax system digitalization under its new political and administrative leadership.

Snapshot of Current Taxation Challenges

This section places tax system digitalization in the context of tax policy and tax administration in Bangladesh. It is not intended to provide a comprehensive diagnostic of taxation in Bangladesh, which has been undertaken by many analysts over many years.[1]

The greatest taxation challenge in Bangladesh is significantly increasing the nation's tax-to-GDP ratio to achieve its ambitious development goals. This ratio has remained stagnant at 6%–8% for the past four decades (Figure 1).[2]

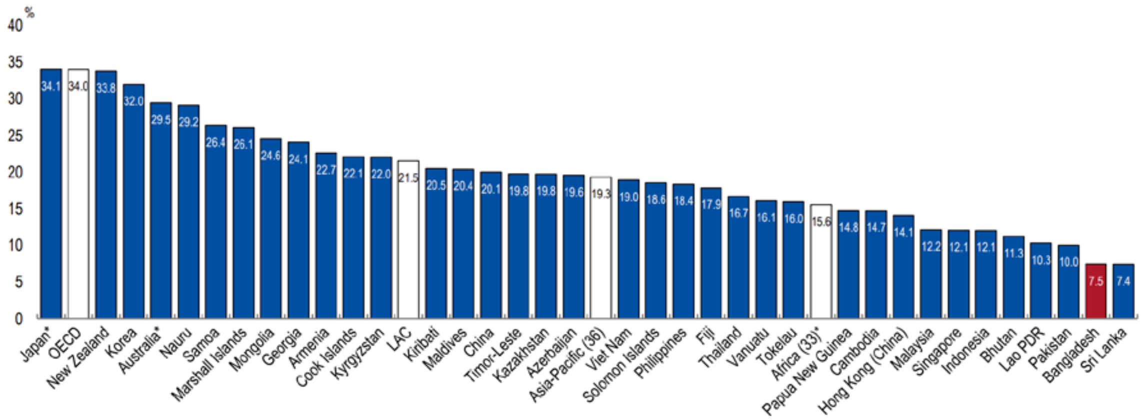
Figure 1: Tax-to-GDP Ratio over Time



Source: OECD, *Revenue Statistics in Asia and the Pacific 2024* (OECD, 2024).

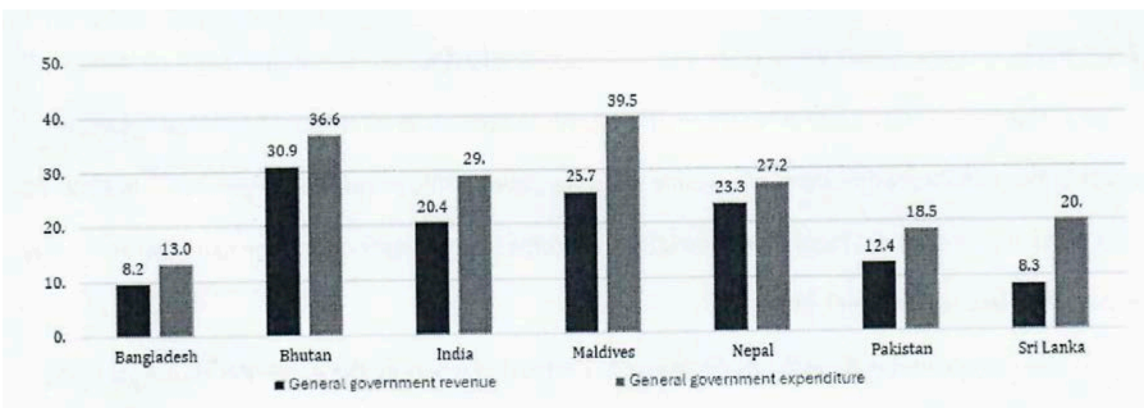
Not only is Bangladesh's tax-to-GDP ratio among the lowest in the world, but it would have to more than double to reach the level of peer countries (Figures 2 and 3). This empirical observation of a persistently low tax-to-GDP ratio is accompanied by a very low tax effort, that is, actual tax revenue generation compared with estimates predicted by a model for a large set of countries with comparable characteristics. Usually, the tax-to-GDP ratio increases with rising income per capita (Figure 4, left panel). In contrast, Bangladesh's tax revenue generation is lower than the cross-country regression predicts; its tax effort is in the lower third of middle-income countries (Figure 4, right panel). In short, Bangladesh is punching well below its weight.

Figure 2: Tax-to-GDP Ratio of Asian and Pacific Economies and Regional Averages, 2022



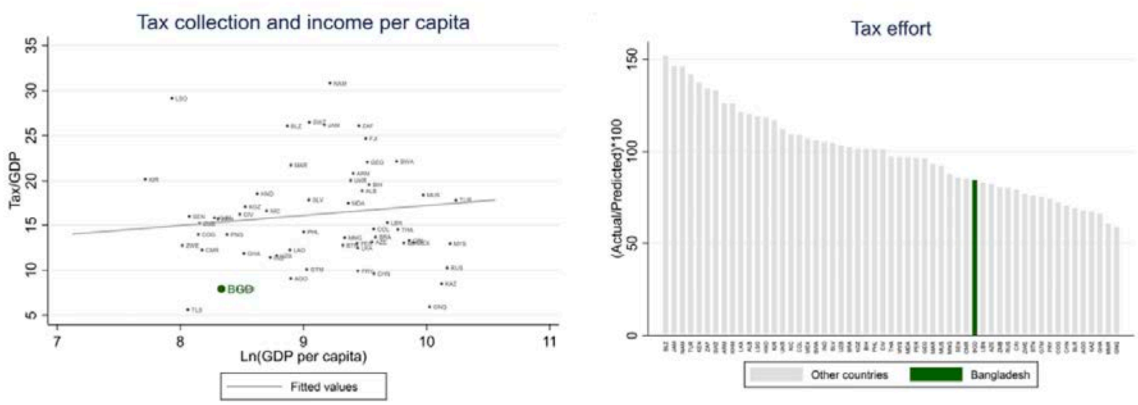
Source: OECD, *Revenue Statistics in Asia and the Pacific 2024* (OECD, 2024).

Figure 3: Tax-to-GDP Ratio of South Asian Countries, 2021



Source: International Monetary Fund, *World Economic Outlook Database*, April 2024.

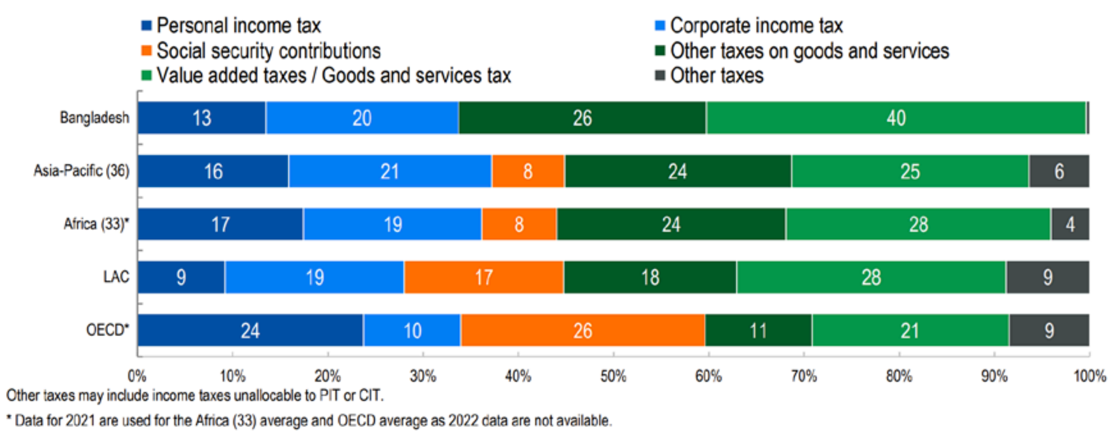
Figure 4: Tax Revenue and Income per Capita; Tax Effort



Source: World Bank, *Bangladesh Development Update April 2024* (World Bank, 2024).

The disaggregation of Bangladesh's revenue indicates an overreliance on indirect taxes, which have accounted for roughly 70% of total tax revenue, dominated by the VAT (value-added tax). This tax structure contrasts sharply with many other countries (Figure 5). Nonetheless, a VAT gap analysis reveals potential to collect more than triple current VAT revenue if there were no policy and compliance gaps. More than two-thirds (69%) of the VAT gap is due to policy distortions caused by predominantly regressive tax expenditures, that is, preferential treatment for particular subsets of tax-payers through the use of exemptions, truncated rates, deductions, credits, and other tax breaks. The VAT compliance gap due to poor administration is also relatively large compared with peer countries.[3]

Figure 5: Bangladesh Tax Structure Compared to Regional Averages



Source: OECD, *Revenue Statistics in Asia and the Pacific 2024* (OECD, 2024).

Many of the problems that plague the VAT and other indirect taxes also hinder the collection of direct taxes on personal and corporate income, which have comprised 25%–28% of total tax revenue (Figure 5). The tax base is very small and compliance quite poor: only 3 to 3.5 million people pay income taxes, and about one-third of income tax revenue comes from the Large Taxpayers Unit, consisting of mobile phone operators, tobacco companies, private banks, and high-earning individuals.[4]

The Rationale for Digitalizing the Tax System[5]

The demand for public infrastructure and services usually exceeds the capacity of governments to finance these public goods. This fiscal gap is especially challenging in lower-income countries with relatively small tax bases and weak tax administration capacity. One promising way to generate additional tax revenue in a robust, equitable, and sustainable manner is digitalizing tax systems. This is not a magic potion to cure all that ails a poorly performing tax system, but it is nonetheless potent medicine. Furthermore, the impact of tax system digitalization on additional revenue generation is considerably enhanced (faster and greater) when coupled with tax policy reform and tax administration business transformation. The United Nations Better Than Cash Alliance estimates that digitalizing tax systems can raise an additional $300 billion in global government revenue annually, almost one-third of the $1 trillion funding gap in meeting the Sustainable Development Goals.

- Digitalizing tax systems can generate substantially more revenue due to the following five synergetic and mutually reinforcing benefits:
- Increased taxpayer compliance from a combination of lower compliance costs (better service) and a credible threat of sanctions for noncompliance (better enforcement)
- A broader tax base because of greater business formalization and payment system financial inclusion
- More efficient tax administration due to lower administrative expenses
- More effective tax administration with better and more accessible tax data for policy formulation, implementation, and evaluation
- Better governance due to a more transparent and accountable tax authority

Accompanying these main benefits are five key implementation challenges:

- Transitional financial and technological risks
- Difficulty in achieving behavioral change and adapting to new technologies
- Resistance by tax authority officials as well as individual and business taxpayers whose vested interests benefit from the discretion and opaqueness of manual systems
- Potential breach of tax data security and intrusion of taxpayer privacy
- Potential violation of taxpayer rights

Previous Tax System Digitalization Initiatives in Bangladesh[6]

Bangladesh should be commended for embracing tax system digitalization in its efforts to improve tax revenue generation. The country has undertaken more than 26 tax system digitalization projects over the past 15 years, beginning with the launch of the Tax Modernization Plan (2011–2016) and continuing with the Public Financial Management (PFM) Action Plan (2018–2023) and the PFM Reform Action Plan (2024–2028). These projects cover a core tax system as well as the entire cycle of tax administration: taxpayer identification and registration; tax assessment, filing, and payment; and tax enforcement. They also cover both direct taxes (personal and corporate income tax) and indirect taxes (VAT, excise taxes, and customs duties).

Key initiatives include the following:

Core Tax Systems

- BITAX (Bangladesh Integrated Tax Administration System)
- MIST (Management Information System of Taxation)
- CRMU (Compliance Risk Management)
- A-Challan (Automated Challan payment system)
- Digital centers (part of the ICT Division's Access to Information program, or a2i)

Personal and Corporate Income Tax

- e-TIN (electronic Taxpayer Identification Number)
- e-TDS (electronic Tax Deduction at Source)
- DVS (Document Verification System)
- e-filing (electronic tax return filing)
- ITMS (Income Tax Management System for the Large Taxpayers Unit)
- SMART (income tax litigation systems)

VAT

- i-VAS (Integrated VAT Administration System)
- e-BIN (electronic Business Identification Number)
- EFDMS (Electronic Fiscal Device Management System)
- VAT calculator
- e-filing

Customs

- ASYCUDA World (Automated System for Customs Data)
- e-Auction (electronic auction of abandoned and confiscated goods)

Tax system digitalization in Bangladesh is still a work in progress and has a long way to go until national aspirations are fulfilled. Results have been mixed, with some projects successfully completed and others on track, struggling to meet objectives, or abject failures. The most notable successes are in the areas of electronic registration of taxpayers, such as e-TIN and e-BIN, as well as the usage and continual upgrading for many years of UNCTAD's ASYCUDA system for customs administration.

Perhaps the most embarrassing failure to date is the BITAX core tax system. In addition to concerns over security threats to national tax data and a cumbersome user interface, the Asian Development Bank–financed Vietnamese contractor, FPT Information System Corporation, failed to hand over BITAX to the NBR not only after the project was completed in 2018 but also after receiving full payment the following year.

Many tax system digitalization projects are still being implemented but have encountered numerous obstacles, thus falling far short of their targets in terms of coverage and effectiveness. For example, although the NBR has developed 13 of the 16 i-VAS modules, many of them have had limited uptake, and their value is well below system potential because they only offer rudimentary features, while failure to complete the three remaining modules (audit, risk management, objections and litigation) weakens overall system effectiveness. Another VAT example is the small number of EFDs/SDCs (electronic fiscal devices/sales data controllers) that have been installed, less than 10,000 out of a target of 300,000 machines over a five-year period. There are similar shortfalls with direct taxes: according to NBR data, 56% of firms do not have a TIN, and 55% of TIN-holding companies do not pay corporate taxes.[7]

Future Tax System Opportunities

If Bangladesh is to reap the full benefits of tax system digitalization, it should build on its initiatives to date by learning from its failures, addressing obstacles that hinder ongoing projects, and turbo-charging its successes. Doing this requires the following measures:

- Conducting a comprehensive evaluation of tax system integration projects to date, followed by consolidating and integrating current projects that merit continuation. Implementation is currently fragmented and somewhat duplicative, hampering efficiency, oversight, cross-project learning opportunities, and the replication of successes.
- NBR business transformation so tax system digitalization is not reduced to automation of a bad manual system. The project fragmentation described above is the result of current organizational fragmentation within the NBR. The NBR is divided into two administrative cadres (direct and indirect taxes) and three tax wings (direct taxes, VAT, and customs). Not only is each unit reluctant to share information with other units, but the NBR's current structure also prevents the adoption of a single taxpayer number for all taxpayers—the key to an integrated tax database. In contrast, modern tax authorities are organized by administrative functions or taxpayer groups to better serve taxpayers and enhance internal cooperation and efficiency.

- Designing and implementing pilot projects to experiment with accelerated replication of the most successful initiatives to date and test design modifications of stalled high-priority projects.

Bangladesh has a solid foundation on which to build a more robust digitalization program and a rare opportunity to reap the full revenue generation benefits of tax system digitalization under its new political and administrative leadership.

Notes

1. For example, see OECD, *Revenue Statistics in Asia and the Pacific 2024* (OECD, 2024); World Bank, *Bangladesh Development Update April 2024* (World Bank, 2024); Asian Development Bank, *Sector Assessment (Summary): Trade, Competitiveness, and Domestic Revenue Mobilization*, Attachment to Economic Transformation for the Least Developed Country Graduation (PCN) BAN 58020-001, July 2024; General Economics Division, Bangladesh Planning Commission, *8th FYP July 2020–June 2025, Promoting Prosperity and Fostering Inclusiveness*, December 2020; Finance Division, Ministry of Finance, Government of Bangladesh, *Action Plan 2018–2023 to Implement the Reform Strategy 2016–2021*, September 2018; and KPMG in Bangladesh, *Taxation Handbook (Updated to Finance Act 2022)* (KPMG 2022).
2. For a detailed discussion of the macroeconomic importance of the tax-to-GDP ratio and the consequences of failing to increase it in Bangladesh, see Malcolm F. McPherson, "Bangladesh's Tax-to-GDP Ratio," revised policy note "Bangladesh Public Administration Project," Rajawali Foundation Institute for Asia, Ash Center for Democratic Governance and Innovation, Harvard Kenndy School, November 17, 2024.
3. World Bank, *Bangladesh Development Update April 2024* (World Bank, 2024).
4. World Bank, *Bangladesh Development Update April 2024* (World Bank, 2024).
5. For a global study with accompanying country case studies on tax system digitalization in developing countries, see Jay K. Rosengard, "Success Factors in Tax Digitalization," Better Than Cash Alliance, October 2020.
6. For a detailed, comprehensive study of tax system digitalization in Bangladesh, see Mustafizur Rahman and Isabela Rozario Mumu, "Digitalisation of the Bangladesh Tax System: The Next Frontier for Higher Resource Mobilisation," presented at Towards People-Centric Public Finance Management in Bangladesh, Dhaka, May 19, 2024.
7. World Bank, *Bangladesh Development Update April 2024* (World Bank, 2024).

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