TAX EXPENDITURE REPORTING IN DEVELOPING COUNTRIES: A CASE STUDY ON BANGLADESH

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Abstract

Tax expenditures are government policy instruments that provide preferential tax incentives and exemptions instead of direct budget support. They are frequently applied in order to prioritise particular sectors and to attract foreign investment. Interestingly, most of these tax expenditures are applied opaquely in developing or emerging economies, mainly due to the unavailability of tax expenditure data. This study proposes a customised model in order to address this gap and recommends that Bangladesh uses the revenue forgone (RF) approach to tax expenditure estimation based on Gross Domestic Product (GDP). Developing economies like Bangladesh can replicate this method where gaining access to information is challenging. Using the recommended method of computation, we find that Bangladesh's tax expenditure for the 2018/2019 financial year is 2.28 per cent of its GDP value. Finally, we make a few recommendations with regard to the reform of the tax expenditure policies of emerging economies like Bangladesh.

Keywords: Tax Expenditure, Revenue Forgone Method, Developing Economies, Bangladesh, Fiscal Policy.

1. INTRODUCTION

Tax expenditures are policy mechanisms used by governments in order to reduce individual and corporate taxpayers' tax burdens (Mansour & Heady, 2019). Governments could, alternatively, expense these amounts directly to taxpayers. They make policy decisions about whether they want to spend the tax that they collect directly on developing particular industries or individuals or allow these sectors or individuals to pay less or no tax. Their decisions depend on their policies and financing sources (Greve, 1994). In most developing or emerging economies like Bangladesh, the primary source of government expenditure is tax. Therefore, such a country's tax expenditure policy will need to be rigorously analysed and integrated with the national vision.

The history and tradition of income tax in Bangladesh is an anthology of what to tax. The Income Tax Ordinance, 1984 (ITO-1984) is a veritable record book of all tax bases from which revenue has been forgone in lieu of allowances, rate reductions, exemptions, and so on. However, as a part of the increased demand for the mobilisation of more domestic resources,

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the United Nations (UN) published its sustainable development goals (United Nations, 2018). Like developing countries' governments, the government of Bangladesh is also looking for ways in which to increase its tax base, as its generous tax expenditure regime is under scrutiny. This study reviews the existing legal provisions related to tax expenditure, how much tax revenue the government loses due to tax expenditure, and the methodology used to compute tax expenditure. It also includes recommendations as to how to expand the tax base by curtailing tax expenditure provisions.

In this age of globalisation, when there is an increase in the illicit mobility of capital and international tax competition in order to attract foreign direct investments, revisiting the tax expenditure regime in a developing country like Bangladesh is a sensitive matter. For the government of a developing economy, operating a shrinking tax expenditure regime is like walking on a tight rope; in addition to purely economic considerations, there are also many political-economic considerations embedded in tax expenditure. Hence, any stroke of the pen that curtails tax expenditure in order to expand the tax base may translate into the loss of the tax-generating base altogether. For instance, if the government has already accorded tax holidays for a certain number of years in a particular industry, and a company in this industry has calculated the marginal cost of its production based on this, it will be demoralising for the company if the government suddenly wakes up to the reality of the payable tax regime. The company may stop production or, if it is of foreign origin, choose to syphon its investment into a more favourable tax regime.

In order to study tax expenditure, it is necessary to convert the tax provisions into direct expenditure. However, without examining millions of tax returns submitted by all kinds of taxpayers (individuals, corporates, and others), it is impossible to discover which taxpayers have availed themselves of which types of tax allowances, exemptions, tax credits and so on, and how much revenue has been lost as a result. It is also impossible to study tax expenditure in its purest form due to data generation challenges. The best alternative is to study tax expenditure within a group of taxpayers with specific tax allowances, such as power generation companies. This sector enjoys tax benefits in Bangladesh. In order to justify the decision to provide tax benefits, we need to answer the following key questions: what are the financial conversions of such benefits, and how much tax revenue is forgone due to the implementation of these benefits? This is possible but is outside of the scope of this study. Future researchers may contribute to these areas.

2. LITERATURE REVIEW

2.1. Theoretical Background

Tax policy is one of the critical pillars of a country's fiscal policy, so taxation is closely related to economic progress. Different economic models describe the correlation between economic growth and taxation in different ways. According to the neoclassical growth model theory, taxes temporarily affect economic growth, but endogenous models postulate that taxes affect growth in the long run (Karagianni et al., 2012). Conversely, the Keynesian growth model suggests that the relationship between tax and economic growth depends on total demand. An increase (decrease) in taxes will decrease (increase) disposable income, reduce (increase) consumption, and will, ultimately, decrease (increase) the aggregate demand (Ananiashvili & Papava, 2012).

A government finances its expenditure through taxes or debt. However, debt is associated with an additional cost (interest), so taxation is the preferred source of government spending, especially in developing or underdeveloped economies. Researchers have different opinions about the correlation between government expenditure and taxes. Friedman (1978) believes that imposing tax reduces expenditure, while Buchanan and Wagner (1977, as cited in Hondroyiannis & Papapetrou, 2001) argue that expenditure increases taxes. Interestingly, Baghestani and McNown (1994) postulate that tax is not related to government expenditure. However, when governments want to develop or promote a sector, or want to invest in the welfare of their citizens, they almost always increase expenditure in the chosen sector or allow it tax relief. It is commonly believed that tax relief will attract foreign investment (Gómez Sabaini & Velasco, 2010). Therefore, many countries allow high tax expenditure in order to attract investments. However, researchers have found that most developing or emerging economies use tax expenditure tools inefficiently, mainly because they do not engage in in-depth tax expenditure analysis or reporting (Polackova Brixi et al., 2004).

Tax expenditure reporting originated in the United States in 1968, but it has gained wide popularity in the wealthiest western countries (Craig et al., 2001). Most countries that are members of the Organisation for Economic Co-operation and Development (OECD) require their governments to publish annual tax expenditure reports (TERs). The TER is globally accepted as a critical tool that can measure a country's financial policy accountability and transparency. Many countries have integrated TERs within their budget cycle frameworks. However, reporting tax expenditure has placed extra administrative burdens on most developing countries in the form of additional labour force and technical expertise requirements, together with increased financial costs (Philipps, 2012).

Tax expenditure

Avram (2018) notes that prior studies have used the term "tax expenditure" to refer to the tax revenue that is forgone when governments provide beneficial tax treatment to particular taxpayers. No univocal agreement exists as to which rules should be classified under tax expenditures (Avram, 2018). According to Avram (2018), decisions about "what to include and what not has been based on particular historical conjunctures or on specific political or administrative views" (p. 273). The federal tax law of the United States notes that, in law, tax expenditures are "revenue losses" through special exclusions, exemptions, deductions, credits, and preferential tax rates (U.S. Department of the Treasury, 2021).

According to the OECD (2010), tax expenditures shift public resources by relaxing the tax burden from the benchmark tax rate. Governments can provide this support in the form of direct payments or reduced tax rates for investments. The first option is called outlay expenditure and the second is known as a tax expenditure. In absence of tax exemptions, tax benefits or reduced tax rates government can collect estimated revenue from an existing "benchmark tax system" (Burton & Stewart, 2011). Tax expenditure includes:

- Tax exemptions: "amounts excluded from the tax base" (OECD, 2010, p. 12).
- Tax holidays: amounts excluded from the tax base according to the sunset clause[6].
- Allowances: amounts that can be deducted from the tax base before applying the tax rate.

[6] A "sunset clause" refers to a provision that sets a predetermined expiration date or time limit for a tax incentive or exemption.

- Credits: "amounts deducted from tax liability" (Anderson, 2008, as cited in OECD, 2010, p. 12).
- Reduced rates: taxes applied at a lower rate than the benchmark rate.
- Tax deferrals: "a delay in paying tax" (OECD, 2010, p. 12).

Tax gap versus tax expenditure

The tax gap is the difference between the amount of taxes that would be collected in a fully compliant environment and the actual taxes that have been collected. Its main means of measurement is the amount of tax evasion resulting from different forms of non-compliance and the components of the tax system as a whole. It is an essential management tool for tax administration (Tiutiunyk et al., 2019). At the same time, tax expenditures are government policy instruments for public spending or regulatory programmes (U.S. Department of the Treasury, 2021). Therefore, unlike the tax gap measurement, tax expenditure estimation does not include amounts lost through tax evasion.

Measurement of tax expenditure

The critical challenge that we face when trying to define tax expenditure is the subjectivity involved when outlining the benchmark tax system. Benchmark tax systems differ from country to country due to differences in governments' missions, visions, and priority development policies, but they are always based on "the principles of neutrality, efficiency, and equity" (Heady & Mansour, 2019, p. 2).

There are three principal ways in which tax expenditure can be measured. The first is the RF approach, an ex-post measure that indicates the cost of allowing a tax concession. The fundamental assumption made with this approach is that taxpayer behaviour remains unchanged. The second is the revenue gain approach, which is the opposite approach to the RF method. It estimates the revenue that could have been earned without tax benefits. The third is the outlay equivalence approach. This method measures the direct expenditure needed to provide a benefit equivalent to the tax expenditure.

Multilateral development partners and other advocacy groups encourage developing economies to use the RF method of tax expenditure estimation (Heady & Mansour, 2019). Mansour and Heady note that "this approach quantifies the direct revenue loss associated with the provision under consideration, relative to the benchmark system, which has no such provision" (p. 8). They suggest that this method involves three critical assumptions. The first is that there is no dynamic effect. That means the taxpayer's behaviour will remain unchanged after the withdrawal of the tax expenditure. The second is that the compliance level will remain unchanged. Lastly, it assumes the tax expenditures are interdependent. Removing one tax expenditure will not alter the revenue lost from another tax expenditure (Heady & Mansour, 2019).

Heady and Mansour (2019) state that:

> These properties of the revenue-forgone method are essential to the appropriate interpretation of the numbers in a tax expenditure review. Alternative methods have occasionally been used by countries, but often as part of a more comprehensive cost-benefit analysis of tax expenditures that requires additional information and analysis, typically of a much more advanced nature. Absent such sophisticated methods and models, a tax expenditure analysis based on the revenue-forgone method provides very valuable information in the overall assessment of the desirability of certain tax provisions. (p. 9)

This study has analysed the sectorial analysis of Bangladesh's GDP and the corresponding tax legislation (income tax and corporate tax). The tax policy of Bangladesh has allowed multiple tax exemptions to apply to different sectors of the economy. These exemptions have narrowed the base of the revenue sources, leaving the tax authority with a reduced GDP as the tax base.

2.2. Tax Administration in Bangladesh

Bangladesh's primary sources of government revenue are income tax (direct tax) and value-added tax (indirect tax). The scope of this research is limited to income tax. The main income tax administration and policymaking authority in Bangladesh is the National Board of Revenue (NBR). The NBR fixes the tax rate for personal and corporate taxpayers each financial year according to the Income Tax Ordinance, 1984 (ITO-1984). The parliament approves the tax rate and legal amendments of the tax law each year during the budgetary session and sets benchmarks for tax expenditure in the corresponding financial year. ITO-1984 includes several sections that allow special tax treatments for different sectors through exemptions, tax holidays, tax rebates, allowances, credits, and deferral payment. Chapter VI (Exemptions and Allowances) of ITO-1984 provides the legal basis for tax expenditure. The government also issues Statutory Regulatory Orders (SROs) and declarations about special economic zones in order to provide tax expenditure benefits.

The critical philosophy behind tax expenditure policy in Bangladesh stems from the motivation to accelerate industrialisation, attract foreign direct investment (FDI), implement the government's political commitments, and ensure the social security and welfare of low-income and middle-income people. The Bangladesh government has allowed tax expenditure in many industries, including the business, agriculture, fisheries, power generation, information technology, public services, communications, and social security sectors.

2.3. Tax Expenditure Reporting in Bangladesh

Bangladesh has achieved tremendous growth in the revenue sector in the last couple of decades. The government has facilitated the growth of different economic sectors through tax exemptions and reduced tax rates in order to attract FDI but does not publish TERs as part of the budget management cycle. Many researchers have attempted to estimate the country's tax expenditure, but none could come up with a concrete result, mainly due to a lack of available information.

Dio (2015) measured the tax expenditure of Bangladesh based on some specific sections of ITO-1984, i.e. sections 45, 46, and 46(A). He calculated tax expenditure from the number of tax holidays and exemptions granted in a particular year. However, the results do not provide a complete picture, as they were only based on three sections of ITO-1984, ignoring other legal provisions and SROs that allow for tax expenditure.

Prior to this, Mortaza and Begum (2006), from the Policy Analysis Unit of Bangladesh's Central Bank, published a more comprehensive study and found that, in the 2005 financial year, Bangladesh's total tax expenditure was BDT93.45 and its direct tax expenditure was BDT10.28 billion. They used 55 measures for direct tax expenditure estimation and 51 measures for indirect tax expenditure. They stated that they collected data from NBR field-level offices, but did not provide details of the expenditure calculation method or measures that they used for the calculation (Mortaza & Begum, 2006). Moreover, the collection of such data is not part of the usual record-keeping processes used in NBR field offices, so the data quality and the type of sampling used in the study were ambiguous. Therefore, according to different empirical studies, the study is not a complete TER (Geourjon et al., 2019).

Our study is unique in several ways. Firstly, we collected the primary data directly from the NBR field offices, so it is authentic. Secondly, we conducted the study with the collaboration of the NBR's tax policy wing, Bangladesh's primary tax policy formulation body. Therefore, the scope of the study has covered all significant areas of tax expenditure, e.g. exemptions, holidays, reduced rates, SROs, and others. Thirdly, we propose a new approach to tax expenditure reporting for a country in which tax return information is not digitally preserved. Finally, this study includes a proposal detailing how comprehensive TERs can be produced in Bangladesh.

3. DATA AND METHODOLOGY

3.1. Data

We conducted the study using both primary and secondary sources of data. Most of the secondary data was collected from the publications or websites of different government agencies, as mentioned in Table 1. The primary data was collected through purposive sampling directly from the field offices of the NBR in collaboration with its tax policy wing. We have kept the particulars of the taxpayers confidential, according to the purview of section 163 of ITO-1984. In addition, we have conducted focus group discussions (FGDs) with tax officials with at least seven years of experience.

We chose 2018/2019 as the base year for sector by sector GDP allocation to make the study simplistic but complete. Similar data for the financial year 2019/2020 had not been officially published when our research took place. In addition, there were some unique tax benefits in the 2019/2020 financial year due to the outbreak of COVID-19, so we did not consider the macroeconomic data from that year for forecasting. The critical justification behind the use of the 2018/2019 data selection is that it is complete, there is no abrupt deviation from earlier years, and the data seems consistent and smooth. Therefore, the percentage allocation can safely be used for data analysis.

Table 1: List of Data Sources for the Study

Data Type	Data Source
Tax collection under different sections of ITO-1984	Tax Policy Wing, NBR
Macro-Economic Indicators	Ministry of Finance, Bangladesh (2020)
Agricultural Income	Report on Agriculture and Rural Statistics, a publication of the Bangladesh Bureau of Statistics (BBS)
Production of Major Industrial Goods	www.bbs.gov.bd, the website of the Bangladesh Bureau of Statistics (BBS)
Ready-Made Garments (RMG) Export	www.bgmea.com.bd, the website of the Bangladesh Garment Manufacturers and Exporters Association (BGMEA)
Other Central Export Receipts	www.bb.org.bd , the website of the Bangladesh Bank
Electricity Generation	www.bpdb.gov.bd, the website of the Bangladesh Power Development Board
Capital Gains (Land Sales)	Return Data from Taxes Zone 15, Dhaka

3.2. Methodology

In this study, we primarily followed the methodology suggested by the International Monetary Fund (IMF), as follows:

- **Benchmark system definition:** This involves identifying and utilising relevant "policy design criteria" (Heady & Mansour, 2019, p. 3)
- **Identifying any deviation from this benchmark:** The IMF recommends preparing "a list of all tax laws and any laws with tax provision" and then listing any "deviation from the benchmark system" for each one (Heady & Mansour, 2019, p. 3).
- **TE cost estimation:** According to the IMF, the data sources for the tax expenditures should then be identified and data templates should be prepared. In addition, estimation methods should be developed for each tax expenditure or tax expenditure group, and templates should be prepared (Heady & Mansour, 2019).
- **Preparing the TER:** Different people/groups can produce different sections of the TER (Heady & Mansour, 2019).

3.2.1 Benchmark tax system definition

According to Heady and Mansour (2019), a "benchmark tax system serves as a basis for identifying tax expenditure" and should be "grounded in the principles of neutrality, efficiency, and equity" (p. 4). They add that "benchmark tax systems typically include such aspects as the actual rate structure of taxes and the concept of income or spending that is used in the actual law" (Heady & Mansour, 2019, p. 4).

The benchmark tax system of Bangladesh can be defined in light of the following characteristics:

Personal income tax (PIT)

The PIT benchmark is defined as the existing statutory tax regime system without any tax benefits. Any deduction or benefit from PIT is considered to be tax expenditure. The personal tax rate in Bangladesh is progressive and spans from 0 per cent to 30 per cent (Finance Act, 2019). The PIT and corporate tax rates for Bangladesh in the 2018/2019 financial year are shown in tables 2 and 3.

Table 2: Personal Statutory or Benchmark Income Tax Rate (Financial Year 2018/2019)

Income Slab	Tax Rate (%)
Up to first BDT250,000	0
Next BDT400,000	10
Next BDT500,000	15
Next BDT600,000	20
Next BDT3,000,000	25
Balance amount	30

Source: Finance Act (2019).

Corporate income tax (CIT)

According to Heady and Mansour (2019):

> Under a standard CIT, the benchmark should be based on the prevailing tax on profits with a single rate of tax (that is, the general rate) and no tax relief other than for usual business expenses. However, if a higher corporate tax rate (or rates) applies on some sectors because of location-specific rent (for example, oil and gas production), this should be disregarded when identifying the highest rate for defining the benchmark applied to sectors without location-specific rent. (p. 5)

According to the Finance Act (2019), during the 2018/2019 financial year, the corporate tax rate for companies in Bangladesh that were listed on the stock exchange was 25 per cent, while for non-listed companies, it was 35 per cent. The benchmark tax rate for capital gains was 15 per cent. However, the applicable rate for publicly-trading corporate taxpayers was reduced, while banks and tobacco manufacturers were charged higher rates.

Table 3: Corporate Income Tax Statutory or Benchmark Rate (2018-2019)

Type of Taxpayer	Tax Rate (%)
Listed Company	25
Non-listed Company	35
Listed Bank	37.5
Non-listed Bank	40
Merchant Bank	37.5
Tobacco Manufacturer	45
Listed Mobile Operator	40
Non-listed Mobile Operator	45
Co-operative Society	15

Source: Finance Act (2019).

3.2.2. Identifying any deviations from the benchmark

The NBR provides tax exemptions, tax holidays, allowances, credits, and reduced rate facilities through different provisions of the ITO-1984. There are also numerous SROs that provide different types of tax relief. In addition, during the budget session, the Bangladesh Parliament sets the tax rates for different items through a finance bill. Therefore, for this study, we compiled all the relevant provisions of ITO-1984, the most significant SROs, and finance bills in order to compute the deviation from the benchmark rate.

3.2.3. Tax expenditure cost estimation

The three different methods of tax expenditure estimation may yield significantly different results (The Treasury, Australian Government, 2019). However, most OECD countries use the RF method for tax expenditure calculation. From equation 1, we get the basic formula of the RF method (Mansour & Heady, 2019):

$$RF_i = I_i\,(r_{Ni} - r_{Ei}) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where,
i = (1,2, … n) indicates mutually exclusive sectors of the economy
RF_i = Revenue forgone due to tax expenditure from sector i
I_i = Total income from the sector i
r_{Ni} = Nominal (benchmark) tax rate for sector i
r_{Ei} = Effective tax rate for sector i

We get the total tax expenditure using equation 2; the tax expenditure of each sector needs to be calculated using equation 1:

$$\text{Total Tax Expenditure} = \sum_{i=1}^{n} RFi \quad \ldots\ldots\ldots\ldots\ldots (2)$$

3.2.4. Preparing TERs for Bangladesh

The tax law of India, Bangladesh's neighbouring country, has similar origins to the tax law of Bangladesh. Both countries report their tax expenditure and annual union budgets using the RF method with microsimulations of taxpayers' data. Therefore, they can report tax expenditure

for different types of taxpayer, e.g. individual, corporate, Association of Person (AoP), firm, and Hindu Undivided Family (HUF) taxpayers, and even report expenditure according to different provisions of tax law or tax benefit-related SROs (Ministry of Finance, India, 2022). However, this type of reporting is quite challenging in Bangladesh, as the tax return filing system is still not fully online. Hence, to calculate tax expenditure with such precision requires a large sample volume, and additional working hours and resources.

There is no digital record of taxpayers' information in Bangladesh, so to prepare a TER, one must manually collect data from each tax file. In addition, a large sample is required for unbiased microsimulation. Therefore, individual and household-level microsimulations may not be feasible in Bangladesh. Macrosimulation is the method of choice for many countries with rich sources of secondary microdata, including sectorial data from national income accounts, and this may be the best option for countries with nonreliable survey data.

In the existing scenario, Bangladesh's tax expenditure can be approximated using sector by sector tax benefit to GDP analysis. From the components of GDP, the percentage contribution of different sectors can be used to estimate the sector by sector revenue forgone due to tax exemptions or tax benefits. The effective tax rate for each GDP sector can then be determined by analysing the existing tax benefits. Therefore, the tax expenditure to GDP ratio can be found using equation 3:

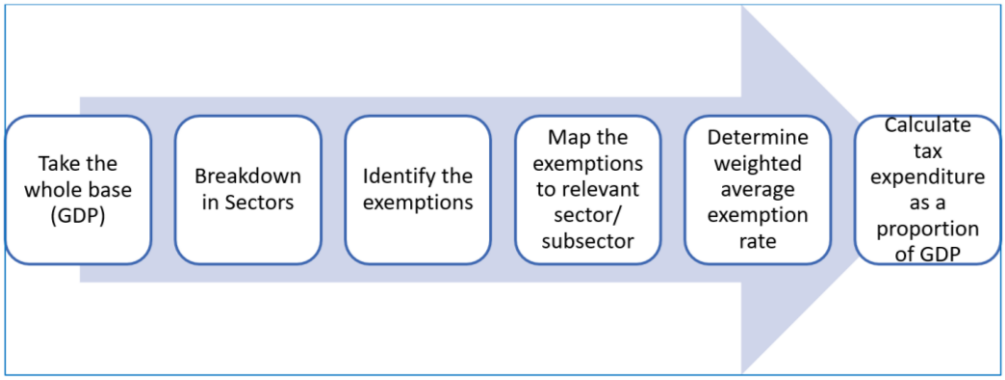
$$\text{TEG (\%)} = \frac{\sum_{i=0}^{n} C_i * \frac{(r_{Ni} - r_{Ei})}{r_{Ni}}}{\sum_{i=0}^{n} C_i} \quad \ldots \ldots \ldots \ldots \textit{(3)}$$

Where,

TEG = Tax expenditure to GDP ratio
C_i = Percentage contribution in GDP from sector *i*
r_{Ni} = Nominal (benchmark) tax rate for sector *i*
r_{Ei} = Effective tax rate for sector *i*

In this study, we customised the IMF model of tax expenditure reporting (Mansour & Heady, 2019) according to Bangladesh's socio-economic context. We followed the steps shown in Figure 2 to calculate the tax expenditure. We limited our scope to determine income tax expenditure only. Tax evasion and tax gap calculation is outside of the scope of this study. We assumed that the rate of tax evasion would be the same if the exempted portion of GDP could be brought to the tax base by modifying the tax law.

Figure 2: Tax Expenditure Computation Process



Source: The authors

4. MAPPING THE MODEL INTO DATA

A TER can be presented in several ways. For instance, it can be presented according to different sections of tax law or SROs that allow tax expenditure, by income range, by taxpayer type, or even according to sectors of the GDP (Ministry of Finance, India, 2022). For this study, based on data availability, we have adopted the GDP approach of reporting tax expenditure as presented by many OECD countries (OECD, 2010; OECD & the National Tax Office, 2021). The GDP calculation for Bangladesh is based on 15 different macro sectors. The data used for each sector includes income from wages, income from independent activities or professions, agricultural income, and income from business activities (as shown in Table 4).

However, another essential head of income, capital gains, cannot be calculated using the GDP approach, so we computed tax expenditure from capital gains income separately.

4.1. Tax Expenditure Estimation Using Sector by Sector GDP

The following assumptions are made when estimating tax exemptions for each sector:

a. The reported GDP sectors and the corresponding tax exemption provisions may not precisely match. The analysis will be based on subjective economic relevance.
b. Where primary data was unavailable, assumptions were made after conducting FGDs with experts.
c. The sectors are divided into many subsectors and their relative weights in the sector are approximated.
d. For seemingly overlapping sectors/subsectors, subjective judgment was applied.

4.1.1 Agriculture & Forestry

According to the Bangladesh Economic Review 2019, 40.60 per cent of Bangladesh's labour force is involved in agriculture (Ministry of Finance, Bangladesh, 2020). The government has supported this sector with several exemptions and reduced tax benefits.

Paragraph 29 of the sixth schedule of part A of ITO-1984 exempts BDT200,000 on agricultural income if that is the sole source of income for the taxpayer. Paragraph 46 of the same schedule allows a special exemption for specific products (e.g. corn, maize, and sugar beet). Moreover,

paragraph 27 excludes all economic activities carried out by a hillman in a hill tract district from taxation (ITO-1984).

According to the BBS (2019), 16.56 million households are involved with, and 9.09 million households depend on, agriculture. Therefore, 54.92 per cent of households depend only on agriculture income rather than agriculture and other income sources. The average amount of household income earned just from agriculture is BDT73,921 (BBS, 2019). Therefore, from these secondary sources of data, we can conclude that 54.92 per cent of people whose income is earned only from agriculture are exempted from the tax base as their average income (BDT73,921) is lower than the BDT200,000 exemption threshold set in paragraph 29 of the sixth schedule in part A of ITO-1984. However, let us consider the income to be normally distributed and assume that the standard deviation is high (due to income inequality). The percentage of taxpayers who receive this tax-exempted income benefit is lower than the total population of taxpayers who only receive income from agriculture. This study assumes that two-thirds of the total population of taxpayers who only receive income from agriculture receive the tax exemption benefit laid out in paragraph 29 of the sixth schedule in part A of ITO-1984. Therefore, this provision of ITO-1984 contributes to an exemption rate of about 35 per cent in this subsector. In addition, paragraphs 46 and 27 of the sixth schedule in part A of ITO-1984, and SRO 199/2015 (NBR, 2015a) on tax exemption or reduced tax rate benefits on crops, horticulture, poultry feed, floriculture, mushroom, and other agriculture income, cause the tax exemption rate in this sector to be 45 per cent.

With regard to animal farming, SRO 254/2015 (NBR, 2015b) allows an extraordinary rate (0 to 10 per cent based on income) to apply to poultry farming. Poultry farming and animal husbandry make a significant contribution to this subsector. The reduced tax rate allowable as a result of this SRO is shown in Table 5.

In the absence of such an SRO, income from these heads would have been taxed at the individual level at the progressive tax rate mentioned in Table 2 (statutory tax rate). Thus, the average exemption rate is higher for animal farming than for regular crop production. However, there is no such additional exemption for forestry. Therefore, we have considered a 25 per cent general exemption in this subsector.

Table 4: Income Heads under Different Sectors of GDP

S/N	GDP Sectors	Major Income Heads
1.	Agriculture & Forestry	Wages, Agriculture Income
2.	Fishing	Wages, Agriculture Income
3.	Mining & Quarrying	Wages, Business and Professional Income, Other Income
4.	Manufacturing	Wages, Business and Professional Income, Other Income
5.	Electricity, Gas, Water Supply	Wages, Business and Professional Income, Other Income
6.	Construction	Wages, Business and Professional Income, Other Income
7.	Wholesale & Retail Trade	Wages, Business and Professional Income, Other Income
8.	Hotel & Restaurant	Wages, Business and Professional Income, Other Income
9.	Transport, Storage, & Communications	Wages, Business and Professional Income, Other Income
10.	Financial Intermediaries	Wages, Business and Professional Income, Income from Securities, Other Income
11.	Real Estate & Renting	Wages, Business and Professional Income, Other Income
12.	Public Administration & Defence	Wages, Business and Professional Income, Other Income
13.	Education	Wages, Business and Professional Income, Other Income
14.	Health & Social Work	Wages, Business and Professional Income, Other Income
15.	Community, Social & Personal Services	Wages, Business and Professional Income, Other Income

Source: Sections 20 to 34 of the Income Tax Ordinance, 1984 (ITO-1984).

Table 5: Reduced Tax Rate On Poultry Farming Income, SRO 254/2015 (NBR, 2015b)

Amount of Income from Poultry	Income Tax Rate (%)
First BDT1,000,000	0
Next BDT1,000,000	5
Balance Amount	10

4.1.2. Fishing

Historically and traditionally, the fishing sector has been granted a significant tax exemption. SRO 255/2015 (NBR, 2015c) allows a reduced tax rate (of 0 to 10 per cent) to apply to fishing income. This is shown in Table 6.

According to primary data, the average regular tax rate (ATR) is 28 per cent, while the effective rate applicable to fisheries income is about 7 per cent. Therefore, the effective exemption rate in this sector is 75 per cent.

Table 6: Reduced Tax Rate on Fishing Income, SRO 255/2015 (NBR, 2015c)

Amount of Income from Fisheries	**Income Tax Rate (%)**
First BDT1,000,000	0
Next BDT1,000,000	5
Balance Amount	10

4.1.3. Mining & Quarrying

Although this sector comprises an insignificant portion of Bangladesh's total GDP, tax exemption is allowed in some instances. Companies that have signed Production Sharing Contracts (PSCs)[7] are granted tax exemptions on their Bangladesh income (see paragraph 36 of the sixth schedule, part A of ITO-1984). In the absence of such an exemption, the statutory tax rate for this sector would be 25% for a publicly listed company and 35% for other businesses. Therefore, we have only taken the PSC contract exemptions and, as a result of FGDs, general exemptions of just 20 per cent into consideration.

4.1.4. Manufacturing

The manufacturing sector is the most crucial contributor, with a share of GDP of more than 24 per cent. This sector is divided into two parts: large and medium-scale manufacturing, and small-scale manufacturing.

According to paragraph 39 of the sixth schedule of part A of ITO-1984, the income of a small manufacturing firm with a turnover of less than BDT500 thousand is exempt from tax. Moreover, the export of handicrafts is also exempt from tax according to paragraph 35 of the sixth schedule of part A of ITO-1984. The Finance Act (2019) also applies a special rebate for any small or cottage business that operates in a less or least developed area. Small manufacturing businesses comprise about 4 per cent of the total national GDP base. We have taken a 90 per cent exemption in the small manufacturing subsector into consideration.

We analysed the tax exemptions in the subsectors within the large and medium-scale manufacturing sector, and summarised these in Table 7.

[7] Specific contracts agreed between some foreign contractors in the gas and oil production sector and the government of Bangladesh.

The regular rate is calculated from the taxpayer's income statement with RMG business, which is close to the benchmark rate that we have opted for. In addition to these exemptions, there are special tax treatments for businesses based in the Bangladesh Economic Zone Authority (BEZA), a ten-year exemption for businesses based in Hi-Tech parks, and a five to seven-year area-wise exemption for businesses based in Export Processing Zones (exemptions from 25 per cent to 100 per cent) according to SRO 219/2012 (NBR, 2012). For other export-based industries, where no reduced rates are applicable, a specific 50 per cent exemption is allowed according to paragraph 28 of the sixth schedule of part A of ITO-1984. The overall exemption rate for the large manufacturing subsector (shown in Table 8) is 44 per cent.

Table 7: Exemptions for Different Manufacturing Industry Subsectors

Industry	Statutory Tax Rate (%)	Benchmark Tax Rate (%)	Exemption (%)
Garments Industry	15	35	57
Jute Manufacturing	10	35	71
Knitwear	12	35	66
Woven Garments	12	35	66
Active Pharmaceuticals Ingredients	0	35	100
Cement	Reduced TDS*	--	--
Mild Steel Rod	Reduced TDS*	--	--
Rice Bran Oil	--	--	25-100

*TDS = Tax deduction at source.
Source: Authors' calculations based on data from NBR (2017c), NBR (2017d), and NBR (2019c).

Table 8: Exemption Computation for the Large Manufacturing Subsector

Industry	Contribution to Large Manufacturing	Average Exemption Rate	Weighted Average
(1)	(2)	(3)	(4) = (2) * (3)
RMG* (Excl. EPZ**)	43%	65%	0.28
Jute Manufacture	2.5%	71%	0.02
EPZ Export	10%	75%	0.08
Other Export	9%	50%	0.04
Other Than Export	5.5%	35%	0.02
Total	**68%**	**64%**	**0.44**

*RMG = Ready-made garments.
**EPZ = Export Processing Zone, a specialised geographical area where export-oriented industries are established.
Source: Authors' calculations based on chapter 8 of Ministry of Finance, Bangladesh (2020).

4.1.5. Electricity, gas, and water supply

The benchmark tax rates for businesses involved in the electricity, gas and water supply industry are 25% for publicly listed companies and 35% for other companies. However, tax

exemptions can be applied for businesses involved in electricity production in accordance with SRO 213/2013 (NBR, 2013b). A 15-year exemption can be applied for coal-based power plants. Additional exemptions in respect of royalties, technical know-how, and technical assistance fees are also applicable in the electricity generation sectors. SRO 212/2013 (NBR, 2013a) exempts the income of private power generation companies other than coal-based companies (from 25 per cent to 100 per cent) that began production after 2016. Special tax exemption is also allowed for countries where nuclear power plants are under construction. The special power plants rented by the government in order to produce electricity rapidly to meet needs during the power crisis also enjoy tax benefits under certain conditions. Renewable energy production companies are included in the tax holiday scheme according to section 46CC of ITO-1984.

When considering the sources of electricity generation (gas, coal, nuclear, and renewables) and the relevant exemptions, we estimated the exemption on electricity production (shown in Table 9) to be 41 per cent.

Table 9: Exemption Computation for the Electricity Production Subsector

Source	% of Total Production	Average Exemption (%)	Weighted Exemption (%)
(1)	(2)	(3)	(4) = (2) * (3)
Coal	6	100	6
Gas & Oil (Private)	44	75	33
Nuclear	0	100	0
Renewables	1.5	100	1.5
Total	**52**	**78**	**41**

Source: Authors' calculation based on chapter 10 of the Ministry of Finance, Bangladesh (2020).

4.1.6. Construction, transport, storage, and communications

Bangladesh is now a developing country in a transitional phase of economic growth. The lion's share of its GDP contribution comes from government expenditure, and the government is undertaking several megaprojects in order to expedite economic growth. However, ITO-1984 states that the following physical infrastructure facilities can enjoy the tax holiday facility at a 10 to 90 per cent exemption rate for the first ten years of the construction:

(i) deep sea port;
(ii) elevated expressway;
(iii) export processing zone;
(iv) flyover;
(v) gas pipe line;
(vi) Hi-tech park;
(vii) Information and Communication Technology (ICT) village or software technology zone;
(viii) Information Technology (IT) park;
(ix) large water treatment plant and supply through pipe line;
(x) Liquefied Natural Gas (LNG) terminal and transmission line;
(xi) mobile phone tower or tower sharing infrastructure;
(xii) mono-rail;
(xiii) rapid transit;

(xiv) renewable energy (e.g solar energy plant, windmill);
(xv) sea or river port;
(xvi) toll road or bridge;
(xvii) underground rail;
(xviii) waste treatment plant; or
(xix) any other category of physical infrastructure facility as the Government may, by notification in the official Gazette, specify. (Section 46CC).

When taking the large scale of the land communication projects into consideration, and based on the financial value addition of the tax-exempted items mentioned in section 46CC, it is estimated that about 40 per cent of the contribution to GDP made by the construction sector is excluded from taxation.

Almost 8 per cent of the country's GDP comes from land and water transport. According to SRO 214/2019 (NRO, 2019a) and SRO 215/2019 (NRO, 2019b), this sector can opt to pay presumptive tax. Under the presumptive tax scheme, vehicle owners must pay a lump sum tax for every vehicle unit regardless of how much they earn during the year. For example, a 52-seated bus owner must pay BDT11,500 per year under the presumptive income tax scheme. This amount is significantly low, considering the average income generated from a bus, truck, or marine vessel. From FDGs, we assume that if there were no such schemes, businesses in these subsectors would pay about 50 per cent more tax.

4.1.7. Public administration

According to paragraph three of the sixth schedule of part A of ITO-1984, the income of local government authorities, such as district offices, sub-district offices, and union offices are tax-exempt, SRO 211/2017 (NBR, 2017b) also provides that all allowances and benefits received by government employees are exempted from tax. Various SROs allow for public services to be VAT-exempt. A 70 per cent general exemption is thus estimated as a result of FGDs.

4.1.8. Education

Most of the income earned by public universities is tax-exempt as a result of the following provisions:

- ITO-1984, sixth schedule, part A, paragraph 37: The income of any agricultural college/university is fully exempt.
- ITO-1984, sixth schedule, part A, paragraph 52: The income of an educational institution under MPO is exempt.
- ITO-1984, sixth schedule, part A, paragraph 59: The income of an educational/training institution for persons with disabilities is exempt.
- SRO 268/2010 (NBR, 2010): 15 per cent tax rate for private universities, medical/dental colleges, engineering, and IT.

Hence, it is approximated from the FDGs that about two-thirds of the education sector's income is exempt from tax.

4.2.9. Health and social work

The health and social work sectors have the following types of exemptions according to ITO-1984:

- Sixth schedule, part A, paragraph 1A: No tax on service charges can be derived from micro-credit operations.
- Sixth schedule, part A, paragraph 2: The income earned by religious and charitable institutions is tax-exempt.
- Sixth schedule, part A, paragraph 58: The income earned by old people's homes and day-care facilities is tax-exempt.

Moreover, full tax exemptions apply to donations made to various social work institutions. As these donations constitute the institutions' income, these exemptions indirectly narrow the tax base. A general 25 per cent exemption is estimated in this sector as a result of FGDs.

4.1.10. Community, social and personal services

Small-scale personal services (for example, a local hairdressing salon) with income under the general tax exemption limit are intentionally kept out of the tax net. The Pareto principle works almost perfectly here: around eighty per cent of businesses providing social and personal services will fall into this category but, as these are small-scale businesses, they will only generate around 20 per cent of the total income earned in this sector.

Moreover, paragraph 33 of the sixth schedule of part A of ITO-1984 exempts all income from different types of IT businesses (including companies providing software development and other services, digital content and website services, IT support and maintenance, call centre services, IT process outsourcing, cyber security services, and others) until 2024. Revenue from this sector is about BDT84 billion (USD1 billion), which is about 4 per cent of the total output (GDP) of this sector (Bangladesh Association of Software and Information Services, 2021). Taking this data and our FGDs into consideration, we approximate tax exemption in this sector to be 30 per cent.

The other sectors of GDP are very small and have minimal effects on the tax base, so they are not considered in our study.

4.2. Tax Expenditure and Capital Gains

There are other forms of tax expenditure that are out of the scope of GDP contribution. For example, capital gains make a limited contribution to GDP, but there are areas in which tax policy allows a lower rate of tax to apply to certain capital gains. We took tax expenditure relating to the transfer of land into consideration because transfers of land or property are the most significant capital gains in Bangladesh. Section 82C(2)(d) of ITO-1984 effectively reduces the tax rate on such transfers. The rate is between one and four per cent (based on the location of the land) of the deed value. This tax is collected at the source and considered to be the taxpayer's final tax liability. We take the average of 2.5% as the effective tax rate on such a transfer.

Tax deducted at source under section 53H in 2018-19: 18.17 billion BDT
Total estimated deed value : 1,817/2.5% = 726.80 billion BDT
Total cost of acquisition (estimated) : 72.68 billion BTD
Total capital gain on transfer of land : (726.80–72.68) = 654.12 billion BDT
Benchmark tax rate on capital gain : 15%
Regular tax on such capital gain : 654.12 x 15% = 98.12 billion BDT
Tax expenditure : 98.12 – 18.17) = **79.95 billion BDT**

A few other tax expenditures of a similar nature exist, but these are intentionally omitted due to the limited scope of this study.

5. DISCUSSION ABOUT THE RESULTS

After analysing all the related exemptions in the particular sectors, we have estimated that about 36 per cent of total GDP was effectively excluded from taxation in Bangladesh in the 2018/2019 financial year (as shown in Table 10). We know that, during that financial year, Bangladesh's total GDP was BDT25,424.83 billion, while income tax revenue was BDT1,028.94 billion (Ministry of Finance, Bangladesh, 2020). Therefore, the tax expenditure for the 2018/2019 financial year was BDT578.78 billion and the ratio of tax expenditure to GDP was 2.28 per cent. In addition, tax expenditure from capital gains (the sale of land) was BDT79.95 billion.

The exemption proportion by sector is depicted in Figure 3. We find that the fishing sector enjoys the highest percentage (75 per cent) of exemption in Bangladesh, followed by the public administration and defence sectors (70 per cent) and the education sector (65 per cent). The hotel and restaurant sector and the wholesale and retail trade sector do not benefit from any tax exemptions. Tax exemptions of 51 per cent and 40 per cent tax respectively are applicable in Bangladesh's manufacturing and construction sectors, which can attract foreign investment.

From the percentage of exemption shown in Table 10, we computed the effective tax rate for each sector. The summary of the effective tax rate and corresponding benchmark tax rate is shown in the Table 11.

Table 10: Sector By Sector Tax Exemption Summary

S/N	Sector		% of GDP*		Tax Exemption Exists?	% Exemption**	
			Sub-sector	Overall		Sub-sector	Overall
1	**Agriculture & Forestry**			**10.15**			**45**
	1.1	Crops & Horticulture	7.06		Yes	50	
	1.2	Animal Farming	1.47		Yes	50	
	1.3	Forestry & Related	1.62		Yes	20	
2	**Fishing**			**3.5**	Yes		**75**
3	**Mining & Quarrying**			**1.74**	Yes		**20**
4	**Manufacturing**			**24.08**			**51**
	4.1	Large & Medium	20.21		Yes	44	
	4.2	Small Scale	3.87		Yes	90	
5	**Electricity, Gas & Water Supply**			**1.55**			**35**
	5.1	Electricity	1.34		Yes	41	
	5.2	Gas	0.12		No	0	
	5.3	Water	0.09		No	0	
6	**Construction**			**7.63**	Yes	40	**40**
7	**Wholesale & Retail Trade**			**13.92**	No		**0**
8	**Hotel & Restaurant**			**0.74**	No		**0**
9	**Transport, Storage & Communications**			**11.01**			**35**
	9.1	Land Transport	7		Yes	50	
	9.2	Water Transport	0.68		Yes	50	
	9.3	Air Transport	0.1		No	0	
	9.4	Support & Storage	0.64		Yes	5	
	9.5	Post & Telecom	2.58		No	0	
10	**Financial Intermediaries**			**3.42**			**1**
	10.1	Banks	2.95		No	0	
	10.2	Insurance	0.29		No	0	
	10.3	Others	0.18		Yes	20	
11	**Real Estate, Renting**			**6.13**	Yes	20	**20**
12	**Public Administration & Defence**			**3.65**	Yes	70	**70**
13	**Education**			**2.44**	Yes	65	**65**
14	**Health & Social Work**			**1.89**	Yes	25	**25**
15	**Community, Social & Personal Services**			**8.15**	Yes	30	**30**
	Total			**100**			**36**

**GDP contribution* figures taken *from the Bangladesh Economic Review, 2019 (Ministry of Finance, Bangladesh, 2020)*

*** Percentage exemption estimated in this study*

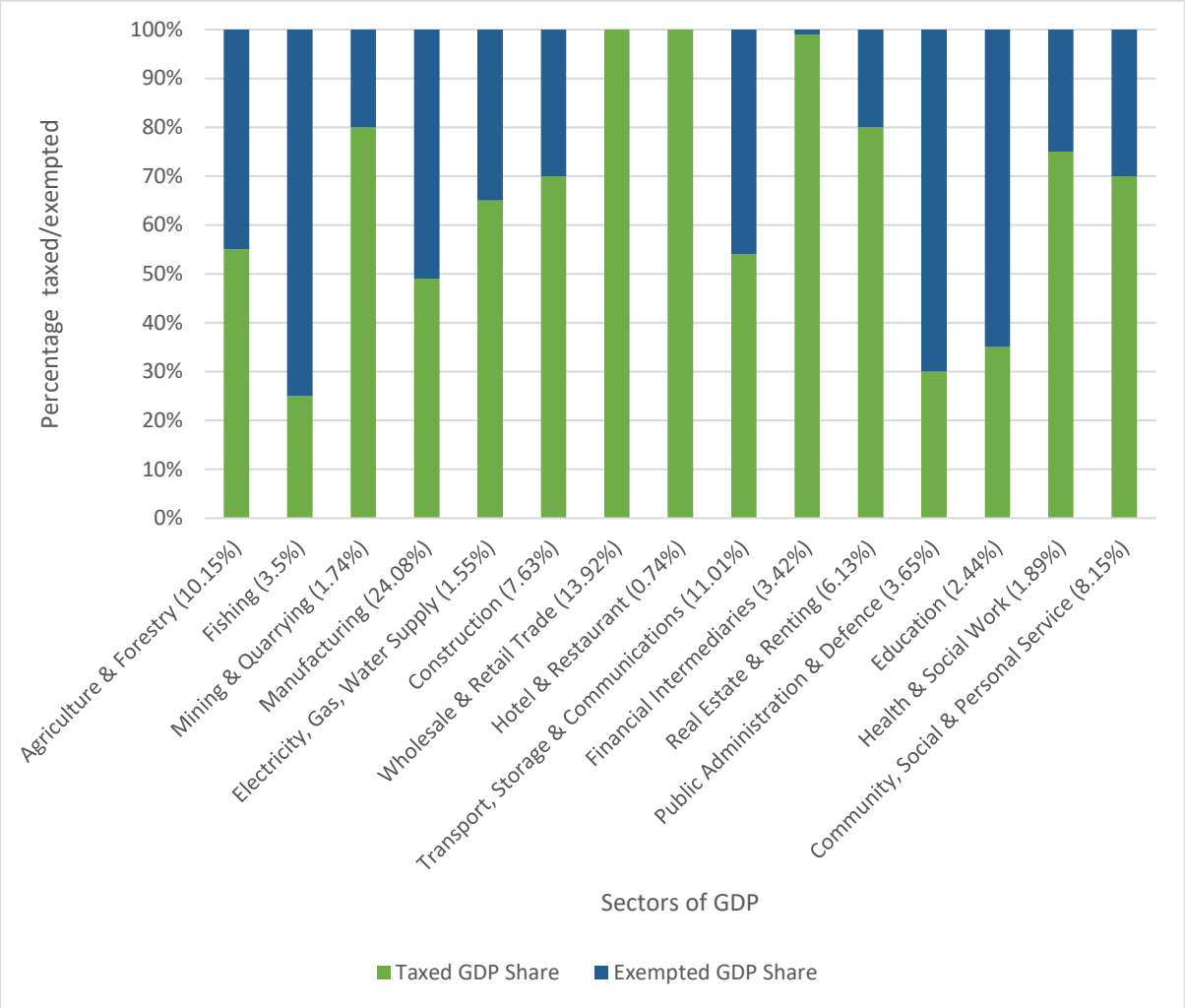
Table 11: Sector By Sector Benchmark and Effective Tax Rate Summary

S/N	Sector			Benchmark Tax Rate	Effective Tax Rate
1	**Agriculture & Forestry**				
	1.1	Personal		Progressive Rate: (0% to 30%)	55% of the ATR
	1.2	Corporate	Publicly Listed	25%	13.75%
			Non-Publicly Listed	35%	19.25%
2	**Fishing**				
	2.1	Personal		Progressive Rate: (0% to 30%)	25% of the ATR
	2.2	Corporate	Publicly Listed	25%	6.25%
			Non-Publicly Listed	35%	8.75%
3	**Mining & Quarrying**				
	3.1	Corporate	Publicly Listed	25%	20%
			Non-Publicly Listed	35%	28%
4	**Manufacturing**				
	4.1	Personal		Progressive Rate: (0% to 30%)	49% of the ATR
	4.2	Corporate	Publicly Listed	25%	12.25%
			Non-Publicly Listed	35%	17.15%
5	**Electricity, Gas & Water Supply**				
	5.1	Corporate	Publicly Listed	25%	16.25%
	5.2		Non-Publicly Listed	35%	22.75%
6	**Construction**				
	6.1	Personal		Progressive Rate: (0% to 30%)	60% of the ATR
	6.2	Corporate	Publicly Listed	25%	15%
			Non-Publicly Listed	35%	21%
7	**Wholesale & Retail Trade**				
	7.1	Personal		Progressive Rate: (0% to 30%)	Same as ATR
	7.2	Corporate	Publicly Listed	25%	25%
			Non-Publicly Listed	35%	35%
8	**Hotel & Restaurant**				
	8.1	Personal		Progressive Rate: (0% to 30%)	Same as ATR
	8.2	Corporate	Publicly Listed	25%	25%
			Non-Publicly Listed	35%	35%
9	**Transport, Storage & Communications**				
	9.1	Personal		Progressive Rate: (0% to 30%)	65% of ATR
	9.2	Corporate	Publicly Listed	25%	16.25%

			Non-Publicly Listed	35%	22.75%
10	**Financial Intermediaries**				
			Publicly Listed	37.5%	37.13%
	10.1	Corporate	Non-Publicly Listed:	40%	39.60%
11	**Real Estate & Renting**				
	11.1	Personal		Progressive Rate: (0% to 30%)	80% of ATR
			Publicly Listed	25%	20%
	11.2	Corporate	Non-Publicly Listed	35%	28%
12	**Public Administration & Defence**				
	12.1	Personal		Progressive Rate: (0% to 30%)	30% of ATR
			Publicly Listed	25%	7.50%
	12.2	Corporate	Non-Publicly Listed	35%	10.50%
13	**Education**				
	13.1	Personal		Progressive Rate: (0% to 30%)	35% of ATR
			Publicly Listed	25%	8.75%
	13.2	Corporate	Non-Publicly Listed	35%	12.25%
14	**Health & Social Work**				
	14.1	Personal		Progressive Rate: (0% to 30%)	75% of ATR
			Publicly Listed	25%	18.75%
	14.2	Corporate	Non-Publicly Listed	35%	26.25%
15	**Community, Social & Personal Services**				
	15.1	Personal		Progressive Rate: (0% to 30%)	70% of ATR
			Publicly Listed	25%	17.50%
	15.2	Corporate	Non-Publicly Listed	35%	24.50%

Source: Authors' calculations.

Figure 3: Tax Exemption Ratios By Sector



6. LIMITATIONS OF THE STUDY

Studying tax expenditure is always challenging, even in a developed economy and analyses of the effects and effectiveness of tax exemptions around the world have been imperfect. The challenge is more apparent in a developing economy than in developed ones due to the lack of sufficient data, proper documentation, and resources.

The method used in this analysis measures the tax expenditure originating from tax legislation. It does not measure the tax gap that results from tax evasion or the administrative weakness of the tax authority. The method mathematically assumes that the portion of GDP exempted from tax policy would generate the same proportion of tax evasion if taxed at the same rate.

We have taken GDP to be the measure of total income and profit generated within a country in a given year. However, this measurement is subject to uncertainty as GDP calculations have their own limitations and are subject to error. The probability that the GDP calculation may be different from the actual GDP was considered when producing the study's results. As GDP computation is often subject to academic criticism, we have imposed additional uncertainty on our research findings.

The macroeconomic analysis undertaken within this study was heavily dependent on the sectoral composition of the GDP. The weighted average tax exemption within a particular sector is often qualitatively measured and this is one of the primary limitations of the study. We use macroeconomic analysis due to the unavailability of relevant data at the intra-sector level. In some cases, the data was available but could not be collected due to a lack of resources. As a result, the economic justification provided in the report is only subjective.

The purposive sampling method was used to deduce broad base statistical inference, so the study's result should be treated as an overview that has been provided with the intention of giving policymakers a bird's eye view of the situation.

Due to the lack of available micro-data in developing economies, we opted to use subjective approximations throughout the study. Therefore, this study should be seen as an effort to estimate tax expenditures rather than accurately calculate them, and the tax expenditure values should be treated as indicative numbers.

7. CONCLUSION AND RECOMMENDATIONS

In summary, a customised method was used to determine income tax expenditure in Bangladesh by sector. All assumptions were made in order to accommodate the trade-off between simplicity and accuracy. A 2.28 per cent tax expenditure to GDP ratio can apply in a growing economy like Bangladesh. The study results can be used at the policy level, where a moderate significance level is acceptable. This result can also be considered to be valid in the medium term if no drastic policy shift has occurred. The following recommendations are made based on the results and tax expenditure analysis.

- The amount of tax expenditure is significantly large when compared to the NBR's tax revenue. Before allowing any exemption to apply, the government needs to ensure that it can protect against moral hazards and ensure that no adverse selection will occur. Moreover, every tax exemption must be justified by the following questions, as suggested by Ireland's Department of Finance (2014, as cited in Parliamentary Budget Office, Ireland, 2018):

    1. What objective does the tax expenditure aim to achieve?
    2. What market failure is being addressed?
    3. Is a tax expenditure the best approach to address the market failure?
    4. What economic impact is the tax expenditure likely to have?
    5. How much is it expected to cost? (p. 15).

- No arbitrary or discriminatory exemptions should be made. A policy for granting tax exemptions needs to be formulated based on macroeconomic variables. The cost-benefit analysis should not focus on revenue collection alone. The area of exemptions must be narrow and well-defined, and the exemptions should only apply for a limited period.
- Numerous SROs allow tax exemptions or reduced tax rates. Each of these need to be reviewed and, if there is no further economic requirement for a particular SRO, it should be cancelled.
- The NBR needs to know the amount of revenue forgone as a result of each tax exemption. It should establish a comprehensive research unit and digitalise taxpayers'

information. It will then be able to conduct more accurate tax expenditure reporting, on a regular basis, using the microsimulation analysis method.

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