Impact of Different Tax Variables on The Economic Growth of Nepal

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Direct tax, Economic growth, GDP, Indirect tax, Tax revenue

ABSTRACT
This study examines the impact of different tax variables on GDP growth. Time-series secondary data were gathered from the Economic Survey issued across several fiscal years to meet the study's objectives. The acquired data was analyzed using the log-linear regression model. The research hypotheses were tested using SPSS 20 software. The regression model included independent variables (tax) and the dependent variable GDP. The findings show that direct tax has an adverse association with GDP, whereas indirect tax has a positive link. Notably, overall revenue has a significant beneficial impact on GDP. Despite positive trends in tax revenue, they need to meet the government expenditure in Nepal. Across all regression models, the R2 coefficient exceeds 95%, indicating a high degree of determination among variables.

1. INTRODUCTION
When democracy took root in Nepal in 1951, it closed the chapter on the 104-year-long Rana dynasty and its limited tax system, which consisted only of customs, excise, and land revenue. Shifting gears, Nepal rolled out vital laws to reshape its tax landscape, such as the Excise Act of 1958, the Customs Act of 1962, and the Land Revenue Act of 1964, making the old, region-specific laws obsolete. As Nepal moved towards a more modern approach, the 2002 Excise Act and the 2007 Customs Act came into effect, giving a much-needed boost to customs and excise duties. In 1959, Nepal took the significant step of introducing income tax through the Finance Act 1959, initially carried out via the Business Profits and Salaries Tax Ordinance. However, constitutional issues led to the replacement of this ordinance by the Business Profits and Salaries Act in 1960. Income tax, first limited to business earnings and wages, widened its reach in 1962, covering all types of income. This change happened with the Income Tax Act of 1962, which replaced its precursor. Then, in 1974, the Income Tax Act got another update to refine Nepal’s tax regulations further. These actions marked
a decisive shift from a time of rigid tax practices to an era of comprehensive tax policies embracing democratic and economic progress (IRD, 2016)

In 2002, we saw a significant change in how income taxes work when the new Income Tax Act came in, taking the place of the old one from 1974. Way back in the mid-60s, we started with a sales tax, which then changed to a value-added tax (VAT) in 1997. During the tax makeover of the 90s, VAT didn't just swap out sales tax; it also covered other taxes like those on contracts, hotels, and fun stuff we do for entertainment. This shake-up added a bunch of smaller taxes, taxes on foreign investments, property in the city, flights, roads, houses, highways, health, phones, pollution, movies, tourism, and even school fees. As time passed, some of these taxes got dropped, and some came back. So, we have seen quite the evolution in our tax system, ensuring everything is up to date and fair for everyone. (IRD, 2016).

In Nepal's current fiscal landscape, tax revenue is the primary funding source within the national budget. The proposed budget for the upcoming Fiscal Year 2078/79 is Rs. 1647.57 billion, with the government aiming to generate Rs. 1024.9 billion (62.20%) from revenue. Foreign grants are anticipated to contribute Rs. 63 billion, while a foreign loan of Rs. 309.29 billion from development partners is also planned (MoF, GoN 2021). These figures underscore revenue's crucial role in budget implementation and Nepal's economic growth. Tax revenues constitute a significant chunk, accounting for approximately 62.20% of the government's total revenue. Among these, indirect tax revenues make up 72.97%, while direct tax revenues contribute only 26.31%. This distribution significantly influences the government's ability to meet public needs and foster economic development (MoF, GoN 2021). Keynesian theory points out that taxes can help boost demand, balance wealth, sustain stability, and aid in economic growth (Kharel, 2021).

2. STATEMENT OF PROBLEMS

A research study empirically investigates the influence of taxation on Nepal's GDP, strategically timed to assess the effects of different tax variables on economic development. The study explores the impact of government revenue on economic development, analyzing the contributions of DT and IDT to the country's economic growth over the past decade (FY 2009/10 to FY 2018/19). Consequently, there is a need for an in-depth examination of the current tax system's performance and its ramifications on the Nepalese economy. This investigation faces the challenge of striking the right balance between fostering a business-friendly environment and encouraging investment. The study aims to discern the role of levied taxes in promoting Nepal's economic development, comprehensively understanding various tax types and their implications on economic growth. Additionally, the research involves a comparative analysis of the contributions of Tax variables to overall economic growth.

Objectives of the Study

The primary objectives of the study are as follows:

- Investigating the influence of a direct tax on GDP.
- Assessing the impact of an indirect tax on GDP.
- Analyzing the contributions of various components of both direct and indirect taxes to the economic growth of Nepal.
Literature Review

The impact of changes in taxes on fiscal policy has been observed across various countries, prompting economists to advocate for additional research to ascertain whether this influence on GDP is positive or negative. Numerous authors have conducted literature reviews, analyzing the correlation between taxation and economic growth. The outcomes of these studies indicate a negative impact. Multiple studies examining how taxes affect economic growth have reached mixed conclusions. While some research indicates that taxes can boost the economy, others argue that it slows down productivity and growth (Kharel, 2021).

Barro (1990) finds a significant negative correlation between government consumption expenditure and real GDP, indicating a detrimental effect on economic growth. Productive government expenditure positively influences economic growth, with the costs having a more substantial impact. Direct taxes, such as corporate income taxes, negatively affect GDP growth and physical capital accumulation, discouraging potential investors—conversely, selective taxation like consumption, personal income tax, and property tax support economic growth. The absence of an optimal tax system is noted, as it depends on different factors and varies between states. High tax rates are seen to reduce consumer disposable income, limiting economic autonomy in the short term and decreasing efficiency and welfare in the long time. An analysis of 23 OECD countries from 1965-1990 suggests a negative effect of taxes on economic growth, particularly with progressive taxation resulting in a higher negative impact on real GDP.

Lee and Gordon (2005) found that higher corporate tax rates are associated with decreased economic growth, based on cross-country data from 1970 to 1997. They observed a negative correlation between statutory corporate tax rates and average economic growth rates, even after accounting for various determinants and standard tax variables. According to their fixed-effect regressions, a ten-percentage point reduction in the company tax rate might enhance the yearly growth rate by one to two percentage points, whereas a rise in the corporate tax rate results in lower future growth rates. Tosun and Abizadeh (2005) discovered that GDP per capita significantly influences the tax mix in OECD countries, with different taxes responding differently to economic growth. Onakoya et al. (2017) found a positive relationship between tax revenue and GDP in Africa, emphasizing the importance of a comprehensive tax structure during economic challenges. Ali et al. (2018) concluded that tax revenue positively impacts economic development in Kenya, highlighting the need for effective fiscal laws, government support, and transparency to maximize this impact.

In the study conducted by Shrestha and Kautish (2020), it was determined that a favorable correlation exists between overall revenues and economic expansion. Notably, indirect tax revenue and non-tax revenue are identified as positively influencing economic growth, whereas the impact of direct tax revenue on economic expansion is deemed insignificant. The research findings further indicate a noteworthy rise in Nepal's Gross Domestic Product (GDP) throughout the years.

Tamimi and Bataineh (2021) investigated the influence of tax revenues on the growth of the gross domestic product (GDP) in Jordan from 2000 to 2018. The findings reveal that a one-unit increase in tax revenues corresponds to a 7.257-unit increase in Jordan's GDP over the specified study period. The research establishes a positive correlation between tax revenues and GDP growth in Jordan; however, there needs to be a standardized integration between these two factors in the country. Similarly, Kharel (2021) examined the impact of tax revenue and total revenue on GDP, discovering a significant positive effect. While the tax revenue trends indicate positivity, they fall short of meeting the government expenditures in Nepal.
Conceptual Framework

The conceptual framework illustrated in the diagram allows for the identification of both independent and dependent variables in the study. Subsequently, analyzing the influence of each independent variable on the dependent variable aligns with the study's objectives.

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Direct Tax</strong></td>
<td><strong>Economic Growth (GDP)</strong></td>
</tr>
<tr>
<td>• Taxes on income, profit and capital gains (TXIPT)</td>
<td></td>
</tr>
<tr>
<td>• Taxes on payroll (TXPR)</td>
<td></td>
</tr>
<tr>
<td>• Taxes on property (TXP)</td>
<td></td>
</tr>
<tr>
<td><strong>Total Indirect Tax</strong></td>
<td></td>
</tr>
<tr>
<td>• Taxes on goods and services (TXGS)</td>
<td></td>
</tr>
<tr>
<td>• Taxes on international trade (TXIT)</td>
<td></td>
</tr>
<tr>
<td><strong>Total Tax</strong></td>
<td></td>
</tr>
<tr>
<td>• Total Direct Tax</td>
<td></td>
</tr>
<tr>
<td>• Total Indirect Tax</td>
<td></td>
</tr>
<tr>
<td>• Other tax</td>
<td></td>
</tr>
</tbody>
</table>

Research Design and Methodology

This paper applies quantitative research strategies and adopts a descriptive research design with statistical calculation. All the data was received from secondary sources, mainly by an economic survey of Nepal (FY 2009/10-2019/20).

This research study examines the influence of tax structure on Nepal's economic growth. The investigation involves the interconnected analysis of variables to discern and ascertain the effects of taxes and their components on economic growth. An econometric model was employed to scrutinize the relationship between various economic variables, with GDP serving as the dependent variable and a range of taxes as independent variables. Noteworthy among these are presumptive Income and Profit Tax (TXIPC), Payroll Tax (TXPR), Property Tax (TXP), Goods and Services Tax (TXGS), Taxes on international trade (TXIT), Other taxes (TXOT), and so forth.

This study primarily focused on secondary evidence, emphasizing that more than merely descriptive interpretation is needed to achieve the research objectives. Consequently, the research employs inferential analysis as its method for data analysis. Notably, both the independent and dependent variables in this study are scale variables. The research uses inferential analysis tools, specifically correlation and regression analyses, to explore the relationships between these variables.

Research Hypothesis

This study proposes a series of hypotheses for testing to verify the important statistical connections between the study's various elements.

HA1: Direct tax has a significant impact on economic growth.
HA2: Indirect tax has a significant impact on economic growth.
HA3: Total tax has a significant impact on economic growth.
3. RESULT AND DISCUSSION

To find the impact of the different tax variables on economic growth, regression was analyzed separately. We used the econometric model by converting them into natural logarithms using the LOG model.

Tax revenue and GDP of the Past Ten years

This study collected different types of tax revenue and GDP from different Economic surveys of Nepal (2009/10-2018/19). The following table shows the 10-year data.

Table 1
Structure of Revenue and GDP

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Taxes on income, profit and capital gains</th>
<th>Taxes on payroll</th>
<th>Taxes on property</th>
<th>Taxes on goods and services</th>
<th>Taxes on international trade</th>
<th>Other taxes</th>
<th>Direct Tax</th>
<th>Indirect Tax</th>
<th>Total Tax</th>
<th>GDP EXP method at base year price</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009/10</td>
<td>3382.13</td>
<td>551.1</td>
<td>8417.04</td>
<td>3521.89</td>
<td>106.37</td>
<td>3933.23</td>
<td>12045.3</td>
<td>15978.5</td>
<td>151970</td>
<td></td>
</tr>
<tr>
<td>2010/11</td>
<td>4135.03</td>
<td>70.98</td>
<td>9479.34</td>
<td>3571.35</td>
<td>108.77</td>
<td>4563.26</td>
<td>13159.5</td>
<td>17722.7</td>
<td>155922</td>
<td></td>
</tr>
<tr>
<td>2011/12</td>
<td>5130.3</td>
<td>155.5</td>
<td>358.84</td>
<td>11056.1</td>
<td>4339.06</td>
<td>132.38</td>
<td>5644.64</td>
<td>15527.5</td>
<td>21172.2</td>
<td>163204</td>
</tr>
<tr>
<td>2012/13</td>
<td>6418.67</td>
<td>188.06</td>
<td>534.02</td>
<td>12927.1</td>
<td>5693.18</td>
<td>160.52</td>
<td>7140.75</td>
<td>18780.8</td>
<td>25921.5</td>
<td>168957</td>
</tr>
<tr>
<td>2013/14</td>
<td>7561.36</td>
<td>244.99</td>
<td>667.11</td>
<td>15771.8</td>
<td>6798.05</td>
<td>200.77</td>
<td>8473.46</td>
<td>22770.7</td>
<td>31244.1</td>
<td>179114</td>
</tr>
<tr>
<td>2014/15</td>
<td>8616.56</td>
<td>292.58</td>
<td>939.94</td>
<td>18002.5</td>
<td>7484.13</td>
<td>259.84</td>
<td>9849.08</td>
<td>25746.5</td>
<td>35595.6</td>
<td>186236</td>
</tr>
<tr>
<td>2015/16</td>
<td>11413.8</td>
<td>326.98</td>
<td>1314.94</td>
<td>20566.9</td>
<td>8215.91</td>
<td>271.16</td>
<td>13055.7</td>
<td>29053.9</td>
<td>42109.7</td>
<td>187042</td>
</tr>
<tr>
<td>2016/17</td>
<td>14484.6</td>
<td>413.69</td>
<td>1829.4</td>
<td>27856.9</td>
<td>10305.9</td>
<td>496.18</td>
<td>16727.7</td>
<td>38659</td>
<td>55386.7</td>
<td>203834</td>
</tr>
<tr>
<td>2017/18</td>
<td>15479</td>
<td>509.78</td>
<td>1933.23</td>
<td>34804.9</td>
<td>12686.5</td>
<td>535.66</td>
<td>17922</td>
<td>48027.1</td>
<td>65949.2</td>
<td>219371</td>
</tr>
<tr>
<td>2018/19</td>
<td>18830.4</td>
<td>600.62</td>
<td>10.97</td>
<td>39564.3</td>
<td>14331.9</td>
<td>522.24</td>
<td>19442</td>
<td>54418.4</td>
<td>73860.4</td>
<td>233974</td>
</tr>
</tbody>
</table>


In the above table, the taxation of goods and services holds the major portion. Then, tax on income, profit and capital gain, and taxes on international trade contribute to Nepalese tax income. Property tax decreased in 2018/19 due to the levied by the local government. Nepalese tax income mainly depends upon indirect tax, which is around three times greater than direct tax. From the last ten years' data, we conclude that tax and GDP are increasing. In the following graph, Nepal's tax-to-GDP ratio also continuously increased from 10.51% to 31.57%. This data clearly shows the contribution of tax to GDP.
Correlation between the GDP and Different Tax Variables.

There is a correlation between the GDP and other variables to check the significance level of the variable with SPSS 20. The table shows the correlation between log10 GDP and other log tax variables.

**Table 2**
Correlation between the GDP and Different Tax Variables.

<table>
<thead>
<tr>
<th></th>
<th>log10TXIP</th>
<th>log10TXIP</th>
<th>log10TXP</th>
<th>log10TXG</th>
<th>log10TXIT</th>
<th>log10TXO</th>
<th>log10DXT</th>
<th>log10ITX</th>
<th>log10TTX</th>
</tr>
</thead>
<tbody>
<tr>
<td>log10GDP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.975**</td>
<td>.944**</td>
<td>-0.26</td>
<td>.994**</td>
<td>.985**</td>
<td>.971**</td>
<td>.965**</td>
<td>.993**</td>
<td>.987**</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>0</td>
<td>0</td>
<td>0.249</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (1-tailed).

This table shows the highly positive correlation between the GDP and tax variables other than tax on payroll in the above table. A highly positive correlation (0.975) exists between GDP and tax on income, profit, and capital gains. Similarly, there is a highly positive correlation between GDP and tax on property (0.944), tax on goods and services (0.994), tax on international trade (0.985), other tax (0.971), direct tax (0.965), Indirect tax (0.993) and total tax (0.987). There is a negative correlation between GDP and tax on property (-0.260), but this is not significant on a confidence level of 99%.

**Empirical analysis on testing the effects of different tax variables on GDP.**

An empirical study assessed how different tax variables affect GDP through log-log modeling and a designated valuation method. The data underwent analysis, leading to validated research hypotheses. The study investigated the influence of specific tax components on GDP using simple linear regression and log-log methods.
Model 1: Impact of Components of DTX on GDP.

For this model, we take the components of direct tax as given in Nepal's economic survey. There are three components of direct taxation. They are Income and Profit Tax (TXIPT), Payroll Tax (TXPR), and taxes on the property (TXP). In this model, we observe the relationship between the GDP and components of direct tax with the help of SPSS 20. The regression equation for the impact of the element of a direct tax on GDP is as follows:

\[ \ln GDP = \alpha + \beta_1 \ln TXIPT + 2 \ln TXPR + \beta_3 \ln TXP + \epsilon \]

Where GDP is Gross Domestic Product, TXIPT is income, profit, and capital gains Tax, TXPR is Payroll tax, TXP is Property Tax, and \( \epsilon \) is Error.

### Table 3
Model Summary and Coefficients of Multiple Regression Analysis

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>R Square Change</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.984*</td>
<td>.968</td>
<td>.949</td>
<td>.01323</td>
<td>.968</td>
<td>51.094</td>
<td>3</td>
<td>5</td>
<td>.000</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), log10TXP, log10TXPR, log10TXIPT

From the above table, we can conclude that a significant relation between the dependent and independent variable value of F is significant, so the overall model is significant. However, at the individual level, Log TXPR is insignificant at 5%. Hence, the regression model Components of DTX on GDP are as follows.

\[ \ln GDP = 4.366 + 0.225 \text{TXIPT} + 0.018\text{TXPR} - 0.12\text{TXP} + \epsilon \]

From this equation, if the value of TXIPT, TXPR, and TXP is zero, the GDP will be 4.366. and \( \beta_1=0.225 \) indicates that a 1% increase in income, profit, and capital gains tax value will affect (Increase) GDP by 0.225%. Similarly, \( \beta_2=0.018 \) indicates that a 1% increase in Payroll Tax will affect (Increase) GDP by 0.018%, and \( \beta_3=-0.12 \) indicates that a 1% increase in taxes on the property will affect (Decrease) in GDP by 0.12%. The regression equation shows a positive relationship between GDP and TXIPT and TXPR but a negative relationship between GDP and TXP.

Model 2: Impact of Components of ITX on GDP.
For this model, we take the components of indirect tax from similar sources. There are two components of indirect tax. They are Goods and Services Tax (TXGS) and Taxes on International Trade (TXIT). The regression equation for the impact of the component of indirect tax on GDP is as follows:

\[ \ln GDP = \alpha + \beta_1 \ln TXGS + \beta_2 \ln TXIT + \epsilon \]

GDP is Gross Domestic Product, TXGS Goods and Services Tax, TXIT is Taxes on international trade, and \( \epsilon \) is Error.

**Table 4**

Model Summary and Coefficients of Multiple Regression Analysis.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.995</td>
<td>.991</td>
<td>.988</td>
<td>.00684</td>
<td>.991</td>
</tr>
</tbody>
</table>

From the above table, we can conclude a significant relationship between the dependent and independent variables. However, at the individual level, Log TXIT is insignificant at \( \alpha = 0.05 \). Hence, the regression model Components of ITX on GDP are as follows.

\[ \ln GDP = 4.136 + 0.273 \ln TXGS - 0.08 \ln TXIT + \epsilon \]

From this equation, if all independent variables are zero, the GDP will be 4.136. and \( \beta_1 = 0.273 \) indicate that a 1% increase in goods and services tax value will affect (Increase) GDP by 0.273%. Similarly, \( \beta_2 = -0.08 \) indicates that a 1% increase in taxes on international trade will affect (Decrease) GDP by 0.08%. In the regression equation, there is a positive relationship between GDP and TXGS but a negative relationship between GDP and TXIT.

Model 3: Impact of Direct Tax (DTX) and Indirect Tax (ITX) on GDP.

In this model, we take the total direct tax (DTX), total indirect tax (ITX), and GDP. Total direct tax (DTX) is a sum of Taxes on income, profit, and capital gains (TXIPT), Payroll Tax (TXPR), Taxes on the property (TXP), and total indirect tax (ITX) is a sum of Goods and Services Tax (TXGS) and Taxes on international trade (TXIT). This regression equation analyses the impact of total direct tax and indirect tax on GDP by this equation:
\[ \ln GDP = \alpha + \beta_1 \ln DTX + \beta_2 \ln ITX + \varepsilon \]

GDP is Gross Domestic Product, DTX is Direct Tax, ITX is Indirect Tax, and \( \varepsilon \) is Error.

The analysis was prepared using SPSS 20.

**Table 5**
Model Summary and Coefficients of Multiple Regression Analysis

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>R Square Change</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.999&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.998</td>
<td>.997</td>
<td>.00342</td>
<td>.998</td>
<td>1493.343</td>
<td>2</td>
<td>7</td>
<td>.000</td>
</tr>
</tbody>
</table>

<sup>a</sup> Predictors: (Constant), \( \log_{10} ITX \), \( \log_{10} DTX \)

<table>
<thead>
<tr>
<th>Model</th>
<th>(Constant)</th>
<th>3.950</th>
<th>.033</th>
<th>-4.995</th>
<th>119.415</th>
<th>.000</th>
</tr>
</thead>
<tbody>
<tr>
<td>log10DXT</td>
<td>-.155</td>
<td>.031</td>
<td>-.626</td>
<td>-4.995</td>
<td>.002</td>
<td></td>
</tr>
<tr>
<td>log10ITX</td>
<td>.440</td>
<td>.034</td>
<td>1.614</td>
<td>12.881</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Dependent Variable: \( \log_{10} GDP \)

From the above model summary table, we can conclude that the model is fit and significant. R<sup>2</sup> is 0.998. It signifies that the determination coefficient is exceptionally high, implying that the independent factors explain 99.8% of the dependent variable. In other words, regression estimations have a degree of accuracy of 99.8%. The dependent and independent variables have a significant relationship. The analysis shows a positive relationship between GDP and total indirect tax but an inverse relationship between GDP and Total direct tax. The regression model of DTX and ITX on GDP is as follows.

\[ \ln GDP = 3.950 -0.155 \text{ DTX} + 0.440 \text{ ITX} + \varepsilon \]

This equation shows a more significant impact of Total indirect tax on GDP than Total direct tax. If all independent variables are zero, the GDP will be 3.950. A coefficient of \( \beta_1 \ (-0.155) \) indicates that a 1% increase in goods and services tax value will affect (Decrease) GDP by 0.115%; similarly, \( \beta_2 = 0.440 \) indicates that a 1% increase in taxes on the property will affect (Decrease) in GDP, by 0.44%.

Model 3: Impact of Total Tax (TTX) on GDP.

In this model, we take the total tax (TTX) and GDP. Total tax (TTX) is the sum of total direct tax (TDX), other tax (TXOT), and total indirect tax (ITX). This regression equation analyses the impact of total tax Revenue (TTX) on GDP by this equation:

\[ \ln GDP = \alpha + \beta_1 \ln \text{TTX} + \varepsilon \]

GDP is Gross Domestic Product, TTX is Total Tax, and \( \varepsilon \) is Error. From the above-tabulated data using SPSS 20 software, we summarized the regression coefficient as follows.
Table 6
Model Summary and Coefficients of Multiple Regression Analysis.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>R Square Change</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.990*</td>
<td>.979</td>
<td>.977</td>
<td>.00949</td>
<td>.979</td>
<td>380.945</td>
<td>1</td>
<td>8</td>
<td>.000</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), log10TTX

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Beta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>4.071</td>
<td>.061</td>
<td>.000</td>
</tr>
<tr>
<td>log10TTX</td>
<td>.263</td>
<td>.990</td>
<td>19.518</td>
<td>.000</td>
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</table>

a. Dependent Variable: log10GDP

From the above model summary table, we can conclude that the model is fit and significant. R2 is 0.990. The R-squared value is impressively strong, signaling that the independent variables explain 99% of the variance in the dependent one. But almost all the dependent variable's behavior is predicted by the regression model. Clearly, there's a meaningful link between our variables, as evidenced by the positive correlation seen between GDP and total tax revenue. The regression model of TTX on GDP is as follows.

\[ \ln GDP = 4.071 + 0.263 \text{TTX} + \epsilon \]

This equation shows a more significant impact of Total indirect tax on GDP than Total direct tax. If all independent variables are zero, the GDP will be 4.071, and a coefficient of \( \beta 1 \) (0.263) indicates that a 1% increase in taxes on the property will affect (increase) GDP by 0.263%.

4. CONCLUSION AND RECOMMENDATION

From the above discussion, direct tax, indirect tax, and total tax play a vital role in Nepal's GDP. However, the relationship between total direct tax and GDP is inverse in the study. GDP and component of Total direct tax have a mixed relation, i.e., a positive relation between GDP and TXIPT and TXPR but a negative relation between GDP and TXP.

The relationship between GDP and total indirect tax is positive, but the depth analysis component of indirect tax also has a mixed relation. In the study period, GDP and tax on goods and services are positively related, but GDP has an inverse effect on tax on international trade because imports exceed exports. In the case of the total tax, there is a positive relationship with GDP, and the coefficient is 0.263. It means that there has been an average of 23.6% contribution to GDP in the past ten years. In Nepal, the tax-to-GDP ratio is increasing, indicating that the contribution of tax revenue to GDP is continuously growing.

The research aimed to understand how different types of taxes and overall tax money influence Nepal's economy by looking at their effects on the nation's GDP. It found that tax collections, both from direct and indirect taxes, play a significant role in the economy. When it comes to direct taxes, the effect on GDP is negative, but indirect taxes seem to boost the GDP.
The findings suggest that when the government collects more taxes, the GDP usually goes up. This points to the need for a well-thought-out tax system that is balanced and considers the economic impacts of different taxes when planning tax policies. However, crafting such a system isn't easy, and not all changes to taxes lead to better economic outcomes.

One challenge is that what the government earns is less than what it spends, with taxes making up about 64% of its income. To fill the gap, Nepal must rely on foreign aid and loans, which, if not managed well by increasing tax collection, could create big economic problems.

In essence, for Nepal to grow economically and have a healthy GDP, a fair and strategic approach to tax planning is critical. The study emphasizes that understanding and adjusting the tax system is vital to fostering economic progress.
Reference


